Textbook of Medical Administration and Leadership

Erwin Loh
Paul W. Long
Editors

Second Edition

Springer

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Dear reader, bujari gamarruwa!
I acknowledge the Australian Aboriginal and Torres Strait Islander peoples of this nation. I acknowledge the traditional custodians of the lands on which I live, the Gadigal people of the Eora nation. I pay my respects to ancestors and elders, past and present. I am committed to honouring Australian Aboriginal and Torres Strait Islander peoples' unique cultural and spiritual relationships to the land, waters and seas and their rich contribution to society.
The Gadigal of the Eora Nation are the traditional custodians of the place we now call Sydney. In 1788, the British established a convict outpost on the shores of Sydney Harbour. This had far reaching and devastating impacts on the Eora Nation, including the occupation and appropriation of their traditional lands. Despite the destructive impact of this invasion, Aboriginal culture endured and is now globally recognised as one of the world's oldest living cultures.

Dr. Paul W. Long
Gadigal land
Surry Hills, Sydney
April, 2023
NB: Bujari gamarruwa, means "good day" in the language of the Gadigal.

Dear reader,
I want to dedicate this textbook to the traditional custodians of the lands on which we live on; for me in Victoria, the Wurundjeri people of the Kulin nation. I want to acknowledge that they have occupied these lands for countless generations, and I want to celebrate their continuing contributions to the culture of these regions.

I also want to dedicate this book to my wife, Dr. May Loh, and my three daughters, Chloe, Charlotte and Christina.
Lastly, to quote from Proverbs 3:5-6: "Trust in the Lord with all your heart. And lean not on your own understanding; In all your ways acknowledge Him, And He shall direct your paths".

Prof. Erwin Loh,
Kulin land,
Melbourne, Victoria
April, 2023

Foreword

The COVID-19 pandemic highlighted the vital importance of clinical leadership skills for all doctors working in health systems whether on the front-line or at a service or executive level.

During the pandemic, medical leaders overnight rapidly and innovatively responded to changes in models of service delivery. They learnt about equipment and supply logistics and the extraordinary diversity of organisations and individuals involved in supporting delivery of health services. Clinicians formed communities of practice to learn from each other and to develop consensus on the way forward in high stakes situations, making decisions which would have wide reaching impacts on a community, with often very limited information. This unprecedented period also saw a unique engagement between government, politicians, the public and private health care sectors, media and the community.

What I have been particularly impressed with has been the leadership shown by many doctors in their own organisations, across health systems, often globally, and in volunteer organisations to support and serve their communities.

Harnessing this goodwill, innovative practice and leadership skills is vital, so that health systems can continue to adapt to increasingly complex internal and external environments, and the people who work in these systems or interact with them, are engaged and motivated in a constructive way to make a difference to the health of the community.

This *Textbook of Medical Administration and Leadership* provides a path and the leadership skills for clinicians to navigate this complexity, to plan and deliver services, to provide clinical governance and risk management frameworks that ensure the safety and quality of services and compliance with legal and regulatory requirements in a wide range of health delivery settings and circumstances.

It also addresses contemporary issues facing health systems globally, such as availability and training of medical workforce, economic and financial sustainability of health services, and the complexity of Health Information Technology.

The authors are well regarded and experienced health leaders and this textbook, which can be referenced when clinicians encounter a particular issue or can be read and reflected on in a much longer journey towards greater leadership skill development, is a very valuable resource for all clinician leaders.

Royal Australasian College
of Medical Administrators,
Hawthorn East, VIC, Australia

C. S. C. Helen Parsons

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The editors would like to acknowledge and thank the authors for their contribution and efforts in writing their chapters, without whom this book would not have been possible.

Erwin and Paul

Dr. Paul W. Long

Contents

About the Editors

Erwin Loh is the Vice President of the Royal Australasian College of Medical Administrators, and a Professor at Monash University Centre for Health Research and Implementation. He is qualified in medicine and law and has an MBA, Master of Health Service Management and PhD. He is Vice President of the Royal Australasian College of Administrators. He is an adjunct Professor at Monash University, the University of Melbourne and Macquarie University. He teaches and conducts research in health law, health management and clinical leadership. He received the Distinguished Fellow Award from RACMA in 2017 for "commitment to governance, research, and publication".

Paul W. Long is the Founding Director, Centre for Health Leadership, Australasia. Paul is an experienced senior health sector consultant and academic specialising in organisational systems and behaviour change. He is also the author of two other books on clinical leadership and many high-profile reports and papers on systems approaches to improving the safety and quality of health care through cultural change, leadership and engagement. Dr. Long is a research fellow at St Vincent's Health Australia and at Harvard Kennedy School of Government alumnus. He has a doctorate in business administration.

Making Sense of Healthcare

1

Paul W. Long, Sheree Paterson, and Erwin Loh

Learning Objectives

- A paradigm shift in the traditional dynamic between organisational perspectives requires a willingness of all parties to share accountability, between clinical and managerial perspectives, and joint responsibility for setting the organisational culture.
- Clinicians need to exercise leadership wherein individuals and groups with varied agendas can come together, work through differences in perception, and learn how these differences create conflicting 'realities' and particular mental models.
- The tension created when the blunt and sharp end of the system of care delivery is inevitable. In this nexus, differing perspectives, values and interests, whether between disciplines, managers/clinicians, jurisdictions and providers, may collide or connect. How the players approach the tension is vital. A joint accountability of shareholder-ship needs to be developed.
- Positional leaders, as authorisers, need to become curators who establish the necessary disequilibrium and tension for their staff to become exploratory and experimental in their work, while providing the organisational oxygen required to nourish the environment to thrive and grow.
- Failures in the system are almost always due to the way in which the care is delivered and are hardly ever due to the technical competence of the team or individual clinician. While clinicians have access to a wide range of evidence-based tools to diagnose clinical problems, identifying a tool that diagnoses safety problems and that captures, the complexity of the situation is more challenging.
- A mixed-methods research approach allows organisations to explore safety culture survey results in more detail to understand the barriers and opportunities for improving safety in the organisation. It can also provide insight into behavioural norms and shared beliefs of specific clinical groups, which may not always be determined from survey data.
- Responsibility for quality clinical care cannot be borne solely by clinicians. Organisational imperatives cannot be exclusively the realm of managers or administrators. The change agenda needs to involve people and systems beyond local clinical teams. It needs to permeate many different health care 'systems' such as organisational or professional, that

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contribute, either directly or indirectly, to clinical practice.
- The scope of practice of clinicians is codified and professionals are all aware of the limits of their technical competence. Operating beyond the normal range of technical competence is not something that is encouraged or rewarded.

1.1 Introduction

There is mounting recognition that healthcare is increasingly complex. Attempts to make the system run smoother and faster will be countered by rising health consumer expectations, constrained budgets and demands to keep pace with new technology. Short-term, technical solutions to health service delivery problems will, at best, support the status quo but they lack the power to really transform the future.

Recognising this complexity and leading safe and effective care accordingly requires clinicians and managers to lead with expertise, to create and innovate with purpose and have the capacity to adapt and act strategically.

This chapter provides an overview of the themes of a discussion with experts in quality and safety, leadership and healthcare culture.

The themes that emerged through the dialogue with our colleagues and that are relevant for medical leaders today are:

- Leadership drives culture, which drives outcomes.
- Technical experts can be promoted into leadership and management roles without adequate development and preparation.
- Staff who are leaders do not necessarily have the authority to lead and manage because power is often centralised and exercised by those in very senior positions.
- Leading in a complex adaptive system is difficult and requires staff to think differently.
- Dissonance exists between the espoused values and behaviours expected in organisations and those experienced by staff.
- There is insufficient feedback when conflict and tensions surface.
- Accountability for good leadership? What does it look like?
- Quality and safety compliance lead to a lack of accountability and tolerance of poor standards.
- Crisis in organisation management and the impact on cultural change – two to three steps back.

Because of the interrelatedness and overlap of the exchanges that emerged in the dialogue, we deliberately avoided responding directly to the themes.

1.2 Healthcare Delivery

Healthcare delivery is complex and ever-changing and, as such, requires staff exercising leadership to be able to identify, understand and tackle multiple responsibilities at the same time. These include interconnected issues, building coalitions between disparate stakeholders, forming intra- and inter-organisational partnerships and networks, and achieving measurable outcomes with and for communities and other stakeholders [1].

To meet this challenge, contemporary leadership development activity in Australia now reflects the critical importance of collective and innovative approaches to leadership, so that healthcare organisations can rise to the complex challenges they face over the next 10 years [2, 3].

Recognising this complexity and leading safe and effective care accordingly requires clinicians and managers to lead with expertise, to create and innovate with purpose, collaborate across boundaries and have the capacity to adapt and act strategically.

1.3 Evidence-Based, Safe, Quality Health Care

Practice based on the best available evidence and the quality and safety of healthcare has become a major focus for governments, healthcare providers and consumers in the past 20 years. This increased awareness comes at a time when new

heights have been reached in the technical sophistication of care, health care systems have become incredibly complex, and there is an increased potential for patients to be harmed by healthcare interventions.

The Quality in Australian Health Care Study, published in 1995, served as a catalyst in Australia for promoting system-based approaches to safety and quality improvement. Since 1995, creating a culture where 'quality is everyone's business' has involved the development of many changes at a clinician level, a provider level and a system level. This included the establishment of the appropriate legislative, regulatory, jurisdictional, financing and service delivery models that promote greater transparency and accountability throughout the system.

By the mid-2000s, there was an established network of organisations coordinating a national quality and safety effort, each contributing to addressing the systems issues necessary to support clinicians in evidence-based practice. This change was evident by the inclusion, for the first time, of quality and safety within the Commonwealth–State Health Care Agreements (2003).

Significant effort and improvements in quality and safety have been achieved, and Australia's healthcare system is ranked among the best in the developed world. However, a recent report highlights flaws in Australian hospitals' safety and quality monitoring regime and calls for governments to set even more ambitious goals for every hospital—public and private—to improve their safety and quality of care [4].

To successfully further reduce the rates of harm to patients, the healthcare system will have to shift from one that is reactive and focused on locating the causes of failure and introducing interventions to eliminate their causes, to an approach that considers how the work is actually done and conditions under which people succeed rather than fail [5].

The challenge now, for funders, policymakers and clinicians, is creating the conditions to enable healthcare staff to think differently, proactively and predictively, to generate the incremental steps required to reduce harm.

1.4 Safe and Quality Healthcare Delivery in Complex Times

Healthcare organisations are inherently hierarchical and have technical and social systems embedded within them. Despite the dramatic changes in society, technology and the disease profile of the population, it could be argued the Australian hospital-based health system remains stuck in the nineteenth century. These traditional provider-centric models of care do not appreciate how hierarchical, technical and social structures interrelate. The current models of care are not sustainable, efficient or accessible.

As healthcare delivery has evolved, the development of how the system is managed has necessarily changed, and like medicine, this has led to specialisation. In addition to managers with general administrative skills, there are now a myriad of management disciplines including human resources, procurement and IT.

The separation between clinicians' and managers' professional paradigms is well documented. Conflict between the two paradigms can play out systemically. For example, at Mid Staffordshire NHS Foundation Trust in the UK, the underlying causes of the organisational degradation were found to be both institutional and cultural in character. Central to this analysis was evidence of large-scale failure of control and leadership at multiple levels. This is what social scientists term the 'blunt end' of the system where decisions, policies, rules, regulations, resources and incentives are generated, through to the 'sharp end', or the 'frontline', where care is provided to patients [6]. While managers with a clinical background now frequently hold positional leadership roles, they are professional accountabilities lay with the 'blunt end', see Fig. 1.1.

This approach leads to *either or thinking* whereby professions locate themselves or are positioned at one end or the other. The two often competing paradigms can create a situation where normative deviance can thrive, leading to a lack of accountability, tolerance of poor standards, and disengagement from managerial and leadership responsibilities.

Fig. 1.1 Competing priorities between the blunt and sharp end of healthcare. Source: authors

While policymakers and healthcare providers continue to drive service redesign and improvement based on the work that is imagined rather than how it is actually done, the evidence strongly suggests that their efforts will be inadequate to address the ongoing challenges to the sustainability of the health system.

It is hypothesised that encouraging a dynamic and integrated approach will result in sharing and rich learning that promotes policy and management with frontline lived experiences.

Two key components will support this mutuality; leadership and engagement.

1.5 Leadership

In most large, modern, complex organisations, the concept of shared, collective or distributive leadership has come to be accepted as most appropriate [7]. Although there are subtle differences between the terms, the essence of the model is that no single individual can encompass all the skills required in complex, multifaceted organisations. Rather, models that enable the range of skills, expertise and strengths within the organisation to contribute to the leadership function as and when their particular qualities are required may be more relevant. The concept of shared leadership has been further developed and it has been suggested that individuals may need support as to how to enact the practice.

Recent research suggests that, across sectors, shared leadership in teams predicts team effectiveness and emphasises the leadership capacity of teams rather than individuals [8].

This kind of leadership is not restricted to people who hold designated leadership roles and where there is a shared sense of responsibility for the success of the organisation and its services. Acts of leadership can come from anyone in the organisation, at different times, and are focused on the achievement of the group rather than of an individual [9].

1.6 Engagement and Values

There has been much written on the need for clinical engagement at various levels within healthcare, and studies have shown a strong link between engaged medical staff and high-performing organisations [10].

Importantly, definitions of engagement mostly highlight the reciprocal relationship between the organisation and the employee [11]. In reality, we know that clinicians and non-clinicians perceive the degree of mutuality in practice differently.

Many conclusions about clinician attitudes and behaviours that imply disengagement are drawn from assumptions about professional power and control rather than examining underlying causal factors. Often interpretations do not take into account clinician's inherent commitment to their

patients and the values that drive this commitment, and in some cases over, commitment.

Professional altruistic and personal principles can be at odds with the reality of organisational demands. This dissonance results in disengagement.

Recent research involving doctors working in Queensland found that different specialists who share the same value at the macro level of the profession might interpret the profession's value differently in their everyday work at the micro level, inside organisations. In essence, the profession's value becomes 'refracted' for different specialists as the value travels from macro to micro levels [12].

Values refraction creates the potential for conflict in the day-to-day interface between clinicians inside organisations. The challenge is created by the potential for practices which are designed to meet organisational requirements, such as resource efficiency, but which inadvertently undermine the espoused values of the professionals [13]. This can lead to conflict between professional values and organisational practices. For example, 'it's all about money these days', 'good patient care is no longer a priority'.

1.7 Patient Engagement and Shareholder Value

Patient engagement in the healthcare system is a relatively new development, though it is becoming more common. Healthcare organisations are increasingly recognising the essential role of patients' perspectives in establishing a patient safety culture. The active engagement of patients in safety efforts has extended to enabling patients and families to summon rapid response teams, rather than waiting for clinicians to respond, such as the R.E.A.C.H programme in NSW [14].

Whilst patient engagement is essential at the service level, it is also important at the organisation and system levels. This includes patient and family advisory councils, patient and family committees and working groups or teams at various organisation levels serving different purposes, such as service design, policy, quality improvement and patient safety. As organisations' embed patient engagement into the way they work, evaluating progress is critical.

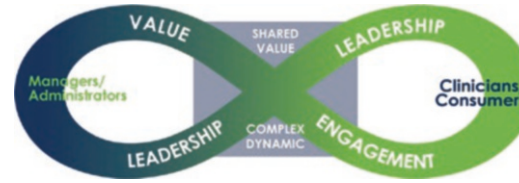

Fig. 1.2 Model for shared value in a healthcare

While co-design and co-creation approaches are often talked about, implementation is often constrained by variables over which the central players have no direct control. These variables are both locally specific, such as features of their organisation, and more general healthcare system, such as dual funding models or employment arrangements.

The concept of *shared value* is a worthy consideration, such as that in business, where the ultimate measure of an organisation's success is the extent to which it enriches *shareholders.* Which, in the case of healthcare, would be those who experience it and provide it, see Fig. 1.2.

1.8 Cultures that Support Safe Quality Healthcare

Expecting staff to do more than the minimum implies that the organisation is also involved and assumes the right conditions exist to motivate clinicians to exercise leadership and to be able to address action that is required to achieve measurable outcomes. Engagement and leadership cannot be considered on the basis of individual capability alone. There are organisational conditions or cultures that need to be in place that support capability *and* capacity.

Achieving effective leadership and high levels of engagement is only possible in cultures that are generally positive, when staff and patients feel valued, respected and supported, and when relationships are good between managers, staff, teams and departments and across institutional boundaries [6].

Within the literature, the definition of culture is contested. Most, including Schien's influential

approach, emphasise the shared basic assumptions, norms and values and repeated behaviours of particular groups into which new members are socialised. The culture is measured by the extent things are done around here [6].

There is a recognition of the complexities associated with the healthcare context. One can assume then that individual and collective assumptions, norms, values and behaviour deepen this complexity.

In complex cultures, components of the system (or human behaviours) are not completely predictable or linear. Agents (and people) in complex systems are self-directed, and the products of this autonomy are emergent. Paradox and tension are present, boundaries are fluid, and there is interdependence and connectedness between all parts. Complexity science indicates this type of 'system' requires shared and adaptive leadership, where there is an emphasis on interactions and relationships. This approach engages the system; therefore, deep and sustainable cultural change is more likely to occur [15, 16].

Dixon-Woods found that a failure to understand complexity and exercise nuanced leadership led to frequent misalignments between the ways the blunt end and the sharp end of organisations conceived of quality and safety problems and their solutions (2014). Lack of support, appreciation and respect, as well as not being consulted and listened to, were reported as endemic problems by staff in some NHS organisations [6].

Creating a culture which is less deferential and permission focused to one where staff are actively encouraged to challenge the prevailing norm implies that they need to exercise leadership to bring about movement and constructive change, while the positional leader as the manager is to provide stability, consistency, order and efficiency.

This shift in the traditional dynamic between organisational perspectives will require a paradigm shift and a willingness of the parties to share accountability between clinical and managerial perspectives and joint responsibility for setting the organisational culture that we posit should facilitate further enhanced and sustained culture of high performance.

Clinical leadership is required to lead patients, families and their teams through complexity, and clinicians require the capability to recognise the system and to intervene skilfully. In addition, they require the capability to enable those around them to develop. Equipped with these skills and a genuine attempt to understand one another, individuals and groups with varied agendas can come together, work through differences in perception, and learn how these differences create conflicting 'realities' and particular mental models.

The need to support clinicians with education and training to undertake Clinical Practice Improvement (CPI) activity is not new, and it is easy to assume that all this requires is the inclusion of one or more designated topics in professional education or development programmes. Experience showed that this alone is insufficient. There are clear gaps in the knowledge base and skills necessary to equip clinicians to work effectively with their particular patient group. This approach reflects the latest thinking in healthcare transformation science in that it links the change occurring in micro and macro systems [17].

There are major gains to be derived from programmes that seek to transform the entrenched structure and culture of providing patient care. While these programmes may not always deliver the easily measurable or immediate gains sometimes evident in narrowly targeted projects, the legacies of the broad systemic approach to change are more likely to be sustained in the long term.

Positional leaders, as authorisers, need to become curators who create the conditions for their staff to become exploratory and experimental in their work, so necessary for achieving high-quality care. Heifetz advocates the establishment of holding environments, the space provided by the organisation where the necessary conflict and stresses of adaptive work can take place [18]. The positional leader, acting as curator, should guard against becoming too prescriptive and instead create the state of disequilibrium and tension required, but also provide the organisational oxygen required to nourish the environment to thrive and grow [19].

1.9 Measuring (Safety) Culture

A systematic review reported that positive workplace cultures were consistently associated with a wide range of patient safety outcomes, such as reduced mortality rates, falls, hospital-acquired infections and increased patient satisfaction [20].

To reliably measure safety culture, a specific, concrete definition is required. Although there is general agreement on the colloquial definition of organisational culture as 'the way we do things around here', as already mentioned, there is no single agreed *formal* definition of organisational culture. Further, safety culture is a subcategory of organisational culture, and for the purpose of this paper, we define it as 'the way we do *safety* around here'.

Safety culture is often conflated with safety climate, which complicates measurement further. There is a definite overlap between the two concepts; however, safety culture usually refers to behaviours and shared beliefs about safety, whereas climate is typically used to refer to staff safety attitudes at a point in time. Perhaps 'the way we feel about *safety* around here'.

Some safety culture measures, like the *Safety Attitudes Questionnaire,* include safety climate as a sub-dimension.[1] This approach has been employed because safety climate, as a measure of safety attitudes, cannot necessarily tell us about the behavioural and organisational conditions of the safety culture that shape those attitudes [21]. Evidence suggests safety climate, as a single indicator, is a good predictor of patient outcomes, at least in the short term. For example, a study published by Hofman and Mark reported that safety climate had predicted medication errors, nurse back injuries, urinary tract infections, patient satisfaction, patient perceptions of nurse responsiveness, and nurse satisfaction [22].

However, as safety climate is measured as a point in time, making decisions regarding interventions is risky due to the instability of a safety climate. Safety climate is highly influenced by small changes in the environment, such as a line manager's departure, the presence of a patient with highly complex needs and even the weather. Safety culture is a stable construct; thus, interventions can be more reliable based on this data.

[1]ICAO. Doc 9859 Safety Management Manual.

1.10 Safety Culture Assessment Approaches and Modes

In 2017, the Australian Commission on Safety and Quality in Health Care published a systematic comparison of the nine most commonly used safety culture measurement tools [23]. This review determined that most tools had acceptable reliability figures.

The reviewers concluded that no single survey covers the full range of common dimensions identified and recommended that to achieve a comprehensive assessment of safety culture, quantitative surveys should be combined with qualitative data collection approaches, such as interviews and focus groups. This approach allows organisations to explore safety culture survey results in more detail to understand the barriers and opportunities for improving safety in the organisation. It can also provide insight into behavioural norms and shared beliefs of specific clinical groups, which may not always be determined from survey data. This approach is predicated on the assumption that the quantitative survey data is used to design the qualitative data collection, which may require specialist expertise in both safety culture tools and group facilitation.

Although the mixed-methods approach to safety culture assessment is relatively new in healthcare, other sectors have already benefited from its use [24].

1.11 Diagnosing the Safety System

Clinicians are experts in their chosen discipline and at working with their colleagues to achieve the best possible outcomes for the patients. However, failures in the system, such as adverse events, are almost always due to the way in which the care is delivered and are hardly ever due to

the technical competence of the team or individual. While clinicians have access to a wide range of evidence-based tools to diagnose clinical problems, identifying a tool that diagnoses safety problems *and* that captures the complexity of the situation is more challenging.

An approach where staff continually explore the complexity of service delivery is needed to achieve a sustainable, effective culture. This requires integrating personal values and interests with relevant organisational priorities.

1.12 Crossing the Frontier of Competence

The scope of practice of clinicians is codified. Professionals are all aware of the limits of their technical competence. The benefit of working with a range of colleagues that brings together different skills into a presenting clinical situation is understood.

However, operating beyond the normal range of technical competence is not something that is encouraged or rewarded. This is due to the complexity of operations and the risk of significant and even potentially catastrophic consequences when failures occur. Crossing the frontier of competence takes courage and willingness to make oneself vulnerable. Day-to-day routine becomes a continuous state of sense-making (Fig. 1.3).

Complexity leadership authors promote a cycle that involves the use of observation, interpretation and reflection and intervention [15]. Data generated through this process is used for dynamic learning rather than compliance and assurance, which are static. Through this approach, creating a culture where quality and safety are everyone's business is possible.

The tension created when the blunt and sharp end joins is inevitable. In this nexus, differing perspectives, values and interests, whether between disciplines, managers/clinicians, jurisdictions and providers, may collide or connect. How the players approach the tension is vital. Joint accountability of shareholder-ship needs to be developed.

Responsibility for quality clinical care cannot be borne solely by clinicians. Likewise, organisational imperatives cannot be exclusively the realm of managers or administrators. The change agenda needs to involve people and systems beyond local clinical teams. It needs to permeate many different healthcare 'systems' such as organisational or professional, that contribute, either directly or indirectly, to clinical practice.

Clinicians and managers alike need to exercise leadership by crossing the frontier of competence. This requires a willingness to engage with tension. In this context, leadership action, engagement and shared values support the right environment for quality and safe care. An awareness of the complexity and connections, a mindset of curiosity and fascination, with behaviours that demonstrate respect and appreciation, will keep the people that matter most at the centre; the communities in which healthcare providers serve. See Fig. 1.4 Holding the Tension.

Fig. 1.3 Continuous sense-making

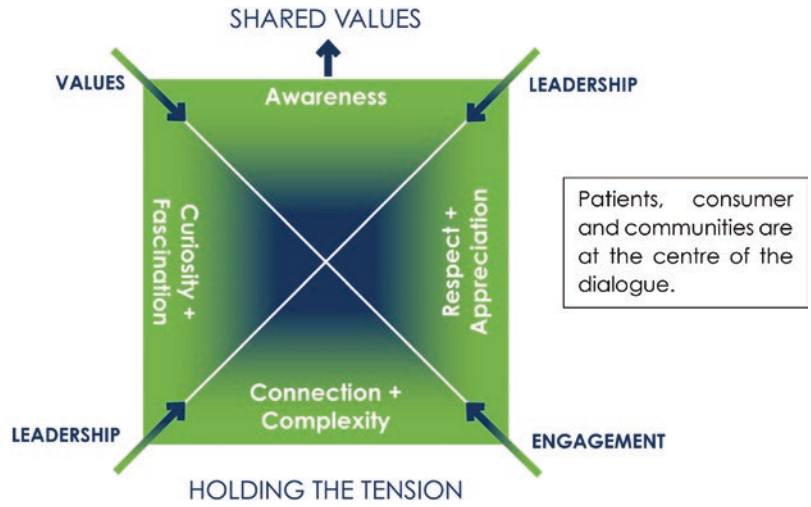

Fig. 1.4 Holding the tension

1.13 Conclusion

What is required is leadership capable of promoting a paradigm shift in thinking about the complexity of the health system and workforce design and planning. This thinking should spring from and be centred on outcomes for consumers, communities and the needs of populations at all levels of the system.

Organisations need to put the patient at the centre of everything they do, get smart intelligence, focus on improving organisational systems, and nurture care cultures ensuring that staff feel valued, respected, engaged and supported [6].

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2 Management and Medical Leadership

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Learning Objectives
In this chapter, you will learn about:

- Modern organisational theory and the need for management.
- The relationship between management and medical leadership.
- Doctors as leaders and managers.
- The role of doctors in driving change.
- Inter-professional collaboration.

2.1 Introduction

In Chap. 1, we considered the safety and quality of healthcare delivery in complex times and the need for tomorrow's medical leaders and managers to lead with expertise, to create and innovate with purpose and have the capacity to adapt and act strategically.

In this chapter, the reader will consider the relationship between management and medical leadership. Management is the process of control and coordination of activities and resources, people, material and financial, in an organisation to achieve the organisation's purpose—and managers, the people who perform this process. Managers manage within the context of organisations, so we will first to explore the function and structure of organisations.

The definitions of leadership and different leadership styles and approaches make it difficult to spell them out simply. Amongst the different viewpoints and perspectives, some common and classic components might be knowing yourself, having a vision that is well communicated, building trust among colleagues and taking effective action to realise your own leadership potential, establishing direction, aligning people, motivating and inspiring [1]. The King's Fund [2] succinctly stated that leadership is when a staff member chooses to do the minimum or more.

2.2 Organisations and the Need for Management

In health care, organisations may be owned by government or incorporated under specific government-controlled business enterprise Acts of law, such as the *Victorian Health Services Act 1988*. We describe these as the *public sector*. The *private sector* consists of organisations, privately owned companies and partnerships incorporated under a Companies' or Corporations Act, being either *for-profit* or *not-for-profit.* Some not-for-

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profit organisations and *non-governmental organisations (NGO)* are incorporated under an Associations Incorporation Act. In all cases, through incorporation, organisations become legal entities operating within a set of governance regulations.

Whatever the ownership arrangements are, there are a general set of relationships between the owner, be they state, shareholders, or individuals and the managers of the organisation. These include:

- The owner sets the purpose of the organisation. It is the organisation's mandate that may be formalised in by-laws or articles of association. This will include governance rules and the functions or business activities the organisation will engage in.
- The owner appoints a board of directors to ensure the mandate is followed and the purpose achieved. While the board is accountable to the owner, its duties are also prescribed in the relevant statute under which the organisation is incorporated and in other laws of the state (e.g. consumer protection, competition, environment and others). The organisation is thus accountable to both owners known as shareholders and stakeholders which will include government, legal system, community at large, customers and employees.
- The board of directors, as the owner's agent, sets the strategy for the organisation, the resources and pathway needed to achieve the organisation's purpose and appoints and monitors the senior manager(s) to deliver the strategy. A key challenge is to ensure that the interests of the managers coincide with those of the board acting for the owner, referred to as the principle. This is referred to as the *principle-agent problem*.
- The chief senior manager, commonly known as the Chief Executive Officer (CEO), appoints other managers and delegates responsibilities and authorities within an organisational structure to manage its conduct.

Through these steps, the role of managers and the process of management is established.

2.2.1 The Evolution of Theories of Organisations

Modern organisational theory has its roots in the analysis of organisations of the Industrial revolution, with key writers such as Adam Smith, who articulated the importance of the division of labour and associated specialisation, and Max Weber, who described the concepts of bureaucracy and hierarchy.

The development of the factory system of production and the role of engineers in their design and management led to the school of Scientific Management, notably by Fredrick Taylor in his book *The Principles of Scientific Management* (1911). It focused on finding the most efficient way of performing each task in the production process and rewarding employees for exceeding efficient quotas of work.

Modern trade unions developed in the mid-1880s, partly in response to the impact of Scientific Management on working conditions, and they, together with the development of the general social reform movement, led to the Human Relations school. This focused on the human side of the workforce, rather than the technical orientation of Scientific Management, with key works by Mary Follett such as the democracy at work (in 1924), Elton Mayo, of the Hawthorne experiment, and effect fame, an Adelaide boy who made good at Harvard (1933), followed by writers such as Fredrick Herzberg's job enrichment and motivator-hygiene factors (1959) and Douglas McGregor's Theory X and Theory Y of human motivation in 1960.

The integration of these two foci, one the technology associated with performing tasks and the other on human relations of the workforce, emerged as Socio-technical theory, developed in the Tavistock Institute in London after the second World War by organisation psychologist Eric Trist and the Australian, Fred Emery, in 1960. It seeks to design and manage organisations so that the technical system and social systems are jointly optimised.

The sociotechnical theory is just one example of applying systems theory to organisations. Others include Kurt Lewin in the study of groups,

change management and 'sensitivity training' (1940)) and Edgar Schein into group processes and organisational culture in the 1980s.

Modern writers carrying this torch included Peter Senge *The Fifth Discipline: The Art and Practice of the Learning Organisation* (1990) focused on group problem solving, the many writers who invoke *chaos theory*, although usually as a metaphor, as mostly they are referring to complex systems, and the quality improvement theorists such as W.E. Deming and J.M. Juran, the progenitors of Continuous Improvement, The Toyota Production System and its ultimate, Lean.

Economic theories have also overlapped with organisation theories, particularly systems theory, starting with the Nobel Prize winner Herbert Simon in the 1950s, who considered decision-making in uncertainty in organisational settings, elaborated by Richard Cyert and James March and extended by theorists such as James Thomson, Paul Lawrence and Jay Lorsch and Jay Galbraith. Recent theories in this vein include the principle-agent problem. Managers possess more information than owners and this may lead to conflicts of interest and moral hazard, with manager's pursuing their own agendas rather than that of the owner principle. This raises issues of the design of employment contracts and performance schemes. Another is the work of Oliver Williamson on transaction costs that give a theoretical underpinning to issues such as outsourcing and purchaser or provider split.

If you are interested and take the time to read some of these works, you will come to appreciate that organisation and management theory generally has a very poor evidence base in the way evidence is considered in clinical practice. Organisations are not amenable to prospective experimental design, let alone randomization! As a result, most writing is entirely theoretical or based on observational studies, seeking to identify characteristics associated with current business success. In these circumstances, fads and gurus abound. That said, organisational theories can aid the manager in reflective practice and as a source of ideas and inspiration. Learning the language of 'management' is vital. As with medicine, colleagues who call themselves managers use a language to give themselves status, and a doctor is more likely to be successful if they understand different perspectives and approaches being advocated by their colleagues.

2.2.2 A Theoretical Framework for a Healthcare Organisation

The theoretical framework used in this chapter is based on systems theory and incorporates the principles of sociotechnical theory. It envisages the organisation as a system with a structure and process for transforming inputs into outputs, referred to as a transformation system. This has the following components:

- Inputs including raw materials, labour, money and similar.
- Process including the tasks that are performed to transform inputs into outputs.
- Structure is the social configuration and organisation of people to perform the tasks.
- Outputs, or the products or services produced by the organisation.
- The organisation receives inputs from, delivers outputs to and receives feedback from the environment and is thus considered an open system.
- Owners of the organisation who provide the capital funding to enable the organisation to function. They mandate the board of director to govern the organisation, as described above.

The starting point, then, of an understanding of healthcare organisations is—who is the owner, and what mandate have they set?

In the case of a public hospital, if established many years ago, it will likely to have been initiated by a community group with a mandate to provide hospital care for the poor in their locality. In those times, those in the community who paid an annual fee for membership of the hospital, known as subscribers, would have elected the hospital's board, which in turn would have appointed the Matron and the Secretary, as the principal officers and, together they would have been responsible for the control and governance

of the hospital. Doctors provided honorary services, as a community service, but also to develop referral and colleague networks and status. They were not employees and thus not subject to the control of the management. Medical staff membership of the governing board was typical.

As healthcare technology developed and the cost of operating the public hospital escalated, governments were progressively required to play a larger role in their funding. As a result, through incremental changes to legislation over the years, it became the owner of public hospitals in the Australian system. New public hospitals are now simply established by the government. The legislative changes finally eliminating subscribers in public hospitals in Victoria occurred only in the late 1980s. In other States and Territories governments have been in direct control of their public hospitals at earlier stages and have generally centralised public hospitals as sub-units of their respective health departments. In these cases, Boards of Management have been eliminated and the CEO report directly to the Head or a senior officer of the health department. Recent reforms have re-focused attention on this governance structure and recommended a return to local governance through Local Hospital Networks or Districts, run by local Boards with clinical representation. The expressed purpose of this proposal was to improve clinical engagement, but it is interesting to note that in negotiations with the States, this structure was modified so that clinicians on Boards could not be staff of that particular Local Hospital Network. Whether in a centralised or decentralised structure, health departments ensure control over their owned health services through the control of the appointment of board directors and a CEO.

Other countries vary in their level of direct Government ownership of hospitals. In the UK, an example of a vertically integrated government health system, voluntary local hospitals were brought under direct Government control with the formation of the NHS in 1948. In NHS reforms since 1992, a level of local autonomy has been restored, first with the purchaser and provider split and, more recently, with the establishment of Trust hospitals. In the United States, an example of a market-based health system, many hospitals retain local voluntary ownership or have been merged into for-profit or not-for-profit chains with a contractual relationship with payers or directly with patients. Hospitals in The Netherlands, an example of a social insurance health system, are independent community not-for-profit organisations, or, in the case of the 10 academic medical centres, owned by the universities with medical schools.

A not-for-profit private hospital is typically owned by a religious organisation that sets its mandate to include social and religious obligations, as well as hospital care; although this usually does not include not-for-profit maximisation, they will still expect a positive bottom line to provide capital for the future. The religious organisation also appoints members to the governance structure, usually a Board, and allocates capital for projects as required. Most for-profit private hospitals have been consolidated into chains. Shareholders or private equity firms who seek a financial return on the equity capital they have provided may own these companies. The boards of these companies are elected by the shareholders or appointed by private owners to deliver on this mandate. If this mandate is not delivered, shareholders can respond by changing the board and or the CEO, or sell their shares and move their capital into other companies offering the prospect of a better return.

You will notice that the key differences between these ownership arrangements are their mandate and their capital structure. The latter epitomises ownership. Private for-profit hospitals have access to private capital on which they must make an investment return. Private not-for-profits access capital via their parent body and generally need to return a cost of capital, which may be zero if the capital is sourced from donations. Public hospitals operate in large multidivisional forms in which capital is allocated centrally. The return they are required to deliver is usually of a political nature, as capital allocation is a political consideration within the context of Government budget processes.

While these three different ownership arrangements result in different mandates, the hospitals

are all in the business of providing hospital care. The inputs are common: money to purchase supplies, medical equipment, drugs and pay salaries. The process of patient care is similar, although the structure may vary slightly, particularly in respect of the medical staff. The latter is usually more independent in private hospitals, and this will have an impact on how resources are controlled and patient care processes, including safety and quality, are supervised. The outputs are similar.

By considering each of these elements of an organisation we can describe their similarity and differences and understand some of their respective management challenges.

To really understand an organisation, we need to understand both the technical and social systems and how they interact. This consideration is especially important in healthcare organisations as they incorporate particular problematic features in both their technical and social systems—issues we consider when we turn our attention to clinical management later in this chapter. First, we will consider the role of the manager in organisations and the relationship between leaders and managers, and then we will review the extra dimensions of clinical management.

2.3 Leaders and Managers

2.3.1 What Is in a Word?

Much is made in management textbooks about the differences between 'management' and 'leadership'. In public sector health care, 'administration' is a term also bandied about. What do these words mean, and what is their relevance to healthcare management?

In its 2011 report on the future of leadership and management in the NHS, the Kings Fund stated that management matters. Without it, nothing happens. From deciding on and buying the weekly grocery shop to designing, building and running the giant atom-smasher at Cern, nothing effective happens without budgeting, scheduling and implementation [3].

Beyond that, in any organisation of any size, someone—and in a half-decent-sized organisation, some people—have to provide leadership: setting priorities and a direction of travel, or, in the jargon, deciding the organisation's vision and strategy and engaging staff [3].

In addition, an organisation with good leadership and management will get nowhere without administration, the gritty day-to-day filling-in of forms, ticking of boxes, settling of invoices, issuing of payment notices, and providing data to regulators [3].

There is no clear-cut distinction between these three roles. Without leadership, there can be no effective management—because the organisation will not know what it is meant to be doing—and without good administration, management can be rendered ineffective. The three are interdependent [3].

2.4 Doctors and Leadership

Increasing the involvement and participation of doctors in the leadership of health organisations has been an ambition pursued by most advanced health systems. Darzi [4], Falcone and Satiani [5] (USA, 2008), Long [6], and Lega and Sartirana [7] represent some specific examples of such advocacy in the literature. The apparent universality of this goal can, however, can be misleading in terms of the way in which the goal might best be achieved. Both the differences in culture and the evolution of health systems mean that the role and status of doctors are often quite different. Even within the four countries highlighted above, there are marked differences between the salary levels of doctors, the balance of private versus public provision, and the system arrangements within which services are provided.

Despite these varying historical and system contexts, it is possible to discern some common elements in the challenge of promoting enhanced participation by doctors in the management and leadership of healthcare organisations. As medicine and the medical profession developed, an ever-expanding knowledge base was embodied in the expertise of the doctor. This duty drew an

acknowledged status and the growth of other professional roles to support, not challenge, the doctor in the delivery of care. The medical education process tended to reinforce this situation, being highly individualised in its focus, with an emphasis on clinical autonomy and responsibility to the profession and the individual patient. This context pertained for most health systems for many years.

Some key elements of this working environment were captured by Mintzberg [8], who characterised healthcare organisations as professional bureaucracies where the frontline doctors exercise a large measure of control over the content of their work through dint of their training and specialist knowledge. However, the environment in which current healthcare provision exists is markedly different. The level of professional autonomy has been gradually eroded, with increasing external scrutiny and the introduction of more comprehensive performance measures. It is perhaps not too surprising that many professionals have resented what they regard as an encroachment onto their specialist areas of practice. Alongside this change is the recognition that healthcare delivery systems are now much more team-based and complex to manage. Bohmer [9] suggests that while individual doctor excellence is necessary, it is no longer sufficient by itself to generate good patient outcomes. The emergence of this modern work context has not always been smooth, with system managers seeking to control hospital budgets and respond to political priorities and doctors attempting to maintain the predominance of the patient's needs against what they regard as an unwarranted intrusion into their domain. Some have described this conflict as a battle zone, to the detriment of both quality and safety of patient care. Understanding the different motivations and perspectives is vital. A failure to do so is dysfunctional and can lead to disastrous consequences for patients. The advocates of medical leadership seek to promote a culture of respect and shared responsibility for the benefit of all. As Spurgeon and Clark [10] have documented, organisations that achieve this are likely to be successful.

2.5 Medical Leadership

The term leadership is itself often misused and misunderstood. It is typically used without definition and with the assumption that everyone present knows, and agrees, with what is meant by leadership. There are, in part, a huge number of definitions and these are frequently fuelled by stereotypical and historic ideas about leadership [11]. The traditional heroic leader model has largely been recognised as outmoded, and yet many authors still approach leadership by way of a list of positive personal characteristics. But rarely is there any specification of whether all the qualities listed are required to be a leader, to what degree and in what combination. It is probably helpful to move away from the notion of a leader and rather think of leadership which can be offered by many, but in a great variety of ways depending upon their particular strengths. Spurgeon and Klaber [12] perhaps capture this type of thinking by suggesting that leadership be thought of as a process of influence whereby those subject to it are inspired, motivated or become willing to undertake the tasks necessary to achieve an agreed goal. This definition provides scope for individuals to contribute to the leadership function from different levels within the organisation and to build upon their particular qualities when relevant to the demands of the situation.

Another issue worthy of comment, and perhaps clarification, is that of the relationship between management and leadership. Is it possible to draw a clear distinction, and indeed what might be the implication of such a separation? Spurgeon and Cragg [13] argue that there is probably a conceptual distinction that can be described. They suggest the basic functions of management—planning, budgeting, organising, controlling resources and problem-solving—are vital for the smooth running of the organisation: without them, anarchy may result. In the past, organisations were smaller and less complex, with nurses, doctors and administrative staff organised into separate hierarchies. However, as healthcare delivery has evolved, the development

of how the system is managed has necessarily changed, and like medicine, led to specialisation. In addition to managers with general administrative skills, there are now a myriad of management disciplines including human resources; procurement; and IT [3].

These managerial activities, though, are most appropriate when organisations and the society around them are stable and relatively predictable. The constant and continual change occurring in society, and, in particular, the healthcare systems, goes some way to explain why such a premium is placed on leadership. If organisations need to adapt and change to new circumstances, then leaders who challenge, motivate and inspire others towards a new vision are critical. It is possible in many sectors to trace the movement from administrative support roles to the managerialism of the 1980s and 1990s to the current focus on leadership. This, in part, reflects changes in society more widely, and education levels in particular. The administrative support role itself struggles to challenge those it supports, and yet increasingly, incumbents are capable of doing so. Managers seek to impose greater efficiency and control on the system, but they, too, are diminished by trying to cope with turbulent and dynamic environments. Leadership is perhaps the most appropriate concept for rapidly changing situations. Moreover, it seems more acceptable to followers who resent being managed and controlled and also seems more attractive to doctors who can see leadership roles as appropriate but largely reject the managerial function, not all doctors, of course. The caveat is that doctors acquire the necessary skills to move into the roles such as medical administration.

Although a debate can be had about management and leadership, such a separation typically collapses very quickly in practice. Both sets of skills are essential for effective organisations. Medical administrators will often find that they are making use of either set of skills, perhaps in sequence—for example, the notion of preparing a business plan is usually described as managerial tosh, but selling the concept, maybe to an Executive Board, will need the personal qualities typically associated with leadership. The descriptions attached to transactional management and transformational leadership perhaps best capture the two concepts.

In most large, modern, complex organisations the concept of shared, collective or distributive leadership has come to be accepted as most appropriate [14]. Although there are subtle differences between the terms, the essence of the model is that no single individual can encompass all the skills required in complex, multi-faceted organisations. Rather, models that enable the range of skills, expertise and strengths within the organisation to contribute to the leadership function as and when their particular qualities are required may be more relevant. Sergi et al. [15] have developed the concept of shared leadership further but sensibly suggest that individuals may need support and development as to how best to enact the practice of shared leadership.

2.6 Medical Leadership for Medical Engagement

The discussion so far has used the term medical leadership and has referred to doctors participating in the management and leadership of the organisation. Many authors use the term clinical leadership but proceed to talk about doctors, suggesting that the more inclusive term is really about political correctness. This is not in any way to denigrate the contribution of all other clinical professions to effective healthcare, but a recognition that involving doctors in the management process is much more difficult than with other groups—as in the medical profession, there is no financial incentive to do so, nor is there any coherent career framework that incorporates the managerial role.

However, despite advocating medical leadership along with many others, there is a developing viewpoint that medical leadership on its own is not sufficient. Spurgeon and Clarke (2018) articulate this argument by pointing to the fact that virtually all health organisations have medical leaders in position such as medical and

clinical directors, or service leads, but manifestly, organisations differ in their level of performance. The logic, therefore, suggests that some medical leaders are contributing to successful organisations in a way that others are not. It has been documented that the mechanism by which leadership influences organisational performance is via creating positive, supportive cultures in which individuals can flourish. It is the contention of Spurgeon and Clark (2018) that this culture can be characterised as medical engagement. The concept of engagement is seen as a significant component of all successful organisations across a range of sectors. Spurgeon et al. [16] have developed the Medical Engagement Scale (MES) to assess the level of medical engagement in health organisations. This metric assesses the degree to which the medical workforce, not just those in leadership positions, is participating in the shaping and delivery of all aspects of healthcare provision. A full account of the development and use of MES can be found in Spurgeon and Clark (2018) and also the continued evidence of the positive relationship between the assessed level of medical engagement and independently assessed organisational performance [17].

The critical underpinning functions of medical engagement to organisational performance suggest a vital role of medical leaders, and indeed all leaders is to work towards creating cultures where medical engagement can develop. Approaches to achieving this enhanced level of medical engagement are discussed later in this chapter.

2.7 Engaging Doctors in Leadership

There has been much written on the need for medical engagement at various levels within healthcare—at a team or service level; organisational level; professional sub-group or special interest group level [3, 18]. From this material, it is clear that 'medical engagement' is a complex technical, socio-political and motivational issue spanning the relevant multiple professional subcultures that are underpinned by: a series of interrelated factors associated with organisational context, the design of the improvement activity; and how these factors are promoted [19].

Where to begin the 'engagement' differs dependent on the context of the practitioner, whether student or senior consultant specialist. What is clear is that the introduction to leadership concepts early in the development of all clinicians and then subsequently as their service career progresses is considered important and captures the widespread viewpoint that early introduction normalises the material such that clinical professionals are encouraged to see such activities as an inherent part of their role, rather than something to which they are introduced later in their careers [20–23].

Without medical engagement at a collective level and the individual alignment of doctors, there is no meaningful way to influence variations in practice or care [24]. The exercise of clinical autonomy is a crucial part of the application of knowledge acquired by doctors throughout their medical training. Trying to achieve congruence between the individualistic nature of clinical practice and professionalism and the broader needs of organisations and the people that run them is an inevitable source of tension and potential conflict. This could explain why there are so few, if any, examples of exemplar medical engagement where doctors are involved at all levels.

Recent research involving doctors working in Queensland found that different specialists who share the same value at the macro level of the profession may interpret the profession's value differently in their everyday work at the micro level, inside organisations. In essence, the profession's value becomes 'refracted' for different specialists as the value travels from macro to micro levels [25]. Values refraction creates the potential for conflict in the day-to-day interface between specialists inside organisations. Challenge is created by the potential for practices inside organisations, which are designed to meet organisational requirements such as resource efficiency, but which inadvertently undermine the espoused values of the professionals. This can lead to conflict between professional values and

organisational practices. For example, 'it's all about money these days', 'good patient care no longer a priority'.

In the UK, Spurgeon and Clark suggest that to understand the current strategies around medical leadership and engagement, it is important to have an appreciation of the ways in which doctors have been involved in the management, leadership and transformation of services. This journey can be described as a movement from domination through a period of disenfranchisement to one where they now are generally representative [10]. Whereas in the past management and leadership were frequently viewed or spoken about in less positive terms or even dismissed, the medical profession is now positively espousing the importance of doctors assuming leadership roles at all levels, illustrated by the joint development, agreement and publication of a medical leadership competency framework (MLCF) by all the royal medical colleges in the UK [26] (NHS Institute for Innovation and Improvement and Academy of Medical Royal Colleges, 2010) and endorsement General Medical Council (GMC), the regulatory body which sets standards of medical practice. In February 2012, the GMC updated its guidance on leadership and management for all doctors. The new guidance advocates the importance of leadership to all doctors and replaces an earlier document that had placed emphasis on those doctors in positions of management. The latest policy document is congruent with a number of other changes in regulatory standards for nurses, dentists and pharmacists. These changes reflect a cultural move away from a historical hierarchical and positional definition of leadership in medicine and the clinical professions to one which is not restricted to people who hold designated leadership roles. In these new ways of working, every healthcare professional works within a team, sometimes taking the lead and sometimes following others as they take the lead [27].

In the UK, there have been many well-documented studies, reviews and reports detailing issues pertaining to medical engagement. This could explain why there is a concerted effort to drive medical leadership there, and the aim is supported by many of the leading players and, importantly, at the highest levels of the system [28]. Despite this effort, or because of it, there are few exemplar organisations cited. However, the University College London (UCL) Hospital NHS Foundation Trust has been held out as an example of a managerial culture where medical leaders are consulted and supported, with clear expectations of performance [3].

Elsewhere internationally, there are exemplar organisations where doctors are involved at all levels of the organisation and in key decision-making. In the USA, for example, Kaiser Permanente, the Mayo Clinic and Intermountain Healthcare are often mentioned in the literature as examples of organisations where there is a prevailing culture of involving doctors in decision-making at all levels. Intermountain Healthcare makes clear that doctors can override procedures or targets when it is in the best interest of the patients [3].

2.8 The Case of Australian Doctors and Their Role in the Leadership and Management of Health Services

In Australia, engagement of the medical workforce is recognised as a crucial factor in responding to changes in the context of health services and the broader environment. Current pathways for doctors into management and leadership roles are relatively ad hoc and poorly understood. Australia currently lags behind other countries in its heedfulness to, and evidence-base for, effective medical engagement [29].

A recent research project sought to investigate issues of medical engagement in the context of Australian health services [30]. The research found that there is no single route into leadership and management opportunities and no clear or consistent career pathway across healthcare organisations for doctors interested in becoming engaged in formalised governance roles. Those interviewed described having taken on roles often with little preparation or training and experienc-

ing a significant learning curve. A range of different training and development opportunities were accessed by respondents, resulting in very different experiences and levels of preparedness for medical management and leadership roles.

In terms of why doctors seek out opportunities to engage with leadership and management roles, Dickinson et al. found that there are far more intrinsic than extrinsic motivators—meaning that doctors sought out these roles due to a desire to make a difference rather than because they are supported by the system or are a way of achieving significant recognition. In fact, the opposite was often true, with these roles being associated with lower earning potential and being perceived as of low status by medical colleagues. Doctors also reported being attracted to these roles due to the changing nature of the medical profession and the fact that they are expected to work for far longer periods than has been the case in the past [30].

By and large medical management and leadership roles were described as difficult and often lonely as individuals fall between medical and management communities. The demands on time and abilities are significant, and roles often lack the necessary levers to bring about desired changes or influence on colleagues and their practice. What seems clear from the data is that if more effective medical engagement in leadership and management roles is to be encouraged, there need to be some significant changes to the practices and processes that underpin these [30].

2.9 What Kind of Medical Leadership?

Unlike in the UK, where the Royal Colleges and the regulator have all agreed on a definition of leadership, there is no such consensus in Australia. The answer to this perennial question, then, is that the type and style of leadership necessary for doctors really depends on the context and situation in which they work. What is agreed is that leadership action normally requires the influencing and mobilising of others to work together to achieve some stated goal or objective.

Some of types of leadership behaviours can be jarring because they require different attitudes and behaviours than that traditionally acquired by doctors in their training.

One such concept is that of servant leadership [31], which is aligned with other modern leadership frameworks, such as Bernard Bass' Transformational Leadership model [32], where the leader seeks to influence, inspire and provide individualised consideration of followers. Servant leadership is built on a network of relationships with friends, supporters and associates, as opposed to traditional feudal leaders, who tend to create a charmed circle of closed confidants with exclusive members and followers outside. As such, servant leadership is in line with current leadership models that are based on loose hierarchies but strong networks. The servant leader, in order to lead, is therefore required to listen to a network of contributors, and builds consensus through transparency, diversity and openness.

Also, servant leadership fits with current models around followership [33]. In the traditional, unilateral leadership model, the leader has multiple followers, which suit the predictable, linear operating context, where the leader is the expert, and the followers are novice, leading to a hierarchical structure, where followers adopt a predetermined, passive role. However, in the health system, volatility, uncertainty, complexity and ambiguity (VUCA) [34] is more the norm, requiring a dynamic, two-way leadership relationship, where you have both expert leaders and expert followers in a strong network, where the role of the leader and follower interchanges, regulated by talent and context.

Although we know that the quality of the interaction can vary widely, in simple terms, clinicians all work in an environment where the health leader defers to clinical expertise as required, and the clinician consults the professional manager in turn.

2.9.1 Systems Leadership

There is mounting recognition that healthcare is increasingly complex. Attempts to make the sys-

tem run smoother and faster will be countered by rising health consumer expectations, constrained budgets and demands to keep pace with new technology. Despite the dramatic changes in society, technology and the disease profile of the population, the Australian hospital-based health system remains stuck in nineteenth-century traditional models of care that are provider-centric, which is not sustainable, efficient or accessible. Short-term, technical solutions to health service delivery problems will, at best, support the status quo, but they lack the power to really transform the future.

Complex adaptive systems (CAS) such as healthcare are characterised by continuing self-organisation with ill-defined boundaries involving a large number of non-linear interactions and multiple feedback loops. Clinicians working in such an environment can find it challenging to navigate because the public health system is traditionally risk-averse and burdened with perceived bureaucracy and regulation.

The systems leadership principles draw upon the below conceptual frameworks, which have been practiced extensively in other sectors to address complex systems and wicked problems but have not as yet been widely adopted in public healthcare in Australia.

- Complexity science for systems change.
- Human-centred design.
- Adult education.

This conceptual and theoretical frame is particularly relevant to the challenges facing senior medical clinicians in the healthcare context. As clinicians progress in their profession, they are required to expand their leadership practice due to the emerging roles and responsibilities. For example, leading change, mentoring and training and participating in organisational management tasks and forums. At the same time, they are required to maintain a commitment to their clinical duty of providing compassionate, safe and quality treatment to patients. The situation becomes 'bigger' and even more dynamic. This demands a deeper understanding of the type of leadership that supports personal and service effectiveness.

Recognising this complexity and leading safe and effective care accordingly requires clinicians and managers to lead with expertise, to create and innovate with purpose and have the capacity to adapt and act strategically.

Spurgeon and Clark (2018) suggest there are two particular contextual issues that seem to make the notion of system leadership quite challenging. In contrast to clinicians, many key professionals in non-clinical sectors have had less difficulty in integrating their roles within the constraints of a managed system. For example, architects and engineers, despite normal frustrations and differing viewpoints, recognise the interactive dynamic and constraints in which they work. Many professional groups work in a collective system, whereas doctors are largely delivering a highly personalised, individually based service. Spurgeon and Clark go onto to posit that as doctors, patients and the public have something akin to an implicit contract that the individual transaction around care shall remain the predominant characteristic of health systems (2018). Anything that impinges upon this relationship tends to be resented, and this perspective tends to be the way doctors view managers and management (Spurgeon and Clark, 2018).

A critical cultural challenge, then, is to overcome this quite widely held view and build an approach that recognises the wider system context but without the detriment of the crucial patient-doctor relationship [35].

The second and related issue made by Spurgeon and his colleagues is that of clinical autonomy. As concern by the public, politicians and policymakers about the rising cost of healthcare and its quality increases and demands greater accountability grow, doctors can view this as constraining the way they work, thereby impacting their clinical autonomy and their professional values (2011).

Beyond the day-to-day activity in which all staff are engaged and exercising leadership, the idea that important staff groups, such as managers and clinicians, notably doctors, must also be adaptive leaders is now gaining momentum, especially in Australia [18]. Adaptive leadership is especially relevant to systems leadership,

where there is greater complexity, and innovation and improvement are required. The level of complexity is a relevant factor, with greater complexity leading to more use of certain aspects of leadership, such as anticipating change and being ready to adapt to altering unpredictable circumstances. This is particularly associated with sustainable improvement and tangible impact [36].

The increasing drive for more adaptive leadership stems from the recognition that leadership development activity has sometimes been directed more at solving problems and acquiring new skills, abilities or behaviours and less at the systems in which people work. These are aimed more at the development of the person, known as vertical learning. Vertical development refers to the stages that people progress through. Researchers have shown that people at higher levels of development perform better in complex environments.

The focus of systems leadership learning should therefore be at the boundary between order and chaos or order and complexity [37]. Taking a systems approach forces learners to go beyond the simple, uni-causal, structural and mechanical cause-and-effect view of problem-solving, which is limited and outdated [3]. It also requires a commitment by health leaders to working across organisational and professional boundaries and silos, which traditionally separate clinicians, administrators, government bodies, users and other stakeholders.

2.10 Role of the Manager

Henry Mintzberg, a Professor of Management at McGill University in Canada, has, based on observing managers in action, described what a manager does [8]. There are the direct roles of the manager:

- Framing the manager's job—this is what the manager decides to focus on (and not), thus framing the focus of the work unit.
- Scheduling the manager's work—or the allocation of the manager's time to tasks.

And the process of managing by acting across three 'planes':

1. Managing through information—which involves: the collection and dissemination of general communication relevant to the unit and acting as its spokesperson; controlling inside the unit through decision-making about issues, courses of action, responsibilities and outcomes.
2. Managing with people—including supervising, motivating and developing people, building and sustaining culture, teams and teamwork within the unit; linking people in the unit to outside the unit through networking, representing and buffering the unit.
3. Managing action directly—in the unit through such activities as managing projects, handling disruptions, outside the unit building support and coalitions and conducting negotiations.

How do these roles play out in healthcare organisations? We will explore that next.

2.10.1 Healthcare Managers and Clinical Managers

Healthcare managers typically have a full-time role in management but may be part-time. They may be in middle or top management in the hospital and may, or may not, have a clinical background. Some may have a specific management professional background such as accounting and finance, human resources, marketing and communication or environment and facilities services. A very common management pathway is via a business qualification, diploma or degree.

Many doctors and clinicians have management responsibilities integrated into their roles., either full-time or as part of a job portfolio. This may be at an.

- Operating level.
  - Heads of clinical units, wards or allied health departments.

- Senior management level.
  - Divisional director.
  - Clinical director.
  - Director of research and development.
- Top level leaders.
  - Chief executive.
  - Executive Director of Nursing.
  - Executive Director of Medical Services.

Leading and managing clinicians poses some unique challenges not faced to the same degree in other industries. This has to do with the professional workforce in health care, where professionals have a great deal of autonomy in their work. This is particularly so of doctors, who have a tradition of a greater degree of autonomy than that of their colleagues.

While the competency model has had little support in the leadership theory literature, ranking 25th in the number of publications of 63 theories in the report by Dnih et al. [38], it has been popular in health service leadership discourse. Many professional health management organisations have tried, in recent years, to define the competencies required of healthcare and clinical managers, usually framing them in terms of leadership capabilities [26, 28].

2.11 Why Are Clinicians (Medical Practitioners) Hard to Manage?

Earlier in this chapter, we noted that for most of the hospitals' history, the senior medical staff were not employees but provided honorary services for indigent and pensioner patients and treated private patients in a direct contractual relationship with them. The hospital was their workshop. It was not until the mid-1970s in Australia, with the introduction of Medibank, now Medicare, that senior doctors became employees, typically part-time, of the hospital through the introduction of sessional payment. Most senior medical staff in private hospitals still remain independent practitioners, not employees, of the hospital, so much so that it is often said that the real customers of a private hospital are the medical staff, not the patients! Being independent practitioners somewhat removes the medical staff from management line control and accountability.

Within public hospitals, medical staff also have significant autonomy and power independent of the management hierarchy. To understand the source of this, we need to explore the historical basis of professional authority.

2.12 Professional Control

We distinguish occupational groups we refer to as professions from others based on it involving a long period of training, typically in institutions of higher learning, and a formal, registered, and qualification. Some occupational groups, such as doctors, dentists, lawyers, and clergy, are well-established as professions. Others, such as nurses and other health professionals, are on a pathway, to greater or lesser degrees, to becoming recognised professions with the associated perquisites. The transfer of nurse education from hospital-based schools to universities and the recent establishment in Australia of centralised professional registration for these occupational groups can be interpreted as steps along this pathway.

The evolution of an independent profession has occurred as a result of the interrelationship of the following factors:

There is a large body of knowledge

This takes a long time to learn—therefore, it involves a significant upfront capital investment in time and money, which in the absence of a subsidy, restricts participation in this entry phase to those with financial backing. There is information asymmetry in the marketplace, by definition, as the large body of knowledge takes a long time to learn, and therefore consumers are naive.

The profession lobbies the state to regulate participation in the profession to protect its upfront investment. If anyone can claim to be

a member, what is the utility of the upfront investment in time and money to learn and be socialised into the profession? This, as a political process, largely took place in Western countries in the mid-nineteenth century, well before the advent of the scientific basis of modern medicine.

The state agrees to regulate the profession in part because of the information asymmetry and to protect consumers from pretenders. Thus market entry is controlled.

Because of the large body of knowledge, the state has to delegate back to the profession the implementation of these regulations. So we end up with self-regulation that is operationalised through a code of conduct, control of the curriculum and training, both including a process of socialisation of appropriate professional behaviour.

The end result is an occupational group that emphasises self-control, informal peer review and disciplinary processes controlled by peers. Contrast this with the source of power and authority in most organisations, as described earlier in this chapter, in which authority and resulting power is delegated down through the appointed hierarchy.

In a normal organisation managers control the production process, that is, how resources, including staff, are used to convert inputs into outputs. This process may be complex, in which case managers will employ engineers, under their control, who design the production process. For example, a car makers' production line is designed by engineers and the shop floor is supervised to work within that design. In professional organisations, especially in healthcare organisations, the senior professionals on the shop floor, in particular doctors, control the production process. For example, the tasks involved and resources required to perform neurosurgery are determined by consultant neurosurgeons, not by the management, even if the direct line manager is medically qualified but of a different specialty. Similarly, the specialist determines the characteristics of neurosurgical outcomes, for example, quality and functionality. This is referred to by the medical profession as clinical freedom. In the hospital's transformation system, converting untreated patients into treated patients, the managers are in control of the inputs and the professionals process and outputs because these can only be known and controlled by the professionals.

This divided control is a key challenge in managing healthcare organisations. It reinforces the historic workshop role of the hospital and sets up a structural conflict between management and clinicians. No wonder managers in health care and doctors, even those with a managerial role, have such differing views about structural relationships in the hospital. This problematic relationship has been described in hospitals in Australia, UK and in the USA [39, 40].

2.13 The Clinical Manager

In an effort to deal with this challenge and in response to a number of external challenges, hospitals have created a number of full-time and part-time hybrid medical management roles, which combine clinician and management responsibilities. The former include Medical Directors and Chief Executives with a medical background while the later include titles such as Head of Division, Clinical Director, Physician Executive, and Head of Clinical Units, amongst others. Driving these changes have been increasing public concerns about the cost of operating healthcare organisations, the apparent failures in quality and safety of clinical outcomes and contemporary theories of managing public sector organisations, such as the New Public Management (NPM), given the majority of hospitals operate in the public or not-for-profit domain.

Most Western countries have implemented components of NPM over the last 30 years, and while the term may be past its use-by date, it provides a useful framework for considering how clinical management has evolved. The components of NPM have also been abbreviated as the 3Ms—measurement, markets and management.

Given the decentralised autonomy of the dominant profession in the hospital, the medical staff, it is clear that a move to implement measurement of outcomes, such as quality standards, response

to competition and output-based funding, the hospital needs to be able to span the division of control between management and clinical practice. The development of clinical managers has been one of the main strategies to do this. They are expected to exercise control in both the clinical domain and the management domain. Full-time managers with a clinical background are seen to be able to understand the clinical domain, even though they usually discontinue clinical practice [29, 41]. Clinical managers, such as clinical directors, who maintain a hybrid role in clinical and management practice, are expected to be effective in both roles. A tall task indeed!

There is little evidence about the effectiveness of clinical management. In a mixed-methods study involving surveys and case studies of medical leadership in the NHS, Helen Dickinson and her colleagues found a wide variety of medically led structures, both between and within hospital Trusts [42]. They noted an ongoing gap between clinical managers and their clinical colleagues, who tend to see them as having gone over to the dark side, thus compromising their clinical legitimacy. Barriers to greater clinical management engagement were identified to include time pressures of clinical commitments, variable relationships with general managers, lack of career structure incorporating these roles, financial disincentives and lack of appropriate training. In their nine case studies, they observed that hospitals Trusts with high levels of medical leadership engagement performed better on their measures of organisational effectiveness. Others have proposed that the performance of clinical managers is dependent more on the networks and clinical legitimacy they have established, inside and outside the organisation, before they have taken on the clinical management role, than on their managerial skills [43].

2.14 Coordinating the Patient Care Process

In the previous sections, we have explored the rationale for the control of professional work, with professional self-control, or clinical freedom, being based on the profession's control of the knowledge base that underpins its work. However, doctors do not perform all the tasks required to transform an untreated patient into a treated patient. There are, of course, nursing tasks, other health professional tasks, hotel-type tasks that also need to be performed and coordinated. This raises questions about the mechanisms used to coordinate all these tasks, in essence, the exchange of information between individuals performing these tasks, and how professional autonomy is handled between the different professional groups involved.

Based on the work of a number of writers on organisation systems theory, strategies of coordinating tasks can either reduce the need to exchange information to coordinate tasks, referred to as *programming* strategies or facilitate the exchange of information, referred to as *feedback* strategies [44].

Programming strategies for coordination involve planning and organising the exchange of information ahead of time and typically involve standardization, either of the tasks (standardization of work); the skills workers have, or the outputs that are produced. An archetypical example of *standardising work* is the manufacturing production line in which the tasks are engineered. Other examples include standardised procedures, protocols, clinical guidelines and pathways. An example of *standardisation of skills* is professional training. When a hospital employs a neurosurgeon or a physiotherapist, they employ someone who has been trained to undertake neurosurgical or physiotherapy tasks respectively and can be expected to know when and how to perform them. *Standardisation of output* is not a common mechanism, but an example in hospitals would be unit-dose or automated medication dispensing devices.

Feedback strategies involve a real-time exchange of information between interdependent staff. This may involve staff in a hierarchical relationship, in which case it is referred to as *supervision* (e.g. Charge Nurse to ward staff; Registrar to Resident). Staff who are not in a hierarchical relationship exchange information through *mutual adjustment* (e.g. ward nurse to ward nurse) or if in a group setting, through *group coordination* (e.g. team meeting, ward round).

Programming strategies are efficient, but may not be suitably complex or adaptive to the coordinating requirements of the work. Feedback strategies are adaptive, but inefficient—there is only so much time in a work shift to be engaged in real-time information exchange. There is a tendency to think that poor coordination is due to poor communication via feedback strategies (i.e. staff talking to each other). However, effective coordination requires a focus on maximising the utility of all mechanisms. In particular, maximising the use of programming strategies frees up time available to focus on real-time feedback mechanisms. Given the professional workforce of healthcare organisations there is a reliance on standardisation of skills through professional training, but this is outside the control of the organisation itself, although it can enhance this mechanism through careful staff selection, ongoing professional development and retention strategies. Standardization of work through clinical guidelines, pathways and protocols remains an important strategy for the healthcare organisation but is challenged by professional autonomy and hence has variable uptake [45].

2.15 Inter-Professional Collaboration

Patient care requires a range of health professionals to participate—these may be intra-professional (e.g. within the medical profession, such as surgeons collaborating with psychiatrists or physicians with intensivists) or multi-disciplinary across different health professionals (such as a psychiatric or geriatric team involving doctors, nurses, social workers, physiotherapists and other health professionals). All the health vocational groups are engaged in the professionalising process described above, in part to improve standards, to gain power and influence, to enhance status and to gain the perquisites of a professional occupation, including economic reward. The transfer of nurse education from hospitals to universities and the evolution of professional registration are examples of this professionalization process at work. The legitimacy of the profession starts with its claim to a large body of distinctive knowledge that takes a long time to learn, and that can only be defined by and delivered by members of the profession. Therefor, control of the knowledge base is the turf over which health vocational groups have to battle. These battles play out in the following examples:

> Only a doctor can do this (prescribing).
> Only an occupational therapist can do this (splinting).
> Only a clinical psychologist can do this (cognitive therapy).
> Only on obstetrician in a hospital can do this (midwife controlled home birth).

So not only are doctors hard to manage, it is hard to collaborate across professions if the knowledge base is contested.

The organisational circumstances in which various health professionals have to collaborate to get work done will also influence the structure and process of this collaboration.

Inter-professional domains of work are influenced by a set of interacting organisational factors, including [46]:

The time frame—this may be *concurrent* in the same geographic and time setting, such as a ward team engaged in a ward round or team meeting; or *sequential*, involving coordination across different periods of time or geography, such as a specialist referral, transfer between a ward and ICU or discharge from the hospital to the care of the general practitioner.

The urgency—ranging from *low-urgency*, such as the interactions between the ward staff and pharmacy for routine dispensing to *high urgency*, such as the cardiac arrest team.

The structure of authority—ranging from *highly structured* in which leadership (typically the doctor) is defined and agreed, such as the surgeon in the operating theatre to *less structured*, such as an aged care assessment team. Highly structured authority will occur in situations in which the key cognitive basis for the clinical intervention is controlled by one profession. This is the case in the operating theatre where everyone, including fellow medical practitioner the anaesthetist, will

defer to the surgeon. The authority of the psychiatrist in a psychiatric team is often contested, especially if the dominant therapeutic intervention is a process one, such as cognitive therapy, rather than pharmaceutical. In the latter, the doctors' control of prescribing maintains their authority. In the former, psychologists, social workers and nurses may well claim equivalent authority.

Developing and influencing coordination of the patient care process is a key healthcare management challenge that has at its core effective change management.

2.16 Change Management

Everything changes and nothing stands still—Heraclitus quoted by Plato in *Cratylus*
Plus ça change, plus c'est la même chose (*The more it changes, the more it's the same thing*)—Jean-Baptiste Alphone Karr in *Les Guêpes*

These quotes remind us that change in organisations is ubiquitous. Sometimes it is planned, but it is also continually happening, driven by a wide range of factors, internal and external to the organisation. Based on a typology originally proposed by Van de Ven and Poole organisational change can be classified into four models:

Planned change—in which participants plan and move towards an agreed new state.
Regulated change (life cycle)—involving standardised processes and procedures for change in an organisation.
Conflictive change—resulting from the application of power to change by one component of the organisation of a weaker one.
Evolutionary change—resulting from completion and selection between alternative models of design or activities [47].

While managers are required to be participants in all these models of change, they will at least espouse planned change as the model to they use to guide their proactive efforts at managing change, and this will be the focus of the remaining section on this topic.

2.16.1 Frameworks of Planned Change

There are many management writers who have promulgated frameworks for designing planned change. These include:

Kurt Lewin—one of the early writers on organisational change. Lewin is also known for coining the terms '*action research*' and for '*force field analysis*' (used in organisational change to map the factors influencing change—positive or negative).

Lewin describes 3 stages of the change process:

Unfreeze—the stage of establishing the agenda for change and reducing resistance to change by enabling people to let go of 'old methods'.
Moving—making the changes, involving the people.
Freezing—making the change permanent by institutionalising 'new methods' [48].

John Kotter, a professor at the Harvard Business School, who has been ranked by Business Week magazine in 2001 as the '# 1 leadership guru', an 8-step change process for managing change [49]. The steps are:

Establish a sense of urgency—create the reason and impetus for change.
Form a powerful guiding coalition—gather those with a shared vision for change and the collective power to do something about it.
Create a vision—a description of the change that stakeholders cab 'buy into'.
Communicate the vision—to the stakeholders and participants to create a desire for change.
Empower others to act on the vision—turn the vision into realities on the ground.
Plan for and create short-term wins—to motivate continued action for change.
Consolidate improvements and produce still more change.
Institutionalise the new approaches—the new becomes the standard way of doing things.

Beckhard & Harris provide a planned change formula that you can use as a 'ready reckoner' as

you navigate your way through change [50]. They see that for change (C) to occur, the level of dissatisfaction with the status quo (A), the desirability of the proposed outcome of change (B) and the practicability of doing the change (D) must outweigh the 'cost' of changing (X) so that: **C = (A*B*D) > X.** Who said management couldn't be scientific?

2.16.2 Planned Change in Health Care

Healthcare organisations have been active in planned change initiatives for many years, but the real impetus has derived from the safety and quality movement over recent decades. Starting with Total Quality Improvement (TQI), the safety and quality movement has taken up planned organisation change as a central tenant. The Institute for Healthcare Improvement (IHI), established by Don Berwick, is currently the most active promoter of organisation change in health care. It uses the Plan-Do-Study-Act (PDSA) framework attributed to W. Edwards Deming [51].

2.16.3 Six Sigma and Lean Methods

Many healthcare change initiatives in recent years have used the Six Sigma or Lean Thinking frameworks. These have their roots in the long-standing production improvement processes at Motorola in the USA and Toyota Motors in Japan, which in turn were informed by the American industrial engineer and writer Fredrick Taylor (Scientific management) and the quality improvement engineer W. Edwards Deming.

These frameworks share many features, with Six Sigma focusing on 'doing things right' while Lean focuses on 'doing the right things'.

2.16.4 Sustaining Change

In Lewin's planned model, the last stage is to 'refreeze' the change. This is perhaps the hardest part (and least studied) of managing organisational change. We have all experienced numerous examples of change initiated with great enthusiasm only to find that it was hard to sustain momentum and then to see things slide back to how they were or simply overtaken by the next wave of change. So, what can be done to enhance the chances of sustaining the change effort and getting it institutionalised?

In a review of the literature on factors affecting the sustainability of planned change initiatives, Buchanan et al. identified multiple interacting factors, including:

Substantial—perceived centrality, scale, fit with organisation
Individual—commitment, competencies, emotions, expectations
Managerial—style, approach, preferences, behaviours
Financial—contribution, balance of costs and benefits
Leadership—setting vision, values, purpose, goals, challenges
Organisational—policies, mechanisms, procedures, systems, structures
Cultural—shared beliefs, perceptions, norms, values, priorities
Political—stakeholder and coalition power and influence
Processual—implementation methods, project management structures
Contextual—external conditions, stability, threats, wider social norms
Temporal—timing, pacing, flow of event [52]

The authors conclude, '(n)o simple prescription for managing sustainability emerges from this review.' However, it can be seen that while some of these factors are outside the influence of the manager, some can be taken into account in developing and implementing planned change.

2.17 Conclusion

The role of the manager in a healthcare organisation has similarities with those roles in general organisations, but it also faces unique challenges. These arise largely from the professional nature

of the workforce, in which the medical profession, in particular, controls the production process through its autonomy, or clinical freedom.

To meet this challenge healthcare organisations have developed hybrid clinical manager/leader roles to span both management responsibility and clinical credibility. A variety of clinical leadership role competency platforms and leadership development programs have been established, but there is scant evidence that these are material in positively influencing healthcare organisation performance.

The professional nature of the healthcare organisation workforce also impacts on how patient care can be coordinated between the various professionals involved. There is a need for all coordinating mechanisms to be enhanced, using programming strategies such as ongoing training and professional development and clinical guidelines together with feedback strategies such as supervision.

Leadership and management routinely interact, which can sometimes result in tension between the two disciplines. Tension is a necessary part of change, and medical managers need to avoid either/or thinking whereby professions are positioned, or position themselves, at one end or the other.

Responsibility for quality clinical care cannot be borne solely by clinicians. Organisational imperatives cannot be exclusively the realm of managers or administrators. The change agenda needs to involve people and systems beyond local clinical teams. It needs to permeate many different healthcare 'systems' such as organisational or professional, that contribute, either directly or indirectly, to clinical practice.

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3 Continuing Professional Development

Greg Watters

Learning Objectives

- Understand the rationale and processes for continuing professional development (CPD) for medical practitioners.
- Understand the principles of adult education in reference to CPD.
- Understand the regulation and governance of CPD.
- Understand the role of CPD in the registration and regulation of medical practitioners with reference to Australia and Aotearoa-New Zealand.

Definitions

Continuing Medical Education (CME) Refers to educational activities which serve to maintain, develop or increase the knowledge, skills and professional performance and relationships that a qualified physician uses to provide services for patients, the public or the profession. [1]

Continuing Professional Development (CPD) While this term is often used interchangeably with CME, CPD is a broader concept than CME and refers to a practitioner's continuing development in all the multi-faceted aspects of medical practice. In addition to the knowledge and skills of medical practice it covers the wider domains of competence (including medical, managerial, social and personal subjects) needed for high quality professional performance. It includes all activities that doctors undertake, formally and informally to maintain, update, develop and enhance their practice in response to the needs of their patients.[2]

Professionalism describes the knowledge, skills, attitudes, values and behaviours expected of individuals during their practice, and includes the maintenance of competence and information literacy, communication skills, ethical behaviour, integrity, honesty, altruism, empathy and a commitment to service and respect for others. A professional doctor will act as an advocate for their patients and an equitable health system. They will adhere to professional codes and any ethical guidance produced by their national medical regulator or craft group.[3]

[1] Accreditation Council for Continuing Medical Education, https://www.accme.org/accreditation-rules/policies/cme-content-definition-and-examples, accessed 1 September 2022

[2] World Federation for Medical Education (WFME)," Continuing Professional Development of Medical Doctors: WFME Global Standards for Quality Improvement", University of Copenhagen, Copenhagen, 2015, p. 17

[3] WFME, p.21

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Medical Registration refers to the registration of medical graduates by a relevant medical regulatory authority. Registrants are licensed to practice medicine within the conditions applied by the authority.

Reregistration, Recertification and Revalidation are the processes used by medical regulatory authorities to ensure that registered doctors continue to practice within the standards set by the authority. Recertification refers to the periodic issuing of a certificate to practice, and revalidation refers to the periodic validation of the practitioner's registration.

Evidence—based practice is an approach to care that integrates the best available research evidence with clinical expertise and patient values. It involves translating evidence into practice, also known as knowledge translation, and ensuring that stakeholders (health practitioners, patients, family and carers) are aware of and use research evidence to inform their health and healthcare decision-making.[4]

Reflective practice is a practice in which the doctor contemplates their actions and experiences and undertakes a critical review to identify opportunities for improvement. They then formulate a plan to achieve those improvements.[5]

3.1 Introduction

Professional medical practice is founded on the goal of providing the best possible healthcare for patients and the community. Medicine is constantly evolving, and to maintain their expertise and professional interest, doctors must continue to develop throughout their careers, from before they graduate until after they retire.

The professional development of medical practitioners has three stages. The first stage is undergraduate education, in which medical students learn the fundamental skills and knowledge of practice but have little or no autonomy in the treatment of patients. At the time of graduation, they understand the principles of medicine but are not equipped to undertake independent practice and need to acquire further expertise in their chosen area of speciality. The second or postgraduate stage of development is, at a minimum, 1 or 2 years of supervised practice but more frequently involves several years of formalised study, clinical supervision and the gaining of qualifications. At the end of this stage, doctors have the knowledge, experience and qualifications to be fully autonomous practitioners.

CPD is the third stage of the development continuum, and it has the goals of improving the care of patients, setting standards for the practice of medicine, encouraging continued learning and reassuring patients, communities and governments that doctors remain competent throughout their careers.[6] CPD differs fundamentally from the earlier two phases, which are conducted within the framework of educational institutions with formal rules and regulations and the goal of achieving the qualifications which define the doctor's area of practice. In contrast, CPD is individualised and self-directed. It requires the practitioner to reflect on their practice and identify areas of deficiency or special interest, leading them to choose the educational activities which will best meet their priorities, goals and needs. This is a continuous and cyclical process.

CPD is an integral component of a doctor's routine practice and does not commonly involve long periods of supervised training, absence from the workplace or the gaining of a specific qualification. Indeed, most continuing learning is likely to be initiated and organised by individual doctors; it is informal, not documented and often not even consciously identified as continuing learning. Face-to-face discussions of experiences and ad hoc consultations within a small group of colleagues are probably the commonest and most effective but least recognised forms of CPD.

[4]Victorian Department of Health, "Implementing Evidence Based Practice", https://www.health.vic.gov.au/patient-care/implementing-evidence-based-practice, accessed 1 October 2022

[5]Schön, Donald, "The Reflective Practitioner: How Professionals Think in Action", 1983, New York: Basic Books.

[6]Benson JA., Jr. "Certification and recertification: one approach to professional accountability". Ann Intern Med. 1991; 114:238–242

While not devaluing impromptu learning, this chapter concentrates on the systematic and formalised components of CPD. It reviews how formal CPD programmes attempt, based on the principles of adult education, to provide the best learning experience for doctors and how these programmes are regulated to assure governments and patients that their doctors are maintaining their professional edge.

3.1.1 Why Do CPD?

Doctors undertake CPD for three principal reasons:

- A professional drive to provide optimal care for their patients.
- A need to preserve job satisfaction and prevent "burn out" and.
- An obligation to honour the demands from employers, colleagues, professional organisations, society and state authorities.[7]

CPD has a remedial role that allows a practitioner to identify opportunities for improvement in their practice and undertake corrective actions. It also ensures that doctors acquire and develop the new knowledge, skills and attitudes needed to meet the changing needs of patients and the healthcare delivery system. Through CPD, doctors address the challenges that arise from the constant expansion of medical knowledge and the changing societal expectations of the profession. CPD, thus, fulfils a doctor's professional instinct to heighten the care received by their patients.

In addition, the maxim that "once you stop learning, you start dying" has a strong resonance in medical practice. In an environment of constantly evolving medical science, a practitioner who is no longer receptive to new ideas loses their clinical edge, finds themselves isolated from colleagues and has diminished gratification from their practice. Conversely, undertaking educational activities that stretch the boundaries of practice can lead to closer collegial contacts and stimulate a doctor's goal to achieve the best possible clinical results. Renewing a practitioner's enthusiasm for medicine is one of the most common but least quantifiable benefits of CPD.[8]

The third reason to undertake CPD has evolved during the last three decades as regulatory authorities and professional organisations have required doctors to perform validated CPD as a prerequisite for continuing registration and licencing as medical practitioners (see Sect. 3.2). This is a major stimulus to undertake CPD but meeting these regulatory requirements should not be seen as the most important benefit to doctors and their patients. Doctors continue to undertake CPD programmes primarily to enhance their professional engagement and provide better care for their patients.

3.1.2 From CME to CPD

Continuing Medical Education (CME) and Continuing Professional Development (CPD) are terms that are often used interchangeably but refer to quite different concepts.

Since at least the early nineteenth century, doctors have been participants in CME, by reading journals and attending didactic lectures, conferences and post-graduate courses. However, until the late twentieth century, there were few assessments of the value and governance of this education. Since then, an increasing body of evidence has found that this form of passive learning is effective in aiding the assimilation of knowledge but does not bring about discernible improvements in patient care.[9] This has led to a re-assessment of how doctors can most effectively maintain their professional skills.[10]

[7] WFME p.9

[8] Grant, Janet, The Good CPD Guide: A Practical Guide to Managed Continuing Professional Development in Medicine, CRC Press, Boca Raton, 2012

[9] Grant, Janet

[10] Davis D, Thomson O'Brien MA, Freemantle N, Wolf FM, Mazmanian P, Taylor-Vaisey A. Impact of formal continuing medical education. JAMA 1999; 282: 867–74.

CME using traditional educational activities remains an important part of how doctors learn, but it is now seen as a subset of the larger concept of CPD, which, in addition to enhancing the knowledge and skills of medical practice through education, leads to a practitioner developing in the wider domains of competence needed for high-quality professional performance. The scope of which medical competencies should be addressed by CPD has not been clearly defined and may, indeed, be different in different jurisdictions and among different craft groups. Despite this, the medical roles listed in the Physician Competency Framework of the Royal College of Physicians and Surgeons of Canada (CanMEDS) is a commonly cited list of competencies and include:

- Medical Expertise (the integrating role).
- Advocacy.
- Communication.
- Collaboration.
- Professionalism.
- Leadership and.
- Scholarship.[11]

Similarly, the American Accreditation Council for Graduate Medical Education bases its recertification programme on the maintenance of skills in the domains of:

- Practice-based Learning and Improvement.
- Patient Care and Procedural Skills.
- Systems-based Practice.
- Medical Knowledge.
- Interpersonal and Communication Skills and.
- Professionalism.[12]

In contrast to CME, CPD goes beyond the lecture hall and requires the active participation of a practitioner who must review and reflect on their own practice and decide which activities will be of the most benefit in enhancing their patients' care and addressing any identified opportunities for improvement. These activities will include CME, but they will also include more active processes including peer review and the auditing of patient outcomes.

For the practitioner, CPD requires more effort and deliberation than CME. It may also take more time and be more expensive, but it will produce greater benefits for the doctor and their patients. Globally, during the last 20 years, CPD has become the dominant concept in post-qualification medical development.[13]

3.2 Effective CPD

3.2.1 Adult Learning and CPD

Adult learners have been described as:

Methodical and disciplined; logical and analytical; collaborative and independent; curious, open, creative and motivated; persistent and responsible; confident and competent at learning and reflective and self-aware.[14]

Recognising these characteristics, David Kaufmann, has described six principles for effective adult learning, including CPD.

1. The learner should be an active contributor to the educational process.
2. Learning should closely relate to understanding and solving real-life problems.
3. Learners' current knowledge and experience are critical in new learning situations and need to be taken into account.
4. Learners should be given the opportunity and support to use self-direction in their learning.

[11] Royal College of Physicians and Surgeons of Canada, https://www.royalcollege.ca/rcsite/canmeds/canmeds-framework-e accessed 20 October 2022

[12] American Accreditation Council for Graduate Medical Education, https://www.umms.org/ummc/pros/gme/acgme-competencies accessed 20 October 2022

[13] Chan KKW, "Medical education: From continuing medical education to continuing professional development", Asia Pacific Family Medicine 2002; 1: 88–90

[14] Medical Board of Australia, "Expert Advisory Group on Revalidation: Final Report, August 2017,p.34

5. Learners should be given opportunities and support for practice, accompanied by self-assessment and constructive feedback from teachers and peers.
6. Learners should be given opportunities to reflect on their practice; this involves analysing and assessing their own performance and developing new perspectives and options.[15]

As a form of adult learning, CPD is most effective when a doctor determines the topics and methods of learning that will be of the greatest benefit to them. Consequently, there is no "right" method through which doctors can learn, as each doctor has their own needs and pre-existing knowledge and experience, which guide them in formulating their personalised CPD portfolio.

However, despite the individual nature of adult learning, an analysis of multiple systemic reviews of CPD programmes has shown that didactic presentations and self-directed reading are of little benefit, while interactive endeavours including practice and peer reviews and practice audits produce positive effects on both practitioner performance and patient outcomes. In addition, learning is improved if it is presented through multiple interactive modalities and through multiple events and is associated with evaluation and feedback processes.[16] It has also been shown that doctors have difficulty in accurately self-assessing their performance and a valuable component of adult education is the use of external assessment, even though this may cause anxiety for both the assessor and the assessee.[17]

Therefore, an ideal CPD programme will be constructed with the participation, collaboration and agreement of medical professionals and with the goals of improving their performance and behaviour and their patient outcomes. It will allow a practitioner to reflect on their practice to identify their interests and opportunities for improvement and then formulate a professional development plan which details their education goals, what activities they will undertake to reach the goals and how the success of their activities will be assessed. The chosen CPD activities will be evidence-based and involve a variety of learning and assessment modules with CME, preferably using interactive teaching methods, as an important, but not the only, component. Another element should be external reviews of the doctor's practice by peers, colleagues and employers, and a third component is an assessment of patient outcomes through practice audits. A balanced CPD portfolio containing a mixture of these elements should provide development opportunities in all the essential competencies needed for good medical practice.[18]

3.2.2 Reflective Practice in CPD

A fundamental tenet of adult learning is the concept of reflective practice, during which a professional performs a critical review of their actions, learnings and experiences and identifies opportunities for improvement. The practitioner then plans a method of achieving those improvements and assesses the success of their actions. Reflective practice is an important part of CPD through which the clinician identifies the learning activities which will be of the most benefit to them and analyses the usefulness of those activities in establishing a process of continuous improvement.

Schön identified two types of reflection; "reflection in action" which is reacting in real-time to events as they happen, and more important, from a CPD perspective, "reflection on action", where practitioners review past experiences and ask why they acted in a particular way and if they could have acted differently.[19] Put

[15] Ibid.

[16] Ibid

[17] D.A. Davis, P.E. Mazmanian, M. Fordis, R. van Harrison, K.E. Thorpe and l. Perrier, 'Accuracy of Physician Self-Assessment Compared with Observed Measures of Competence; A Systematic Review', JAMA, vol. 296, no. 9, 2006, pp. 1094–1102.

[18] Klass, D 'Assessing Doctors at Work - Progress and Challenges', The New England Journal of Medicine, vol. 356, no. 4, pp. 414–15.

[19] Schon, Donald A. 1991. The Reflective Practitioner.

simply, reflection on action is learning through experience. There are many frameworks for reflection in adult education, but one of the more common and simplest is to analyse the relevance of an activity to the practitioner's competence and performance and ask if the activity helped, informed or challenged them. The practitioner can then ask if the activity will change their future practice or lead to other professional development activities. This mode of reflection can be reduced to answering three simple questions:

- What?
  Describes the learning activity or experience and how it relates to the doctor's practice and professional development plan
- So What?
  Analyses what the activity taught the practitioner and how that learning will change their practice, and
- What Now?
  Describes what further activities are needed to build on what has been learnt to further the practitioner's development.[20]

3.2.3 Measuring the Success of CPD Activities

As CPD is based on the individuals' learning needs and preferences, there is no best learning method or activity. In addition, except in the case of learning a new procedural skill, a single CPD event is unlikely to directly result in the robust improvement of patient care; there are too many intervening variables between the activity and the results of treatment. Therefore, the outcome of an individual CPD activity may be difficult to measure meaningfully, and there is no established methodology capable of producing quantitative information on their benefits.[21] Nonetheless, the aim of CPD is to ensure that patients are treated by medical practitioners who are knowledgeable, skilled and enthusiastic. If CPD has helped to achieve this, then the standard of treatment will be high. The global benefits of CPD may be better appreciated in this context rather than through quantitative measurement.

Furthermore, the benefits of CPD do not accrue to patient outcomes alone but can also be of advantage, in more abstract ways, to the physician and the institution in which they practice. Often a CPD event will confirm to the doctor that their current clinical practice is of a high standard and there is no need to change. While the patients' treatment may be the same before and after the activity, it has produced a benefit by heightening the doctor's confidence that their practice is contemporary. Such positive feedback is a mainstay of reflective practice and professional commitment. The CPD activity has been of benefit to the clinician and their working environment, even though there has been no change in patient outcomes. Similarly, learnings from a CPD activity may result in improved efficiency in patient treatment without changing the clinical result. This may produce measurable benefits for the budget of the practitioner's health setting.

Despite the uncertainty of the value of individual CPD activities, there is significant evidence that a well-managed CPD programme is of value to clinicians, patients and communities. Cervero and Gaines have shown that structured and planned CPD has a reliably positive effect on clinician performance and patient health outcomes. Consistent with the principles of adult education, they note that these improvements are enhanced if the CPD programme is interactive, uses multiple methods, involves numerous exposures and is focused on outcomes that are considered important by clinicians.[22]

Farnham, England: Ashgate Publishing.

[20] Kenny, Natasha https://natashakenny.files.wordpress.com/2017/05/coles-critical-reflection-handout.pdf accessed 1 October 2022

[21] Grant, Janet

[22] Cervero R.M. and Gaines J.K., 'The impact of CME on position performance and patient healthcare outcomes: an updated synthesis of systematic reviews', Journal of continuing education in the health professions, vol. 35, no. 2, 2015, pp. 131–138.

3.3 Regulation of CPD

3.3.1 Reregistration, Revalidation, Recertification

The regulation of healers by state authorities dates to ancient times. In Babylon, the Code of Hammurabi (1750 BCE) set the fees for several operations but also had a draconian method of dealing with poorly performing practitioners. A physician who "made a large incision with the operating knife and killed the patient or opened into a tumour or destroyed an eye", was punished by having his hands cut off, no doubt ensuring that the mistake was not repeated.[23]

During the nineteenth century, the regulation of medical practice was enhanced, in many jurisdictions, by the creation and maintenance of registers of appropriately qualified practitioners. In 1838, a committee of the New South Wales (Australia) Parliament found that healing in Sydney was being practised by many people, including "Midwives, herbalists, cuppers, barbers, electricians, galvanisers, dentists, farriers, veterinary surgeons, village wisemen and cow leeches".[24] The Medical Board of New South Wales was subsequently founded with the sole function of reviewing the credentials of medical practitioners and keeping a register of those that it judged to have the appropriate qualifications and skills to be expert witnesses at coronial and other judicial enquiries. It was among the first medical registration boards in the world, but very few of the first registrants had a university medical degree, and the majority were licentiates of the British Royal Colleges or surgeons trained in the British Army and Navy.[25]

The roles of medical registration boards evolved and expanded over the next 200 years. In most jurisdictions, in addition to defining the qualifications required to be a legally sanctioned practitioner, the regulatory authorities have developed processes to investigate, counsel, manage and sanction doctors reported to them as poorly performing and at risk of harming patients. This has mainly been a retroactive approach, and it has been argued that, in many jurisdictions, if you received full registration after graduation and "paid your annual registration fees and kept your nose clean, you would not hear from the registration people for the rest of your career."[26]

Over the last 40 years, this passive approach to the management of medical practitioners and their performance, has no longer met the expectations of the public and governments and consequently, registration authorities have become more proactive in ensuring that registered doctors are practising medicine at a safe standard. In most developed countries, the maintenance of a licence to practice (which depending on terminology, may be called reregistration, revalidation or recertification) now requires a practitioner to undergo regular reviews to demonstrate that they have met several mandated requirements. The processes of revalidation vary widely between jurisdictions, but a common compulsory requirement is evidence of the completion of a CPD programme, and the failure to meet the CPD standards may lead to sanctions including the loss of the right to practice.

The registration authorities, in agreement with the medical profession, see compulsory CPD as vital to the maintenance of professional standards and determining the fitness of a doctor to continue practising. In the words of the Medical Board of Australia (MBA); "The fundamental purpose of revalidation is to ensure public safety in healthcare through doctors practising in

[23] Lillian Goldman Law Library, "The Avalon Project", Yale University, https://avalon.law.yale.edu/ancient/hamframe.asp. Accessed 1 September 2022

[24] *Report from the Committee on the Medical Practice Bill with the Minutes of Evidence*. Sydney: NSWLC (1838). Cited in D Thomas, 'The Challenge to Medical Autonomy and Peer Review Embodied in the Complaints Unit/Health Care Complaints Commission of New South Wales', PhD Thesis, University of Sydney, 2002, p.82.

[25] NSW State Archives and Records, NSW Medical Board Records, https://www.records.nsw.gov.au/archives/collections-and-research/guides-and-indexes/medical-practitioners-guide#:~:text=The%20first%20NSW%20Medical%20Board,Colony%20of%20New%20South%20Wales'. Accessed 1 September 2022.

[26] Davies, Peter, How *to Get Through Revalidation: Making the process easy,* CRC Press 2018 eBook

Australia doing efficient, effective, contemporary, evidence-based CPD".[27]

3.3.2 CPD Providers and the Role of Professional Associations

The regulatory authorities establish the minimum standards for CPD but generally do not provide the resources or governance for the programmes. A basic assumption is that the profession bears a major responsibility for CPD, with medical associations, craft group associations and other professional organisations functioning as initiators, promoters and providers of CPD in many countries. Educational institutions outside the profession may also be providers of these services.[28]

CPD providers have several functions. Firstly, they must interpret the requirements of the regulatory authorities to create a CPD package that meets the needs and aspirations of the programme participants. This requires significant consultation and communication, so that the participants and stakeholders contribute to the formation of the programme and are aware of their responsibilities. The providers effectively act as an intermediary between the registration authority and the practitioner.

Many professional associations, particularly craft group societies and colleges, also require their members to complete their CPD programme as a pre-requisite for membership. This allows the craft group to augment the minimum CPD standards to meet its specific needs. Anaesthetic and intensivist groups, for example, may require their members to regularly review their resuscitation skills despite it not being within the CPD requirements of the registration authorities. In these cases, continuing membership of the craft group requires the member to go beyond the minimum CPD required for recertification.

Secondly, CPD providers create opportunities for the fulfilment of their programme. This commonly involves the provision of CME activities such as journals, courses and conferences, but it may also include instructions, aids and advice on performing more active learning activities, including reflecting on practice, formulating a professional development plan and undertaking practice reviews and audits. Thirdly, the provider must deliver a method through which the practitioner can transparently record their CPD activities. Many professional organisations and regulatory authorities now offer or demand portfolios or logbooks, most commonly online, in which the practitioner deposits evidence of CPD.[29]

Finally, the provider gives governance to the CPD programme. The provider is responsible for auditing its participants' compliance and may have the duty of reporting non-compliance to the regulatory authority. In some jurisdictions, it may also have the delegated authority to allow variations and exemptions to participants who have circumstances that make it difficult to meet the required standards. When undertaken by a professional association, this governance is more likely to have a collegial rather than a rigid style, so that participants will be encouraged and supported by their colleagues to achieve the minimum standard.

Many doctors have more than one specialist scope of practice and may belong to more than one craft group. In most jurisdictions they are required to complete the CPD programme for each of the specialties in which they practice, and this requires them to undertake the programme of each of the craft groups. While this may seem burdensome, it is vital for the practitioner to maintain their currency in each specialty and, in any case, a commonality in CPD activities may make one activity appropriate to be credited for more than one programme.

3.3.3 Global Regulations

Governments and regulatory authorities are the arbiters of the requirements for CPD for revalidation within their jurisdiction, and there is no

[27] Medical Board of Australia, "Expert Advisory Group on Revalidation: Final Report, August 2017, p.26

[28] Grant, Janet

[29] Ibid

globally accepted standard form of CPD programme. Consequently, the content and value of the programmes vary widely from country to country. A 2015 survey of CPD programmes in 45 countries with a very high human development score found that CPD was a mandatory requirement for ongoing medical registration in 69% of countries but remained voluntary in the other 14.[30]

The survey found that the usual method of measuring and reporting CPD activity was through a points system with 1 h of activity being equivalent to one point, but the amount of required activity varied significantly with an average of 40–50 h per annum and extremes of 12 h in South Korea and 80 in Switzerland. The accumulation of these points and recertification was required every 12 months in some countries, while in others, they could be amassed over a 3- to 5-year cycle.

In 2015, most jurisdictions continued to have programmes based solely on CME, but there was a growing trend towards mandating more reflective activities. In the Netherlands and Belgium, for example, doctors were also required to perform two peer review processes each year and show evidence of recency of practice by working the equivalent of 16 h per week. The most rigorous method of revalidation occurred in the United States, where most practitioners are recertified by one of the 24 boards of medical specialities. As well as mandating 50 h of CME each year, the boards required participants to pass an examination in their speciality every 7–10 years. The validity of this re-examination is controversial (see Sect. 3.3.3.1), and it is likely that it will be reformed or removed during the next few years. The situation in the United States is further complicated by the requirement for practitioners to meet the CPD standards, not just of their state medical board and specialist board but also of individual hospitals and healthcare and indemnity insurers who may make it impossible for a non-compliant doctor to practice in a participating institution.

A wide range of governance processes to assess the completion of CPD was also detected. In the United Kingdom, for example, a "responsible officer" (usually the director of a health service) reviewed a practitioner's CPD portfolio and other information including the results of a compulsory multi-source feedback survey every 5 years and then made a recommendation to the General Medical Council on the practitioner's suitability to continue to practice. In some countries, doctors failing to meet the standards suffered financial sanctions as well as a loss of licence, while in a few, including Norway and Belgium, practitioners were offered financial incentives to complete their programme.

3.3.3.1 Regulation in Australia and New Zealand

The Medical Board of Australia (MBA) and the Medical Council of New Zealand (MCNZ) were early and enthusiastic utilisers of mandatory CPD in their annual reregistration (MBA) or recertification (MCNZ) processes, and their programme requirements and governance procedures remain among the strongest in the world.

Since 2003, all doctors in New Zealand have been required to obtain an annual certificate to continue to practice. Currently, this requires practitioners to have a portfolio of at least 50 h of CPD, and the doctor's choice of activities is guided through a mandatory annual professional development plan and a structured conversation with a peer, colleague or employer. As well as undertaking CME, doctors must also undergo an independent review of their practice and perform audits of their patient outcomes. These activities must be founded in a context of professional and ethical practice with an acknowledgement of cultural safety and health inequity.

Doctors with a specialist scope of practice are required to undertake the CPD programme of a specialist college or association, and the colleges are obliged to audit their members for compliance and report non-compliance to the MCNZ. Practitioners with general registration

[30] Archer J, Pitt r, Nunn S, Regan de Bere S. "The Evidence and Options for medical revalidation in the Australian Context", available online, https://www.medicalboard.gov.au/Professional-Performance-Framework/Evidence-and-supporting-documents.aspx accessed 1 October 2022

Fig. 3.1 Interactive Components of CPD (Courtesy MCNZ). Source: With Permission of Medical Council of New Zealand, (https://www.mcnz.org.nz/assets/Publications/Booklets/f7d4bc7fff/Strengthened-recertification-requirements-for-vocationally-registered-doctors-November-2019.pdf. Accessed 27 October 2022)

and no speciality must undertake the programme of an appropriate education provider and form a collegial relationship with a mentor. They must also have periodic reviews of their practice by a senior colleague. This illustration from the MCNZ explains the interaction of the components of CPD (Fig. 3.1).

In Australia, the MBA made the completion of a CPD programme a compulsory requirement for reregistration in July 2010. Initially, doctors were required to merely confirm that they had completed 50 h of vocationally appropriate CPD at the time of reregistration. The requirements for compliance were significantly less prescriptive than those of the MCNZ, but the MBA advised that "CPD must include a range of activities to meet individual learning needs including, practice-based reflective elements, as well as participation in activities to enhance knowledge such as courses, conferences and online learning".[31] Doctors were also advised to take part in a college programme, and the colleges were obliged to audit their members for compliance and report non-compliance to the MBA. However, Australian doctors also had the option of devising and self-auditing their own CPD programmes equivalent to that of the relevant college. The Australian Medical Council (AMC) audited and accredited the Australian specialist medical colleges to ensure that their CPD programmes complied with the MBA's requirements. In addition, the MBA undertook random compliance audits with a particular emphasis on doctors who practised outside the framework of a college.

Several significant issues were identified within these regulations (see Sect. 3.4) and following extensive consultation, the MBintroduced major changes beginning in 2023, bringing the Australian and New Zealand regulations closer. All registered Australian doctors are now required to nominate an accredited CPD Home, whose programme they will be obliged to complete. The homes will mostly be established colleges, but independent educators are also likely to seek accreditation from the MBA. It is no longer possible to construct and self-audit your own programme. The provider's CPD programmes are required to be within a context of professional and ethical practice with an emphasis on cultural safety and a recognition of the effects of health inequity.

The minimum number of activities remains at 50 h, but the MBA has specified that this should include a portfolio of:

[31] Medical Board of Australia p.30

(a) A professional development plan in which doctors detail the reasons and benefits for undertaking their CPD activities.
(b) A minimum of a combined 25 h of "active" learning in the categories of:
    - Reviewing performance.
    - Measuring outcomes.

Doctors will decide the best mix for these activities to suit their development needs, with a minimum of 5 h in each category.

(c) A minimum of 12.5 h of traditional educational activities.
(d) For the remaining 12.5 h and any hours in addition to the minimums, members choose across the three types of CPD to best suit their development needs.

These changes reflect an increased understanding of the principles and methods of adult learning and their role in producing effective CPD. There is also evidence that this increased regulatory governance will act as a catalyst in improving the effectiveness of CPD.[32]

3.3.4 CPD Programme Standards

To address the lack of consistency in CPD programmes, the World Federation for Medical Education (WFME) has developed guidelines on the minimum standards which should be considered when developing CPD requirements.[33] These acknowledge that while CPD programmes must be adapted to local circumstances and meet the needs of the local health service, there are several common standards that should be met. The WFME argues that CPD is more than CME and should lead to a practitioner developing skills in a range of domains beyond medical expertise including their roles as an advocate, teacher communicator and collaborator.

The WFME believes that the standards for mandated CPD should be clearly defined and be meaningful, appropriate, relevant, measurable and achievable. To ensure their acceptance by users, programmes should be formulated in collaboration with stakeholders, and they should allow individual doctors the freedom to create, undertake and assess a programme of CPD activities that best suits their development needs. This requires the programme to have the flexibility to respond to individual needs and learning styles.

To achieve these standards, the medical profession and licencing authorities should provide mechanisms for the accreditation of CPD providers and guidance on the type of activities that are appropriate for the programme. There must be a form of record keeping that is transparent and open to audit. Importantly, the health service in which doctors work must be supportive of CPD and provide appropriate resources.

3.3.5 Issues in Regulating CPD

The wide range of content and standards for CPD programmes indicate that there is no perfect form of CPD suitable for all doctors. Indeed, a key principle of adult learning (see Sect. 3.1.1) is that every doctor has their own educational needs and most effective style of learning. Consequently, attempting to create a strong and sustainable standard of CPD while, at the same time, encouraging individuals to undertake the learning which best suits their own needs is a key issue, with which regulatory authorities around the globe, struggle.

A fundamental problem with setting a minimum standard is the implication that all doctors require the same amount of CPD activity to maintain their professional capability. Such a standard does not recognise the variation in practitioner competency, knowledge and skill; some doctors need more than the minimum CPD to maintain a satisfactory level of performance, while others may require less.

[32] McKay AJ "Revalidation: The Catalyst for Change in Continuing Professional Development". J Roy Coll Surg Edinb. 2000, 45(2) 71–73

[33] WFME

A further issue is that most CPD programmes require the accumulation of a minimum number of points or hours of activities. This may turn the practitioner's portfolio into a "box-ticking" exercise, which does not encourage the practitioner to reflect on the value of what they have learnt. Nor does it adequately measure the differing educational values of different activities and it can encourage doctors to take the easy option of only undertaking activities requiring passive learning. There is also the danger that the accumulation of points, especially if measured in hours, becomes the main aim of the activity and acts as a perverse incentive which detracts from the integration of CPD with practice and healthcare development.[34] Despite these issues, a points system does have the advantage of compelling doctors, if they wish to avoid medico-legal consequences, to at least attend some meetings and events which may be of value.[35] In several jurisdictions, the value of the points system has been improved by placing limits on the number of points that can be awarded for some types of activity, so that the practitioner is obliged to undertake a range of activities including those associated with reflection and "active" learning including practice reviews and audits.

Consistency in the value of a CPD programme when it is delivered by a range of providers or when compared to a programme that a practitioner has self-directed is also problematic and some authorities, including the MBA, has addressed this issue by insisting that all practitioners must complete the programme of a provider that has been audited and accredited as having met a set of minimum standards.

3.4 CPD Activities

A professional development plan (PDP) is the cornerstone of a doctor's CPD portfolio, through which other activities are chosen to meet the individual practitioner's development needs. The work of Daniel Klass and J. A. Benson has shown that these activities can be divided into three broad classes, which align closely with the various elements essential for an effective CPD portfolio:

1. Continuing Medical Education to ensure that doctors have maintained their knowledge and are aware of recent advances in medicine.
2. Assessing a doctor's performance in practice through self-reflection or formally or informally by peers, colleague or employers to ensure that the doctor is performing professionally and.
3. The measurement of patient outcomes to ensure that the doctor is providing good care[36,.37]

Klass and Benson note that the latter two classes of activities represent actual or direct measures of how the doctor is functioning in the real world and that, in addition to CME, these ensure that the practitioner can reflect on and improve in all their competencies.

3.4.1 The Social Context of CPD

Within the systems and positions in which they work, doctors are advocates for their patients and clients. In this role they strive for equitable health outcomes for all communities, particularly communities that are socio-economically disadvantaged. Good medical practice is culturally safe, professional and ethical and a good CPD portfolio is formed within the framework of this social context and the professional norms in which the doctor works.

[34] WFME p. 11

[35] Grant, Janet

[36] Noraini JJ, Shea JA. Increasing pressures for recertification and relicensure. In: Curry L, Wergin J, editors. Educating professionals: responding to new expectations for competence and accountability. San Francisco: Jossey-Bass; 1993

[37] Benson JA., Jr. Certification and recertification: one approach to professional accountability. Ann Intern Med. 1991; 114:238–242.

3.4.2 Professional Development Plan

Personal development planning is "the process of creating an action plan based on awareness and reflection, goal setting and planning for personal development within the context of a career, education or self-improvement."[38] The process of planning is not in itself a major undertaking, but it should create a 'road map' guiding the selection of appropriate CPD activities, which are the most benefit to the doctor, based on their development needs identified "through practice experience, reflection , questioning , practice audits , self—assessment tests , peer review , and other sources."[39] The PDP is most effective when it incorporates specific activities that are achievable, of high benefit and appropriate to the practitioner's work setting.

A PDP has four stages. It begins with a reflection on all the facets of a doctor's practice resulting in the identification of their strengths, weaknesses and particular interests. From this reflection, a plan of proposed activities targeted at enhancing the doctor's abilities, addressing any practice issues and taking advantage of opportunities for improvement is constructed. The plan includes the expected outcomes from each activity and a method for how these achievements will be measured.

Following its initial construction, the PDP becomes a dynamic document as the practitioner undertakes their planned CPD activities. It is reviewed, throughout the CPD cycle, to reappraise progress and record successes and disappointments. These reviews will result in the PDP being revised to accommodate the practitioner's changing learning requirements and outcomes and the PDP is not finalised until the end of the CPD cycle when a final review allows for a reflection on the doctor's progress which helps define the PDP for the next CPD cycle.

A vital component of the PDP is an awareness and care of the doctor's own well-being. Creating a PDP provides an opportunity for the doctor to reflect on their own health and how, with the aid of CPD activities, they can achieve a work-life balance that is sustainable and beneficial to them and their patients (Fig. 3.2).

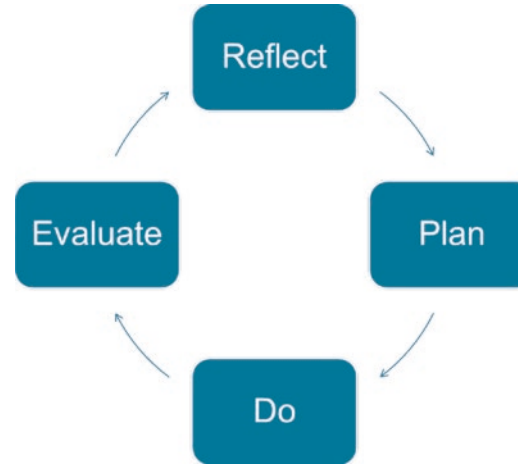

Fig. 3.2 The PDP Cycle. Source: Based on the Gibbs' Reflective Cycle. (University of Edinburgh 'reflective Toolkit: Gibbs' Reflective Cycle', https://www.ed.ac.uk/reflection/reflectors-toolkit/reflecting-on-experience/gibbs-reflective-cycle. Accessed 15 November 2022)

3.4.3 Continuing Medical Education

Traditional education activities remain an important part of CPD and may include formal activities such as conferences, courses, educational meetings, journal clubs, workshops and research and authorship or more informal and self—directed activities such as journal reading, computer assisted learning programmes and self—assessment programmes. As previously noted, interactive teaching experiences are more effective than passive learning in transferring knowledge and changing practice behaviour. Learning is also enhanced through the repetition of key messages and through testing and feedback.

In recent years, recertification through re-examination and compulsory targeted learning have become significant components of CME in some jurisdictions.

[38] Grant, Janet

[39] Norman, GR The Need for Needs Assessment in Continuing Medical Education, BMJ, 2004: 328:999

3.4.3.1 Re-Examination

In the United States, in addition to mandatory registration by individual state medical boards, approximately 85% of practitioners are certified to practice by one or more of the 24 medical specialist boards. Until the late twentieth century, the boards were exclusively concerned with the initial certification of specialist qualifications. However, since then, each of the boards has limited the length of certification and now require practitioners to undertake a maintenance of certification programme over a 7–10-year cycle.[40]

Uniquely, each practitioner's CPD portfolio must include, usually at the end of the recertification cycle, an examination similar to the initial certification examination. This examination has been termed "high stakes," because failure may result in the loss of certification and the possible loss of a hospital or practice appointment. The mandating of the recertification exam has been controversial with opponents claiming the exam is overly burdensome in preparation time and expense and its content is often removed from a practitioner's usual practice. They also point to a lack of evidence that the exam's successful completion adds to improved patient outcomes.[41] It is likely that the examination requirements will be abolished or significantly modified in the next few years.[42]

3.4.3.2 Targeted Learning

The increasing regulation of the type and quantity of CPD by registration authorities and professional associations has, naturally, led to targeted learning and the mandating of certain education activities. Often this is based on the practitioner's fundamental need to maintain a particular body of clinical knowledge. Anaesthetists and intensivists, for example, may be required to regularly update their advanced life support skills. However, mandated education may also be imposed to achieve a positive social benefit. In Australia and New Zealand, for example, the health outcomes of First Nations people are significantly worse than those of the Settler people and it is a government priority to reduce this health outcome gap. As part of this strategy the medical boards of both countries have required that CPD should be undertaken in the context of recognising cultural safety and the inequity of the provision of health services as important determinants of health outcomes. In practice, this has led to an increased emphasis on activities relevant to First Nations health being included in doctors' CME portfolios. Similarly, in the United States, in response to the opioid addiction crisis of the early twentieth century, most state medical boards require all doctors seeking recertification to undertake training in pain management and the treatment of addiction.[43]

3.4.4 Assessing a Doctor's Performance in Practice

These activities involve reviews of the doctor's practice with feedback based on the observation of actual work processes. This requires a doctor to both self-reflect and work with colleagues, peers, co-workers and patients to review and understand how they practice medicine and how this can be improved. These activities will evaluate the practitioner's ethical conduct, professionalism and how they interact with patients and colleagues. These are important assessments as patients are vulnerable to inefficient doctors or those whose conduct is unprofessional.

As the construction of a PDP, at the start of the CPD cycle, requires significant self-reflection, it may be used to start the review process. However, doctor self-assessments are limited in their accuracy, and such reflections should be combined

[40] America Board of Medical Specialties, https://www.abms.org/board-certification/board-certification-requirements/#cc Accessed 20 October 2022

[41] Glazier J and Kaki A, Recertification: A Tale of Good Intentions but Lots of Strife, https://www.amjmed.com/article/S0002-9343(18)30749-6/fulltext#articleInformation accessed 20 October 2022

[42] Rosner, M Maintenance of Certification: Framing the Dialogue, Clin J Am Soc Nephrol, 2018 13(1) 161–163

[43] Federation of State medical Boards https://www.fsmb.org/siteassets/advocacy/opioids/pdfs/opioid-and-pain-management-cme-requirements.pdf. Accessed 20 October 2022

with external reviews.[44] Two commonly used methods of practice review are periodic structured conversations with a peer, colleague or employer, including the sharing of best practice and constructive feedback and morbidity and mortality meetings, in which case studies are reviewed by doctors of similar experience. Unfortunately, the effectiveness of these activities can be limited by the reviewer's and peers' professional hesitancy or complacency to provide a strong and effective appraisal of the practitioner's practice. This is particularly the case if the reviewers are work colleagues.

By contrast, the deidentified assessment by clients is a highly effective and objective form of feedback in all professions. For medical practitioners, the clients may include patients, junior and senior colleagues and other co-workers and this form of assessment can be formalised and structured in multi-source feedback (MSF) or 360-degree reviews. This involves a collation of performance assessments through multiple reviews by colleagues, co-workers and patients, with each group appraising the skills that are the most relevant to that group's interaction with the doctor. Patients, for example, may assess the doctor's personal communication skills and their office organisation; co-workers will assess their collegiality and clinical communication, and peers will review their clinical competency and professionalism. The doctor self-reviews at the same time and compares their self-reflection with the results. This allows for an external and objective evaluation of a doctor's performance in a wide range of competencies and behaviours from three different cohorts with whom they work.[45] Several studies have shown that multi-source feedback reviews are the most cost and time-effective method of accurately assessing a doctor's practice, and they are now a mandatory CPD requirement in many jurisdictions including in Canada and the United States.[46]

3.4.5 The Measurement of Patient Outcomes

These are activities in which doctors measure the healthcare outcomes of their patients and compare them to established benchmarks or the results of their peers. This enables the constructive identification of what the practitioner is doing well and where and how they can enhance patient care. They can then plan to improve the outcomes through reflective practice, targeted education or other professional development activities.[47] This often involves a clinical audit with CPD providers mandating the topic of the audit and establishing the measured performance indicators and their associated benchmarks. A failure to meet the benchmark may lead to further remedial CPD activities.

Alternatively, the provider may leave the topic and design of the audit to the individual practitioner, and while this may appear daunting, an effective clinical audit can be easily developed through six sequential stages:

3.4.5.1 Identifying an Issue

The topic should be something that interests the practitioner and relates to their practice. Effective audits often review straightforward issues for which the data is easily accessible and open to analysis. Audits usually involve no or negligible risks to patients, and approval by an ethics committee is not required.

[44] Davis DA, Mazmanian PE, Fordis M, Van Harrison RT, Thorpe KE, Perrier L. Accuracy of physician self-assessment compared with observed measures of competence: a systematic review. Jama. 2006 Sep 6; 296(9):1094–102.

[45] Medical Board of Australia, Strengthening Continuing Professional Development, https://www.ahpra.gov.au/documents/default.aspx?record=WD22%2f32100&dbid=AP&chksum=GbNXLDkYH06siyWhveLOZQ%3d%3d, accessed 27 October 2022

[46] Medical Board of Australia, Strengthening Continuing Professional Development, p. 8

[47] J. Bluestone, P. Johnson, J. Fullerton, J. Alderman and J. Bon Tempo, 'Effective in-service training design and delivery: evidence from an integrative literature review', Human Resources for Health, vol. 11, no. 51, 2013.

3.4.5.2 Developing or Selecting Standards

Standards for measurement and associated benchmarks exist for many patient outcomes, enabling comparison between a practitioner's outcomes and those of their peers. Alternatively, a doctor can develop their own standards based on national or international guidelines, the medical literature, case studies and other evidence.

3.4.5.3 Collecting Data

The practitioner can collect data either retrospectively or prospectively, but within the time frame of a CPD cycle, a retrospective audit is often quicker and more likely to be concluded and analysed. Frequently standardised data is available from an external agency, allowing for rapid and objective comparison of the results of practitioners throughout a jurisdiction.

3.4.5.4 Analysing Results

Analysis of the results will include comparing the previously determined standards and recognising opportunities for improvement. There may be cultural competence and health equity elements that can impact these results, and the practitioner should consider these factors in their analysis of the results.

3.4.5.5 Implementing Changes

A plan to implement changes to improve outcomes is a vital component of the audit and may include targeted education on other CPD activities.

3.4.5.6 Reauditing to Assess Success

A realistic time frame to assess the results of the improvement plan should be made, and consequently, the audit may be continued over several CPD cycles (Fig. 3.3).

Doctors in non-clinical or indirect clinical roles have the disadvantage of being unable to measure patient outcomes. However, measuring the safety and efficiency of these doctors' practice remains an important part of their professional development and can be achieved through the development of non-clinical audits which focus on aspects of the doctor's scope of practice.

Fig. 3.3 The audit cycle. Source: Based on Benjamin, A 'Audit: how to do it in practice'. (Benjamin, A 'Audit: how to do it in practice', BMJ; 336(7655): 1241–1245; 2008 May 31)

3.5 Recertification and the Underperforming Doctor

The essential goal of revalidation is to ensure public safety in healthcare. In part, this is achieved through ensuring that doctors undertake reflective practice and stay up to date through a mandated CPD programme. However, these programmes set minimum standards that apply to all participants and do not recognise the varying performance levels of practitioners and their different needs in professional development.

The maintenance of public safety in healthcare also requires that regulatory authorities identify underperforming doctors and offer them remediation or, if this is unsuccessful, limit their

rights of practice. In the past, this has been a retroactive process, usually initiated by the authorities reacting after a complaint or notification of a critical incident has been made. More recently, the concept of proactively profiling doctors to identify those who are at risk of performing poorly has been considered. If these doctors can be identified prior to them coming to the attention of the authorities, their performance can be assessed, and they can be supported to improve their practice with a strengthened CPD programme. It is argued that providing doctors at risk of underperformance with increased support will reduce the number of poor outcomes and increase patient safety.[48]

It is estimated that approximately 6% of doctors are underperforming at any one time, but there is no single, valid screening test to predict poor performance. Despite this, there are several practitioner characteristics for which there is evidence of an increased risk of poor patient outcomes, and these include:

- The doctor is aged greater than 70 years.
- A history of multiple complaints to the regulatory authorities.
- Working in an isolated single-doctor practice.
- Working in a health setting with poorly developed governance systems.[49]

Several suggestions to support doctors with these attributes through a modified CPD programme have been proposed. Late-career doctors, for example, might be required to have a regular health check similar to that used in many jurisdictions for elderly car drivers. This will include cognitive testing and be credited to their mandatory CPD activities. This may identify previously hidden performance concerns and allow increased support in practice or help the practitioner to transition to retirement. On the other hand, practitioners who meet established criteria for an isolated practice might be required to have a mentor or take part in a peer review meeting as part of their CPD programme.

This work remains at an early stage as the factors that may identify practitioners at risk of poor performance and the methods to remediate their practice have not been fully identified or understood. Profiling doctors by their age and practice location also raises questions of natural justice, impartiality and the potential of stigmatising doctors within the target groups. While several jurisdictions have introduced some methods of proactively identifying the cohort of poorly behaving doctors, no comprehensive programme is currently active in global CPD programmes, and the Medical Board of Australia has recently rejected its imposition. The potential use of CPD in this situation remains questionable.

3.6 Conclusion

The continuing professional development of doctors is vital for the welfare of patients and their communities and for the well-being of the practitioner and the institutions in which they work. During the past decades, the scope of CPD has expanded from a purely education base to include activities that enhance all the competencies that are required by a well-functioning doctor. At the same time, medical regulatory authorities worldwide have increasingly used mandatory CPD programmes to ensure that registered practitioners remain contemporary and involved in quality improvement activities for their practice. The failure to undertake CPD is seen as a sign of poor performance and may result in the clinician being restricted in their practice.

The best form of CPD has not been defined, and given the nature of adult education, it may be impossible to define. However, this remains a question of considerable academic interest, and it is likely that the evolution of CPD that we have witnessed over the last decades will continue.

[48] Medical Board of Australia, Expert Advisory Group on Revalidation: Final Report, August 2017, p.13

[49] Ibid

Further Reading

Grant J. The good CPD guide: a practical guide to managed continuing professional development in medicine. Boca Raton, FL: CRC Press; 2012.

Medical Board of Australia. Expert Advisory Group on Revalidation, Final Report, April 2017. https://www.medicalboard.gov.au/Professional-Performance-Framework/Evidence-and-supporting-documents.aspx

Medical Workforce Management

4

Anjali Dhulia

Learning Objectives

Readers will gain an understanding of key aspects of:

- Credentialling and Defining Scope of Clinical Practice (CSoP) including.
  - Historical reasons for requirement of CSoP.
  - Establishing a governance system for CSoP.
  - Implementing key operational processes for CSoP.
  - Documentation requirements for CSoP.
  - Processes for Recredentialling, Emergency Credentialling, Temporary Credentialling, Appeals process and Credentialling for New Technologies.
- Performance Enhancement or Performance Development including.
  - Importance of Performance Development.
  - The continuous Performance Development cycle commencing at the time of appointment.
  - Conducting a Performance Development meeting.
  - Pitfalls in establishing a Performance Development system.
- Performance Management including.
  - Importance of setting performance standards in an organisation.
  - Factors contributing to underperformance.
  - Process of performance management.
- Managing Inappropriate Workplace Behaviour including.
  - Definitions of disruptive behaviour.
  - Factors contributing to disruptive behaviour.
  - Process of managing disruptive behaviour.
- Managing Health and Well-being of Doctors including.
  - Introduction of the concept of "Flourishing" as a model for complete mental health.
  - Understanding the buffering and amplifying effects of individual and organisational risk factors and protective factors through a conceptual model.
  - Introduction of a conceptual framework for a Workplace Complete Mental Health Strategy.

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4.1 Credentialling and Defining Scope of Clinical Practice

Definitions: as per the National Standard for Credentialling and Defining Scope of Clinical Practice (the National Standard) [1].

- **Credentialling** refers to the formal process used to verify the qualifications, experience, professional standing and other relevant professional attributes of medical practitioners for the purpose of forming a view about their competence, performance and professional suitability to provide safe, high-quality health care services within specific organisational environments.
- **Defining the scope of clinical practice** follows on from credentialling and involves delineating the extent of an individual medical practitioner's clinical practice within a particular organisation based on the individual's credentials, competence, performance and professional suitability, and the needs and capability of the organisation to support the medical practitioner's scope of clinical practice.
- **Recredentialling** is the formal process used to re-confirm the qualifications, experience and professional standing (including history of and current status with respect to professional registration, disciplinary actions, indemnity insurance and criminal record) of medical practitioners, for the purpose of forming a view about their ongoing competence, performance and professional suitability to provide safe, high-quality health care services within specific organisational environments.

4.1.1 Introduction

For almost a decade and a half now, the governing bodies of health services are required by their funders and regulators as well as by legislation to ensure that all medical practitioners who have independent responsibility for patient care are appropriately credentialled and have their scope of clinical practice defined in accordance with both their level of skill and experience and the capability of the health service. This reflects the reasonable expectations of patients and communities, which should be respected if community confidence in the health care system is to be maintained. It also reflects the healthcare organisation's and medical practitioner's mutual responsibility to provide safe high-quality health care services to the community.

However, this was not always the case. Historically the medical profession was largely self-regulated. Speciality training colleges set standards for education and training and assess the practitioner as competent and able to provide independent clinical care once they have successfully met the requirements of training. Once deemed competent to practice independently, their clinical practice was monitored within the profession by a system of review by peers. High-profile inquiries into poor patient outcomes, like the Bristol Royal Infirmary Inquiry in 1999 [2] and the Bunderberg Hospital Commission of Inquiry in 2005 [3], led to the erosion of trust in the profession for self-regulation and paved the way for external regulation to protect the public and ensure that health care is provided by appropriately trained medical practitioners who are fit to practice.

A robust system of credentialling and defining the scope of clinical practice of medical practitioners ensures that this key clinical governance responsibility is upheld. These processes also protect medical practitioners by ensuring that the environments within which they practice support and facilitate safe and high-quality care. Credentialling and defining scope of clinical practice are essential elements of the initial appointment and ongoing relationship the organisation has with its medical practitioners. It forms part of the overarching organisational clinical governance systems that are designed to ensure the delivery of high-quality health services and minimise the risk of harm to the patients.

A process of defining scope of clinical practice supports the mutual responsibility of medical practitioners and healthcare organisations to provide safe patient care. Medical practitioners' pro-

fessional responsibility to provide safe patient care is outlined in professional registration standards and codes. This includes the obligation of working within their area of competence and training. By matching the medical practitioners' credentials and competence to the organisation's capability to provide services, the organisation assists the medical practitioner to work within their area of competence. In other words, the practice of medical practitioners is supported by organisational capability.

4.1.2 Policy Framework

The National Standard for Credentialling and Defining Scope of Clinical Practice (the Standard) developed by the former Australian Council for Safety and Quality in Health Care in 2004, provides the framework for States and Territories and health services to develop and implement systems for credentialling and defining the scope of practice of their medical practitioners.

Since then, all state departments of health have their own credentialling and defining scope of practice policies for public health services. In general, these policies mandate public health services to ensure that medical practitioners with responsibility for independent medical care are credentialled and have their scope of clinical practice defined at appointment to the health service. Most states also require that there is a process for regular review of scope of practice as a part of an annual performance appraisal and a formal process for recredentialling every 5 years.

Private hospitals are licensed to operate by the state health departments under state and territory laws and regulation. While state department policies on credentialling and defining scope of clinical practice do not apply to private hospitals, to maintain the licence to operate private hospitals are required to comply with legislative requirements, relevant professional standards, relevant guidelines, current best practice and occupational health and safety standards. In addition, contracts with health funds drive the need for having good systems for credentialling by requiring that private health services maintain accreditation status against safety and quality accreditation standards.

The National Safety and Quality Health Services Standards also require both private and public health services to have a system in place to define and regularly review the scope of practice of the clinical workforce [4]. In addition, the Standards also require that health services have mechanisms in place to monitor that the clinical workforce is working within their scope of practice.

4.1.3 Approaches to Defining the Scope of Clinical Practice

The Standard suggests the following approaches for defining Scope of Clinical Practice.

- **Checklist:** Developing a detailed checklist of all the clinical services, procedures, interventions and/or conditions that can be supported from which medical practitioners can request their scope based on their training and competence. Some large organisations use the Medical Benefits Schedule as a framework for developing these lists.
- **Categorisation**: Certain specialities can be subdivided into broad categories with each category comprising of a set of procedures with some common characteristic. For example, within the discipline of cardiology, the scope may be categorised as interventional cardiology, electrophysiology and general cardiology. Surgery may be categorised as general surgery, upper gastrointestinal surgery and colorectal surgery.
- **Core**: Core scope of clinical practice refers to the range of clinical activities within a specialty or subspecialty that any appropriately trained medical practitioner would be expected to be competent to perform. For example, the core training of the Royal Australian and New Zealand College of Radiologists makes fellows eligible to perform basic diagnostic angiography and interventional techniques including angiography, nephrostomy, abscess

drainage and biopsy. To undertake more complex interventions like neuro-interventional procedures or vascular interventional procedure additional training is required with the Interventional Radiological Society of Australasia.
- **Descriptive: The medical practitioner requesting a scope of clinical practice describes in** narrative format, the procedures that they would like to perform based on their training and competence.
- **Combination:** The most common would be a core scope of practice with a checklist of additional procedures that the practitioner is able to demonstrate competence. For example, a Fellow of the Royal Australasian College of Surgeons may start with a core surgical scope of practice but later add laproscopic surgery to their practice.

4.1.4 System for Credentialling and Defining Scope of Clinical Practice

4.1.4.1 Principles

Processes of credentialling and defining the scope of clinical practice of medical practitioners should:

- Be conducted with the objective of ensuring the safety and quality of health care services.
- Uphold the principles of equity and merit.
- Operate according to the rules of natural justice and procedural fairness.
- Comply with relevant laws including those governing health services provision, privacy, competition, whistleblowing and equal opportunity.
- Be transparent, to maintain patients and the community confidence.
- Undertaken by professional peers, who can verify credentials, evaluate competence and performance, and recommend the appropriate scope of clinical practice.

4.1.4.2 Governance

Processes of credentialling and defining the scope of clinical practice of medical practitioners should be integrated within overarching clinical governance systems.

4.1.4.3 Governing Body

Role of the governing body or Board of Directors with respect to credentialling and defining the scope of clinical practice of medical practitioners can be summarised as follows:

- To demonstrate strong leadership and commitment to ensuring that healthcare is provided by appropriately credentialled medical practitioners working within their scope of practice in an environment that supports the practice.
- To establish comprehensive governance systems for effective processes of credentialling and defining the scope of clinical practice of medical practitioners.
- To formally delegate authority for implementing and monitoring the performance of its governance systems of credentialling and defining the scope of clinical practice of medical practitioners to an accountable executive.
- To ensure that it receives regular, systematic reports on the effectiveness of processes of credentialling and defining the scope of clinical practice of medical practitioners.

4.1.4.4 Accountable Executive

The Chief Executive Officer is usually the accountable executive who may formally delegate this responsibility to the Chief Medical Officer, Head of Human Resources, Director of Medical Services or any other senior managerial role depending on the size and structure of the organisation. This role must ensure that

- Resources are allocated to implementing and monitoring the process of credentialling and defining the scope of clinical practice.
- Structures for implementing the process are set up including organisational Credentialling

and Scope of Clinical Practice Committee with clear terms of reference, administrative supports, meeting schedules and record-keeping systems.
- Clear policies and procedures are developed, implemented and regularly reviewed.
- Key performance indicators to monitor the effectiveness of the process are developed, measured and reported on a regular basis.

4.1.5 Credentialling and Scope of Clinical Practice Committee (the Committee)

The Committee structure will vary depending on the size and structure of the organisation. In general the Committee must have the relevant expertise to be able to assess the medical practitioner's competence to perform the role and delineate the appropriate scope of clinical practice.

The role of the Committee includes
- To provide advice and endorse the organisational policies and procedure for credentialling and defining scope of practice.
- To determine the information to be requested from an applicant for appointment to a specific role.
- To determine the minimum credentials required to fulfill the duties of a specific position.
- To review and endorse the credentials of applicants and approve the appropriate scope of clinical practice based on the provided credentials.
- To provide advice on matters related to complaints and concerns about a medical practitioner's competence or scope of practice.

The membership should include
- Chair-usually the Chief Medical Officer or the role accountable for credentialling and defining the scope of clinical practice.
- Medical practitioners from a range of specialties.
- Human Resources department representative.
- Professional college or university representative as required-desirable.
- Consumer representative-desirable.

4.1.6 Policy and Procedure

Policy on credentialling and defining the scope of clinical practice that applies to all medical practitioners with independent practice rights within the organisation should be formally adopted. This policy should comply with all relevant legal requirements including relevant State/Territory and Commonwealth legislative requirements.

The policy should cover the following details:

- Specify the accountable executive to whom the responsibility to ensure effective processes of credentialling and defining the scope of clinical practice has been delegated by the governing body.
- Provide for the establishment of the organisational committee that assumes responsibility for credentialling and defining the scope of clinical practice of medical practitioners.
- Provide for the establishment of an Appeals Committee to be convened when required and describe the process for appeals.
- Outline the process for credentialling and defining scope of clinical practice including in emergency situations and on a temporary basis when required.
- Define the timeframe and process for recredentialling.
- Define the process for credentialling when new technology or clinical practices are introduced within the organisation.
- Define the circumstances under which an unplanned review of a medical practitioner's credentials and or scope of clinical practice may be initiated.
- Outline the circumstances and process for suspension, temporary or permanent, in part or full, of a medical practitioner's right to practise within the organisation.
- Describe the process for appeals.

- Specify the extent to which the organisation will disseminate information about each medical practitioner's authorised scope of clinical practice.
- Describe how the process should be documented.
- Describe the process for monitoring the effectiveness of the credentialling and defining scope of practice process including an audit framework and schedule.

4.1.7 Process of Credentialling and Defining Scope of Clinical Practice

The operational process for credentialling and defining scope of clinical practice forms part of the appointment process and different models may exist depending on the governance structure, size, and complexity of the organisation.

The table below outlines the key structures, processes and outcomes for a robust credentialling system

Structure (role/group/committee)	Process credentialling and defining scope of clinical practice	Outcome
Medical leader to whom the new position will report Medical leader may seek advice from relevant colleges, societies or expert members of the position	Development of the position description and determination of the minimum credentials to be considered for the position	Decision about appropriate credentials for the position is made
Medical leader assisted by administrative support	Advertisement and review of applications to shortlist suitable candidates who have the required credentials	Preliminary check of credentials was done, and suitable candidates were shortlisted for interview
Appropriately convened interview panel with relevant expertise. This should include the medical leader, human resource representative, relevant multidisciplinary team representatives (nursing, allied health), experts like college or university representatives and medical administration representatives	Interview process to select a preferred candidate	Panel with required expertise interviews the shortlisted candidates and makes an informed decision about the suitability of the candidate for the role
Medical leader assisted by administrative support	Scrutiny of relevant documents for verification of credentials and reference checking	Assurance that the preferred candidate has the required credentials and positive references for the job
Medical leader	Job offer made to the preferred candidate	Formal job offer is made for the candidate to accept
Applicant	Request for scope of practice by the successful candidate	Applicant exercises their judgement and self-assessment of their competence and requests appropriate scope
Medical leader/group of peers working in the same field/ Credentialling and scope of practice committee	Review of requested scope of practice and assessment against credentials and recommendation of the appropriate scope of practice to the relevant organisational committee/executive/governing body	Peers working in the same field make an informed decision about the appropriate scope of practice
Credentialling and scope of practice committee/accountable executive/ governing body	Endorsement of the scope of clinical practice	The organisation fulfills its obligation to ensure competent professionals working within their approved scope of practice provide healthcare

4.1.8 Documentation

Documentation related to the process of credentialling and defining the scope of practice must be maintained and stored as per legislative requirements and organisational policy.

Detailed minutes of Committee processes and decisions must be maintained, and all decisions must be formally communicated to applicants in writing.

4.1.9 Information for Credentialling That Must Be Provided by the Medical Practitioner

Essential documentary evidence

- Current professional registration which is now available from the Public Register of Health Professionals from the Medical Board of Australia.
- Evidence of relevant education and training including certified copies of all diplomas, degrees and recognised post-graduate qualifications.
- Evidence of Fellowship of relevant professional college, membership of associations or societies.
- Information about relevant past and continuing health care-related employment. The performance at recent employment should be validated with reference checking.
- Evidence of participation in continuing medical education programmes.
- Evidence of current professional indemnity insurance and its type and scope.
- Relevant safety clearances including police check and working with children check.
- Adequate identity documents.

4.1.10 Information Usually Required in Curriculum Vitae That Can Be Then Validated by Reference Checks

- Information on clinical activity undertaken in recent employment and outcome of that activity.
- Evidence of experience in teaching and research, where applicable.
- Evidence of experience in medical leadership positions, where applicable.

4.1.11 Declarations About Relevant Past Conduct and History

- Declaration regarding any prior change to the defined scope of clinical practice, or denial, suspension, termination or withdrawal of the right to practise, other than for organisational need and/or capability reasons, in any other organisation.
- Declaration regarding any prior disciplinary action or professional sanctions imposed by any registration board.
- Declaration regarding any criminal investigation or conviction.
- Declaration regarding the presence of any physical or mental illness that could affect the medical practitioner's ability practice safely or competently.

4.1.12 Recredentialling

The process of recredentialling ensures that credentials are verified periodically and relevant information updated for the organisation's record. It also provides an opportunity for the medical practitioner and their medical leader to review their scope of practice and make necessary alterations to it based on their current personal and organisational circumstances. New procedures may be added to the scope if appropriate qualifications and experience has been gained. Procedures may be dropped from the scope of practice. Some of the reasons for doing this may be because of the practitioner's decision to wind down or change their practice, change in organisational scope where the service is no longer performed or other health or competence related reasons.

Most State policies require that recredentialling is performed every 5 years. Organisations may undertake this in conjunction with their contract renewal process. Organisations with perma-

nent ongoing contracts will need to undertake the process separately.

4.1.13 Information Required for Recredentialling

- Current professional registration, which is now available from the Public Register of Health Professionals from the Medical Board of Australia. However, it is recommended that organisations have a process for checking the currency of registration more frequently. It is possible to set up real-time alerts for any changes to registrations on electronic systems used for Credentialling.
- Evidence of any additional education and training undertaken and any endorsement or accreditation awarded by a professional college, association or society since the previous declaration.
- Update on professional activities undertaken such as clinical audits, peer review activities and continuing medical education programmes since the previous declaration.
- Request for change to scope of clinical practice and supporting documentation justifying the request.
- Evidence of the type and scope of current professional indemnity insurance.
- Declaration that there has been no change to the previous information provided regarding:
  - Scope of clinical practice, including denial, suspension, termination or withdrawal of the right to practise, other than for organisational need and/or capability reasons, in any other organisation,
  - Disciplinary action or professional sanctions imposed by any registration board,
  - Criminal investigation or conviction,
  - Presence of any physical or mental illness that could affect the medical practitioner's ability practice safely or competently.
- In case there have been changes, a new declaration describing the specific changes to the information previously provided is required. However, organisational processes must require medical practitioners to inform the organisation of any changes to professional status at the time that it happens and not rely on the 5 yearly recredentialling process.

4.1.14 Emergency Credentialling

At times of emergencies due to natural disasters, mass casualty events or pandemics the increased requirement for medical services may require health services to allow medical practitioners whose credentials have not been formally reviewed and verified according to the organisation's standard policy to assist in the provision of clinical care.

This process should involve

- Verification of identity through inspection of relevant documents, for example, a driver's licence with photograph.
- Verification with the relevant professional registration on the public register.
- Confirmation with a member of senior management of the organisation nominated by the medical practitioner as his or her most recent place of appointment to verify claimed employment history and good standing.
- Assessment as soon as possible of the medical practitioner's available credentials by a senior medical practitioner who practices in the same speciality area.
- Confirmation as soon as practicable by at least one professional referee of the medical practitioner's competence and good standing.
- Detailed documentation of the process and decisions.

Regular credentialling process must follow as soon as reasonably practicable. The scope of practice in this situation is restricted to that required for the specific emergency.

4.1.15 Temporary Credentialling

Occasionally appointments may need to be expedited to allow continued service delivery, as when locums and other medical practitioners are

appointed on a short-term basis to provide health care services. In such situations, organisations may decide to authorise an appropriate senior manager and senior medical practitioner to undertake the necessary assessment and verification of credentials and allow the practitioner to commence clinical practice without waiting for the final endorsement of the Credentialling and Scope of Practice Committee.

To ensure safety and minimise risk, this process requires the authorised manager to

- Interview the applicant.
- Verify all information required from applicants for initial credentialling.
- Define the applicants scope of practice on a time-limited basis.
- Document the process and decisions.

The process must be completed as per organisational procedure and referred to the next meeting of the Committee responsible for credentialling and defining the scope of clinical practice, for formal consideration and endorsement.

4.1.16 Appeals Process

To uphold the principles of natural justice, it is required that an appeals body that is independent of the Credentialling and Scope of Clinical Practice Committee is set up. The appeals body should advise the governing body directly.

Appeals may be made in the following circumstances

- Dispute over credentials.
- Rejection of scope of practice request.
- Decision to change the scope of practice.

Suggested membership of the appeals body

- Member of senior management.
- Senior independent member of medical staff with expertise in the relevant area of practice.
- Relevant college representative.

4.1.17 Process of Appeal

- Process for appeal must be clearly outlined in the credentialling and defining the scope of clinical practice policy.
- Appeals must be made within the specified interval from the date of the decision, usually 30 days.
- Appeals must be made in writing. It is recommended that an appeals form is developed to ensure all required information is provided to the committee.
- The appeal should be addressed to an agreed organisational representative independent of the Credentialling Committee. This may be the Chief Executive or another Senior Manager.
- The Organisational representative should convene the appeals body with the necessary expertise. The appeals body may decide to interview the appellant and relevant other individuals to gain a better understanding of the dispute.
- The decision of the appeals body must be communicated to the appellant in writing within a specified timeframe.

4.1.18 Introduction of New Technology or Clinical Practices: Implication for Credentialling

The process for introduction of a new technology includes

- Request to introduce the new technology usually made by a medical practitioner or a group of practitioners.
- Assessment of the technology for evidence of safety, effectiveness and cost effectiveness.
- Assessment of the alignment of the change to the organisational strategy.
- Assessment of the organisation capability to support the new technology.
- Assessment of the operational and financial impact of introducing the new technology.

- Consideration of the skills and training required by staff to use the new technology.

Most large organisations have a New Technology Committee that usually performs these tasks. Smaller organisations may use the expertise of larger organisations or the Department of Health. Based on these assessments, the New Technology Committee would advise the organisation whether the new technology should be introduced in the organisation.

In the assessment of the technology, consideration would be given to the skills and training required by health professionals to use the new technology and the New Technology Committee would advise the organisation of the necessary credentials required by medical staff if the new technology was introduced.

Based on this advice, the Credentialling and Scope of Clinical Practice Committee would perform its task of verifying the credentials and making the decision about whether the use of the new technology should be added to the scope of practice of the medical practitioner.

4.1.19 Review of Scope of Clinical Practice

Due to changes in community needs for services, changes in technology and models of care, the skills and training required by clinicians may change, driving the need for review of their scope of clinical practice. Ideally, scope of clinical practice should be reviewed between the medical practitioner and their medical lead during the process of annual performance review. This is an ideal platform for a discussion about new skills and training that has been acquired, changes to service delivery including any disinvestment of services that may have occurred and the plans for the clinical area going forward. Based on this discussion, there may be an agreement to review and change the scope of practice. The Recredentialling cycle provides another opportunity for electively reviewing the scope of clinical practice.

In addition, the organisation should have internal monitoring systems that medical practitioners are working on competently as well as within their scope of clinical practice. These monitoring systems include clinical audit, peer review, mortality and morbidity reviews and benchmarking of clinical outcomes.

4.1.20 Unplanned Review of Scope of Clinical Practice

An unplanned review of scope of clinical practice will usually occur following a complaint or concern about a medical practitioner's competence. Complaints may arise internally from staff or patients or externally from regulatory bodies, complaints bodies or patient advocacy groups. Similarly, colleagues, team members, or even the practitioner's family members may raise concerns about competence. In addition, concerns may also be raised in the context of organisational quality management systems like peer review or clinical audit. Organisational incident investigation management processes may reveal that individual clinical performance rather than systems failure led to the incident.

The organisation must be responsive to complaints and concerns about a clinician's competence and have a structured process to manage them, ensuring that risks to safety are minimised, and the principles of natural justice and procedural fairness are upheld.

Management of such complaints or concerns is covered in detail in the section on Performance Management. For this section, it is sufficient to say the outcome of the investigation of the complaint or concern about the performance may be to review the scope of practice with a view to modify, restrict or suspend it temporarily or permanently. If that decision is made, it should be communicated to the Credentialling and Scope of Practice Committee, which will formally endorse the change to the scope of practice.

4.1.21 Credentialling of Junior Medical Staff

It is expected that Junior Medical Staff will always practice under supervision. The level of supervision will depend on their level of competence based on their length of training and experience and demonstrated performance. As

they do not practice independently, the process for credentialling and defining their scope of practice is not mandated by government policy. However, interest in this area is growing, and health services are expected to have processes to ensure that they can demonstrate that Junior Medical Staff hold current registration and necessary police and work with children's checks and are supervised at the level of competence.

4.2 Performance Enhancement or Performance Development

Supporting doctors to continuously enhance their performance and managing underperformance is an important medical workforce management task. Doctors are the key decision makers about patient care, and the performance of doctors is critical to the delivery of high-quality care. In the complex heath environment, a doctor's performance is not just dependent on their own level of competence but may be affected by other influences including their personal and family circumstances, their physical, mental and psychological health and their work conditions, environment and culture.

The Department of Health, Victoria, uses the term Performance Enhancement for the ongoing process between a doctor and the organisation, to support continuous professional development, promote engagement and ensure a standard of performance that meets and exceeds the expectations of the community [5]. Performance Enhancement is a positive process in which shared goals are developed between the organisation and the doctor, who then support each other in the achievement of those goals. Putting the delivery of high-quality patient care at the centre of the process allows for mutual interest and benefit from the process. Management of underperformance, generally known as Performance Management is an important but small component of the broader process of Performance Enhancement.

Performance Enhancement commences at the time of appointment and is intricately linked to the credentialling cycle. The medical leader, be it clinical director, unit head or equivalent, to whom the doctor reports is critical to driving the process. The table outlines key steps in the process of Performance Enhancement.

Time	Process	Outcome
Appointment	Credentialling and defining the scope of clinical practice	Assurance that the doctor is competent to provide the clinical care that they have been appointed to deliver and the organisation is able to support their agreed scope of practice
Within a month of appointment	Formal meeting of the doctor with their medical leader	Clarify role and mutual expectations Set performance goals aligned with organisational objectives Commence the building of a good professional relationship for ongoing mutual benefit
Ongoing	Access to performance development, clinical improvement and leadership development activities	Continuous improvement of skills and performance Meeting of medical board and college CPD requirements
Ongoing	Quality assurance activities like clinical audit, peer review, mortality and morbidity meetings	Monitoring of performance Ongoing communication about clinical care ensures that organisations and senior doctors are collaborating around a shared commitment to enhancing patient care
Ongoing	Informal conversations about clinical practice	Real time feedback about performance and opportunity to refine and adjust goals and progress towards those goals
Ongoing	Recognising outstanding performance	Increased engagement of medical staff

Time	Process	Outcome
Ongoing	Identifying underperformance	Early management of underperformance allowing successful outcome
One year after the appointment and then yearly	Formal performance appraisal	Review past performance to inform goals and plans for the coming year Review and update scope of practice if required Review career progression and future opportunities
Every year	Repeat tasks of the annual cycles	Continuous engagement, performance improvement and achievement of shared goals
5 years	Recredentialling	Informed decision made about continuation of employment

Hence it is clear that Performance Enhancement is not a one-off process of an annual meeting between the doctor and their medical leader but an ongoing supportive process of building a mutually beneficial relationship with the organisation that leads to achievement of personal and professional goals for the medical practitioner and ensures the organisation meets its obligation to provide safe and high-quality care. It leads to improve attraction and retention, increases discretionary effort and productivity through a process of clinical engagement.

4.2.1 Multisource (360°) Feedback

This is another tool that can be utilised to inform the Performance Enhancement process. It enables a senior doctor to receive structured feedback from their medical leader and a small number of peers, subordinates and colleagues. Implemented effectively, with appropriate resourcing, support and training, it can assist senior doctors and organisations to gain valuable insights into performance across a range of roles and competencies. However this must be used with caution as implementation without adequate resourcing, training and in an environment lacking in trust it may result in significant harm and disruption of relationships with medical staff.

It is a valuable formative tool that provides meaningful information about the doctor's performance to himself or herself and to the organisation. The doctor can use this information to further refine their professional development plan. It works well with those who have the insight and willingness to reflect on and improve their performance. The role of the medical leader is critical to guide the doctor in the use of the information. This method should not be used as an evaluative tool or as a tool for performance management.

4.2.2 The Performance Development Meeting

The annual performance development meeting is the formal process in the Performance Enhancement cycle as described above. Organisations should ensure this expectation is clearly communicated to all medical staff and the medical leaders of the organisation. It is also the responsibility of the organisation to provide the necessary time, resources and training to medical leaders to drive this process.

Performance Enhancement meetings should be formally scheduled between the medical leader and the doctor and both parties should have adequate preparation time. Organisations should have approved proformas to ensure consistency of the process and assist in documentation. During the preparation phase, both parties should independently reflect on and evaluate past performance and consider goals for the upcoming year. Previous year's documentation of the performance meeting should be reviewed with a view to evaluate achievement of agreed goals.

At the meeting, the achievements and challenges of the past year should be discussed, and ideally, a mutually consistent evaluation of performance is arrived at and documented. If the

performance enhancement cycle has been carried out as described above, this meeting should have no surprises, and both parties are likely to be on the same page about the doctor's performance.

Following the evaluation of past performance, goals for the coming year should be discussed, and a plan to achieve those goals agreed to and documented.

4.2.3 Setting Goals

Setting of specific, measurable, achievable, relevant and time bound (SMART) goals increases the possibility of success in achieving the goals. Various frameworks can be used to define areas in which goals can be set. The Department of Health, Victoria, suggests using Work Achievement, Professional Behaviours, Learning and Development and Career Progression as domains to set goals.

Goals discussion should include an agreement on how the organisation will support the achievement of the goals and monitor progress. The process should be documented, and the organisation must have a system for monitoring completion of the process as well as ideally have an evaluation process for its effectiveness. Feedback on the experience of conducting and going through the process should be collected from medical leaders as well as doctors in order to continuously improve it.

4.2.4 Pitfalls in the Performance Enhancement Process

If undertaken properly Performance Enhancement will lead to better clinical engagement, co-ownership of organisational objectives and job satisfaction for doctors. However poor execution may result in dissatisfaction and possibly cause significant harm to the relationship between the organisation and doctors.

Some suggested cautions include

- Clear messaging about the purpose of Performance Enhancement as a supportive and developmental process for doctors.
- Ensuring frequent, ongoing, real-time feedback on performance with no surprises at the formal annual appraisal meeting.
- Use as a formative tool and not as an evaluative tool.
- Ensuring clear distinction from performance management.
- Adequate resource allocation in terms of non-clinical time and administrative support.
- Training of medical leaders in giving feedback and goal setting.

4.3 Performance Management

Performance is not just about good technical knowledge and skills, but also considers other important non-clinical attributes such as professionalism, teamwork, leadership and communication. The performance of individual medical practitioners may be influenced by many factors including their health status, personality, and the broader personal and professional environment within which they work.

Underperformance is performance that does not meet expected standards and can be broadly categorised as:

- Clinical performance of a standard that is below what is expected from a practitioner of similar training or experience. These standards are usually set by the profession through professional colleges and prevocational training bodies and reflect the clinical competence that is expected to be demonstrated by a practitioner who has successfully completed the training requirements.
  - Examples.
    - Individual training standards of professional colleges and societies.
    - The Australian curriculum framework for Junior Doctors.
- Behaviour or conduct that is below the standard required by the profession, regulators, employers or the community. These standards are usually outlined in organisational codes of conduct and policy documents or professional practice guides of regulators or professional bodies.

  - Examples.
    Good Medical Practice from the General Medical Council (GMC), UK.
    Good medical practice: a code of conduct for doctors in Australia.
    The Australian Medical Association Code of Ethics.

These standards provide a benchmark against which the performance of a doctor is assessed.

Failure to meet clinical standards leads to a breach of professional duty, causes a risk to patient safety and undermines public confidence in the practitioner and the profession. Failure to meet behavioural standards may affect the morale of the team, disrupt functioning, decrease productivity and put the health and safety of patients as well as co-workers at risk. Doctors enjoy a position of privilege and trust in society. In return, society expects that doctors will provide safe and high-quality medical care that meets professional standards. Healthcare organisations that employ or contract doctors are also accountable to its patients and funders to ensure that its employees including doctors are fit to provide the standard of care expected of them.

Hence doctors have the professional responsibility to maintain competence in their field and demonstrate a high standard of professional conduct. Organisations that employ doctors are obligated to ensure that they have processes to monitor their doctors' performance and identify and manage underperformance early to minimise risk to patient safety.

In addition to the risk to patient safety, underperformance if not identified and managed both appropriately and sensitively, can lead to unhealthy and unproductive outcomes for the individual practitioner as well as the organisation and teams that they work in. Early identification and management of underperformance increases the chances of successful remediation.

4.3.1 Factors Contributing to Underperformance

Factors other than deficient clinical knowledge, skills, training or experience may contribute to underperformance. These may include:

- **Individual factors.**
  - Health-physical, mental and emotional.
  - Personality.
- **Organisational factors.**
  - Workload.
  - Job design: skill-challenge match.
  - Organisational culture-safety, fairness, equity, leadership, teamwork.
  - Organisational processes – supervision, rostering, training.
  - Organisational support.
- **Life factors.**
  - Family and personal circumstances including relationships.
  - Financial circumstances.
  - Career progression.

4.3.2 Health as a Contributory Factor of Underperformance

Evidence suggests that doctors enjoy better physical health as compared to the rest of the population [6]. However, recent data on mental health of doctors shows that there is a high prevalence of mental illness in the profession. The National Mental Health Survey of Australian Doctors and Medical Students found that doctors and medical students reported substantially higher rates of psychological distress and attempted suicide compared to both the Australian population and other Australian professionals [7]. Similar findings have been demonstrated in the United Kingdom, where 10–20% of doctors have reported being depressed at some time during their career, and the risk of suicide is raised compared to the general population [8]. Alcoholism and drug dependency also affect a high proportion of doctors compared to other professional groups [9]. The lifetime prevalence of substance abuse disorders among doctors in Australia has been estimated to be approximately 8% [10].

A doctor's ability to practice safely may be affected by the presence of illness. In the United States of America, the term Impaired Physician has been used to describe a doctor whose ill health affects their fitness to practice. The American Medical Association has defined Impairment as any physical, mental or behav-

ioural disorder that interferes with the ability to engage safely in professional activities [11]. This definition reflects the fact that a wide range of health conditions may impact on a doctor's ability to practice safely.

While physical illness may affect a doctor's performance it appears that this is not very common. Amongst the cohort of doctors in the UK who were referred to the GMC Health Committee following performance-related concerns, only 1% had a physical illness while 99% had problems with alcohol, drugs or mental health [12]. Age-related cognitive decline and dementia were the most common physical conditions associated with underperformance.

4.3.3 Health-Related Behaviours and Attitudes in the Medical Profession

Doctors, in general, do not look after their own health, deny ill health and delay seeking medical attention [13]. A survey of junior doctors in the UK showed that they rarely took time off work and were commonly self-prescribed [14]. Responses to postal surveys conducted in Australia, UK and Spain show that most doctors do not have a GP, and those that do, do not use their services often. Many doctors self-prescribe and admit to stress. Alcohol and drug use are not uncommon. Perceived barriers to accessing healthcare are confidentiality, inability to take time off, reluctance to relinquish control of their own health to a colleague, fear of the impact of the illness on their career, role conflict in being a doctor and a patient and a perception that ill health may demean them in the eyes of their patients, colleagues, employers and regulators [15–17].

Therefore, when true impairment in clinical skills becomes apparent, the illness is usually severe and longstanding [18]. Unfortunately, many times impairment is identified after concerns about performance are raised, or clinical errors have occurred, setting off a reactive response to the underperformance.

It is also apparent that the medical profession does not deal well with disability among its own members. A recent working party convened by the Royal College of Physicians of London found that there was a stigma attached to having a disability and that doctors were reluctant to declare non-obvious impairments, particularly mental illness [19].

Early identification and management of illness before it starts impacting on clinical performance would prevent the development of impairment, ensure patient safety and increase the probability of a successful outcome for the doctor.

4.3.4 Personality as a Contributory Factor to Underperformance

The relationship between personality and academic performance in medical students has been a subject of several studies and the personality trait of conscientiousness has been found to be associated with long-term success in medical training [20]. There is less understanding about the association of personality traits and job performance. However, some studies have shown that personality traits of neuroticism and low conscientiousness may be associated underperformance [21]. Paice found behaviour patterns among poorly performing undergraduates or the so called trainee in difficulty that could be consistent with low conscientiousness and high neuroticism including doing the disappearing act, low work rate, ward rage, rigidity, unreliability, turning up late and insight failure' [22].

Personality disorders like borderline, antisocial, narcissistic, and obsessional personalities present with underperformance related to behaviour or conduct below the expected standard [23]. These doctors may demonstrate problems with interpersonal relationships and teamwork, difficulty in adapting to change, anger management problems and are usually identified by patient or staff complaints. The behaviours of concern are usually longstanding but more pronounced during periods of stress. Personality disorders are difficult to manage, particularly when associated with a lack of insight. This form of underperformance is dealt with in further detail in the section on management of inappropriate behaviour.

4.3.5 Work-Related Factors Contributing to Underperformance

Organisational factors such as high workload, shift systems, work patterns, poor leadership and team work, all have the potential to impact negatively on an individual's well-being and to distort patterns of behaviour and ability to perform. These systems-related factors must also be considered as possible contributory factors for underperformance.

4.3.6 Burnout as a Contributory Factor to Underperformance

Burnout is a well-defined syndrome that is commonly seen in the medical profession [24–26]. It is defined as a psychological syndrome that occurs in relation to chronic work-related strain and is characterised by:

1. Emotional exhaustion-decreased emotional energy to meet work-related demands and feelings of being over-extended at work.
2. Depersonalisation-increased emotional distance from one's job role and the feeling of negativity, cynicism and a detached response to other people including patients, colleagues and family.
3. Reduced personal accomplishment-decreased self-worth and feeling of competence related to work [27].

It may be a contributory factor in underperformance. Prinz et al [28] and Amfao et al [29] have authored good reviews of burnout in the medical profession. These reviews have found that factors contributing to burnout are specifically work related. Work overload, work-home conflict and perception of work as stressful have been found to be the factors most strongly related to burnout. Other contributing factors include emotionally demanding situations in the workplace like interactions with difficult patients, managing unrealistic community expectations and dealing with life-and-death situations. Younger doctors in early career stages and female doctors have a higher incidence of job burnout. Burnout has significant effects on the health of the individual and their job performance. It has been associated with withdrawal, intention to leave the job, job turnover, loss of productivity and a reduction in the quality of patient care.

Hence underperformance is a complex issue, and management of underperformance should take into account factors contributing to it and an attempt made to address these. Strategies to reduce or address these contributory factors are discussed in the section on Managing Mental Health and Well-being.

4.3.7 Principles of Managing Underperformance

- Clear and agreed procedures should exist for managing concerns about performance.
- Concerns should be managed promptly and as per existing procedures.
- Principles of natural justice and procedural fairness should be upheld. This implies that the person about whom a concern is raised must be given the opportunity to be heard by an impartial decision-maker.
- Need for patient safety should be balanced with the need to protect the reputation of the practitioner. In case of immediate risk to patient safety from continued practice, suspension from clinical practice may be required till the matter is investigated.
- Confidentiality of proceedings should be ensured.
- Level and depth of investigation should match the seriousness of the concern with more serious matters requiring the involvement of senior management or executive.
- Clear documentation should ensure that records are maintained, and the rationale for decision-making is clear in case the decision in challenged in the future.
- Support should be offered to the person being investigated, and their support person should be allowed at all formal meetings.

4.3.8 Process of Performance Management

Concerns about performance may be raised from several sources including colleagues, co-workers, supervisors, patients or external sources. The manager of the underperforming doctor should be responsible for managing the concern. In a hospital setting, this responsibility may sit with the unit head, training supervisor or the Director of Medical Services. The process may differ depending on whether the concern is predominantly about clinical competence or about professional behaviour and conduct, but the basic steps are common. The responsible manager must:

- Assess and manage any immediate risk to patient or staff safety. If a significant risk is identified temporary measures to manage the risk may include.
  - Removal from clinical duties till the matter is investigated.
  - Restriction of scope of practice.
  - Increased level of supervision.
  - Allocation to other duties or leave.
- Determine the seriousness of the concern and based on that decide the level of review required. Key considerations in determining seriousness may include whether the concern is an isolated occurrence or part of a trend and to what extent the clinical performance, behaviour, practice or variation in outcome depart from the expected standard. The seniority and experience of the person conducting the review must reflect the seriousness of the complaint.
- Inform the person of the complaint or concern and the process of investigation that will follow. For serious concerns, this should be done in writing, and the letter should outline the concerns, the process of the investigation, the avenues for further communication and an invitation to a meeting once the investigation is completed where they can respond to the concerns.
- Conduct the investigation. The process of investigation will depend on the nature of the concern. Concerns about clinical competence may require review of the doctor's clinical practice by a member/s of the profession who practice in the same discipline. These reviewers must be independent and have no conflict of interest in the proceedings. In small organisations or where internal expertise does not exist, external experts may need to be invited. The process of review and the reviewers should be agreed on with the doctor whose performance is under review Investigation about conduct and behaviour may be reviewed in conjunction with the organisation's Human Resources department. This would include gathering evidence from witnesses about the actual occurrence of the behaviour.
- Invite the person to a meeting with a support person to inform them of the findings of the investigation and provide them with the opportunity to respond. It is advisable to have a member of the Human Resources team at the meeting to support and witness the process. At the meeting, the details of the concern should be explained to the doctor. The expected standard of performance should be outlined, and how the behaviour/clinical performance failed to meet the standard should be clarified. The doctor should be invited to respond. The outcome may be determined in one meeting if all the information is available, or further meetings may be required.
- Based on the response, the outcome should be determined and conveyed to the doctor verbally, followed by a formal letter. Avenues for appeal and support must be communicated.
- All decisions must be well documented.
- A process to follow up on the outcomes of the review must be determined.

4.3.9 Possible Outcomes of the Performance Management Process May Include

- No action required.
- Informal counselling.
- Formal verbal or written warnings.

- Development of a performance improvement plan with clearly defined targets, deadlines and a review date.
- Restriction of the doctor's scope of clinical practice or increase in supervision. This must be appropriately documented and followed up as required by the organisations Credentialling and Defining Scope of Practice policy.
- Suspension from employment till remediation, reskilling or further review is completed. Suspension usually requires approval from senior managers or executive.
- Summary dismissal or termination for gross or serious misconduct may be appropriate but requires approval of senior managers or executive.
- Mandatory notification to the Medical Board of Australia is required if it is determined that the doctor-.
  - Has practised while intoxicated by alcohol or drugs,
  - Has engaged in sexual misconduct in connection with the practice of the profession,
  - Has placed the public at risk of substantial harm in the practice of their profession because the doctor has an impairment,
  - Has placed the public at risk of harm because the practitioner has practised the profession in a way that constitutes a significant departure from accepted professional standards.

4.3.10 Conclusion

Management of underperformance requires a holistic approach that takes into account possible underlying causes of underperformance including health status, personality, well-being as well as work-related factors. Critical success factors include good clinical governance, occupational health and safety systems to monitor and identify performance issues early, a just and supportive culture that encourages doctors to seek help early without fear of being stigmatised, building capability of senior leaders to manage underperformance and resources to remediate, reskill or rehabilitate the doctor and facilitate return to work as soon as possible. Understanding an individual's motivation to change and engaging them in the process of change should be part of the performance management process.

4.4 Appropriate Workplace Behaviour

All organisations must aim to promote an environment where employees enjoy good working relationships. This means that all staff including medical staff should be able to work in an environment that is free from inappropriate workplace behaviour. The expected behaviour must be outlined in documents like the employee code of conduct, policies and procedures and contracts. All employees must be expected to conduct themselves in a manner that is in accordance with organisational values and respect for the rights and welfare of patients and other employees. In addition, organisational values and culture of respect, teamwork and compassion must be frequently communicated to all employees, and performance should be assessed against the demonstration of those values. Good behaviour driven by values must be recognised and rewarded. All this creates a platform for promoting good behaviour and successfully managing inappropriate behaviour.

4.4.1 What Is Inappropriate Behaviour?

Inappropriate workplace behaviour is a broad term that includes any behaviour that breaches the organisation's values, professional codes of conduct or legislative requirements.

4.4.2 Disruptive Behaviour

Disruptive behaviour is a well-known term for a particular type of inappropriate behaviour and has been extensively described in the context of the medical profession. The American Medical Association has described disruptive behaviour as *"Chronic and repetitive inappropriate*

behaviour that adversely affects the effective functioning of other staff and teams and interferes with patient care" [30]. The College of Physicians and Surgeons of Ontario define disruptive behaviour in more detail as: *When the use of inappropriate words, actions or inactions by a physician interferes with his or her ability to function well with others to the extent that the behaviour interferes with, or is likely to interfere with, quality health care delivery. Disruptive behaviour may, in rare circumstances, be demonstrated in a single egregious act, for example, a physical assault of a co-worker, but is more often composed of a pattern of behaviour. The gravity of disruptive behaviour depends on the nature of the behaviour, the context in which it arises, and the consequences flowing from it* [31].

Stewart et al. have published a good review of Disruptive Physician Behaviour which readers are encouraged to read [32]. Some of the key learnings from the review are described in this section.

- **Impact of disruptive behaviours.**
  - Patient harm.
  - Poor team performance.
  - Difficult work environments.
  - Poor patient satisfaction.
  - Nurse recruitment problems.
  - Litigation risk.
- **What does disruptive behaviour look like?**
  - Inappropriate words.
    Profane, disrespectful, insulting, demeaning or abusive language.
    Demeaning comments or intimidation.
    Inappropriate arguments with patients, family members, staff.
    Rudeness.
    Boundary violations with patients, family members or staff.
    Gratuitous negative comments about a colleague's care (orally or in notes).
    Censuring colleagues or staff in front of patients, visitors or other staff.
    Outbursts of anger.
    Behaviour that others would describe as bullying.
    Jokes or comments about race or ethnicity.
  - **Inappropriate actions/inactions.**
    Throwing or breaking things.
    Refusal to comply with known and generally accepted practice standards.
    Use or threat of unwarranted physical force with others.
    Repeated failure to respond to calls or requests for information.
    Repeated and unjustified complaints about a colleague.
    Not working collaboratively or co-operatively with others.
    Creating rigid or inflexible barriers to requests for assistance or co-operation.

Another framework for categorising disruptive behaviour has been described by Swiggart et al. as a spectrum of behaviours from aggressive through passive-aggressive to passive [33]. Some examples of passive behaviours which can be equally disruptive to patient safety include not answering calls, avoiding meetings, non-participation in unit activities or persistent lateness. Passive-aggressive behaviours have been described as hostile notes/messages, constant complaining or derogatory comments about the institution.

4.4.3 Factors Contributing to Disruptive Behaviour

These may be categorised as individual factors and environmental factors. Individual factors may be further classified into skills, health status and personality-related factors.

4.4.4 Individual Factors

- Skills.
  - Poor communication and influencing skills.
  - Poor conflict resolution skills.
  - Poor leadership skills.
  - Low empathy.
  - Low insight.

- Health.
  - Dependency on drugs or alcohol.
  - Mental illness.
  - Stress.
  - Cognitive impairment, or.
  - Physical illness.
- Traits/Personality.
  - Driven.
  - Compulsive.
  - Perfectionist.

4.4.5 Environmental Factors

- Life.
- Family problems,
- Financial problems,
- Work Environment.
- High work demands with low support.
- System that rewards disruptive behaviour.
- Poor systems for responding to genuine concerns.
- Tolerance of low-level aberrant behaviour.
- Failure to clearly communicate behavioural expectations.

4.4.6 Other Types of Inappropriate Workplace Behaviour

Specific examples of behaviour or conduct that is below the standard include

- *Workplace Bullying* is repeated and unreasonable behaviour directed towards an employee or group of employees that creates a risk to health and safety (WorkSafe). Unreasonable behaviour involves behaviour that a reasonable person, having regard for the circumstances, would see as unreasonable.
- *Discrimination* occurs when someone, or a group of people, is treated less favourably than another person or group because of a protected attribute, that is race, colour, nationality, sex pregnancy, marital status, age, disability, religion, sexual preference (HREOC). Discrimination can be direct or in-direct.
- *Harassment* occurs when someone is made to feel intimidated, insulted or humiliated because of a protected attribute, that is, race, colour, nationality, sex, disability or sexual preference (HREOC).
- *Sexual Harassment* is unwelcome or unwanted sexual behaviour which makes a person feel offended, humiliated and/or intimidated where that reaction is reasonable in the circumstances (Sex Discrimination Act 1984).

4.4.7 Managing Inappropriate Behaviour

Inappropriate workplace behaviour needs to be managed quickly and carefully because in addition to breaching organisational policies, it can also breach state and federal legislation and could result in penalties for both individuals and the organisation. Bullying behaviour may compromise safety of staff either physically or mentally, which can breach Occupational Health & Safety legislation. The formal process for management has been outlined in the section on Performance Management. It is advisable to involve the Human Resources department in serious issues.

Critical success factors in effective management include

- Clear expectations about expected behavioural standards through code of conduct and policy documents.
- Executive support for zero tolerance of inappropriate behaviour.
- Education and empowerment of staff to identify, deal with or report inappropriate behaviour.
- Empowering frontline staff to deal with lower level aberrant behaviour early.
- Training and support for managers in managing inappropriate behaviour.
- Dealing consistently and transparently with complaints about inappropriate behaviour.
- Having a graduated set of outcomes (informal, formal, disciplinary, regulatory) depending on the severity of the incident.
- Making support available to victims as well as perpetrators of inappropriate behaviour.

4.4.8 Conclusion

Inappropriate workplace behaviour is a risk to patient and staff safety, undermines the morale of the workforce, increases turnover and decreases productivity. Bullying comprises an occupational health and safety issue. Employers have a positive statutory obligation to provide a healthy and safe workplace free from bullying. Employers who breach work health and safety laws are subject to penalties under the relevant work health and safety legislation. Discrimination and harassment fall under the legal framework of Anti-Discrimination laws, and when this occurs, employees can pursue legal action against an employer in a court/anti-discrimination tribunal or Fair-work Australia.

Hence it is critical for organisations to have the capability to identify and manage inappropriate behaviour promptly, consistently and transparently, ensuring support for all involved.

4.5 Managing Mental Health and Well-being of Doctors

Complete Mental Health: It is more than the absence of mental illness!

As per Corey Keyes, Complete Mental Health is a state of absence of mental illness and presence of mental health [34]. Mental Health and Mental Illness fall on two separate continua Mental Health is described as a state of positive emotions such as feeling good, and positive functioning or functioning well. Absence of mental health may result in a state of being that is empty and hollow even though the individual may not be mentally ill. This state has been described as Languishing by Keyes. Keyes suggests that the state of Languishing is as bad as a major depressive episode. On the other hand, people who have high mental health and no mental illness are described as Flourishing. For complete mental health in the workplace, we need separate strategies to prevent and manage mental illness and increase mental health.

Therefore, any health and well-being initiative in the workplace needs to address both prevention and management of ill health and promotion of well-being by creating conditions where employees can pursue a fulfilling career, accomplish their personal and professional goals and achieve their full potential.

4.5.1 Understanding Workplace Health and Well-being

The well-being of individuals in a workplace is a product of complex interactions between factors within and outside the workplace. Each individual worker brings with them their own strengths or protective factors and vulnerabilities or risk factors to work, which are usually outside the control of workplace interventions. These factors include:

- Individual bio-psychosocial factors—genetics, personality, early life events, cognitive and behavioural patterns, mental health history, lifestyle factors and coping style.
- Personal life factors-family, social and cultural matters, financial health and significant life events.

In addition, the workplace has its own risk and protective factors for mental health. These factors include:

- The design of the job—demands of the job, control in the work environment, resources provided, the level of work engagement, characteristics of the job and potential exposure to trauma.
- Team/group factors—support from colleagues and managers, the quality of interpersonal relationships, effective leadership and availability of manager training.
- Organisational factors—organisational change, perceived organisational support, recognising and rewarding work, perception of organisational justice, psychological safety climate, organisational culture, safety of physical environment.
- Home or work conflict—the degree to which conflicting demands from home, including significant life events, interfere with work and vice versa.

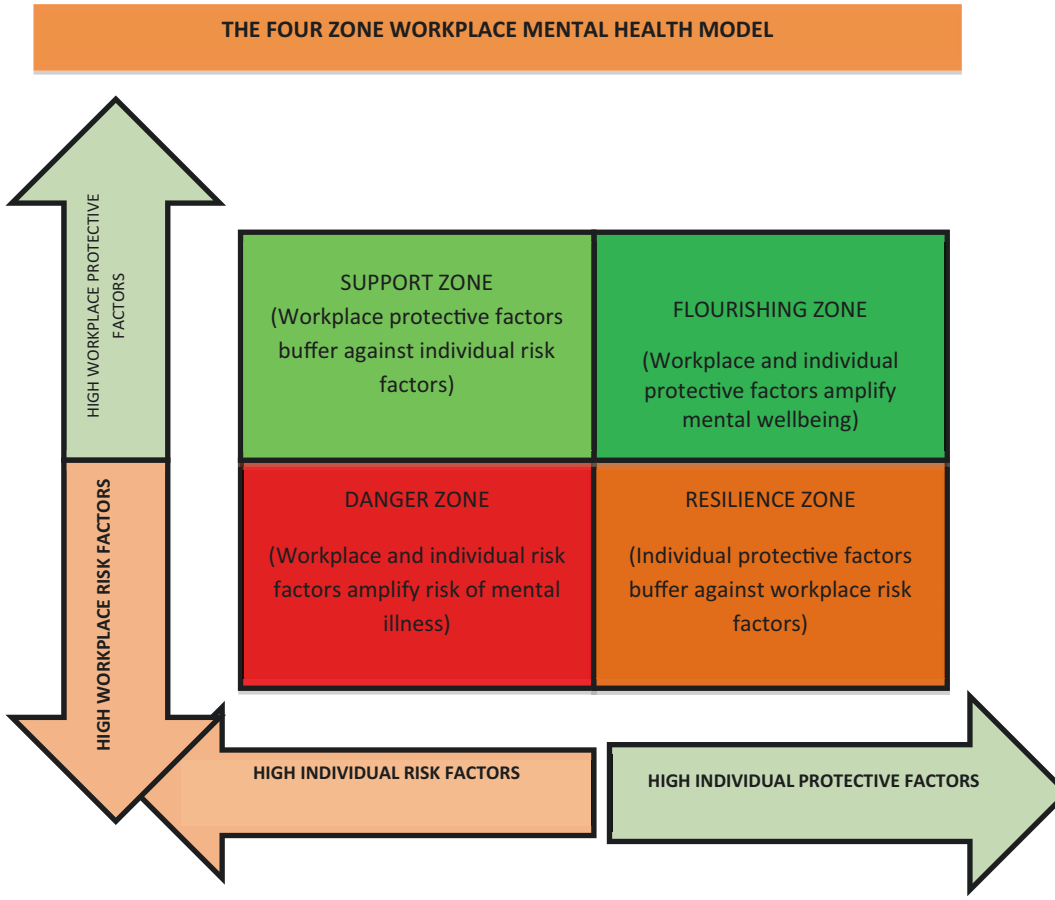

Fig. 4.1 The four-zone workplace mental health model (developed by author)

The workplace and individual factors can have an amplifying or buffering effect on the well-being of individuals. The Four Zone workplace mental health model, developed by the author, conceptualises the amplifying or buffering interaction between individual and workplace factors which can place an individual in one of the four zones described below (Fig. 4.1).

- Danger zone: Workplace risk factors add to individual risk factors and amplify the risk of mental illness.
- Resilience zone: Workplace risk factors are buffered by individual protective factors.
- Support zone: Workplace protective factors buffer against individual risk factors.
- Flourishing zone: Workplace protective factors add to individual protective factors to amplify mental well-being.

Worker well-being remains a shared responsibility of the individual worker and the organisation they work in. Individuals must take responsibility and accountability for recognising and addressing their personal risk factors and strengthening their protective factors. Some of these may be outside their control, but addressing life style factors, health concerns, unproductive behavioural patterns, personal relationships, and financial health may be some areas that could be modifiable.

Workplaces in turn should strive to keep workers in the Flourishing or Support zone and avoid

the Danger zone. It should also strive to ensure that individual protective factors in the Resilience zone are not overwhelmed by workplace risk factors tipping workers into the Danger zone.

4.5.2 Mental Health and Well-being of Doctors

Despite being a highly paid and highly respected profession, the mental health and well-being of doctors has been of concern for some time now. The National Mental Health Survey of Australian Doctors and Medical Students found that doctors and medical students reported substantially higher rates of psychological distress and attempted suicide compared to both the Australian population and other Australian professionals [3]. Similar findings have been demonstrated around the world. In a large survey of American surgeons, Shanafelt et al. (2009) found that 40% reported symptoms of burnout and 30% screened positive for symptoms of depression [21]. Goldberg et al. (1995) found 60% Emergency Physicians reported moderate to high burnout [20]. In a systematic review of 15 studies, Thomas has found a high level of burnout in medical residents [22].

As described earlier in the chapter like any employees a doctor's performance is closely linked to their health and well-being. Poor mental health can impact on the doctor's ability to safely provide clinical care as well as contribute to inappropriate conduct and behaviour. In addition, stress related to poor working conditions, high workload and work-life conflict could cause job burnout that, in turn, can impact on performance. Therefore, providing an environment that promotes and protects health and well-being and prevents ill health is essential for ensuring a high-performing workforce that will then achieve the overall aim of providing safe and high-quality patient care.

Similar sentiments are also evident from other sources. In 2008, Donald Berwick and colleagues provided a framework for the delivery of high-value care in the USA, the Triple Aim, that is centred around three overarching goals: improving the individual experience of care, improving the health of populations, and reducing the per capita cost of healthcare [35]. Recently it has been suggested that the Triple Aim be broadened to a Quadruple Aim to include "improving the provider experience" as this is a key enabler of the first three goals. It is suggested that improving the provider experience so that they can find joy and meaning at work will lead to an engaged and productive workforce that is essential to realise the first three goals [36].

4.5.3 Creating a Mental Health and Well-being Strategy

All organisations should invest in creating a Mental Health and Well-being Strategy for their staff including doctors. Organisations like the World Health Organisation, European Network for Workplace Health Promotion (ENWHP) and Beyondblue have developed useful guidelines for this and readers are encouraged to explore these [37–39].

Some key learnings from these guides are that workplace mental health strategies should aim to:

4.5.4 Support Employees with Mental Illness

- Identify and support people with a mental illness including their return to work process.

4.5.5 Prevent Mental Illness in at Risk Employees

- Make it easy to seek help.
  - Creating a network of support people and programmes like the Employee Assistance, Peer Support.
  - Increase capability of all staff including supervisors and peers to recognise and assist individual in need of help.
- Raising awareness about mental illness.
- Reduce stigma about mental illness.

  - Talking openly about mental illness.
  - Sharing of stories by seniors about their success in managing mental illness.
  - Supporting employees with mental illness to remain in the workplace or successfully return to work following an absence due to mental illness.

4.5.6 Protect Mental Health of Healthy Employees

- Recognise and identify stressors in the content and context of work that play a part in decreasing well-being. Risks for doctors include:
  - Overwork.
  - Low recognition.
  - Poor relationship with superiors.
  - Sustained mental effort.
  - Low participation in decision making.
  - Competitive climate.
  - Information not clear.
  - Insufficient information to do work.
  - Role ambiguity or conflict.
  - Inequity.
  - Poor interpersonal relationships.
  - Poor working conditions.
  - Poor leadership and communication.
  - Conflicting home and work demands.
- Reduce the impact of these stressors by:
  - Reorganising poor work processes.
  - Increase control that doctors have over their work.
  - Include them in decision making and problem solving processes.
  - Balance effort and rewards.
  - Improve communication and feedback.
  - Clarify roles and expectations.
  - Ensure adequate training to perform the role.

4.5.7 Promote Mental Health and Well-being

- Create a positive workplace culture that helps doctors accomplish their professional and personal goals.
- Enable nurturing and high-quality relationships.
- Improve engagement in organisational decisions.
- Help them find meaning and purpose in their organisational roles.
- Make work environment pleasant.

In addition, doctors should be encouraged to take responsibility for their own mental health. In a thoughtful article, Hatem suggests that physicians should continually renew themselves and realise that they are not a limitless resource and to continually find joy and satisfaction in work, they need the time and effort to replenish what their profession takes out of them [40]. Shanafelt suggests personal wellness strategies like cultivating meaningful relationships, developing hobbies, participating in community, spiritual or religious activities and undertaking exercise and health-promoting activities could help in renewal and replenishment [41]. He also emphasises aligning personal and professional values and managing any conflict between them.

Figure 4.2 depicts a conceptual model developed by the author for a complete mental health strategy for a workplace.

4.5.8 Conclusion

As providers of healthcare and as healers of humankind, physicians are a very valuable resource for society. It is, therefore, not surprising that physician mental health and burnout and its personal and public health consequences is a major concern for the profession and the public they undertake to care for. The current discourse on mental health and burnout is limited to its identification and management and focuses on eliminating the negative. While this is extremely important, institutions that employ physicians must also promote their well-being by creating a work environment that fosters positive experiences and actively cares for their well-being.

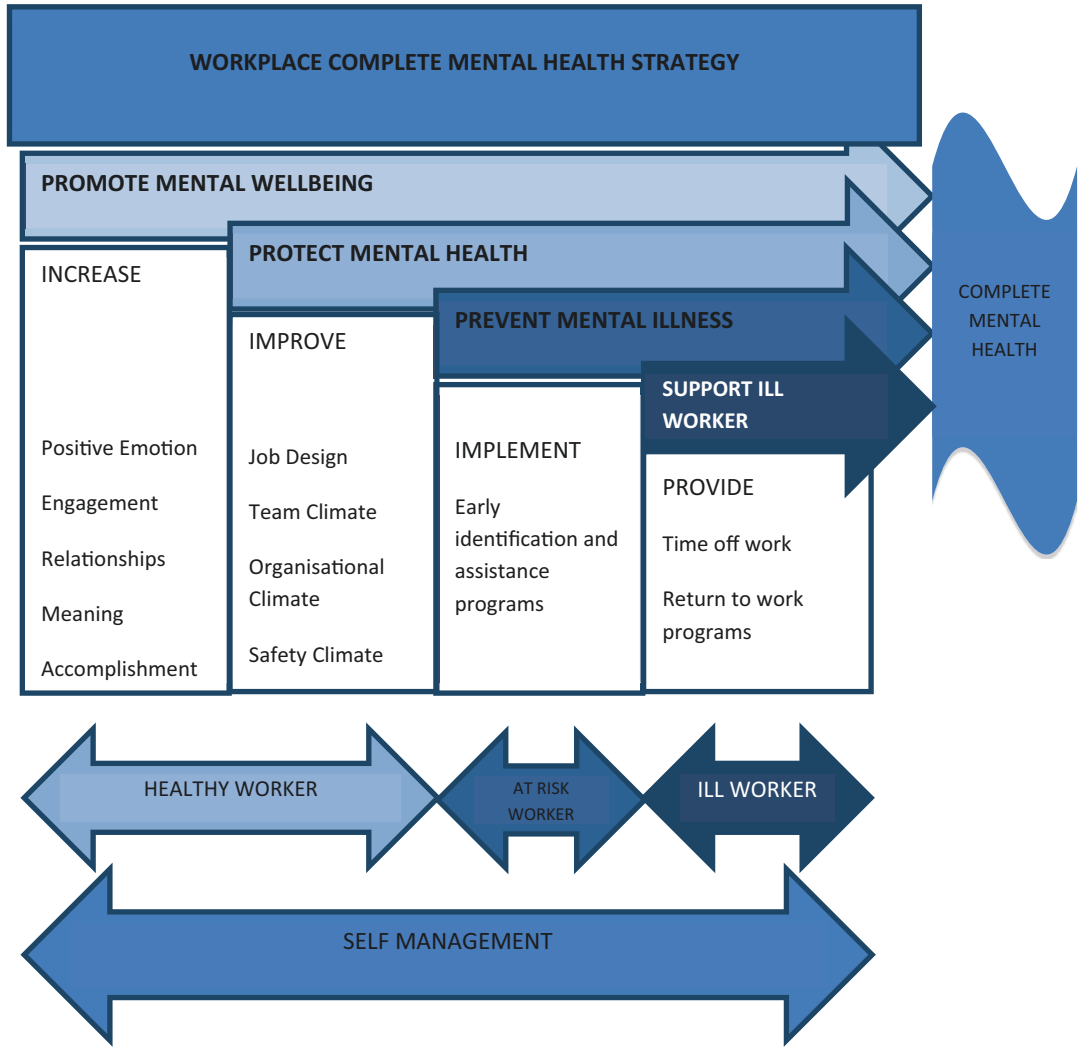

Fig. 4.2 Workplace complete mental health strategy

4.5.9 Reflections

Medical workforce management is a core skill of a medical administrator. This chapter provided a basic outline of five key aspects of this important topic. It is acknowledged that most of the material is relevant to hospital-based practice only. It does not cover broader topics on medical workforce strategy and planning, medical education and training, industrial relations and regulation of the medical workforce.

Doctors are leaders of healthcare teams, and their leadership impacts on the performance of the team and the outcomes the team achieves. They are highly trained and the most expensive labour category in health services. In addition, they also control a large part of the health expenditure with their decision making including admitting and discharging patients, treatment decisions including procedures, medications and devices and decisions about the setting of care. Therefore, it is critical that health services

employ or contract well-trained doctors who are equipped to provide high-quality care and ensure that their work environment, education, training, continued professional development and well-being are supported throughout their employment.

This chapter has provided the reader with basic information about the key aspects of medical workforce management compiled from my own training, practice and experience.

The section on Credentialling and Defining Scope of Clinical Practice took the reader through the policy framework, governance systems and operational processes required to ensure that an organisation fulfils its obligation to ensure that professionals employed to provide healthcare are competent and work within their approved scope of practice. It will assist medical administrators in setting up governance systems for this in their organisations. It is important that adequate resources are allocated to ensure that the system and processes are sustainable. Medical Administrators must scrutinise the integrity of the processes personally and ensure that scrupulous documentation is maintained. Ensure that doctors are given adequate time to submit the extensive suite of documents but are clear that they will not be able to commence their employment until all documentation is complete.

The section on Performance Enhancement informed readers about the importance of continuously supporting and developing the medical workforce to achieve their personal and professional goals and realise their full potential. In practice, this area is still developing, and there is variability in the uptake of this concept among doctors. Doctors see this as a management task to be done between a manager and an employee. Even where unit-based structures exist, the relationship between the medical head and other doctors may still be peer-based, and having a peer review your performance may not sit comfortably with both the Head and the reviewer or reviewee. While most organisations require annual performance reviews of their medical staff, these are done inconsistently and may be a tick-box exercise rather than a meaningful developmental conversation that mutually benefits the medical staff member and the organisation. Readers are encouraged to give more thought and attention to this important aspect of medical workforce management to get the best out of the medical workforce.

The section on Performance Management stepped the reader through the complex process of managing performance that does not meet the expected standard. This is made more difficult than it should be as expectations of required standards are not made clear from the start. Medical Administrators must spend time and thought in ensuring that standards of competence and behaviour are clearly understood by all and that medical staff and medical leaders are held accountable for upholding those standards. It is critical that performance issues are identified early and managed expediently and consistently following the principles of procedural fairness and natural justice. Medical leaders must be trained in giving feedback and the art of having difficult conversations and supported by the organisation when required to manage the performance of their medical staff.

For a long time, the medical profession has normalised and tolerated the disruptive workplace behaviour of their colleagues. However, this culture is changing fast, and there is a growing understanding that inappropriate workplace behaviour is a risk to patient and staff safety, undermines the morale of the workforce, increases turnover and decreases productivity. In addition, organisations are required by legislation to ensure a safe working environment which makes effective management of such behaviour essential. Medical administrators must ensure that standards of behaviour are crystal clear, are role modelled by medical leaders, and any breach is managed effectively. Addressing underlying factors that trigger disruptive behaviour is also critical to ensure a lasting change.

Managing Health and Well-being of Doctors is an important area; this section introduced some original concepts that the author has developed. Readers will be aware of the growing concern about the well-being of doctors and the high rates

of anxiety, depression and suicide in the medical profession. A lot of factors that affect well-being are personal to an individual and outside the control of an organisation. However, in today's work culture where the boundaries between work and life are blurred, the workplace must recognise personal factors that may affect well-being and put in place supports in the workplace to help individuals while they are dealing with these issues. The Four Zone Workplace Mental Health model helps conceptualise the buffering and amplifying effect of individual and workplace risk factors and protective factors. By minimising workplace risk factors, Medical Administrators can help reduce the impact of risks that the individual brings with themselves. The Complete Mental Health Strategy framework provides a comprehensive overview of what is required to ensure that any such strategy meets the requirement of ill workers, at-risk workers and healthy workers. Most workplaces implement systems like Employee Assistance Programs to support injured or ill workers. However, most workers are healthy, and their mental health must be protected from the day-to-day risks and frustrations inherent in large and complex health systems. In addition, the workplace must provide conditions promoting mental health so workers can flourish and realise their full potential. The ideal workplace should be a place that gives workers joy and meaning, where they make long-lasting, nurturing and supportive relationships, feel engaged in their day-to-day work and go home with a feeling of accomplishment every day. Working towards such a workplace will not only improve the ensure that medical staff feel good and function well, it will also help Medical Administrators to improve their own sense of well-being.

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5 Clinical Governance and Risk Management for Medical Administrators

Sarah Michael and Erwin Loh

Learning Objectives

By the end of this chapter, the learner should be able to understand:

- Fundamental elements of Clinical Governance in Health Services, including the structures, processes and frameworks that articulate the key roles, responsibilities and accountabilities at all staff levels from Board, management and clinicians, and enabled by robust data, culture, education and training and a continuous learning environment.
- Current literature relating to Clinical Governance and Risk Management.
- Elements of clinical governance which significantly impact medical staff.
- The value of medical engagement in clinical governance and techniques to improve engagement.
- The role of the Medical Administrator within a Clinical Governance system, as patient advocate on the Executive and translator between clinicians and management.

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Introduction

One of the fundamental roles that Medical Administrators can lead in health care is that of Clinical Governance.

There are a number of books, journal articles and position papers outlining best-practice clinical governance, which will be briefly discussed in Sect. 5.1. However, this chapter will also focus on the role of the Medical Administrator in these systems, particularly if you are the senior executive in the health care organisation with ultimate Clinical Governance responsibility—Sect. 5.2. This chapter will also tailor the discussion to focus on medical staff issues—Sect. 5.3, framed around which of the National Safety and Quality Health Service Standards (NSQHSS) are particularly relevant for medical staff, how to you engage medical staff, in Sect. 5.4, and where there needs to be a different approach to senior medical staff and junior medical staff.

This chapter will also have an Australian focus and use state-based examples from Victoria. However, the core principles should be translatable to other states and countries. Please refer to your own state-country-based documents for subtle differences.

Please also note that Clinical Governance is a very broad concept, and inter-relates with Performance Development and review, supervision of junior staff, credentialing and scope of clinical practice—Sect. 5.5. In addition, clinical governance is part of a continuum of improving

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patient care, as a down-stream component to experimental and translational research for improving patient care. These areas are covered in other chapters, so they will be referred to as they relate to the overall framework.

5.1 Structures, Systems and Processes for Clinical Governance

Clinical Governance arose in the late 1990s from the United Kingdom to ensure high-quality care is integrated with the same level of importance as financial control and service performance [1], defined Clinical Governance as "a system through which NHS organisations are accountable for continuously improving the quality of their services and safeguarding high standards of care by creating an environment tin which excellence in clinical care will flourish" [1].

The purpose of a Clinical Governance Framework is to 'set, monitor and improve the performance of the organisation and communicate the importance of the patient experience and quality management to all members of the workforce … [to] maintain and improve the reliability, safety and quality of patient care, and improve health outcomes for patients'.

From a practical perspective, this means the systems to ensure that clinical care provided to patients is as safe, effective and appropriate as possible.

The science of quality improvement and Clinical Governance has emerged over the last few decades, ignited by the publication of *To Err is Human* by the Institute of Medicine in 1999, highlighting medical errors and the impact on patient safety [2] in the United States. The *Quality in Australian Health Care Study* in 1995, demonstrated that 16.6% of admissions studied were associated with an adverse event that resulted in disability or a longer hospital stay for the patient and was caused by healthcare management. In addition, 51% of those adverse events were considered preventable [3].

There are countless examples of poor Clinical Governance leading to poor patient outcomes, with a number of high-profile failures including Paediatric Cardiac Surgery at Bristol Royal Infirmary Public Inquiry in 2001 (Final report, 2001), chaired by Professor Ian Kennedy, and the Mid Staffordshire NHS Foundation Trust Public Inquiry, chaired by Robert Francis (Final Report, 2013). Russell and Dawda summarise the key recommendations identified of national and international inquires is that what goes on in hospitals is about patients, and the quality and safety of patient care must be placed by all parties – governments, bureaucrats, clinicians, and administrators – above all other aims. Patient care is their fundamental, core duty. That does not preclude efforts to reduce costs, increase efficiencies, and restructure and reform systems, but these efforts cannot be at the expense of providing best quality safe care [4].

The importance of Clinical Governance is as relevant in 2022 as over the couple of decades, with the *Targeting Zero: Report of the Review of Hospital Safety and Quality Assurance in Victoria* in 2016, commissioned by the Minister of Health following the discovery of a cluster of tragically avoidable perinatal deaths at Djerriwarrh Health Services [5]. The recommendations from the review include:

- Clear expectations for boards of all hospitals to have safety and quality as a core focus,
- Increased Board skill mix in "substantive clinical governance and consumer representation,
- All hospitals should be held to account for improving safety and quality of care, regardless of their size or sector,
- The flow of information in the health system must ensure deficiencies in care are identified and focus attention on opportunities for improvement,
- All hospitals should have access to independent clinical expertise to help identify deficiencies in care and focus attention on opportunities for improvement,
- Increased performance assessment framework from state department,

- Clinical leaders must be engaged to strengthen, direct, and lead efforts to improve safety and quality of care,
- Stronger focus on improving patients experience of care.

There are also a growing body of literature of specific initiatives to improve patient outcomes, such as antibiotic stewardship and hand hygiene to reduce rates of Methicillin Resistant *staphylococcus aureus* [6], or reduction in hospital-wide mortality and out-of-ICU cardiac arrest as a result of introduction Rapid Response Teams [7].

In addition, a landmark study, titled Deepening Our Understanding of Quality Improvement in Europe (DUQuE), involved a multi-methods study across eight European countries studying the effectiveness of quality improvement systems in hospitals. The DUQuE study demonstrated strong associations between quality management and clinical effectiveness of care, and to a less extent for patient safety culture [8]. The *Deepening Our Understanding of Quality Improvement in Australia (DUQuA) study* is in the final stages of implementation, with 32 hospitals, 4000 sets of data and feedback from almost 1900 participants across all states within Australia, mirroring the methodology of the European study, available at the DUQuA internet site 2017. At the time of publication, the DUQUA results were yet to be released.

Leggat and Balding [9], in their qualitative study on the implementation of quality systems in Australian hospitals, conducted interviews and focus groups with 270 board members, manages and staff. Leggat and Balding found that quality was consistently described as an extra set of tasks to do, rather than a means to creating sustained, safe, quality care, and that there was a lack of understanding of how to effect change in the complexity of hospitals that has led to boards and senior managers to execute a technical, top-down approach based on compliance and reactive risk.

Health care organisations are increasingly analysing the most appropriate mechanisms for reducing unwarranted variation in care, as highlighted via mechanisms such as the Australian Atlas of Healthcare Variation (Australian Atlas of Healthcare Variation Fourth edition 2021). Further, some Australian health services are exploring the concepts of high-reliability organisations, as lead by John Hopkins Medicine in the United States, of fractal-based quality management [10], and actively organising for a culture of high reliability where the organisation is constantly adapting, tweaking and solving smaller problems as they emerge, preventing more widespread failures and improving safety [11]. High reliability has been termed the third wave of innovation in patient safety, following from that of technical advances and standardising procedures [12].

The first section of this chapter briefly outlines the fundamental principles for exemplary Clinical Governance structure, systems and processes that Medical Administrators should ensure are implemented effectively in their organisations.

5.1.1 Principles of Implementing Clinical Governance at a Health Service Level

At health services, patient safety and quality improvement are an integral part of our culture. Organisations should facilitate the provision of the highest standard of patient safety, quality and risk management through a robust and effective Clinical Governance Framework that includes monitoring clinical outcomes, clear lines of accountability for clinical care, an effective process for identifying and managing risk and monitoring and addressing problems in performance.

The Clinical Governance Framework should be underpinned by the domains outlined in the National Model for Clinical Governance [13].

The five components of the Clinical Governance Framework are as follows:

1. **Governance, leadership and culture—**Integrated corporate and clinical governance systems are established and used to improve the safety and quality of health care for patients.
2. **Patient safety and quality improvement systems—**Safety and quality systems are

integrated with governance processes to actively manage and improve the safety and quality of health care for patients.
3. **Clinical effectiveness—**The workforce has the right qualifications, skills and supervision to provide safe, high-quality health care to patients.
4. **Safe environment for the delivery of care—** The environment promotes safe and high-quality health care for patients.
5. **Partnering with consumers**—Systems are designed and used to support patients, carers, families and consumers to be partners in healthcare planning, design, measurement and evaluation; elements of this component include:
   (a) Clinical governance and quality improvement systems to support partnering with consumers.
   (b) Partnering with patients in their own health literacy.
   (c) Partnering with consumers in organisational design and governance.

State health departments have established governing bodies to provide oversight of Clinical Governance within individual jurisdictions. These include but are not limited to the Clinical Excellence Commission in NSW and Safer Care Victoria.

The components of the frameworks across these jurisdictions are relatively similar and should be adapted by the health services within the relevant jurisdiction.

A Clinical Governance Framework should also be supported by:

- Role accountabilities within the Executive and management hierarchy – this will depend on the size and nature of the organisation. Often the Executive responsibility for Clinical Governance aligns with the Chief Medical Officer/Medical Administration portfolio.
- A committee and reporting structure that encompasses all clinical units and which reports ultimately to the Executive and the Board. This may have separate structures for unit-based or Division-based Clinical Governance but might also have specific committees established for specialised purposes, such as Medication Safety, Preventing harm from Falls. The size and complexity of the committee structures will be dependent on the organisational size and speciality.

5.1.2 Roles and Responsibilities

Clinical Governance is a shared responsibility that functions at all levels of the organisation and includes a programme of review and improvement at every point from the Board, to the Executive, the management team, clinicians and non-clinical staff.

The Board is responsible for oversight of the Clinical Governance Framework. Their role includes demonstrating a commitment to good governance and supporting an open and transparent management culture.

The Chief Executive Officer and the Executive are responsible for leading the organisation in a manner that is fair, open and challenging and demonstrates a commitment to good Clinical Governance. They must ensure that the appropriate systems and processes, including policies and procedures, are in place to support excellence in clinical care and patient safety, to report and manage incidents and facilitate consumer feedback. In addition, they are responsible for establishing a risk management framework that facilities the identification, monitoring and management of risks to the organisation, patients, staff and visitors. They must ensure a positive and timely organisational response to change.

Directors and Medical Directors of Clinical Service Units and Business Units are responsible for ensuring that the Clinical Governance Framework is appropriately applied within their areas. This includes that policies and procedures are maintained, that work practices are compliant with organisational standards and that risks are reviewed and remedial action completed. They need to ensure that staff are appropriately trained and qualified to meet the requirements of their role in clinical practice. Directors must ensure that systems for reviewing clinical outcomes are maintained, and performance issues are addressed.

Unit/Department Heads and Managers are responsible for applying the Governance Framework within their areas of accountability. This means establishing clear lines of accountability within their unit or department for the quality and safety of the services provided. Organisational policies and procedures must be maintained and embedded into local practice, and quality business plans should include work plans for continuous improvement in systems and content of care. Managers at this level are required to ensure that incident management systems are appropriately applied, and a systematic response to local issues and performance improvement occurs. Managers should also ensure that appropriate opportunities for training, education and performance review are provided. All staff should embrace the responsibility for risk management at a local level.

Clinical Staff are expected to comply with policies and procedures that apply to their area of practice, report incidents that have or could impact on patient safety and be mindful of legislative requirements in undertaking their role. They should have a clear scope of practice expressed in their position description, supported by an appropriate credentialing process. Staff should participate in regular performance reviews with their manager, have regular review of their scope of practice, and seek access to appropriate ongoing education and training. Clinical staff must engage in the organisation's systems and processes for monitoring service delivery and initiatives to improve care delivery.

Consumers should be encouraged and supported to be active participants in decisions regarding their health care through the provision of appropriate information on the clinical care provided, the informed consent process and opportunity to provide feedback on the care they receive.

These roles and responsibilities should also be explicit in Position Descriptions, and the staff should be performance managed against their accountabilities.

Bismark et al. explored the role of board in Clinical Governance in 2013, which surveyed the Board Chair, Quality Committee Chair and two members of the board in all 85 Victorian Health Services. Most boards reviewed medication errors and hospital-acquired infections at least quarterly (77%), externally benchmarked performance (50%) with other health services. As such, the Board members need to understand quality and safety frameworks, with 90% of those surveyed in Bismark's study indicating that additional training in quality and safety would be advantageous [14].

5.1.3 Clinical Governance Committee Structures

The Clinical Governance Framework should be supported by Committee Governance structures, that facilitates an integrated model of decision-making, consumer participation, clinical effectiveness and risk management across all areas of the organisation by bringing together different areas of responsibility to achieve shared plans.

The Committee structure seeks to ensure that safety, quality and risk management should be embedded into the organisation's daily business by building quality structures that operate across the organisation and address key issues such as medication safety, mortality and morbidity review and the monitoring of new technologies through various standing committees.

These committees enact the domains of Clinical Governance in a practical sense. The structure should also ensure that there is appropriate governance for each of the NSQHSS.

The terms of reference for each committee should reflect the specific nature of their work and their delegated role for clinical safety and quality. Committee documentation should also include:

- Minutes and Agendas for all meetings.
- Risk Assessment of key Risks relevant to the committee.
- Action plan developed against the key risks.
- Actions register, to ensure actions are documented with person responsible and timeframes for completion of actions.

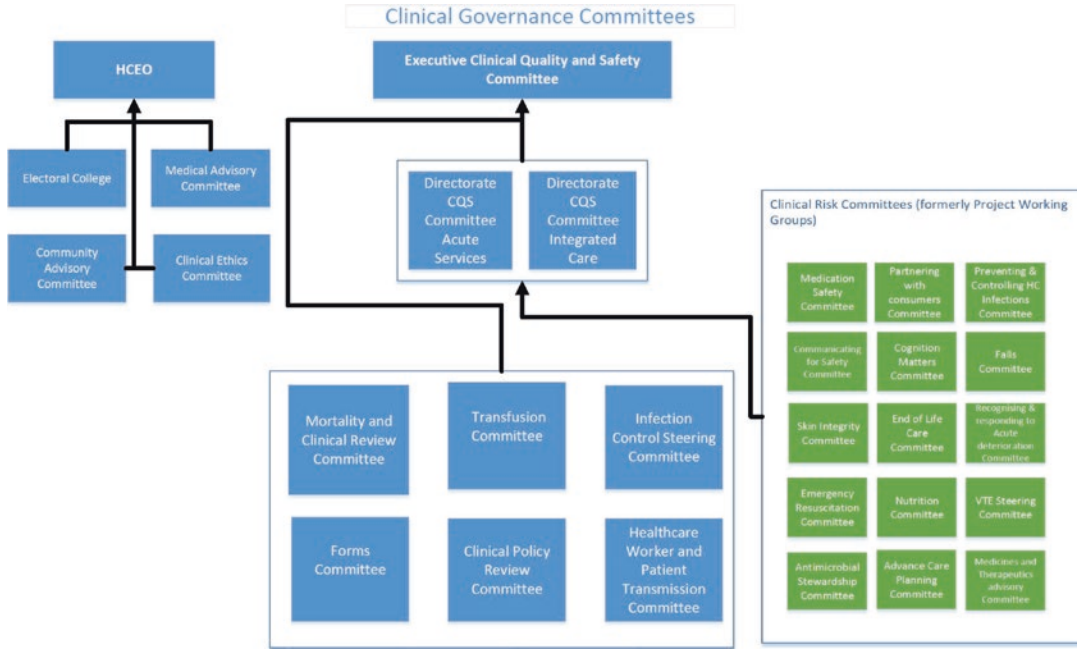

Fig. 5.1 Example of Committee structure for Clinical Governance. Source: author

As part of the terms of reference of all key Governance Committees, Committees should be reviewed annually or biannually. This ensures that the terms of reference and membership of the committee remain relevant and that the committees consider their effectiveness against their roles and responsibilities.

The structure and size of the committees will depend on the organisation size, speciality breadth, and need for cross-campus and acute, sub-acute and community representation.

Figure 5.1 provides an example Committee structure for Clinical Governance.

The specific roles of the committee hierarchies are outlined below:

5.1.3.1 Board-level Clinical Safety and Quality Committee

Usually a sub-committee of the Board, the Committee is a forum for in-depth review of quality issues at a governance level. This committee should include representatives from the Board, including members with clinical experience, Board members as consumer representatives, executive staff, senior medical and nursing staff. The Subcommittee may also include non-Board consumer and community representatives, who represent the diverse cultural and community backgrounds of the health service catchment.

The committee:

- Provides the strategy and direction for quality and safety within the health service.
- Monitors compliance with key quality and safety projects, organisation-wide clinical indicators, complaints and incident data, patient satisfaction results and other key quality indicator data.
- May receive updates on quality assurance activities such as accreditation, credentialing, clinical registry results, clinical audit, and legislative compliance activity.

5.1.3.2 Executive Level Quality and Safety Committee

The Executive level Quality and Safety Committee takes an organisation-wide oversight

of Clinical Governance. Specific accountabilities usually include accreditation compliance, organisation-wide quality and safety, enterprise risk management, credentialing and organisation-wide indicators to ensure quality, safety and appropriate clinical risk management. The membership usually includes the Executive, Clinical Service Unit Directors, Medical Directors and representatives from other key directorates such as Pharmacy, Allied Health and Radiology. Often Executive level committees also have community or consumer representation.

5.1.3.3 Cross Organisation Quality and Safety Committees

There are a number of committees that have a specific role in the Governance of a particular clinical risk/quality issue. Some of these committees are time limited. Most organisations have aligned such committees to the NSQHSS. Examples of these committees include:

- Clinical Governance.
- Partnering with Consumers.
- Preventing and Controlling Healthcare Associated Infections.
- Medication Safety.
- Comprehensive Care (including Falls Prevention, Pressure Injury, and Nutrition).
- Communicating for Safety.
- Blood Management.
- Recognising and Responding to Acute Deterioration.
- Clinical Policies and Procedures Committee.
- New Technology and Clinical Practice Committee.

5.1.3.4 Division Level or Unit Level Quality and Safety Committees

A range of speciality committees may be appropriate, depending on the size and complexity of the organisation. These committees have often arisen from mortality and morbidity committees at speciality level.

5.1.4 Enablers of Exemplary Clinical Governance

The following enablers of good clinical governance are essential to support clinicians and managers in determining the priorities for the organisation.

- Capability framework.
- Education strategy.
- Project support/administrative support.
- Data management.

For brevity reasons, this chapter will not cover in-depth the capability framework, education, or project support enablers but will comment on data management.

5.1.5 Data Management to Support Clinical Governance

5.1.5.1 Key Performance Indicators

Hospital-wide clinical performance indicators should be reported at key clinical governance committees. Indicators are measured against past performance and linked to strategies to reduce rates of adverse events.

Example indicators include:

- Clinical indicator suite.
- Complaints data such as the number and type of complaints, completion of review within timeframes, implementation of recommendations arising from complaints within timeframes.
- Incident data such as the number of incidents, number of incidents with harm ISR1/2 or SAC1/2, HS1/2 completion of incident reviews within timeframes, and implementation of recommendations arising from incidents within timeframes.
- Medication Safety key performance indicator suite.
- Jurisdictional performance indicators such as hand hygiene rates, infection surveillance rates, aged care quality indicators.

- Benchmarked data such as Hospital-Acquired Complications (HACs).
- Patient experience and outcome measures (PREMS and PROMS).

5.1.6 Benchmarking

Health services should participate in a range of benchmarking activities including infection control monitoring such as MyHospitals website, various national clinical benchmarking databases and clinical registries such as the Australian and New Zealand Society of Cardiac and Thoracic Surgeons database and the Health Roundtable. In addition, health services should consider approaching other similar health services to compare practices, processes, and outcomes to ensure that their practice is consistently reviewed against current industry standards and opportunities for improvement are identified.

The key is to determine what depth and breadth of data should be reviewed at the various levels of the organisation. Figure 5.2 outlines principles for data management at the various committee levels.

It is also important to consider the nature and format of data presentation, to assist decision-makers and clinicians. High-level trends can be tracked over time with Statistical Process Charts/Run charts, with control limits to highlight those varying from controls.

Alternatively, heat maps or traffic light systems can be used to identify indicators that have flagged beyond their limits.

5.1.7 Implementing a Clinical Governance System

Implementing a clinical governance system which involves all the aforementioned components requires using appropriate change management principles including:

- Establish the right Clinical Governance system and processes for the organisation.

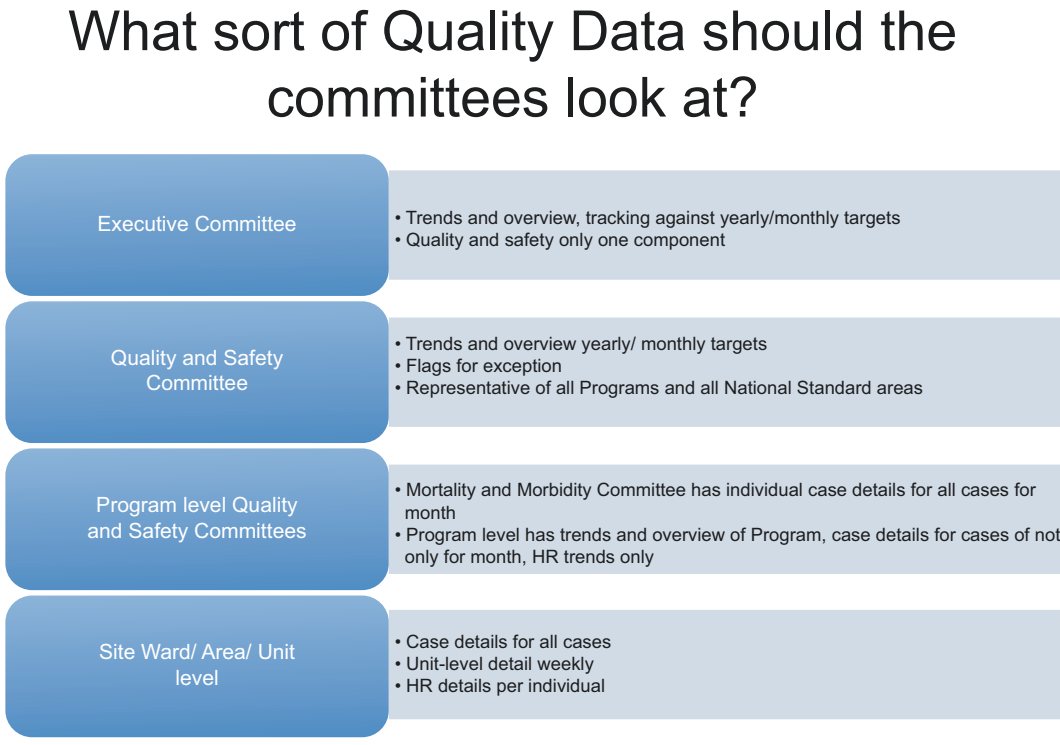

Fig. 5.2 Principles of levels of Data at various committees

- Develop a change management and a communication strategy.
- Implement the system.
- Evaluate the system.

There are an extraordinary large number of diagnostic, mapping and measurement methodologies available to support the implementation of a clinical governance system. Examples include:

- Systems thinking [15].
- Improvement Science, with Testing and Learning Cycles – Plan, Do, Study, Act (PDSA) Cycles [16].
- Patient safety measurement tools [17].

Incident Investigation tools. Most state health departments provide training and tools for clinicians on incident investigation tools including but not limited to Root Cause Analysis, London Protocol, Cluster analysis and AcciMap. The choice of tools and methodologies used by the organisation will be guided by the state department guidelines, organisation's culture and existing systems, and the context of the specific clinical situation being reviewed.

From practical experience, it is important to be aware of the types of recommendations generated from case review and improvement science, and the cultural context of the organisation that requires the change. Recommendations should be Specific, Measurable, Assignable, Realistic, and Time-related (S.M.A.R.T.) where possible [18], and of as few as possible to address the root cause of the incident. Raj Behal in his Safety Steps framework outlines a 100-point Treatment Plan, which classifies recommendations according to a hierarchy of effectiveness for removing or controlling the hazard. Removing the hazard, or addressing the human factors contributing to the incident is rated more effective than management controls or managing culture [19].

Most quality improvement projects arise due to a perceived gap in performance and patient outcomes. By necessity, there will need to be changes to address the gap. However, all quality improvement projects need to consider the workload impacts on the clinicians and frontline staff. As Hayes, Batalden and Goldmann (2015), state that years of study of innovation diffusion, change management and behaviour change have demonstrated that increasing workload demands, especially when not understood, perceived to be unneeded, or felt unlikely to lead to improvement, leads to change fatigue and resistance cynicism, burnout and turnover. In addition, if true and sustainable improvement in outcomes is to be realised, we must, at all levels of the system, understand and aim to embed a work smarter, not harder approach and limit the workload – including improvement-related workload – on those charged with delivering care.

5.1.8 An Integrated and Consistent Approach to Clinical Governance

Once all of the elements, roles, committees, policies and frameworks are implemented, it is essential to reflect on whether all of the elements are integrated, and consistent.

5.1.9 A Specific Comment on Accreditation for Medical Administrators

1. All Australian Health Services are required to comply with an accreditation process. The National Safety and Quality Health Service Standards were first introduced in 2013, and are mandatory for all public and private, acute, sub-acute, day procedure and multipurpose health services. The Standards were updated in 2017. The National Standards are designed to protect the public from harm and to improve the quality of health service provision. The eight NSQHS Standards provide a nationally consistent statement about the level of care consumers can expect from health services and include: Clinical Governance.

2. Partnering with consumers.
3. Preventing and controlling healthcare-associated infections.
4. Medication safety.
5. Comprehensive Care.
6. Communicating for Safety.
7. Blood management.
8. Recognising and responding to clinical deterioration in acute health care.

In addition, most health services participate in a range of specialist accreditation programmes, including Aged Care Standards, National Association of Testing Authorities Accreditation Review (NATA), Professional Medical College Accredited programmes (e.g. Royal Australasian College of Physicians for Physician Training) and the Department of Health/Commonwealth Health and Ageing programmes.

The new national standards are clinically based and are relevant and tangible for clinicians on the front line. It is also:

- Risk-based approach: the organisation will need to be able to demonstrate that key services have been, identified the highest risk risks and put in place plans to manage.
- Compliance-based: organisations need evidence to demonstrate compliance with policies and guidelines state.
- Consumer Focussed: based on the concept that consumers are a partner in the planning and delivery of health care.

There are also Accreditation Standards in Australia for Mental Health National Standards, Community Standards, and Aged Care Standards and Clinical Trials Standards.. The principles for compliance/accreditation remain the same; however, the details of these are beyond the scope of this chapter.

The Governing Body (usually the organisation's Board) is required to submit an annual Attestation to their accrediting agency. The Attestation process is outlined in Fact sheet 7 from the ACSQHC, defining attestation as "a formal process that involves authorised officers of a health service organisation confirming compliance, in this case to the NSQHS Standards. This is in the form of a written affirmation".

Each Health Service is required to undergo an Accreditation every 3 years by an independent body to assess compliance with the safety and quality standards.

When a health service organisation has shown it meets all of the NSQHS Standards, it is awarded accreditation. If an action is not met at the first assessment by the accrediting agency, the health service organisation has 60 business days to make improvements. If at the final assessment, the action is still not met, the health service organisation will not be awarded accreditation. All actions must be met to achieve accreditation.

If a health service organisation is not awarded accreditation, various sanctions may apply depending on the extent and the type of actions that were not met. These sanctions may include administrative oversight by the regulator, loss of licences and/or loss of funding. Any health service organisation that does not achieve accreditation must undergo a reassessment of all eight NSQHS Standards within 12 months to continue to be able to operate.

5.1.10 Clinical Risk Management for Medical Administrators

Clinical Risk Management (CRM) is an approach to improving the quality and safe delivery of health care by placing special emphasis on identifying circumstances that put patients at risk of harm; and acting to prevent or control those risks. Clinical Risk Management should be part of a broader organisational risk management system, which integrates the management of organisational, financial, occupational health and safety, plant, equipment and patient safety risks. The organisation should have in place a systematic approach to minimising risk and improving the quality of clinical care. This should include compliance with relevant legislation, the reporting and investigation of incidents and risks and the implementation of strategies to reduce the occurrence of adverse events and improve patient safety.

The clinical risk management system at a health service should utilise a range of strategies to mitigate and manage risk and improve the quality of clinical care. These include:

5.1.11 Risk Register

A Risk Register is a comprehensive repository for the documentation of identified risks arising out of the operations of the organisation. The primary purpose of a risk register is to act as a decision-making tool in managing risks. In this regard, it helps inform strategic planning processes and prioritisation of resources.

5.1.12 Policies and Procedures

Health Services should have a range of policies and procedures, which set out expectations in relation to staff behaviours/actions and specific clinical intervention. Policies should be developed through a rigorous Governance process and have a strong evidence base. Each policy should have an identified owner and a clearly defined review date.

5.1.13 Incident Management System

Any occurrence that is not consistent with the routine care of the patient or functioning of the health service is reported. This includes any event or circumstance that could have or did result in unintended harm, suffering, damage or loss to an individual, patient, or staff, the organisation, facilities or property. There are multiple Incident/Risk Management systems in use across Australia including RiskMan, RL Datix, VHIMS, IMMS and many others. These are primarily web-based incident reporting system, which enable incidents to be entered on-line. Incidents are risk-rated and high-level incidents are then escalated to ensure appropriate notification and action to reduce the likelihood of reoccurrence.

The severity of the incident will guide the level of review. High-level incidents (ISR/SAC/HS 1 or 2), which result in significant patient harm or death, are reviewed through structured case review or incident investigation methodology (like RCA) to identify critical points, and root causes of the incident. Recommendations are developed to address the identified vulnerabilities and contributing factors.

Trends of incidents can also be monitored over time, including analysis of groups/clusters of incidents for patterns in patient cohorts, to assist with identifying risk reduction strategies to reduce the occurrence of incidents, or to reduce the level of harm from incidents. Appropriate sampling [20] of incidents can allow meaningful analysis of contributory factors to incidents, whilst ensuring high yield from quick, efficient, manageable analysis.

Medical staff reporting of incidents is historically low compared to other health professional groups in the literature. Studies have identified that doctors are reticent to embrace incident reporting systems, with United States and Australian experience of physicians reported only 1.9–2.9% [21, 22] and 5% [23] of incidents, respectively. Key barriers to reporting incidents by medical staff have been shown to be a lack of feedback on outcomes and too long to complete incident reports [24].

Benn et al. [25] identified a number of key factors for successful feedback from incident reporting systems: the role of leadership, the credibility and content of information, effective dissemination channels, the capacity for rapid action and the need for feedback at all levels of the organisation. Pham et al. [26] also recommend several strategies to maximise the value of incident reporting systems, including:

1. Making reporting easier,
2. Making reporting meaningful to the reporter,
3. Make the measure of success system changes, rather than events reported,
4. Prioritise which events to report and investigate, do it well,
5. Convene with diverse stakeholders to enhance their value.

Throughout incident/adverse event review, Medical Administrators should also be cognisant of the staff distress and concern that can arise from being involved with an incident resulting in patient harm. Most health professionals do not undertake their work to harm patients. Harrison, Lawton and Steward [27] survey of doctors' experience of adverse events identified a significant impact personally and professionally, with 76% of respondents believing this had affected them personally, 74% reporting stress, 68% reporting anxiety, and 63% lower professional confidence. The ACSQHC Open Disclosure Standard 2013, note that Clinicians (and the non-clinical workforce) may be affected by being involved in an adverse event, and may require emotional support and advice in the aftermath of the incident. The organisation should ensure that these staff have formal and informal support processes and provide facilities for debriefing for those involved in an adverse event. In addition, information on the support systems for clinicians who are distressed by an adverse event include Doctors' Health.

Advisory Service, medical defence organisations, professional and collegiate associations and employee assistance schemes.

Medical Administrators should ensure there are targeted strategies within their organisations to ensure medical staff are aware of incident reporting systems, encouraged to report appropriate incidents, supported through the process, following best practice processes for respectful management of adverse events, and are provided timely feedback of the outcomes of reviews on patient care.

5.1.14 Sentinel Event Reporting

All Australian States are required to establish Sentinel Event Reporting system from health services to the local jurisdiction. The ACSQHC Sentinel Event List (Version 2) 2020, defines a Sentinel Event as "a particular type of serious incident that is wholly preventable and has caused serious harm to, or the death of, a patient". These events are considered "wholly preventable" in the context of preventative barriers being available to stop the event from occurring.

To be classified a sentinel event, a strict set of criteria need to be met:

- The event should not have occurred where preventive barriers are available
- The event is easily recognised and clearly defined
- There is evidence the event has occurred in the past.

The ACSQHC defines "serious harm" when, as a result of the incident, the patient:

- Requires life-saving surgical or medical intervention, or
- Has shortened life expectancy, or
- Has experienced permanent or long-term physical harm, or
- Has experienced permanent or long-term loss of function.

The 10 revised National Sentinel Events defined in 2020 include:

1. Surgery or other invasive procedure performed on the wrong site resulting in serious harm or death.
2. Surgery or other invasive procedure performed on the wrong patient resulting in serious harm or death.
3. Wrong surgical or other invasive procedure performed on a patient resulting in serious harm or death.
4. Unintended retention of a foreign object in a patient after surgery or other invasive procedure resulting in serious harm or death.
5. Haemolytic blood transfusion reaction resulting from ABO incompatibility resulting in serious harm or death.
6. Suspected suicide of a patient within an acute psychiatric unit or acute psychiatric ward.
7. Medication error results in serious harm or death.
8. Use of physical or mechanical restraint resulting in serious harm or death.

9. Discharge or release of a child to an unauthorised person.
10. Use of an incorrectly positioned oro- or nasogastric tube resulting in serious harm or death.

Each state health jurisdiction will have reporting guidelines, templates for health services to complete for any sentinel events reported.

5.1.15 Clinical Review Panels

Medical staff have an important role to play in promoting a culture of safety by championing incident reporting initiatives and participating in multidisciplinary teams that analyse adverse events and promote change [28]. To facilitate this engagement, many larger health services have established clinical panels, alternately called Mortality and Incident Review Committees, with broad representation to review such incidents and develop recommendations. The panels should usually review significant clinical events that

1. Undergo a formal incident investigation and or,
2. Involve multiple units or departments.

The role of the panel is to facilitate the identification of deficiencies in the system that contributed to the occurrence of these events in an open and transparent manner, and to develop recommendations for improvements in the systems of care. The panels should complement existing unit-level case review mechanisms.

5.1.16 Legislative Compliance

Most health services have a legislative compliance responsibilities register that clearly articulates executive and management responsibility for ensuring compliance with relevant health-related legislation to support risk reduction across the organisation. Tools to audit policy and practice on a regular basis to assess compliance and identify areas requiring remedial action should support the register. In addition, updates to legislation should be reviewed regularly to ensure appropriate amendments are made if required.

Health services should also be familiar with other reporting requirements including but not limited to special committees investigating deaths following surgery and anaesthesia, maternal and perinatal committees etc.

5.1.17 Medico-Legal

Through the management of medico-legal cases, potential clinical risk issues, such as the occurrence of a clinical incident, may be identified. As appropriate, these should be referred by medico-legal services or relevant clinical governance/risk Management team for investigation and follow-up. Additionally, all inpatient deaths reported to the coroner and outpatient deaths where Coronial review of the organisation's provision of care is undertaken should be similarly referred. On completion of cases, all Coronial findings and, in the case of litigation any recommendations provided by the appointed legal team arising from the case should be routinely distributed to the Risk Management team, the Chief Medical Officer and relevant Clinical Units. Monitoring of the compliance with Coronial reporting is valuable to ensure appropriate cases by junior doctors are being referred for review [29].

5.1.18 Complaints or Concerns About Clinicians

Health services should ensure there are processes to raise concerns or complaints about clinician performance, which included a clear process for reporting concerns, appropriate investigation and response pathways and an avenue for anonymous reporting. Australian Health Practitioners Regulation Agency (AHPRA) also has mandatory reporting requirements for any clinicians undertaking notifiablte conduct (see AHPRA intranet site for details of Mandatory reporting criteria).

5.1.19 External Reviews

Most health services engage external providers to conduct auditing of health service clinical and corporate governance frameworks. The importance of independent clinical reviewers on significant case reviews has been a key recommendation arising from the Review into Djerewarra Health Service [5].

5.2 The Medical Administrator as the Executive Oversight for Clinical Governance

Medical Administrators, are in a unique role to significantly influence and improve patient care via overseeing clinical governance in the organisation [30, 31]. In a survey of Directors of Medical Services in Victorian metropolitan health services, 12 of the 14 (85.7%) Medical Administrators were responsible for Clinical Governance as part of their role [30, 31].

Medical Administrators on the Executive of Health Services (usually in Chief Medical Officer or Executive Director Medical Services roles [30, 31], advocate on behalf of the patient and for clinical governance on the Executive. By virtue of their position on the Executive team, Medical administrators can ensure that all decisions, financial, strategic, operational, occupational health and safety, have consideration for the impacts on patient safety.

In her 2011 study of the association between physician leaders and hospital performance Goodall concluded that there is a strong positive association between the ranked quality of a hospital and whether the CEO is a physician or not ($p < 0.001$), reinforcing the importance of medical leadership in quality outcomes for patients. A study in Iran also found a similar association existed ([32]).

It is however difficult to oversee all of the clinical governance elements by one individual. Appropriate delegation of roles and responsibilities across the clinical governance spectrum to other Executives and senior leaders within the organisation will assist with an integrated matrix of accountabilities for clinical governance. Other members of an executive leadership team who may share responsibilities include leads of clinical governance, nursing, allied health, operations and human resources/people and culture.

It is the role of the medical administrator to ensure the framework, policies and procedures are developed, implemented, monitored and evaluated. In addition, the medical administrator should ensure that they have enough knowledge depth of the subject matter to validate clinical assumptions presented by the clinicians, whilst providing a broader guidance on the orgnaistaional position, risks and drivers.

Medical administrators also have a role to coach and mentor Heads of Units, Clinical Service directors and medical leaders within their organisations in clinical governance structures. By the nature of the professional hierarchy [30, 31], the Medical Administrator is trusted by the clinician, and can act as the interlocutor between the clinicians and the executive to prevent any potential disconnect between management and clinicians within the clinical governance framework.

Monitoring of the frameworks can be challenging, as there is a need to balance the patient safety aspects with the operational and corporate imperatives. The Institute for Healthcare Improvement (2013) outlines the principles of High-impact Leadership that can assist Medical Administrators to form the balance between corporate and clinical governance needs including:

1. High-impact leadership requires the adoption of new mental models. That is how leaders think about challenges and solutions.
   (a) Individuals and families are partners in their care.
   (b) Compete on value, with continuous reduction in operating costs.
   (c) Reorganise services to align with new payment systems.
   (d) Everyone is an improver.

2. High-Impact Leadership Behaviours or what leaders do to make a difference.
   (a) Person-centredness: Be consistently person-centred in word and deed.
   (b) Frontline engagement: be a regular, authentic presence at the front line and a visible champion of improvement.
   (c) Relentless focus: remain focussed on the vision and strategy.
   (d) Transparency: require transparency about results, progress, aims and defects.
   (e) Encourage and practice systems thinking and collaboration across boundaries.
3. High-Impact Leadership Framework where leaders need to focus their efforts.
   (a) Driven by persons and community.
   (b) Create vision and build will.
   (c) Develop capability.
   (d) Deliver results.
   (e) Shape culture.
   (f) Engage across boundaries.

5.3 Areas of Clinical Governance with Relevance for Medical Staff

The following areas are particularly relevant for medical staff

- National Standards.
- Credentialing and Scope of Practice – how to describe the clinical scope undertaken by our medical staff, how to document and formally recognise the qualifications and experience of our medical staff.
- Introduction of New Clinical Services, Procedures and Other Interventions – how to ensure that these are linked to credentialing and scope of clinical practice assessments, evaluation of new products, and research ethics.
- Peer review and clinical audit – how to monitor our patient outcomes within the scope of practice for the health service.
- Performance management – how to ensure we have opportunities to optimise the ability to provide the best patient care.

As Credentialing and Scope of Practice, and Performance management of medical staff is addressed in other chapters of this book, the detail is beyond the scope of this chapter. Of note however is the credentialing and scope of practice implications for introducing new technologies or clinical practice. The proactive participation of senior medical staff at all stages of the introduction of new technologies is paramount, and can ensure safe, appropriate and effective patient care as a result. However, as illustrated by Dwyer et al. [33] doctors are not necessarily aware of the importance of their participation in these processes, and the organisation and such committees need to be promoted to all medical staff.

This conclusion of this chapter will therefore focus on the elements of Accreditation, Peer Review and Clinical Audit/Mortality and morbidity review, Hospital Standardised Mortality Ratio, and Clinical Registries.

5.3.1 National Standards

The NSQHS Standards aim to protect the public from harm and to improve the quality of health service provision. They provide a quality assurance mechanism that test whether relevant systems are in place to ensure that expected standards of safety and quality are met. Medical administrators, should be familiar with the entire suite of standards, however Table 5.1 below outlines the elements particularly relevant for medical staff.

Table 5.1 NSQHSS elements relevant for medical staff

Standard	Element
Standard 1—Clinical Governance	Leaders at all levels in the organisation set up and use clinical governance systems to improve the safety quality of health care for patients
Governance, leadership and culture	1. The governing body: (a) Provides leadership to develop a culture of safety and quality improvement, and satisfies itself that this culture exists within the organisation (b) Provides leadership to ensure partnering with patients, carers and consumers (c) Sets priorities and strategic directions for safe and high-quality clinical care, and ensures that these are communicated effectively to the workforce and the community (d) Endorses the organisation's clinical governance framework (e) Ensures that roles and responsibilities are clearly defined for the governing body, management, clinicians and the workforce (f) Monitors the action taken as a result of analyses of clinical incidents (g) Reviews reports and monitors the organisation's progress on safety and quality performance
Organisational leadership	2. The health service organisation establishes and maintains a clinical governance framework, and uses the processes within the framework to drive improvements in safety and quality
	3. The health service organisation considers the safety and quality of health care for patients in its business decision-making
Clinical leadership	4. Clinical leaders support clinicians to: (a) Understand and perform their delegated safety and quality roles and responsibilities (b) Operate within the clinical governance framework to improve the safety and quality of health care for patient
Measurement and quality improvement	5. The health service organisation uses organisation-wide quality improvement systems that: (a) Identify safety and quality measures, and monitor and report performance and outcomes (b) Identify areas for improvement in safety and quality (c) Implement and monitor safety and quality improvement strategies (d) Involve consumers and the workforce in the review of safety and quality performance and system
Risk management	6. The health service organisation: (a) Identifies and documents organisational risks (b) Uses clinical and other data collections to support risk assessments (c) Acts to reduce risks (d) Regularly reviews and acts to improve the effectiveness of the risk management system (e) Reports on risks to the workforce and consumers (f) Plans for, and manages, internal and external emergencies and disasters

Table 5.1 (continued)

Standard	Element
Incident management systems and open disclosure	7. The health service organisation has organisation-wide incident management and investigation systems, and: (a) Supports the workforce to recognise and report incidents (b) Supports patients, carers and families to communicate concerns or incidents (c) Involves the workforce and consumers in the review of incidents (d) Provides timely feedback on the analysis of incidents to the governing body, the workforce and consumers (e) Uses the information from the analysis of incidents to improve safety and quality (f) Incorporates risks identified in the analysis of incidents into the risk management system (g) Regularly reviews and acts to improve the effectiveness of the incident management and investigation systems
Performance management	8. The health service organisation has valid and reliable performance review processes that: (a) Require members of the workforce to regularly take part in a review of their performance (b) Identify needs for training and development in safety and quality (c) Incorporate information on training requirements into the organisation's training system
Credentialing and scope of clinical practice	9. The health service organisation has processes to: (a) Define the scope of clinical practice for clinicians, considering the clinical service capacity of the organisation and clinical services plan (b) Monitor clinicians' practices to ensure that they are operating within their designated scope of clinical practice (c) Review the scope of clinical practice of clinicians periodically and whenever a new clinical service, procedure or technology is introduced or substantially altered
	10. The health service organisation: (a) Conducts processes to ensure that clinicians are credentialed, where relevant (b) Monitors and improves the effectiveness of the credentialing process
Evidence-based care	11. The health service organisation has processes that: (a) Provide clinicians with ready access to best-practice guidelines, integrated care pathways, clinical pathways and decision-support tools relevant to their clinical practice (b) Support clinicians to use the best available evidence, including relevant clinical care standards developed by the Australian Commission on Safety and Quality in Health Care
Variation in clinical practice and health outcomes	12. The health service organisation has systems to: (a) Monitor variation in practice against expected health outcomes (b) Provide feedback to clinicians on variation in practice and health outcomes (c) Review performance against external measures (d) Support clinicians to take part in clinical review of their practice (e) Use information on unwarranted clinical variation to inform improvements in safety and quality systems (f) Record the risks identified from unwarranted clinical variation in the risk management system

Medical Administrators should ensure they are familiar with the remaining seven standards and the aligned governance requirements for each criteria.

Standard 2—Partnering with consumers	Ensure systems are designed and used to support patients, carers, families and consumers to be partners in healthcare planning, design, measurement and evaluation • Healthcare rights and informed consent
Standard 3—Preventing and controlling healthcare-associated infections	Describe, implement and monitor systems to prevent, manage or control healthcare-associated infections and antimicrobial resistance, to reduce harm and achieve good health outcomes for patients • Surveillance • Standard and transmission based precautions • Hand hygiene • Aseptic technique • Invasive medical devices • Workforce immunisation • Reprocessing reusable devices • Antimicrobial stewardship
Standard 4—Medication safety	Describe, implement and monitor systems to reduce the occurrence of medication incidents and improve the safety and quality of medication use • Medicines scope of practice • Medication reconciliation • Adverse drug reactions • Medication review
Standard 5—Comprehensive care	Set up and maintain systems and processes to support clinicians in delivering comprehensive care, including systems to prevent and manage specific risks • Designing systems to deliver comprehensive care • Collaboration and teamwork • Clinical assessment
Standard 6—Communicating for safety	Set up and maintain systems and processes to support effective communication with patients, carers and families, between multidisciplinary teams and clinicians and across health services • Correct identification and procedure matching • Clinical handover • Communicating critical information • Documentation of information
Standard 7—Blood management	Describe, implement and monitor systems to ensure the safe, appropriate, efficient and effective care of patients' own blood, as well as other blood and blood products • Optimising and conserving patients' own blood • Prescribing and administering blood and blood products • Reporting adverse events
Standard 8—Recognising and responding to acute deterioration	Set up and maintain systems for recognising and responding to acute deterioration • Recognising acute deterioration • Escalating care • Responding to deterioration

Although there is clearly a strong role for nursing leadership in the successful implementation of the NSQHSS [34], there are a number of NSQHSS that benefit from specific medical staff involvement:

1. Clinical Guidelines and pathways.
   (a) Ensure medical staff provide leadership for the development of evidence-based guidelines and pathways relevant to the organisation.
   (b) Ensure medical staff provide oversight of regular review and update of the guidelines and pathways.

   (c) Ensure medical staff participate in auditing compliance against the guidelines at the front line.
2. Infection Prevention.
   (a) Particularly lead by Infectious Diseases consultants across the full suite of areas.
3. Medication Safety.
   (a) Particularly lead by Clinical Pharmacology and Physicians across the full suite of areas.
4. Blood Transfusion.
   (a) Particularly lead by Haematology across the full suite of areas.
5. Clinical Deterioration.
   (a) Requires a broad representation of medical staff across the organisation, particularly from Emergency Department, Intensive Care Unit, medical physicians on the ward, surgeons on the ward and in theatre, sub-acute and community physicians.
   (b) Require senior leadership for policy development and development of strategies, requires junior medical staff involvement to explore and clarify the frontline medical staff issues for managing deteriorating patients, particularly those at end-of-life.
6. Falls prevention –.
   (a) Reduction of number of falls – how to rationalie medications that can contribute to falls, early identification and management of delirium as a risk factor for falls,
   (b) Reduction of the harm caused by falls – appropriate anticoagulation, minimise duration and dosing for the clinical scenario, identification and management of osteoporosis.
7. Pressure Injuries.
   (a) Optimise skin integrity and nutrition, with early identification and management of conditions leading to poor skin integrity such as diabetes and vascular disease.
   (b) Pressure care intra-operatively or during procedures.
8. Clinical Handover.
   (a) Structures and processes for shift to shift junior doctor handover.
   (b) Structures and processes for medical handover at transitions throughout the patient journey from Emergency Department to ward, ICU to ward, acute to sub-acute services, on discharge to community.

5.3.2 Clinical Audit

Clinical audit aims to improve patient care and outcomes and the effectiveness and efficiency of processes by evaluating the services provided and patient outcomes against previous and identified best practice. Clinical audit forms part of a suite of tools within the clinical governance framework that ensure a systematic process to monitor clinical effectiveness and manage clinical risk.

Clinical units and specialities should undertake a range of audit activities as part of their quality improvement and review activities.

All clinical units and departments that undertake clinical activity should be required to have regular, structured clinical audit of patient outcomes. The clinical audit should:

- Be supported by available patient data,
- Provide opportunity for all staff within the unit or area to contribute,
- Provide opportunity for multidisciplinary review of patient outcomes as appropriate,
- Provide an opportunity for all units or areas to contribute and report their clinical audit activity to their relevant Division or Specialty Quality Committee, within the organisation's Clinical Governance framework,
- Contribute to external agencies for the relevant speciality, including clinical registries and Department of Health registries.

Maureen Bisognano, previous Chief Executive of the Institute for Healthcare Improvement, has four questions she always asks when visiting a hospital:

1. Do you know how good you are?
2. Do you know where you stand relative to the best?
3. Do you know where the variation exists?
4. Do you know the rate of improvement over time [35]?

These four questions can be adapted quickly by clinical leaders to form the basis of clinical audit processes within their units.

Clinical audit should be an integral part of any Quality Improvement project.

Clinical audit should include areas of:

- Known areas of patient safety risks, in alignment with the NSQHSS.
- Areas of risk for the organisation are identified through incident reporting systems.
- Compliance with ACSQHC clinical care standards.
- Areas of variation identified by Clinical Registries or external peer-reviewed reports.

In addition, a number of organisation-wide audits should be conducted regularly, with the results being reported through the clinical governance committee structure. The information from audit activity is used to identify areas where improvement is required to increase compliance with required standards.

5.3.3 Clinical Unit-Based Morbidity and Mortality

All clinical units and departments that undertake clinical activity should be required to have regular, structured clinical audit of patient outcomes.

This may include review of the following cases:

- Deaths.
- Significant complications of care.
- Serious adverse events and sentinel events.
- Triaging clinical deterioration cases and reviewing a proportion to investigate causes.

This clinical audit may also include the following concepts:

- High volume or high-risk procedures or conditions,
- Patient outcomes, for example, effectiveness of treatment,
- Appropriateness of treatment, e.g. in alignment with Choosing Wisely recommendations from Professional Colleges (e.g. Australian College of Emergency Medicine Choosing Wisely recommendations 2015),
- Conditions where the evidence is unclear and multiple treatment options are possible,
- New or emerging technologies within their patient groups,
- Right diagnosis [36], right treatment, and timeliness of treatment.

For specific specialties, the following may be relevant:

- Waiting list rates, day or surgery admission rates, unplanned returned to theatre rate for surgical or procedural units.
- Results of procedures in alignment with reporting requirements for the New Technologies and Clinical Practice Committees.
- Results of procedures and outcomes for areas with identified Extended Scope of Practice under the Credentialing and Scope of Practice Framework.
- Administrative data set indicators such as unplanned readmissions to hospital within 28 days, unplanned return to Intensive Care Unit rate, median length of stay, seclusion rates in mental health.
- Mental Health follow-up post-discharge.

For morbidity review, units who participate in Clinical Registries should include morbidity data as part of their registry. Complications can also be analysed using hospital-acquired diagnoses from routine hospital data (CHADx), as outlined by [37].

Table 5.2 Categories of deaths (expected occurrence and care management issues)

Categories	Description
Category 1	Expected death with no care management issues
Category 2	Expected death with care management issues
Category 3	Unexpected death occurred despite taking all necessary preventative measures
Category 4	Preventable death where steps may not have been taken to prevent it
Category 5	Unexpected death resulting from a medical intervention

Category 1 deaths do not require any further review
Category 2 deaths with care management issues can be managed within the local unit
Category 3,4,5 deaths require review beyond unit level

For Mortality reviews, all deaths should be classified according to a consistent classification system to facilitate those deaths requiring further review beyond unit level. An example classification system used in Brigham and Women's Hospital, Boston [38], are outlined in Table 5.2.

The treating clinicians and peers within the speciality should review all deaths, with external peer review for certain categories of deaths (such as Surgical Mortality via jurisdictional frameworks such as Victorian Audit of Surgical Mortality). Further organisational review will be required if there are any of the above issues identified. Conceptually the levels of review of deaths to provide robust and transparent review beyond the individual speciality, including external registries or external reviews if required.

Reporting of Medical Audit Activities should occur via Division or Specialty Quality Committee or relevant Division of Medicine or Division of Surgery relevant for the organisation.

All clinical units should provide an annual summary report of their audit activities to the management team outlining:

- A description of the process for clinical audit within their unit.
- Results of any Clinical Registry reports, including any areas of variation, and improvements in care as a result.
- Patient outcomes including:
- Evidence of results of patient outcomes in the areas audited, including performance against benchmarked best practice.
- Identification of areas of variation.
- Improvements in care and learning opportunities as a result of the audit, including innovations in practice and improvement strategies.

5.3.4 Clinical Registries

The establishment of Clinical Registries has accelerated during the past decade. Registries provide a clinically credible means for monitoring and benchmarking healthcare processes and outcomes, identifying areas for improvement, and driving strategies for improving patient care [39]. In addition, clinical registries are used to assess changes in clinical practice, appropriateness of care and health outcomes over time [40]. The American Heart Association Policy Statement in April 2011 called for expanding the application for existing and future clinical registries, with well-designed clinical registry programmes providing important mechanisms to monitor patterns of care, evaluate healthcare effectiveness and safety, and improve clinical outcomes [41].

Clinical registries are databases that systematically collect health-related information on individuals who are:

- Treated with a particular surgical procedure, device or drug, for example, joint replacement.
- Diagnosed with a particular illness, for example, stroke; or.
- Managed via a specific healthcare resource, for example, being treated in an intensive care unit.

Clinical Registries usually encompass patients treated by a single medical specialty group, for example, the Melbourne Interventional Cardiology Group involves patients treated by credentialed Cardiologists only, and hence collation of information for the registry is direct from the treating clinicians to the Registry.

Information in clinical registries is captured on an ongoing basis from a defined population. Clinical registries provide the most suitable and accurate method of providing monitoring and benchmark data and provide the greatest potential to improve healthcare performance across institutions and providers [42]. The focus of clinical registries is to capture data that reflects real-world clinical practice in large patient populations [43]. The data from clinical registries do not replace the need for traditional randomised controlled trials. Instead, registries and trials are complementary approaches [43].

Clinical Registries have high participation rates from clinicians, as outlined by Retegan and colleagues of the Victorian Audit of Surgical Mortality (VASM), with a survey of 257 individual stakeholders demonstrating a 95% agreed participation rate amongst Victorian Fellows of the Royal Australasian College of Surgeons [44]. The analysis of VASM-reported cases has also led to further understanding of cross-speciality differences with clinical management issues [45]. High participation rates were also identified in the Australian and New Zealand Intensive Care Society Centre for Outcomes and Resource Evaluation Registries, with 197 adult ICUs (75%) of Australian ICUs contributing to the registry [46].

It is expected that units that contribute to an external peer-reviewed Clinical Registry will:

- Review the results in a timely manner.
- Identify and analyse and variations for clinical relevance and impact.
- Integrate improvements in care or learning opportunities into the unit's quality improvement process.
- Report and feedback to relevant CSU Quality Committee for the organisation of the results, variations and actions required annually.

A study of Clinical Registry use in a major tertiary teaching hospital identified a very high level of medical staff participation, but a lack of systematic reporting of registry data into quality committees beyond unit level, and utilisation of such data to reflect upon practice and drive quality improvement [47].

Other National Standards that benefit from medical staff involvement.

5.4 Medical Engagement in Clinical Governance

Twigg et al. have highlighted the importance of nursing leadership for successful quality and safety; however, Medical Staff engagement in patient safety is essential for high-quality patient's outcomes. The Institute for Healthcare Improvement [48] outlines the principles for engaging medical staff in the quality agenda and includes the following aspects outlined below in Table 5.3.

The degree to which you involve doctors in quality initiatives involves striking a balance between ensuring there is the right amount of engagement and medical input while being cognisant that clinicians are very busy. It is critical to think about determining what is required from medical staff, and best to arrange time with the right medical staff.

There are excellent examples in the literature on how to best engage doctors in quality and safety. The following are some reflections from practice:

5.4.1 Senior Medical Staff

- Senior medical staff are required for leadership of quality projects, advice and guidance on policy or guideline development, advice on strategic priorities for the organisation or

Table 5.3 Institute for Healthcare Improvement principles for engaging medical staff in the quality agenda [48]

1. Discover common purpose
2. Reframe values and beliefs
3. Segment the engagement plan
4. Use "engaging" improvement methods
5. Show courage
6. Adopt an engaging style

linkages with community partners, such as research institutes. Collaboration across units for certain patient cohorts also required Heads of Units or senior medical leadership.
- Senior medical staff are also essential for any outpatient processes, as the predominance of outpatient clinics is delivered by senior doctors. Any quality improvement initiatives involving theatre, surgical procedures operations also require Surgical or Anaesthetic senior medical staff involvement.
- Introduction of any new electronic clinical information technology systems requires both senior and junior medical staff, for varying views on the practicalities of the system and how this will affect the workflows of patient care.

5.4.2 Junior Medical Staff

- The approach to engaging junior medical staff needs to be tailored differently than that of senior medical staff because of their differing understandings and confidence regarding patient safety. However, engaging with the junior staff is essential for understanding the practicalities of day-to-day patient care.

5.4.3 Committee Involvement

Medical Administrators should strongly consider including some representation of the Senior Medical Staff on their peak Clinical Governance or equivalent Committee. Where local Boards exist, inclusion of senior medical staff is highly recommended. Veronesi et al. in [49], in their study of NHS hospital trusts performance measures from the Healthcare Commission and Dr. Foster, and comparing the proportion of physicians on hospital Boards, there was a significant and positive association between a higher percentage of clinicians on boards and the quality ratings of service providers, with lower morbidity rates.

From practical experience, the following observations have assisted with successful relationships with medical staff:

- Medical staff do not respond well to being told to comply with regulations without explanation of the reasons, as they value autonomy and independence.
- Checklists are challenging for medical staff, as they are aware that although a majority of patients follow routine care, often there are exceptions based on patient needs or clinical conditions, and require treatment regimes to be adapted for the individual's needs.
- Even if the medical staff must comply with something from a patient safety perspective, they respond better if they are able to be provided with an opportunity to provide advice on how they will comply.
- If the medical staff do not agree with action that will be implemented, they appreciate knowing that the change will be evaluated robustly, and their views are recorded and used as part of the evaluation.
- Meet the medical staff on their terms, in their office. They are the experts with years of experience in their field, and treat them with the respect that their experience deserves.
- Avoid asking doctors to criticise or comment on areas beyond their scope.
- As most clinicians have full schedules throughout the day, meetings often have to be scheduled before hours, after hours, or at lunchtimes. If you are inviting medical staff at lunchtime, consider feeding them, as you will more likely engender higher levels of support and engagement.
- Consider multiple avenues for seeking feedback. Examples include:
  - One-on-one interviews for guided leadership advice from particular specialties, such as Head of Infectious Diseases for Antibiotic Stewardship strategies, or Head of General Surgery to define extended scope of practice and credentialing requirements for General Surgery.

- Workshops on specific quality issues with a variety of different clinicians seeking multidisciplinary advice or endorsement.
- Trial or simulation environments when introducing a new change that may impact practice, for example the introduction of an electronic medication prescribing platform.
- Organisation-wide electronic surveys for views on topics such as patient safety climate survey, junior medical staff feedback on rostering and safe hours.

5.5 The Inter-Relationship of Clinical Service, Scope of Practice and Patient Outcomes

As highlighted earlier, medical staff often appreciate an explanation of the drivers for certain quality improvement initiatives, and how the concepts relate in the global view. Credentialing and scope of practice frameworks require evaluation and monitoring of compliance. Clinical audit is a mechanism to undertake this monitoring.

The steps required to determine what the medical workforce profile should be within an organisation are:

Step 1: Clinical Service requirements

Determine the emergency patient mix such as the types of patients, demographics, patient conditions, and specialities required.

Step 2: Scope of Practice

Define what scope of the various clinical services are required to appropriately treat the emergency patients mix. If the health service is in a young community population with families and children, the health service will require a higher proportion of paediatric specialists.

Step 3: Credentials

Determine the type, seniority, and number of doctors that are needed to deliver the scope of clinical practice, and clinical service requirements. This will then define the credentials such as qualifications, fellowship specialities and seniority experience level of the medical staff.

Step 4: Senior and Junior Medical Workforce profile

Employ the number, proportion and mix of senior medical staff to match your scope of practice noting that workforce availability will affect recruitment

Step 5: Junior Medical Workforce profile

Employ the junior medical staff that matches the senior medical staff to ensure appropriate levels of training and supervision. Noting that workforce availability will affect recruitment

Step 6: Clinical Audit

How do we know we are providing high-quality patient care? Via clinical audit mechanisms outlined previously, and ensuring that the patient care provided by individual clinicians complies with their scope of practice.

Step 7: Performance development

How can we strengthen the skills and experience of our medical staff? Via education and training, performance management and development programmes

Step 8: Delineation of scope of clinical service

Are there any restrictions to our clinical service based on our availability of medical staff or delineation of the size and scope of our service, for example, elective surgery patient mix depends on the speciality of the senior medical staff available within the health service. What types of patients do we need to transfer to other health services?

5.5.1 Links Between Evidence-Based Measurement and Quality Improvement

Evidence-based medicine has become a cornerstone of good clinical practice and drives the principles of research, teaching and clinical practice. However, there is often a considerable gap between what we know from research and what is done in clinical practice. Propose that there are benefits for the patient by integrating the complementary disciplines of Evidence-Based Medicine (EBM) or doing the right things, and Clinical Quality Improvement (CQI) or doing things right; Glasziou and colleagues propose a clear

connection between EBM and CQI, in the form of:

- Those working in CQI teams should routinely check the validity, applicability and value of the proposed change before taking on a change.
- Those working in EBM should recognise that it is not sufficient to simply appraise the evidence but ask what can be done to address the gap between the evidence and practice.
- Those working in CQI should recognise the complementary value of experiential learning in a cyclical process by exploring concepts and models, learning from them, and then doing it again better.
- Those teaching the next generation of clinicians should value both disciplines, which should be taught, integrated and modelled in clinical training.

Of note, the governance processes for introducing established technologies or clinical practice into the organisation are at the boundary of EBM and CQI, and use both elements and concepts for improving patient care.

5.5.2 Ready Reckoner

- Clinical Governance at a health service level requires structures, processes and frameworks that articulate the key roles, responsibilities and accountabilities at all staff levels from Board, management and clinicians, enabled by robust data, culture, education and training and a continuous learning environment.
- Successful clinical governance encompasses the domains of clinical effectiveness, risk management, patient safety and consumer engagement, and should address the priority areas and accreditation requirements of any national regulatory bodies.
- Successful clinical governance requires strong authentic medical engagement, at a leadership, senior and junior medical staff level, that allows the advice, guidance and leadership from medical staff across a suite of patient safety areas, whilst utilising their time in an efficient and effective manner.
- The Medical Administrator role is an essential element within the clinical governance system as the patient safety advocate on the Executive. The Medical Administrator also provides an interface to translate management concepts to medical staff, and medical concepts to the broader management.
- This chapter outlines the literature and practical examples of implementing Clinical Governance within a health service, and particularly focuses on the strategies to effectively engage medical staff, and addresses the essential role of the Medical administrator within the clinical governance system.

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[1]A number of key frameworks should be considered when implementing Clinical Governance within health services

6 Data in Healthcare and Quality Improvement

Lloyd McCann and John Robson

Learning Objectives
By the end of this Chapter you will understand;

- The importance of data and source of it.
- That as medical administrators and Managers we must use tools to help identify the opportunities for quality improvement.
- Understand that variation exists in every process and when this acceptable (common cause) or unacceptable (special cause).
- That health care is a complex and adaptive system that requires us to have a systems approach.

6.1 Introduction

As medical leaders and managers, we are involved in healthcare systems which have often been organically built and involve a complex network of interconnected processes and pathways which can otherwise be described as a complex adaptive system [1, 2]. The health care delivered by these systems depends on how well these networks' function, and how well the people who provide and manage the care work together. One of your roles is to ensure that this system delivers the healthcare that is expected, to the people it is caring for. To provide assurance that the standard of healthcare delivered by the complex adaptive system (CAS) is as expected, we measure the system by collecting data, and, hopefully information. This allows us to identify opportunities for improvement and also identify areas of good performance.

When we fail to understand the quality of care that the system, and we are responsible for delivering, the results can be devastating to individuals, families and populations. Unfortunately, there are a number of examples of where monitoring and commitment to continuous quality improvement have failed (see Box 6.1).

This desire to ensure our systems deliver the care we need them to means we must create systems to collect data. This can lead to mountains of data which we often summarise down to a single figure or, worse yet (!), a Red Amber Green (RAG) status. As medical managers and administrators, we are then often asked to compare this RAG data against another RAG, that is, last month, and then asked to comment on the trend or asked what action we will be taking. This chapter will look at data, how we use it for quality

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improvement in the environment of a CAS and propose some common sense ways of dealing with data.

As medical leaders and managers, we have the job of understanding the systems which we are responsible for overseeing. When we fail to pick up issues in our services through the data and insights that this provides us with we are, at times, allowing practices to continue that put patients' lives at risk.

> In God we trust, all others bring data!—Dr W. Edwards Deming

Box 6.1: Bacchus Marsh/Djerriwarrh Health Services

Between 2006–2013 Djerriwarrh Health Service saw a doubling of births; however, the perinatal mortality rate at Bacchus Marsh was significantly higher than the State average and much higher than would be expected for a "low risk" unit.

This triggered an investigation that concluded, 'We need a change in the culture and approach to monitoring safety and quality in Victoria.' The former director of clinical and quality support services at Bacchus Marsh Hospital was disqualified for 2 years in part, as a result of the failure to have a system in place to detect and investigate incidents that were happening at the health service [3])

Many commentators would argue that data is or is fast becoming the new 'gold' in healthcare. In some direct applications it is in fact reasonable to assert that 'data saves lives' as highlighted by a campaign in the European Union calling for increased, and better, use of data. It is worth looking at Datasaveslives.eu for further information on this.

Amidst the multitude of challenges facing healthcare systems, medical leaders and managers globally, there is now recognition that data lead healthcare and medicine is needed as part of the solution. Data and data science approaches are therefore both a critical enabler as well as a foundational element of practising smarter healthcare.

The benefits to data-enabled decision making and practice are well proven across the spectrum of stakeholders in healthcare system constructs (Table 6.1).

Through the next sections, we will explore some core concepts about data that will assist medical leaders and managers to get value from interacting with health data.

Table 6.1 Summary of benefits of data-enabled decisions for healthcare stakeholders

Stakeholder group	Potential benefits
Healthcare providers and funders	Inform patient care directly to optimise diagnostic and treatment pathways Design and redesign care pathways Develop insights and inform decision making in strategic planning and quality improvement Deploy and utilise resources effectively and efficiently Improve quality and safety of pathways and treatments Inform wellness, prevention and early intervention approaches
Researchers	Inform and develop novel approaches to design, development and testing of therapeutic agents. Devices, solutions and interventions Provide real-time or near real-time feedback on efficacy and safety in certain circumstances Inform robust evaluation approaches Inform engagement methodologies and approaches with other healthcare stakeholders
Policy makers	Inform investment and prioritisation decisions Design and develop policy interventions and settings to optimise health and wellness Inform whole of system or whole of 'society' interventions and approaches to improve health and wellness of populations Inform engagement and collaboration efforts with other sectors and stakeholders to ensure health and wellness are reflected in broader policy interventions and settings

Table 6.1 (continued)

Stakeholder group	Potential benefits
Consumers	Inform decision-making around diagnostic and treatment pathways Empower decisions and questions to enable a partnership approach with providers Enable deeper engagement in their own health and wellness journeys Improve transparency and accountability within health service delivery Inform decisions around provider selection and diagnostic or treatment approaches

Source: European union 'Data Saves Lives': https://datasaveslives.eu/why-is-health-data-important [4]

6.2 What Is Data?

There are multiple definitions of data and this is exacerbated in the healthcare context where a medical or clinical lens needs to be applied. It is unfortunately the case that data often means many things to different people.

Provost and Murray in their 'Health care data guide' [5] call out some useful technical elements and definitions which are that data is:

- Documented observations or the result of performing a measurement process, and
- Strings or patterns or characters that describe an aspect of the world.

Data can be generated or obtained through perception, for example observation, or by performing a measurement process. Importantly, data offers opportunities to obtain information, insights and ultimately knowledge through inquiry, analysis, aggregation or summarisation.

You also need to understand the concept of big data. Big data can be defined as a predominantly digital asset that has the characteristics of high volume, high velocity and significant variety that therefore requires specific technology and analytical methods to realise value from the asset [6]. An example of this is our Electronic Medical Records systems which contain a massive amount of data which has the potential to create knowledge around rare health conditions, side effects or long term health outcomes. There are some barriers to unlocking the potential of big data such as investment in connecting and enabling analysis of this big data despite the huge potential.

Another useful data concept for medical leaders and managers to be aware of is, the concept of 'metadata.' A useful way to think about metadata is that this data is the 'breadcrumbs' of the data landscape. Metadata is generally generated and captured anytime there is a transactional interaction between a system or application user and the system or application itself. For example, when a clinician logs-in to a Practice Management System or Electronic Medical Record (EMR) application, this action is time-stamped and a record of the login is generally kept (i.e., who has logged in). The same goes for applications like patient portals where a patient logs into the application to potentially record a blood pressure or weight measurement as an example.

Metadata is, potentially, incredibly powerful within the healthcare context if it is used appropriately and correctly. The main driver for this potential is that it allows us to generate information and insights based on actual behaviour rather than intended behaviour. For example in the clinician scenario outlined previously, we are able to see which pages a clinician navigates to within the EMR that ultimately informs their clinical decision making. We can then optimise digital pathways and tools to better support decision making through an understanding and analysis of actual use behaviour. Similarly for patients, understanding actual behaviour and engagement would support interventions and pathways that are more likely to result in better outcomes for individuals.

6.3 Types of Data

What will become clearer as we progress through this chapter and our exploration of data is that there are often multiple definitions, approaches or in this instance, methods of categorisation of data. Later in this chapter, we will be considering data in the context of quality improvement. It is, therefore, important for medical leaders and

Table 6.2 Data types (non-exhaustive)

Dimension and spectrum	**Clinical** Examples: diagnostic or treatment data	**Non-Clinical** Examples: administrative (appointment dates/times), financial (cost of procedure), operational (wait times in ED)
	Observations Examples: Pallor, JVP	**Measurements** Examples: Blood pressure, Heart rate
	Qualitative Examples: Patient experience responses to open questions, Referrer free text responses	**Quantitative** Examples: Patient experience rating on a scale, Referrer ratings on a scale
	Structured Examples: Diagnosis codes (ICD-10), Drop down selections (yes/no responses)	**Unstructured** Examples: free text, patient entered free text

Source: Authors own work

managers to be able to understand characteristics and types of data as they relate to the quality improvement domain.

Thinking through data in healthcare, we can categorise data across a range of different dimensions. The following is a non-exhaustive list but is intended to inform a deliberate approach to potential categorisation approaches (Table 6.2).

Fundamental to various processes of measurement and to the understanding of variation in quality improvement are two data types: continuous (e.g. variable or measurement) data; and discrete (e.g. attribute or count) data.

Continuous data are data that can be measured along a continuous scale. Examples would include measures of weight, height and length. These data are potentially infinite. Discrete data on the other hand are data that are distinct from other data. These data can generally be classified and grouped in categories. Simplistic examples here would be patients that are or are not diabetic.

Within the domain of discrete data, these data can be further classified into defectives or defects categories. There is a subtle nuance medical leaders and managers should be familiar with in relation to this categorisation. In the category of 'defectives' it is possible to count the total number of events as well as the total opportunities for that event to occur. This enables us to calculate a percentage. A simple example here is total number of complications related to a surgical procedure where we can count the number of patients and their complications and the total number of procedures in a particular setting. In the 'defects' category we can count the total number of events occurring, but not the total number of non-events. An example here would be needle-stick injuries on a ward. In this instance we may however understand the context around the opportunity for the event to occur, such as the number of staff and number of patient days in the ward. In this instance we would be able to calculate a rate.

We will explore quality improvement concepts as they relate to the use of data later on in this chapter.

6.4 Data Sources and Storage

Sources of data and options for storage of data within the healthcare context have proliferated with increasing digitisation. Health data can be generated by clinicians, patients, researchers, health administrators and healthcare suppliers. A novel form of data generation is artificial intelligence (algorithms). To provide a few examples of storage, data can reside or exist in healthcare applications (software); data repositories or data warehouses; paper, regional and national repositories or collections; industry, vendor or third party datasets and repositories; patient generated or device generated data stores or repositories, clinician device generated stores or repositories; cloud storage solutions; and inter-sectoral warehouses, stores or repositories.

Whilst the proliferation of options for storage and sources of data has been largely positive, certain challenges have also become apparent, and

this trend has also exacerbated legacy challenges within healthcare. For example, interoperability has long been a barrier to effective data and information flow within and between healthcare organisations, and this problem has effectively become worse, given the proliferation of storage options and data sources. Whilst beyond the scope of this chapter, it is critical that healthcare leaders and managers advocate for a standards-based approach to deployment to the deployment of new data sources and storage options to enable more effective interoperability. Additionally, the increasing digitisation of healthcare has seen a shift from paper-based data and information solutions to digital solutions. Whilst this is a positive system shift, there is a significant risk that historic data and information is lost to the system. This risk continues to exists across the data and information continuum.

6.5 Data Provenance and Data Quality

Data provenance and data quality are two distinct yet overlapping concepts. Data provenance relates to questions around the origins of the data. In other words, how did the data come about or where did the data come from?

A subset of questions should be considered by medical leaders and managers as these further relate to the provenance of the data:

- Why was the data collected?
- How is/was the data collected?
- Who or what maintains the collection? How is the collection maintained or updated?
- Has the data been modified?

Once again, this is a non-exhaustive list of potential questions or considerations related to data provenance for healthcare leaders and managers, however, these considerations will inform subsequent interactions and also questions related to the data or dataset under scrutiny. Finally, it is important to remember that data and datasets are likely to change over time. In other words, components contributing to the provenance of data/a dataset such as coding, sampling, clinical practice, policy or broader societal influences may impact on datasets. Taking policy or societal influences as an example, the more recent focus on equity and equitable outcomes for traditionally vulnerable populations has meant many datasets and collections have introduced additional parameters such as ethnicity or socioeconomic indicators (e.g. employment status).

With increasing digitisation, data capture, and collection processes have become more streamlined and arguably more accurate. However, because human intervention and processes are still required, this does not mean data quality has markedly improved by default.

A further consideration around data quality is missing data. As medical leaders and managers, we should pay particular attention to the potential meaning behind missing or incomplete data.

The considerations outlined above for data provenance have an influence on data quality. Most medical leaders and managers, when discussing data quality with colleagues, would recognise the phrase ‘rubbish in—rubbish out.’ It is important to note that multiple factors contribute to data quality or lack thereof. Errors such as transcription errors (copying errors), attribution errors (inaccuracies on how data is linked) or labelling errors (incorrect labels applied to specific data) can all negatively impact on data quality. Systems, processes and checks on collection and manipulation of data directly impact on the quality of the data and are key aspects of data quality that you need to ensure that the data remains uncompromised.

6.6 Data and Learning Loops

Whilst the transformative potential of data is clear it is also important to remember that data in isolation is not a magic bullet. To be transformative, data itself needs to be transformed and this is more relevant in the healthcare setting when we are working in a complex adaptive system

where linear thinking can prevent us from understanding the systems impacts.

This learning loop concept illustrates how data needs to transform within a learning cycle to ultimately inform decision-making and action. We can turn data into information, generally by adding context and additional meaning to the 'raw' data. This initial contextualisation step in the learning loop can in some instances be automatic, but often requires human intervention or a human-programmed intervention. Generating insight and intelligence requires the application of experience or knowledge to that information which then can inform decisions and actions, a component of systems thinking. Our actions then generate additional data which can feed back into the learning loop. The latter steps in the learning loop all generally require human input, except potentially where actions can be automated based on known outcomes or decisions. Whilst the learning loop and 'transformation' steps appear simple, there is of course risk in each step as with any process. Examples include basic errors such as transcription, attribution and labelling errors. Errors that occur in the downstream (e.g. decision → actions) components of the loop are linked to human processes and implementation errors.

There is a link and potential overlap between this learning loop concept and the Plan Do Study Act (PDSA) cycle. There are, however, important distinctions. The learning loop concept relates specifically to the data transformation journey that informs decisions and actions. PDSA cycles in the quality improvement context are explored in detail elsewhere in this chapter.

The learning loop has the potential to be a virtuous cycle that truly enables data-enabled decision-making in health (Fig. 6.1).

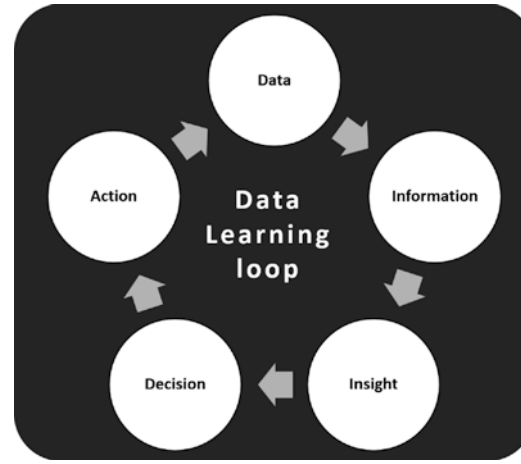

Fig. 6.1 Data learning loop. Source: Authors own work

6.7 Data and Information

The learning loop introduces the concept that information is data that is 'transformed.' A good example to illustrate this is if we take two data points: one of 120 and one of 80. Without further transformation, these two data points would simply be two discrete data.

We can augment or transform these data by adding elements and begin to generate information. For example, if we put the following contextual elements around the data points: 120 mmHg systolic and 80 mmHg diastolic. We now have some information in that the data points represent components of the same blood pressure measurement potentially. If we add further context such as 120/80 mmHg in a known hypertensive male, with a medication list that includes an ACE inhibitor, statin and empagliflozin [reversible sodium-glucose co-transporter 2 (SGLT2) inhibitor,] whose eGFR is 50. The data points have

been contextualised, and we have therefore transformed the data into information from which insights can be generated by a clinician, decisions made and actions taken.

In the context of the learning loop within healthcare, data transformed into information can be viewed as a critical asset to generate insights and thereby inform decisions and actions. When we categorise data and information as 'assets' and assess their characteristics, it becomes evident that there are some unique features associated with data and information as assets.

Particularly when they are in a digital format, data and information could be infinitely sharable. This is in contrast to other more traditional assets in the healthcare domain. We could also deploy distributed ownership models (e.g. shared ownership, joint ownership, etc.) with data and information once again unlike other assets we see utilised in healthcare. Unlike other assets where depreciation is a common feature, the value of data and information actually increases with use through the learning loop. And when we combine data sets or information, we once again increase their value.

Within the quality improvement (QI) context, data and information are within themselves unique because they can simultaneously be used as an input, output and, in some instances, even outcomes if a specific output is contextualised and appropriately captured and measured.

Within the context of a complex adaptive system, healthcare leaders and managers should therefore leverage the unique characteristics of data and information, particularly in the quality improvement (QI) domain.

6.8 Data and Multi-Disciplinary Teams

The concept of multi-disciplinary teams (MDTs) and multi-disciplinary meetings (MDMs) is reasonably well established across many specialities and healthcare settings. These teams and meetings were established from recognition that having a spectrum of professions and groups represented to input into care plans for the patients we serve, led to better decisions and, ultimately, outcomes for patients.

Having outlined the role data plays in healthcare and the potential positive impact it can have for stakeholders across health, medical leaders and managers should consider a further expansion of MDTs and membership of MDMs beyond administrative, medical, nursing and allied health representation. Including at appropriate times, roles such as analysts or data scientists in the MDT which would mean we have a greater chance to unlock truly data-enabled decision-making within these forums.

As an example, including analytics around clinical and patient-reported outcome measures in the setting of a cancer MDM would inform potential changes to pathways such as including more allied health support (physiotherapy, dietetics, etc.) if a positive correlation is seen between outcomes and these interventions.

The key principle for medical leaders and managers here is that data and learning loops can inform evolving practice (e.g. through quality improvement), but it is critical that the right skill-set and resources are in the room to contribute. In some cases, this might mean we need to have a statistician to our meetings!

6.9 Data and Quality Improvement Tools

The quality improvement and/or measurement tools presented in this section are not an exhaustive list of improvement or measurement tools. The list, however, includes tools where data is a critical input. They also demonstrate elements of the learning loop where data is transformed into information by, in essence, adding context (e.g. axes) around specific data points and, in some instances, intelligence as well where trends can be identified from the graphical representation.

6.9.1 Pareto Chart

A Pareto Chart is a graph that demonstrates how different factors contribute to an overall effect.

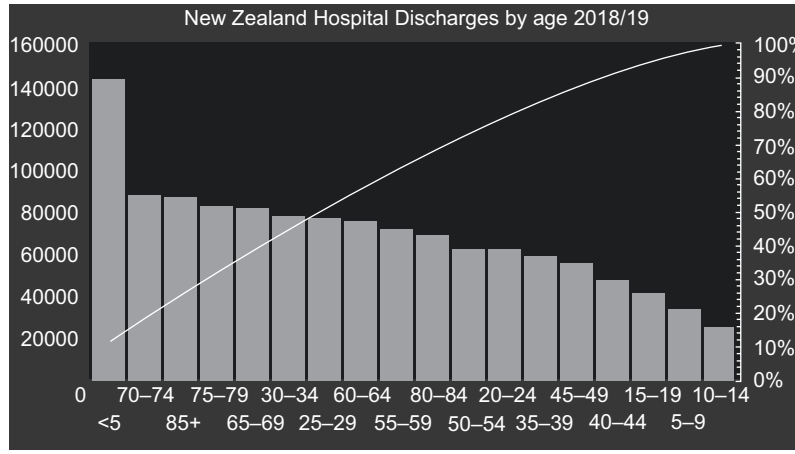

Fig. 6.2 Pareto chart of New Zealand Hospital Discharges. Source: https://www.health.govt.nz/publication/publicly-funded-hospital-discharges-1-july-2018-30-june-2019

The factors are listed in bars from most frequent to the least frequent. Generally, these charts will also include a cumulative impact line (in percentage terms) demonstrating which factors may contribute to 80% of the overall impact. This relates to the Pareto principle, which highlights that generally 80% of an effect is caused by a few (or often 20%) of contributing factors (Fig. 6.2).

6.9.2 Last 10 Patients Data Collection Tool

This is a tool that captures data and information that can demonstrate variation in patient pathways (e.g. wait times or journey times for patients). The approach taken is generally to input data from the 'last' 10 patients through that pathway. It can be used as an adjunct to process or value stream maps (Fig. 6.3).

This example highlights ten patient journeys through a cancer pathway where the start time is defined as a visit with their General Practitioner. The subsequent tables and charts show various touch points on the pathway and then comparisons between wait times between defined touch points. The visual representations highlight differences for patients between different touch points.

6.9.3 Run Chart

This is a basic line graph showing data points or measures in chronological order. The measure is generally plotted on the *y* (vertical) axis, with time being plotted on the *x* (horizontal axis). It uses the median as the centre line (Figs. 6.4 and 6.5).

Your service Cancer Pathway Service

Patient	Days to start point	Days to book	Days to Clinic	Days to diagnostics	Days to review	Days to MDM review	Days to Surgery	Days to discharge	Days to OPC visit 1	Days to NP review	Days to 1st surveillance scan
1	5	6	9	12	12	15	18	25	39	40	55
2	8	9	12	14	14	15	20	27	40	42	58
3	9	10	15	18	19	23	25	32	46	48	64
4	12	13	14	16	16	18	25	32	46	48	62
5	14	15	16	17	17	18	27	32	48	50	70
6	14	15	18	18	18	18	23	29	44	46	68
7	12	13	14	14	14	17	21	25	40	42	65
8	10	11	12	14	15	18	21	26	42	43	65
9	18	19	25	25	25	28	35	40	54	55	78
10	6	7	10	14	15	18	26	32	48	50	72

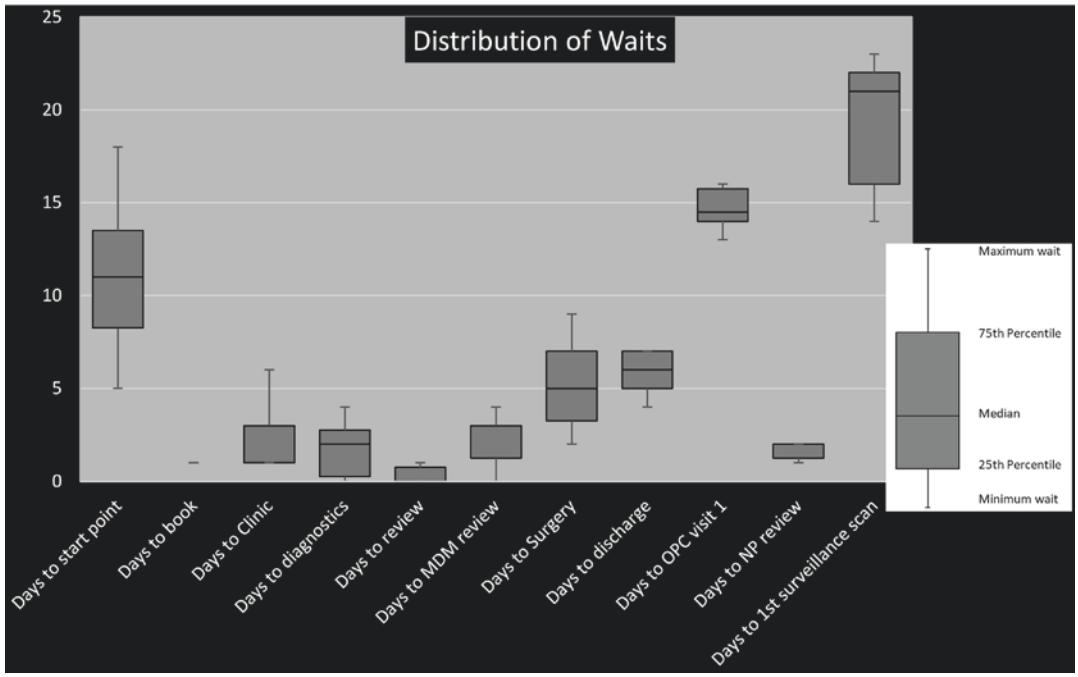

Fig. 6.3 Mapping the last 10 Cancer Pathway patients

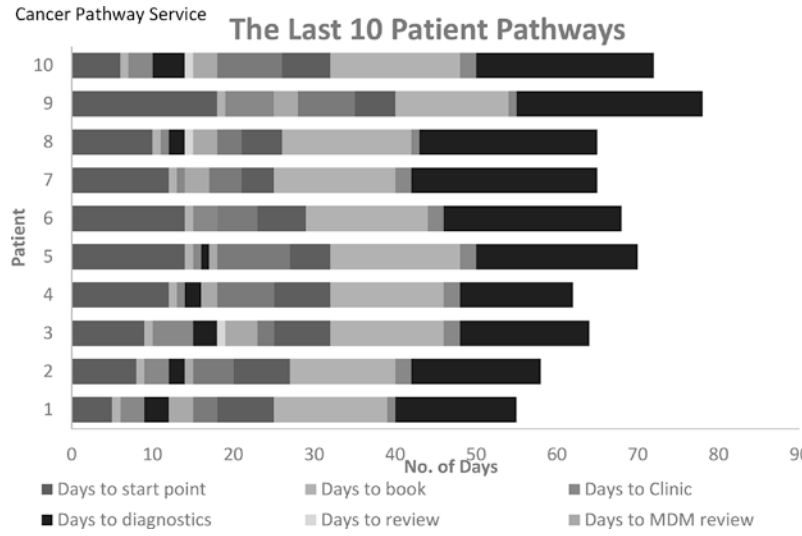

Fig. 6.3 (continued)

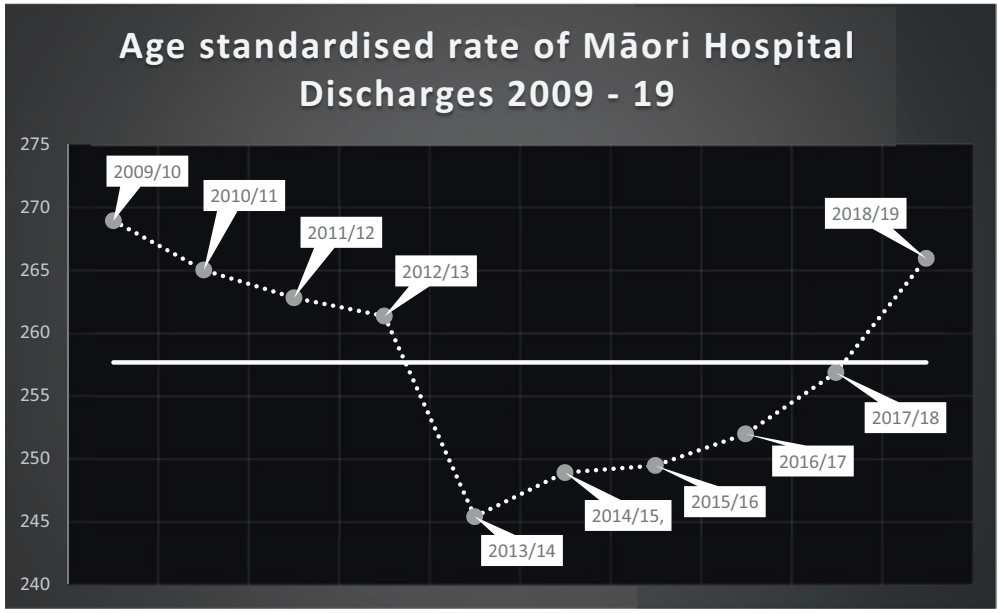

Fig. 6.4 Run Chart of Age-standardised rate of Māori Hospital Discharges. Source: adapted from https://www.health.govt.nz/publication/publicly-funded-hospital-discharges-1-july-2018-30-june-2019

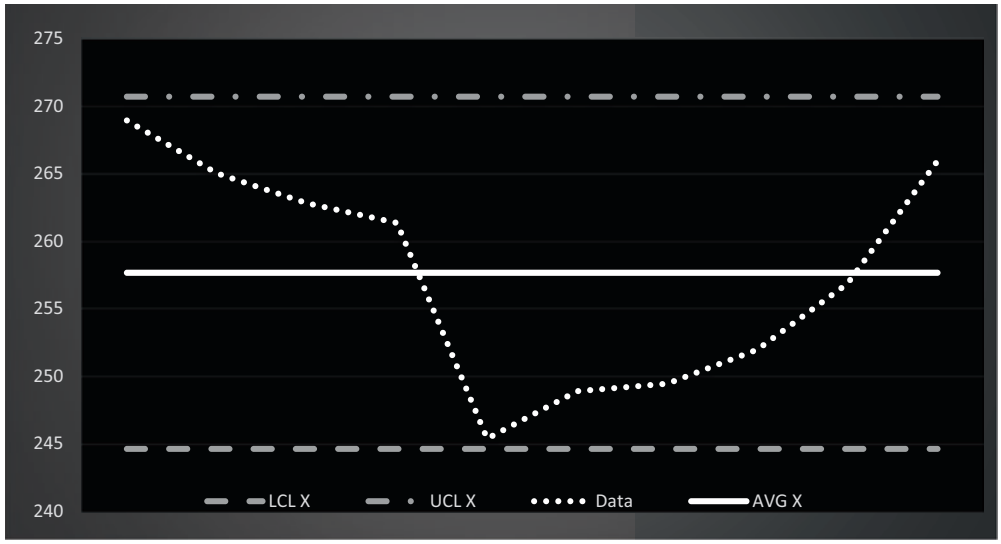

Fig. 6.5 Age standardised rate of Maori Hospital Discharges 2009–9. Source: adapted from https://www.health.govt.nz/publication/publicly-funded-hospital-discharges-1-july-2018-30-june-2019

6.10 Statistical Process Control (SPC) Chart

Statistical Process Control (SPC) charts are similar to run charts but are enhanced and provide additional information. SPC are line graphs with measures plotted on the *y* (vertical) axis and time plotted on the *x (*horizontal) axis. Key features of a SPC chart include a centre line which shows the mean and upper and lower data limits which indicate the range most values are likely to fall within. Process changes and other annotations are often included on these charts to demonstrate the impact of changes on measures.

Data, information and basic quality improvement tools are critical elements of the medical leaders and medical managers' toolkits. In the sections that follow we will explore applications of these tools across a range of domains.

> Every system is perfectly designed to get the results it gets—Dr W. Edwards Deming

6.11 Quality Improvement in Healthcare

The overall aim of health care is to provide high-quality care and improve the health of our patients and our population. Yet, for every process or pathway that works, there is another that causes delay, wasted effort, frustration or even harm. We need to search for and uncover the areas where the process or pathway is not delivering and improve upon it, and this is what we call quality improvement. Another way of describing quality improvement is having a system that enables you to understand the opportunities for improvement and enables you to improve on them—ideally using standard methods and tools. As the Bacchus Marsh example shows us it is vital for medical administrators and leaders to have an understanding of quality improvement and where the system is not delivering good health care.

In order to know what good is, we need to have a definition. A good starting point for 'good' in health care is the Institute of Medicine's (IOM) six aims of the health care system, which are;

- **Safe**: Avoiding harm to patients from the care that is intended to help them.
- **Effective**: Providing services based on evidence-based medicine to all who could benefit and refraining from providing services to those not likely to benefit (avoiding underuse and misuse, respectively).
- **Patient-centred**: Providing care that is respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions.
- **Timely:** Reducing waits and harmful delays for both patients and those who provide care.
- **Efficient:** Avoiding waste.
- **Equitable**: Providing care that does not vary in quality because of personal characteristics such as gender, ethnicity, geographic location, and socioeconomic status.

Focusing on any one of these areas can help you as a medical leader and manager to understand the opportunity to improve, but how do we know where to focus and what normal looks like? This is why we need data!

6.12 Quality Improvement and Data

As medical leaders and managers, we have to have a systematic approach to understanding how the parts of in the system are varying from the normal (unwarranted variation). You can use standardised sources of data and information such as The Health Roundtable, the New Zealand Health Quality and Safety Commission Atlas of Variation or the New Zealand Ministry of Health's National Minimum Dataset and use this data to benchmark your organisation.

Any source of data will be measuring a part of your system, and it is useful to understand what part of your process this is measuring. Avedis Donabedian developed the most widely used framework for understanding the quality of healthcare, and he described three components that can be measured—structures, process and outcomes [7]. Structure refers to key components of the physical system required to deliver the service, such as hospital buildings, staff and equipment. Process describes how structures are put into practice, such as specific treatments or pathways of care. Outcome refers to the results of processes, for instance, results of a treatment or pathway of care, that is, patient-reported outcome measures (PROMS). Donabedian believed that structural measures influence process measures, which in turn affect outcome measures. With outcomes being the most difficult to measure, but what matters to patients are what we need to measure.

The concept of balancing measures has also been introduced into improvement science. Balancing measures are a way to measure a known potential effect or consequence of your improvement process. An example of this would be the goal of decreasing the length of stay in the hospital ward, a process measure should have a balancing measure put in place to measure any unexpected consequence. In this case, an option would be to monitor the re-admission rates in the emergency department as early discharge might lead to an increased re-admission rate which would not be a positive outcome.

Outcome measurement also enables us to understand the value of our healthcare, particularly in the construct of value-based healthcare (VBHC). VBHC is the construct of understanding the outcomes that matter to patients and being able to divide this by the cost and this can establish the value. This methodology has been described by Michael Porter and Elizabeth Teisberg [8].

However, it is important to understand that measuring a complex and adaptive system is difficult, and it is hard to find a perfect measure of a system. You may have to start with an imperfect measure that is understood and can be replicated easily. A useful way to understand systems complexity and measurement is provided in the 'How do you measure a banana' game from the Institute

of Health Improvement, and we provided the link for you in the resources. This game highlights the challenge of developing a clear operational definition, reproducible measurement and the challenge of reliable and repeatedly measuring this amongst different teams. It is a useful game to play to help understand the challenges with measurement.

Healthcare is often driven by other agendas and we have to be aware of these and how they may impact improvement ideas. Some of these drivers could be summarised as Ministers, media and management, although there will be others. You need to think and be aware of how these may, or may not, impact you.

6.13 QI in Health: Methodologies

Once you have identified the area that is of concern, then you have the opportunity to undertake a quality improvement process. There are several methodologies that you can use when starting on the quality improvement journey. We would recommend getting to know and understand a few to start with. Pareto charts, cause and effect and driver diagrams are all quality improvement tools but perhaps the best-known tool is the Plan Do Study Act (PDSA) cycle which is also referred to as the Deming cycle.

Dr. W Edwards Deming was an American engineer who was heavily influenced by Walter Shewart when they met at Bell Labs in the twentieth century, and Deming was known to refer to this cycle as the Shewart cycle. Walter Shewart is referred to as the person who started Quality control science. He developed his techniques by working with the engineers at the Western Electric Company, to refine the quality of telephone hardware. Walter Shewart moved on from Western Electrical to the Hawthorn Factory where Joseph Juran worked for him, who is also a key figure in the improvement world (Box 6.2).

Box 6.2: Hawthorne Effect

Walter Shewart worked at the Hawthorne factory infamous for the 'Hawthorne effect.' Shewart was not involved in the experiments which began in the 1920s by a group of industrial researchers at the Hawthorne works of the Western electric company in Cicero, Illinois. The experiments were intended to study how workers' productivity and job satisfaction might be affected by specific workplace conditions (lighting, temperature, rest periods, etc.). The conclusion reached, however, was that increases in productivity were due not to the manipulated experimental conditions, but as a result of being singled out for participation in the research

Source: Adapted from 'Walter A Shewhart, 1924, and the Hawthorne factory' by Best and Nauhuaser [9]

The interesting aspect of the PDSA cycle is that we inherently use it on a regular basis which can decrease our understanding of how to apply this improvement method in our work life. Think about a situation such as starting a new job at a hospital; you would *plan* out your route to get to work. After *do*ing this for 2 days you'd *study* how efficient your journey was probably using a metric such as your commute time. You'd *act* by trying an alternative to decrease your commute time. Throughout this cycle you have not actively applied the science that Shewart and Deming used to make the PDSA cycle but, you have used it!

So how would you do a formal PDSA in your work when you wanted to improve a part of your system? There are a number of aspects to consider in your planning stage and a some of these will include;

- Who will you need to support this quality improvement process?
- Is the change patient-centric?
- What support will you need, that is, technical support or clinical support.
- Whose support will you need, that is, Head of departments managers.
- Are there things in the external environment that could impact change, that is, State or Governmental changes coming?
- How will the change impact equity for all patients?
- Are there aspects such as culture in the unit or leadership and governance that might impact your change?
- What are the benefits of the change, that is, financial and non-financial?

Dr. John Kotter was a Harvard Business School Professor, and in his book 'Leading Change' he introduced the 8-step model for successful change [10]. The model is highly valuable, and all the steps are worth reviewing and understanding, but the first step is useful when considering your PDSA cycle which is about creating a sense of urgency—What is the burning platform that is going to make us change? Often in the health care system it will be because we have identified an issue and this is where we need to work with a group to build a coalition and develop the vision for change. People will often be resistant to change and this can be driven by their own resistance to change, lack of understanding and uncertainty or simple self-interests (Fig. 6.6).

The Institute for Health Improvement (IHI) has also provided three questions for all of us to consider before embarking on a PDSA journey.

- What are you trying to accomplish?
  - This is about you setting a goal or aim for the cycle. It might also be useful to consider the SMART (Specific, Measurable, Achievable, Realistic and Timely) construct in setting this goal (simple, measurable, achievable, realistic and time-bound).

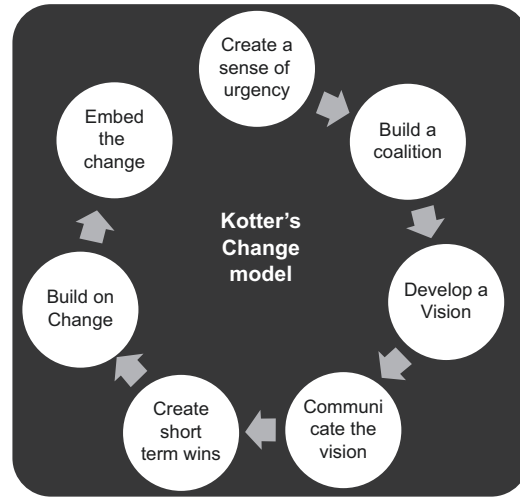

Fig. 6.6 Kotter's change model. Source: Leading Change by Dr. John Kotter

- How will you know that a change has made an improvement?
  - Think about the data you are able to collect and how you will be able to do this.
- What changes can you make that will result in an improvement?
  - We would recommend you consider using a driver diagram to help with this piece.

Plan: After you've understood why you are attempting your change process, you need to create your plan with your team of change advocates. It is helpful to use a document to record your plan which may include such things as what you plan to do in the testing cycle, what change you are planning to produce, how you will measure this, and the steps need to create this change. Look at the resources at the end of this chapter for some examples of planning documents. When considering your measurement, you will have to think through the options for collection;

- Benchmarked data sources, that is, The Health Roundtable or Health Quality and Safety Commission (New Zealand).
- In-house data—best as it will mean minimal disturbance as the data already exists, that is,

ED wait times, and can be used as the improvement process evolves.
- Developing a new metric or cutting a new window with your data—start collecting or analysing in a new way it will require a new way of collecting data and has more risk.

While you need a measure unless the objective of data is clear, data collection can merely add cost without adding value, and statistical analysis can be inappropriate and misleading. In some circumstances, you may have to accept that the measure will not be a direct measure, that is, lead or lag measure, but as long as it is consistently inconsistent and defined in such a way as to ensure that anyone put in the same situation will get the same number, then it will be ideal.

Do: The implementation, or do, of the PDSA, is about implementing your plan in short cycles and in contained areas and then evaluating the changes through the collection and documentation of data. It may also be helpful to consider collecting experiences of individuals in the process as well as any other observations to help inform the study phase, that is, did people find the change created less work for them?

It is also important to consider how small, or big, you are going to plan your PDSA cycle. It is important to consider any costs for the QI process and while some of these may be financial there is often non-financial costs, such as peoples time, to take in to consideration when considering your size of change (Fig. 6.7).

Study: The Study stage is sometimes referred to as the 'check' phase, which is where you use the data collected to see what impact it has made, and you will need ideally compare this to the baseline predictions that you had. You also want to be able to share the success and challenges you have uncovered and help build momentum.

Act: You will then Act on these results in the next stage of the improvement journey. In some situations, you'll want to take the improvement process to a bigger scale, and you may, through the next planning stage, adapt your plan. In some circumstances, you will need to abandon the particular change.

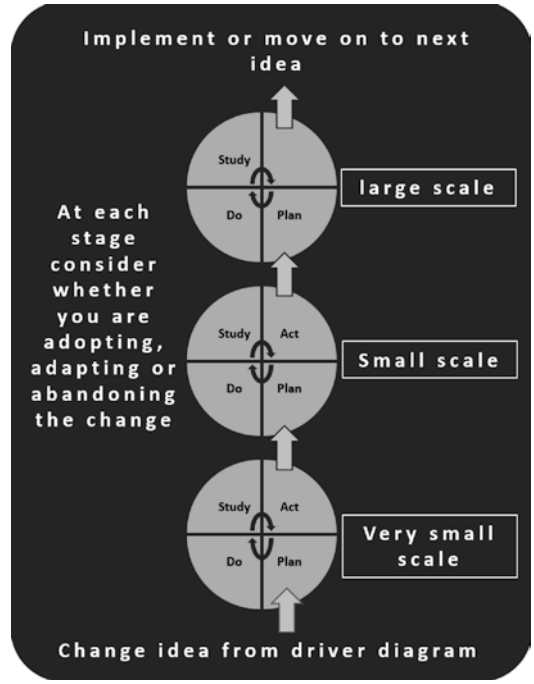

Fig. 6.7 PDSA cycle. Source: Authors own work

PDSA cycles have traps for us when we start, and that is why you have a clear hypothesis that you are planning to test and understand that there may be several cycles that you need to go through. Remember to consider the size of your improvement project, as too small can cause issues around generalisation of your process. You need to create an opportunity to reflect on what you have done/achieved, and this means having collected the data or insights that have created this opportunity. While we think we have understood the problem, we may not have and being as clear as possible at the start can help. This is where a driver diagram can be helpful. Remember to think about a balancing measure as solving one problem can cause another one, particularly in a complex adaptive system. When you are increasing the scale of your PDSA, the same level of success and you might have to consider why this has occurred. One reason may be the 'Hawthorne effect' but there are other factors such as some teams will always be early adopters, and when others who are less keen, laggards, are brought on to change, then it may not be as successful.

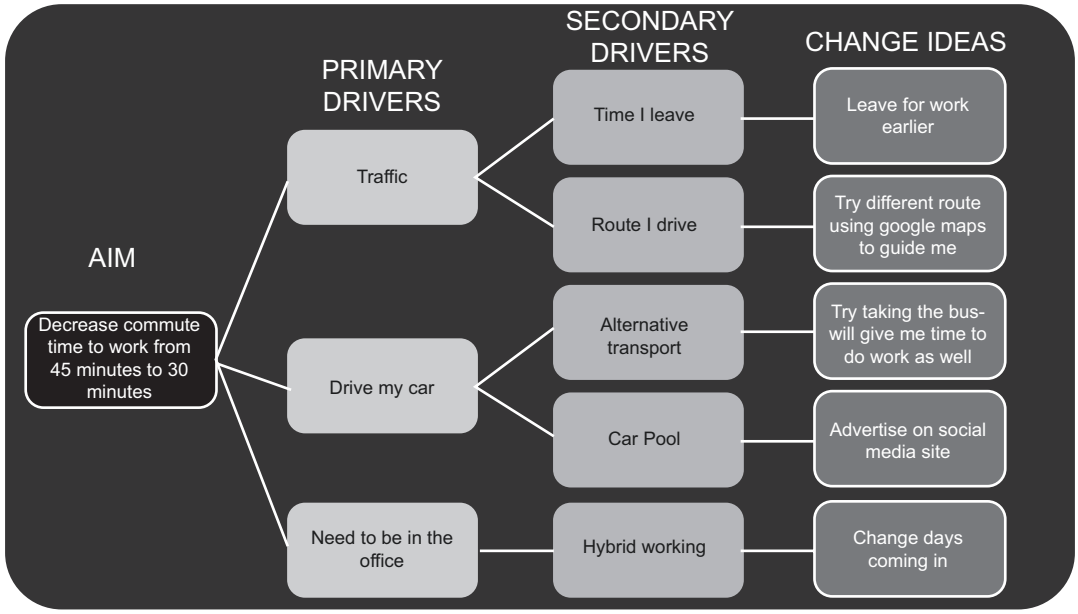

Fig. 6.8 Driver diagram. Source; Adapted from https://qi.kentcht.nhs.uk/driver-diagram/

Every PDSA cycle is designed to help you learn how the change has influenced the process, and therefore, the more cycles you run, the more you learn. Like the gears in a car, running one cycle is a great start, but like driving in first gear, you will advance, but your progress will be slow. The more cycles you can run and the more frequently you can run, the further you will travel. It is important to consider one change idea at a time and not to introduce multiple changes at the same time during this process.

A driver diagram illustrates a 'theory of change' that can be used to plan your PDSA cycle and enable you to test one idea at a time. This technique provides a way of laying out your ideas on what could improve an issue so they can be discussed and agreed on collaboratively by the project team. It is useful to use a team of people who will have different perspectives on a problem to generate ideas or drivers that will help you drive towards your aim. Once you have these drivers you will want to group them and work out which are primary, secondary drivers and change ideas. Primary drivers are a set of high-level factors that must be addressed to improve the aim and are written as statements using words like 'improve' or 'decrease.' Secondary drivers are specific ideas or interventions that help you to achieve your primary drivers and will enable you to plan specific changes or interventions. Arrange in the second column of your diagram. Each Primary Driver will be influenced by several Secondary Drivers (Fig. 6.8).

The Health Foundation reviewed 14 quality improvement programmes and there were 10 key challenges that were identified that we would recommend you think about as Medical Administrators and leaders (Overcoming challenges to improving quality [11]) (Table 6.3).

Table 6.3 Challenges with improvement programmes

	Problem	Solution
Design and planning	Convincing people that there is a problem	Use data, patient stories and respected voices in the field
	Convincing people that the solution chosen is the right one	Have subject matter experts involved in the design of the solutions along with the data and measures of success
	Getting data collection and monitoring systems right	Assess options before beginning
	Excess ambitions	Be realistic about what is achievable where you are working with the resources you have. It is important to bring people on the journey with you
Organisational and institutional contexts, professions and leadership	The organisational context, culture and capacities	Often people have other roles in organisations and explaining the demands when rallying support and make sure the goals are aligned with the wider direction of the organisation
	Tribalism and lack of staff engagement	Clarify who owns the problem and the solution, agree roles and responsibilities at the outset
	Leadership	Effective leadership is critical and may require different leadership than what may be done in normal work environment, that is, encouraging and supportive
	Balancing carrots and sticks—Harnessing commitment through incentives and potential sanctions	Balancing both the positive aspects of change with the harder edged incentives that might be available will be required to gain and maintain support
Sustainability, spread and unintended consequences	Securing sustainability	Project constructs and key people can limit the ability to spread great improvement projects. Funding can limit the ability to sustain the change. Having a system (electronic or otherwise) where the changes are embedded can help
	Considering the side effects of change	Improving one issue can cause a new one to arise and this is where balancing measures can help. Be aware of the unintended consequences that can (will) arise

Source: Adapted from Overcoming challenges to improving quality [11]

6.14 Quality Improvement, Data, Information and Decision Making for Health Leaders

One of the challenging questions is how do we know that the process we have collected data about is something we need to be concerned about or, act on? An article on 'Making Data Count' educational programme highlighted one of the key challenges [12] 'Red, amber, green (RAG) reports are a simple and popular performance and assurance method of highlighting 'at a glance', which targets are (green) and are not (red) being met; they focus most people's attention on the 'failing' red indicators, while indicators showing as amber or green are ignored.' We often spend time in meetings discussing RAG status changes or the difference between two numbers which, statistically speaking, are almost certain to be different but this does not uncover an improving or deteriorating process.

All processes will have variation and this variance can be normal and the temptation, particularly when the data learning loop is not applied correctly, is to treat the 'in control' variation as something to worry about and act on which can be dangerous and time consuming. A great way of understanding variation is to get hold of a coin (harder nowadays than it used to be) and toss it 20 times and record the number of heads and tails that you get. Before you do this write down the number of heads that you are expecting to get. How many did you get?

We all know that there are only two outcomes from tossing a coin, heads or tails and by applying logic we our expected result to be 10 heads and 10 tails

$$\text{Expected number of heads} = \frac{1}{2} \times \left(\text{number of coin tosses}\right) = 0.5 \times 20 = 10$$

However, the probability of 10 heads and 10 tails occurring when you toss a coin 20 times is 17.6%

$$\frac{20C_{10}}{2^{20}} = \frac{184756}{1048576} = 0.1762$$

This is because there is a natural occurring (process) variation when you are tossing a coin and for each outcome you can calculate the probability. This variation is unique to the individual circumstances that you are tossing the coin in but can be determined using the following calculation;

$$\text{Standard deviation} = \sqrt{20} \times \left(0.5\right) = 2.24$$

$$\text{Mean of tossing the coin} = 10$$

$$\text{Range} = 10 \pm \left(2 \times 2.24\right) = 5 - 15 \text{ heads}$$

Therefore, if you tossed the coin 20 times you should expect that your result could vary from 5–15 heads and the result would still be 'normal.' Understanding that a range within any process, is normal, is key for us to understand when our processes are 'in control' or 'out of control.' If you were to continue to toss your coin say 20,000 times you will be more certain of approaching equal distribution of the heads and tails (if you had a normal coin), this is called the Law of large numbers (Box 6.3).

Box 6.3: Red Bead Experiment designed by Dr W Edwards Deming

The Red Bead Experiment, designed by Dr W. E. Deming, is an experiment involving red and white beads. In the red bead experiment a person would use a scoop to draw a sample of red and white beads out of a container. Each draw, symbolising a 'days' work, would produce 50 random beads, some white and others red. The white beads would indicate a good outcome, and the red beads a bad or unwanted one. This experiment is a way of illustrating that within each process there is variation, and it is more often the process that we need to look at and not the person. Further information on the Red Bead Experiment can be found at https://deming.org.

Source: Adapted from Poullis M. Introducing change (science into the operating room): quality improvement versus experimentation [13]

A key point from the Red Bead Experiment is that even though a "willing worker" wants to do a good job, their success is directly tied to the nature of the system they are working within. To get the improvement that we want it will only be

achieved when we are able to understand that the process, or system, we are wanting to improve has variation within it and that this is normal. Collecting and using data, when done incorrectly, can lead to blaming individuals and not focusing on the system. The other risk we run is to using data to 'prove' there is a problem with a process, that is, a green status on a RAG status when there is a problem. An example would be the highlighting of an improvement in symptoms from a new intervention when this has arisen from other factors such as patient selection or measurement errors. A type II error is when we decide that the intervention did not lead to improvement when it did. An example would be if we were testing an improvement process but due to errors in our measurements we concluded there was not improvement.

Tossing a coin is a fantastic way to illustrate variation in a process and the authors have provided you with an excel sheet which you can use with a team to show the variation in tossing a coin. This, like the red bead experiment, highlights that individuals are affected by the processes they are involved in and it is important as medical leaders and managers that we understand this.

To run this demonstration you will need a coin for each table/group and the excel sheet open and ideally projected. The way we suggest you run the task;

- Explain that you want the group to toss the coin 5 times and record the outcome.
  - Once they have done this open the excel and start to record their results.
  - At this point explain that you are only interested in 'heads.' You will see some variation and you can suggest to the group that those with lower number of heads might want to discuss, with another group, how they are doing their tosses. Obviously, there is no difference with the tossing of the coin but it can create some fun for the groups to discuss the way they are doing it.
  - You may also want to suggest that to ensure the results are accurate you could appoint a quality control person at each table.
- Get the teams to do another three tosses.
  - Record the results on the excel.
  - Suggest that it is important to set goals and place some performance lines on the chart to indicate 'needs improvement' from 'good' and 'excellent' results.
  - Once again implore the group to aim for excellence.
- Get the groups to do the final two tosses of the coin.

Following the last round it is a great opportunity to spend time discuss processes and how they can impact people (Fig. 6.9).

It is important that as medical leaders and managers that we have data that identifies when our systems have variation that is out of control in our systems.

Earlier on in this chapter we have discussed a few of the more commonly used data tools and the two we are going to focus on are run charts and statistical process control (SPC) charts. A run chart is a sequence of data in time ordered, with a median line drawn on it. This enables you to

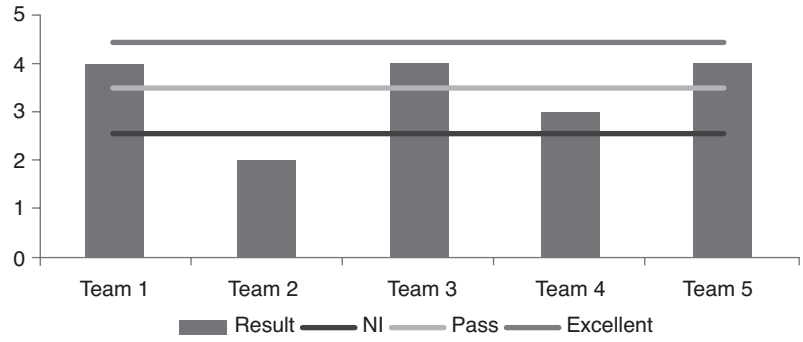

Fig. 6.9 Coin toss graph example

monitor the process and look for variation. SPC charts can use the same data but with a mean, as the centreline, and the identification of control limits. SPC charts are what we would recommend that you learn about and become familiar with, as these can help focus your attention on the process you should be concerned about with increased accuracy.

6.15 Statistical Process Control Charts (SPC)

SPC charts were initially developed by Walter Shewhart in the1920s. However, they were made popular by Dr. W Edwards Deming when he introduced the concept to the Japanese car industry following World War II. SPC charts can be used to understand how a process changes over time and when a system is 'in' or 'out' of control. A SPC chart always has a central line (mean), an upper line for the upper control limit (UCL), and a lower line for the lower control limit (LCL). It is ideal to have historical data to use to plot. Once the mean and the UCL and the LCL have been calculated then we can see when a process is consistent/'in control' or unpredictable/'out of control.' Other terms that are used for this are when a process has 'common cause variation' or 'special cause variation (Fig. 6.10).

Once you have created a Statistical process control chart then you can look for specific trends or 'rules' and this non-random variation can be recognised by looking for;

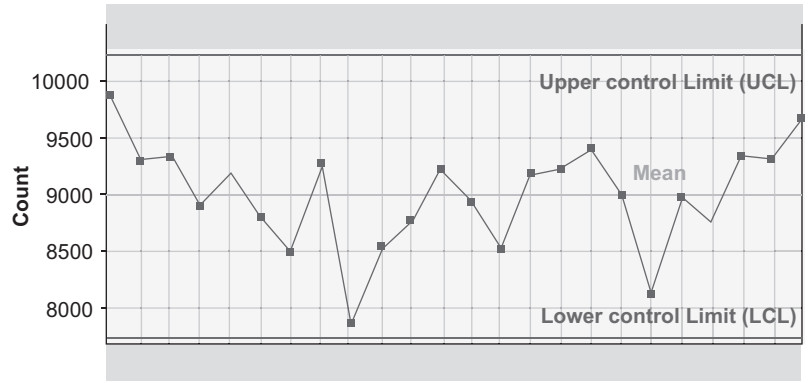

Fig. 6.10 Out of control. Source: Hato Hona/St John, New Zealand

6.16 Astronomical Data Point

This is a point that is out of the control limits when using a SPC. A point on the control limits is not an astronomical point. If you are using a run chart this will be an observation of a significant movement and a judgement for you to make.

Figure 6.11 is taken from an ambulance service, it shows the results of an RSV outbreak in patients aged 0–14 the number of respiratory case numbers started to show a dramatic increase from June with July finishing on a total of 1608 cases (mean being 500).

6.16.1 Shift

This is a run of 8, or more, consecutive data points above or below the centre line (it can also include a point on the line). If you are using a run chart this will be 6 points above the centre line.

Figure 6.12 is from the same ambulance service, it is measuring respiratory infections in 15–60 year olds and shows the decrease in warmer months.

6.16.2 Trends

This is a run of 6, or more, consecutive data points, either increasing or decreasing. An observation that is the same as the previous one does not count towards a trend, that is, count the two points as one towards a trend. These may or may not cross the centre line. If you are using a run chart, then this will be 5 points.

Figure 6.13 shows a decreasing volume of calls in the ambulance service following a winter peak in demand.

How would you create an SPC chart? There are tools that we have listed in the resource section, and there are sites that will also do this for you. However, there are several steps to creating an SPC chart which you can do yourself

1. Determine the data that you want to collect.
   - This will ideally be variable data which you have a consistent way of measuring.
   - It will need to be in a time order, that is, hourly, weekly, or monthly.
   - You will then need to determine the type of SPC chart, which will depend on the type of data you have. The most common is an

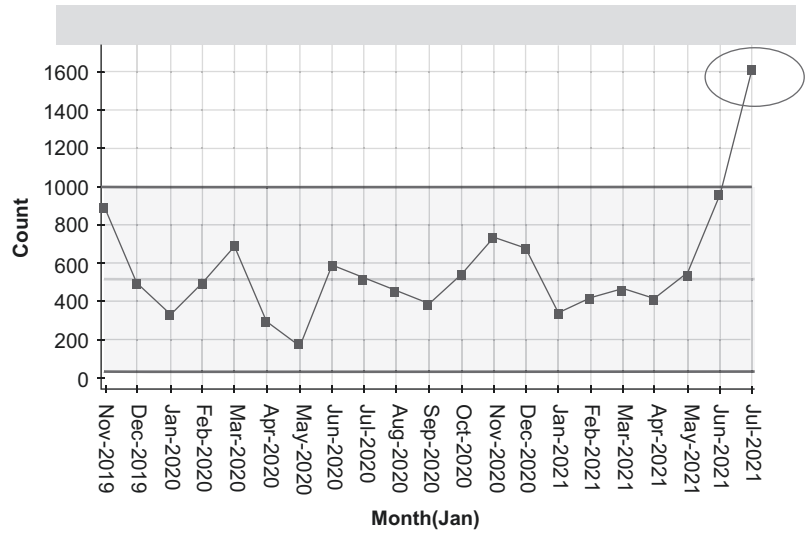

Fig. 6.11 Astronomical Point. Source: Hato Hona/St John, New Zealand

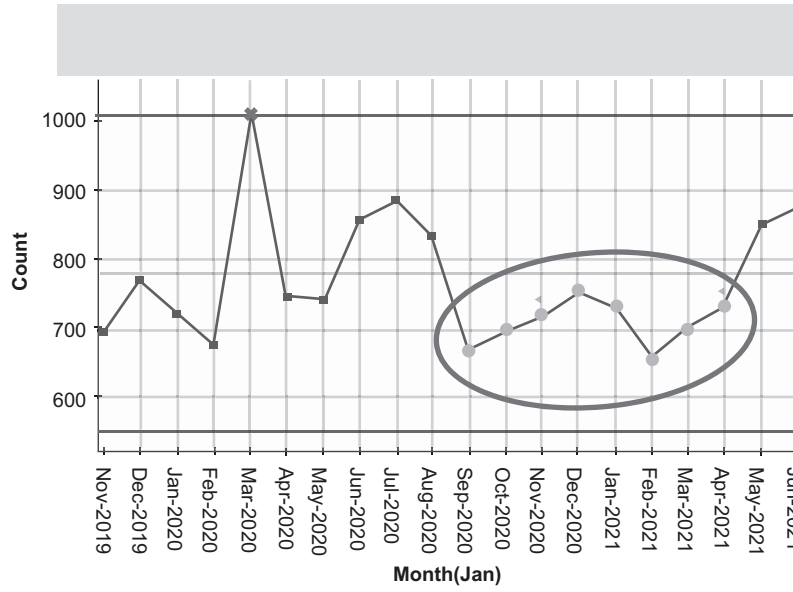

Fig. 6.12 Shift. Source: Hato Hona/St John, New Zealand

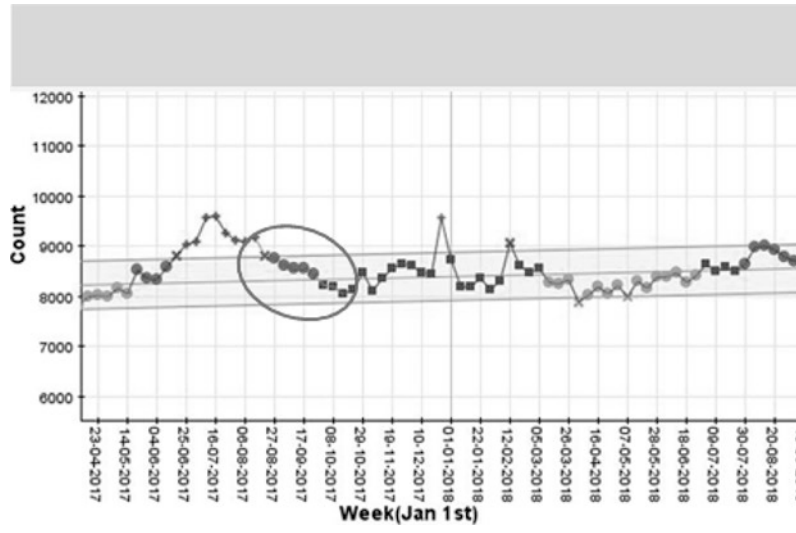

Fig. 6.13 Trend. Source: Hato Hona/St John, New Zealand

XmR chart or I chart (individual measurements). X stands for observation, and mR stands for moving range. Some of the other types of SPC charts are; C chart for count data, that is, for numbers of incidents or U chart if expressed as a rate. X bar & S chart which are used for measurements data where an average can be calculated at each time point. It may pay to talk to someone the first time you do this or use a tool, check the resources at the end of the chapter.

2. Determine the time for collecting the data.
   - It needs to be regular, that is, hourly, daily, weekly, etc.
   - Ideally, you have 12–15 points of data available to start plotting.
   - You will need to calculate the mean and plot this on the chart as your centre line ($\overline{X}$).
3. Calculate your UCL and LCL.
   - This will require you to understand the type of data you are using as described above and use the appropriate formula.

- SPC formulae use the sigma construct, not standard deviation. Standard deviation measures the distance between individual points and the mean. The standard deviation will remain the same regardless of the order of your data. Sigma uses the moving range of each data point in chronological order and so this will change depending on the order of the data and measures the moving range.
- Calculate your moving range of your data points (example above uses the data from the 10 patients from the Cancer Pathway Service). Moving range is the absolute difference between the sequential measurements (see above).
- Convert the moving range (mR) to a sequential deviation $\left(\check{S}\right)$

$$\check{S} = m\bar{R} \div d2 = m\bar{R} \div 1.128$$

  - This then enables you to calculate the upper and lower XmR control limits using the following formula;

$$\text{Lower XmR control limit} = \text{LCL}_x = \bar{X} - 3 \times \check{S}$$

$$\text{Upper XmR control limit} = \text{UCL}_x = \bar{X} + 3 \times \check{S}$$

4. Plot your data;
   - Using excel is highly recommended.
   - The graph will have; individual data points, mean and the UCL and LCL.

There are lots of tools that can help with SPC charts and these are included in the resource section. If you want to do some more reading on this the Australian Commission on Safety and Quality in Health Care has produced some excellent case examples which you can review and learn from. We recommend that you start to collect and review data to understand the normal variation within your current system. It is ideal to start with a stable process that you know and are familiar with. This should help you to understand the process that you are looking at improving before you consider introducing any change. With the original control limits and mean you will be able to understand if the change has influenced the process (Figs. 6.14 and 6.15).

We have also discussed run charts and these are simpler to do but do not provide as much information and insight. We have included some resources for these at the end of this chapter.

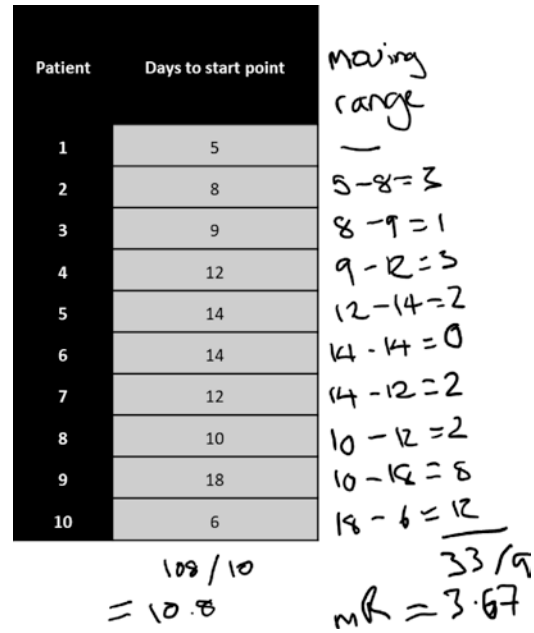

Fig. 6.14 Calculate Moving range. Source; Authors own work

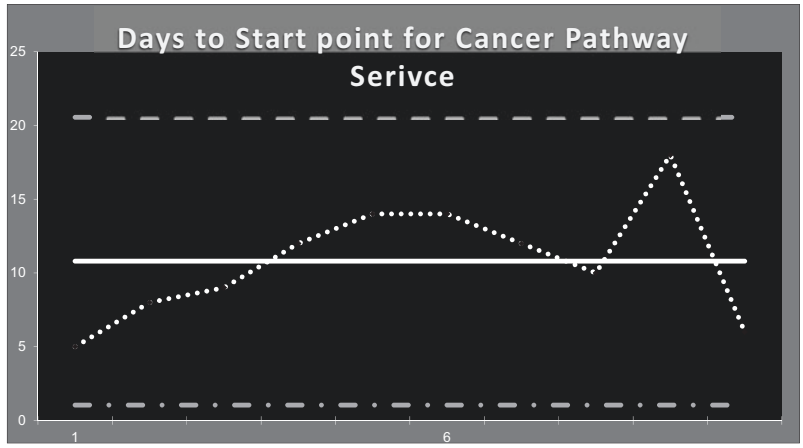

Fig. 6.15 SPC chart. Source: https://www.health.govt.nz/publication/publicly-funded-hospital-discharges-1-july-2018-30-june-2019

6.17 Quality Improvement Challenges and Systems Thinking

Understanding data, using that to create information to improve your system with appropriate balancing measures is a critical task for all Medical Administrators and Leaders to know about there are some risks and challenges to be aware of. Systems are complex and adaptive and there is a risk when we break the system to a simple linear process. In 2009 the World Health Organisation identified that system think was a key enabler in strengthening the health system [14].

As medical leaders and managers, we have to strive to grasp that the health care system is not linear and there are dynamic connections and interactions. What is more challenging is that there is a risk that an obvious solution to an issue may in fact worsen the problem. As was mentioned earlier in the chapter, having a balancing measure in place prior to carrying out your improvement process can help. A great way to experience this is the game Friday Night in ED (see resources) which you can teach yourself, and your teams, in a fun way about the risks of silos and the importance of thinking about the system.

Systems thinking can also help when we are thinking about how we will work on quality issues when you come across an issue, you can focus on the immediate output of the problem, which can often focus on the individual as the Red Bead Experiment highlights. A more appropriate issue would be to fix the process that led to the problem, and even better, we could push our thinking to look at the system as a whole and think about where else in our system this problem could be occurring and ensure that the problem is not occurring elsewhere.

6.18 Summary

Healthcare and healthcare systems are complex and medical leaders and managers will encounter a range of challenges and problems operating within the construct of these complex adaptive systems. Medical leaders and managers need a range of tools to address and overcome these challenges to ensure that systems deliver safe and effective care for the patients they serve.

Data and information are core tools and are increasingly important enablers to drive improvement and change within health systems. Healthcare leaders and managers must have a sound understanding of data, information and concepts related to these important enablers. Data and information are core enablers of quality improvement. They are critical inputs into a number of quality improvement tools.

Despite the importance of data and information within health, understanding what data and information actually means within specific contexts can be challenging. The key challenge for leaders and managers is to understand when to act on certain data and/or information. A basic

understanding of data for example through SPCs can aid decision-makers in deciding when to act within a health system context.

As a medical leader or manager, it remains important to consider that specific domains or system components do not operate in isolation. There are also non-linear impacts or consequences that occur when a specific change is made within a complex adaptive system. A systems thinking approach is therefore critical when we work with data and information and when we apply these tools and enablers within a quality improvement and change context.

It is important for medical leaders and managers to continually refresh their knowledge around data, information, quality improvement and other improvement and change methodology.

Resources that Are Referenced

- **How do you measure a banana**: this is a game to teach people about the value of measurement in improvement and having a clear operational definition of improvement https://www.ihi.org/education/IHIOpenSchool/resources/Pages/AudioandVideo/QI-Games-How-Do-You-Measure-the-Banana.aspx
- **Statistical process control charts**:
  There are various tools that you can use to create your own SPC charts
  - https://www.england.nhs.uk/statistical-process-control-tool/
  - http://www.isdscotland.org/Health-Topics/Quality-Indicators/Statistical-Process-Control/_docs/SPC_web_tool.xls
  - https://www.cec.health.nsw.gov.au/CEC-Academy/quality-improvement-tools/control-charts
  - https://asq.org/quality-resources/control-chart
- **Driver diagram**:
  - https://qi.kentcht.nhs.uk/driver-diagram/
- **PDSA sheet:**
  - https://www.cec.health.nsw.gov.au/__data/assets/pdf_file/0006/599856/Plan-Do-Study-Act-Cycle-Form.PDF
- **Case studies in Clinical Variation in Health care:**
  - https://www.safetyandquality.gov.au/publications-and-resources/user-guide-reviewing-clinical-variation/case-studies
- **Run charts:**
  - https://www.cec.health.nsw.gov.au/CEC-Academy/quality-improvement-tools/run-charts (this has an excel chart for you to use as well)
  - https://www.england.nhs.uk/improvement-hub/wp-content/uploads/sites/44/2017/11/A-guide-to-creating-and-interpreting-run-and-control-charts.pdf
- **Friday night in the ED**:
  This is a simulation game designed to help break down silos and understand systems thinking
  - https://fridaynightattheer.com/

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Strategic Planning in Healthcare

7

Andrew Montague

Learning Objectives
By the end of this chapter, the learner should be able to understand:

- What is a strategic plan, and why is it important?
- The process for the development and implementation of a strategic plan.
- When to commence planning and some of the tools that will be useful in strategic planning.
- Pitfalls to avoid in planning, prioritisation and allocation of resources.

7.1 What Is Strategic Planning and Why Is It Important?

Strategic planning in healthcare organisations involves creating objectives and setting goals for where the organisation sees itself in the future. With clear goals and objectives in mind, decisions can then be made in regard the prioritisation and allocation of resources to achieve these priorities over a defined period of time. You cannot just set goals and objectives based on the internal needs of the organisation; you also have to set them, taking into account the external environment, government policies, and technological advancements.

To be useful, the strategic plan needs to be the overarching guiding document for the organisation with linkages of the annual operational plans and plans that feed into the strategy (e.g., clinical services plan, workforce and culture plan, etc.). It should be used as a resource on a frequent basis as opposed to solely being a poster on the wall or document that no one reads.

In many jurisdictions in Australia, the development of a strategic plan is part of the legislative requirements for public sector healthcare organisations. For example, the NSW Health Corporate Governance and Accountability Compendium outlines in Sect. 6 of the document these requirements in relation to Strategic and Service Planning [1].

The strategic plan is important for several reasons [2]:

- It allows you to outline what you are trying to achieve with your employees. Staff can be engaged in its development, align themselves with its mission, be involved in decisions made on the basis of the strategic plan being the organisational blueprint, and it can assist in engaging them so that the organisation is successful.
- It is a communication tool for your external stakeholders so that they know what you are trying to achieve and what your priority areas are. This includes patients and the community

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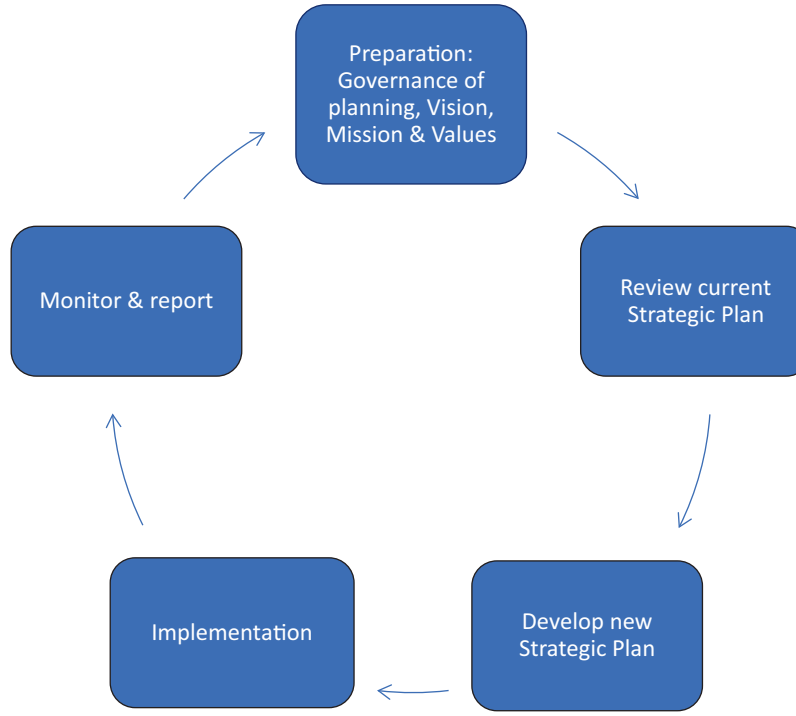

Fig. 7.1 The life cycle of the strategic plan. Source: Author

as well as potential partners that you can work with to achieve your goals.

Figure 7.1 represents the cycle of a strategic plan process. Strategic plans vary in duration, but most commonly in the healthcare context, they will be established for a 3- to 5-year period.

7.2 Governance of the Planning Process and Confirming the Vision, Mission and Values of the Organisation

The Board of the organisation will need to endorse the final strategic plan. The first step is the Chief Executive taking to the Board at a high-level what the planning process will be, the timelines for its development and what the governance of the planning process will be. Depending upon the size of the business the plan will be developed internally (if it has its own Strategy Delivery Office or equivalent) or with the assistance of an external expert. If an external expert is utilised it is still vital that key leaders of the organisation buy into and are heavily involved in the planning process, as it needs to be a document that is believed in and utilised by these leaders on a daily basis. A steering committee to have oversight of the planning process is vital so decisions can be made and any issues that arise can be considered and managed in a timely fashion. Usually, the Chief Executive or member of the organisations executive team will chair these committee meetings and guide the process.

Before embarking on the detailed content of a strategic plan, it is essential to ensure the vision, mission and values remain relevant. They may be longstanding in nature and may not require any revision. For example, it may be a not-for-profit/purpose-based organisation with a long history of assisting vulnerable populations and known standing in the community. Alternatively, it may be a private healthcare organisation where their focus or environment has changed significantly, and time will need to be spent determining the vision, mission and values, which will be vital from an engagement perspective.

The vision is a concise single sentence, or occasionally two, which is specific enough to uniquely describe the organisation. The vision should also be credible to the staff of the organisation so that it can provide meaning for their work. The vision statement defines the organisation's desired future state. The vision should be future-orientated, ambitious and aspirational while at the same time being realistic and achievable. According to Zuckerman [3], the vision statement should project to a point in time far enough from the present so that the future of the organisation is unpredictable.

The organisation's mission is a brief statement identifying the fundamental reason/purpose as to why it exists, what it actually does and how it will achieve its vision. It creates a sense of direction, broadly describes the organisation's capabilities and can be written as the "present state". For example, the mission statement of a district hospital may be expressed as "General Hospital exists to serve the people of the district" It is also important in later prioritisation. The organisation should also have a set of values which are principles that guide the behaviours required at all levels of the entity to achieve the mission and vision. These values provide information to employees as to how they should conduct themselves and how they should undertake their roles in order to achieve the organisation's vision, mission and goals. Most organisations now incorporate their values into their individual position descriptions and performance appraisal and development processes. Some examples of the mission, vision and values of major healthcare organisations around the world are presented in Tables 7.1 and 7.2 [4, 5].

Table 7.1 Johns Hopkins Medicine, Baltimore, USA

Mission	Vision	Core values
• The mission of Johns Hopkins Medicine is to improve the health of the community and the world by setting the standard of excellence in medical education, research and clinical care • Diverse and inclusive, Johns Hopkins Medicine educates medical students, scientists, health care professionals and the public; conducts biomedical research; and provides patient-centred medicine to prevent, diagnose and treat human illness	• Johns Hopkins Medicine pushes the boundaries of discovery, transforms health care, advances medical education and creates hope for humanity	• Excellence and discovery • Leadership and integrity • Diversity and inclusion • Respect and collegiality

Source: Author

Table 7.2 St Vincent's Health Australia (Source: https://svha.org.au/about/mission-and-values/our-care)

Mission	Vision	Values
• As a Catholic health and aged care service, our Mission is to bring God's love to those in need through the healing ministry of Jesus • We are especially committed to people who are poor or vulnerable. We draw on the talents of our people and collaborate with others who share our vision and values to continue the pioneering spirit of Mary Aikenhead and the Sisters of Charity. We are committed to providing compassionate and innovative care, enabling hope for those we serve	• To lead transformation in health care inspired by the healing ministry of Jesus	• Compassion: Caring for others with an openness that affirms life and healing • Justice: Acting with courage and fairness in pursuit of what is right and just • Integrity: Ensuring our actions and decisions are grounded in our values, reflecting both honesty and authenticity • Excellence: Demonstrating a passionate commitment to continuous improvement and innovation

These examples show that, in health, these statements and values are centred around the core business of clinical care, generally with a focus on patient-centredness. There is generally also some representation of the organisation's role in education and research or innovation. There are, of course, many more examples which can be found on the websites of health organisations and in their strategic plan documents, which will generally be available in the public domain.

7.3 Reviewing the Previous Plan

Once the mission, vision and values have been confirmed, the next step is to review the previous strategic plan. This review should include an evaluation of how many of the goals and objectives related to the previous plan were achieved and whether any of the components of the plan should be rolled over into the new cycle. If certain aspects of the plan were not delivered, then the reasons for this need to be questioned. In particular, the organisation should ask whether this was purely a timing issue or there were objectives or deliverables that were just too ambitious. Has the external environment changed politically or financially, resulting in these unmet goals becoming unachievable? Some of the goals may form part of a longer-term strategy which extends beyond the usual 3–5 year timeframe for the plan, and these will need to be represented in the new plan, but potentially with revised goals and objectives. This review is probably best and most simply undertaken by the executive and senior management team in the organisation. The information gathered can then be collated and prepared to inform the next stage of the cycle, the development of the new strategic plan. Ideally, this should be undertaken around 6 months prior to the expiry of the current strategic plan in order to allow time for review and stakeholder consultation.

7.4 Developing a New Strategic Plan

The development of a new strategic plan for the organisation firstly requires consideration of some key points including the model or methodology to be used, the tools that will be employed to assist the process and the selection and engagement of stakeholders to contribute to the development of the plan.

7.4.1 Models for Strategic Planning

There are a number of models that are described for use in strategic planning exercises and the choice of model depends on a number of factors including the purpose of the strategic planning exercise and whether the organisation has previously undertaken a formal strategic planning process.

Some of these models [6] are outlined below:

Vision- or goals-based strategic planning: This is the most commonly used model in healthcare, and the one which will be described in this chapter. It starts with identifying a vision for the organisation, which is often quite ambitious or aspirational, and then works to identify the goals that are required to achieve the agreed vision.

Issues-based strategic planning: This model works in reverse to the vision-based model in that, instead of working backwards from the future vision, it starts with the present and the issues faced and looks to the future. It is better suited to organisations with limited resources who have several current issues which require relatively quick resolution.

Organic or self-organising planning: This may be used in specific environments where an unfolding and naturalistic process may be preferred to a more traditional mechanistic and linear process. It is a process very much focused around shared values and reflective practices, and utilises tools such as dialogue and story boarding.

Real-time planning: This is a more dynamic approach to planning which is useful in organisations where the environment, particularly the external environment, is rapidly changing.

The alignment model: This model strives to ensure a strong alignment between the mission of the organisation and its resources. It is most useful for fine-tuning strategies or identifying why they are not working.

Scenario planning: This model is most often considered as an adjunct to other models for strategic planning in that it may be used to enhance strategic thinking.

7.4.2 Stakeholder Engagement and Input

There needs to be a strong sense of ownership of the strategic plan at all levels of the organisation. It is helpful to take both a "top down" and "bottom up" approach to the planning; however, the methods for seeking input may vary. The development of the strategic plan will be led by a senior group in the organisation as outlined previously, often the executive group or committee, with accountability ultimately sitting with the chief executive officer. If the process is done well, it can also provide an excellent opportunity for team building which will in turn increase the acceptance and ownership of the plan, increasing the likelihood of its successful implementation. Nilofer Merchant [7] proposes that a strategy which is top down and led by a small group of executives and then passed down through the organisation is likely to be more poorly executed than one developed outside of the board room, bringing people from all levels of the organisation together. Her philosophy is "engage all of the company, but not after the process, during the process". Similarly, Simons [8] states that "discussions must cascade down the organisation, not stay stuck at the top". He also emphasises that operational managers are a key part of the process as they are generally the ones who have to commit to operational actions and are responsible for the results.

Stakeholders are individuals or groups of people internal or external to the organisation with an interest, or stake, in the strategic planning process and its results. A formal stakeholder analysis should occur at the beginning of the strategic planning process. This will allow identification of which individuals and organisations should be including in the planning process, what roles these stakeholders should play and at what point in the process the engagement should occur, and finally allows opportunities for relationship building along the way. Consumers should be identified and included in the planning from the earliest stages of development. Most healthcare organisations recognise the benefits of consumer involvement in healthcare planning and will have existing consumer resources that can be consulted, for example, community advisory councils or committees, support groups, and consumer reference groups or registers. This involvement can ensure that health services are delivered effectively and closely targeted to peoples needs, improve relationships with health consumers/the broader community as well as ensure accreditation and legal requirements – such as National Safety and Quality Health Service Standards, Standard 2: Partnering with consumers are met [9]. Organisations consulted should include other healthcare providers in the geographic area service is delivered and organisations in which there is a partnership/dependency on in achieving the organisations goals.

Once the stakeholders have been identified consideration should be given to the methods for receiving their input. It is not a one-size-fits-all approach. Clearly it is impractical to talk to everyone in the organisation individually; therefore, ideally use should be made of existing forums or meetings. Additional focus groups may be held for clinical and non-clinical staff, and for internal and external stakeholders. Some tailored individual or small group discussions may be appropriate. The use of simple and easy to access survey tools such as Survey Monkey [10] may assist and add useful information, but the questions need to be well thought through, and the survey designed to ensure that the information received is manageable, easy to collate and can provide added value to the plan. Face-to-face consultation sessions for stakeholders should be well planned and structured in order to optimise the use of their time and with clear expectations of what will be delivered at the end of the sessions. Use of an experienced internal or external facilitator can be helpful. A trained facilitator can direct the process efficiently and also assist with the collation and presentation of information. Facilitators will keep the group moving forwards, avoid unnecessary distractions related to side issues, and can help participants resolve disagreements and develop effective solutions. It is important that all of those involved in these con-

sultation sessions are subsequently provided with the opportunity to feedback on the draft plan as it becomes developed. Flexibility is required to engage groups who are key opinion leaders, such as senior medical staff in the hospital setting, which may be more difficult to attract to existing forums or focus groups, and a suitable strategy must be identified to ensure appropriate engagement of such groups. Failure to seek input from such important contributors will inevitably impact adversely on the success of the plan.

7.4.3 Tools to Support the Development of a Strategic Plan and Its Related Goals

In health, it is important to review the context for the plan and consider the internal and external factors that influence the priorities of the health service. Doing an environmental scan of key government strategy documents relating to the direction of health care for the relevant jurisdiction and of relevant peak bodies for particular speciality healthcare areas is useful to provide a high-level view. An example of this is 'Australia's Long Term National Health Plan to build the worlds best health system' [11]. Some tools to facilitate this and examples of the factors that should be considered are described in the following section.

A good way to gain input from a wide range of stakeholders is to use a *SWOT analysis* which explores strengths, weaknesses, opportunities and threats (illustrated in Fig. 7.2).

The exact origins of the SWOT analysis are obscure but it is a widely used planning tool [12]. The process for conducting a SWOT analysis will vary and be influenced by the number and availability of stakeholders and the rate of change in the internal and external environment. As discussed in the previous section, this is an area where the use of an experienced facilitator may be of benefit. The four components of the SWOT analysis are detailed below, with an expansion to include factors of potential relevance to the healthcare sector. Strengths and weaknesses tend to be internally driven and focused, whereas opportunities and threats are more related to, and influenced by, the external environment.

Fig. 7.2 The four quadrants of the SWOT analysis. Source: Author

Strengths: our capabilities—what are we doing well, what are we/could we be good at?

These are advantages that can be exploited by the organisation. These might include the following:

- Competitive advantage/value proposition.
- Unique selling points.
- Location or geographical situation.
- Good financial reserves or access to alternative resources such as philanthropy.
- Resources, assets, people.
- Innovations.
- Accreditation, qualifications, certifications.
- Philosophy and values.
- Excellence in customer service.

Weaknesses: our limitations—what are we not doing well, what are we not good at?

Weaknesses may include:

- Lack of competitive strength.
- Poor financial situation.
- Low morale amongst staff, lack of commitment, weak leadership.

- Unfavourable geographic location.
- Poor staff attraction and /or retention.

Opportunities: what factors internally or externally might favour or benefit the organisation if we take advantage of them?

Opportunities may include:

- Industry and lifestyle trends.
- Niche target markets and targeted funding opportunities.
- Information and research.

Threats: what internal or external events and trends are unfavourable to the organisation?

Examples of threats:

- Market demand.
- Political influences.
- Environmental effects.
- Loss of key staff.
- Economic changes.

It may also be helpful to undertake a **PEST analysis** to scan the external macro-environment in which the organisation operates. Like the SWOT, the exact origin of this approach is difficult to determine (Fig. 7.3).

The PEST describes a framework of macro-environmental factors used in the environmental scanning component of strategic management. Some analysts have added legal and rearranged the mnemonic to SLEPT; others have inserted environmental factors and expanded it further to PESTEL or PESTLE.

Fig. 7.3 PEST analysis. Source: Author

The basic PEST analysis includes the following four factors:

- *Political factors* which are those that relate particularly to the impacts of government policy on the sector. This includes the funding and regulatory environment within which the organisation operates and whether there are any declared or anticipated changes to these over the life cycle of the plan. For example changes to the National Health Reform Agreement between the Federal and State Governments in Australia and government policy in relation to private health insurance can have a significant impact on services delivered as can the change of government.
- *Economic factors* including economic growth and other issues relating to the financial environment. These factors have major impacts on how businesses operate and make decisions. The economic environment has an indirect effect on health: employment and unemployment, affordability, demand for private versus public healthcare, rates of private health insurance, workforce availability and patterns, potential for the introduction of substitution models for service delivery, the size of the organisation itself and whether it can or should grow (or decrease) in size. Is the organisation operating services that are identified as priorities by the funding body or, if not, does it have the capability to do so? In addition, consideration may be given to the position of the organisation in terms of service delivery, for example, is it one of many organisations providing similar high volume services to a local population, or is it a highly specialised service providing tertiary or quaternary services at a state-wide level or even with a role nationally?
- *Social factors:* These include patient or client demographics, lifestyles, religion, education, population growth rate and age distribution, changes in disease patterns, burden of disease that will impact on demand for services, life expectancy, infant mortality and public expectations. With the growth in consumer

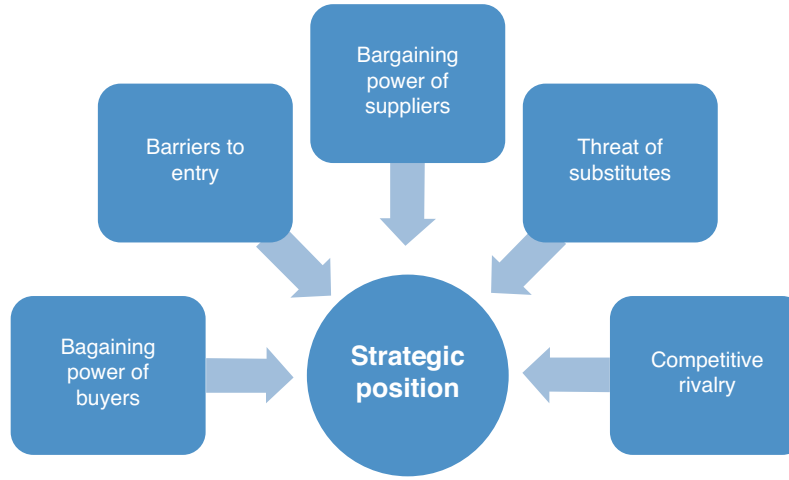

Fig. 7.4 Illustration of porters five forces model. Source: Author

expectations and access to information, public expectations are becoming increasingly important.

- *Technological factors:* These may include research and development activity, technology incentives and the rate of technological change. Furthermore, technological shifts can affect costs and quality and can lead to innovation. New technologies or clinical practices that have emerged or are gathering evidence should be identified to determine if they may impact on aspects of the planning over the projected cycle for the strategic plan, including the introduction of new drugs, surgical procedures and equipment.

If the analysis is expanded to PESTLE or PESTEL this adds:

- *Legal factors* which can affect how an organisation operates, its costs, its risk profile and the demand for its products.
- *Environmental factors,* in particular environmental sustainability practices, can have a financial and environmental benefit to the organisation. This includes thinking about environmentally friendly building designs, use of renewable energy and environmentally friendly waste disposal programmes to name a few.

Porters Five Forces Model, proposed by Michel Porter in 1979, has been used in the healthcare industry and may be particularly useful in the context of private hospitals or providers [13]. It facilitates the evaluation of the competitive nature of the sector (Fig. 7.4).

In health the five forces may cover the following areas:

- *Force 1: Barriers to entry*. In healthcare, barriers may include volume of practice; in other words, if a certain procedure is not going to be undertaken at an adequate volume, it may be detrimental to undertake this in a particular institution either on quality grounds or in terms of financial efficiencies. Another potential barrier is "brand loyalty"; in other words, patients or referrers might be reluctant to switch to a new provider, hospital or practitioner/specialist in preference to the established one who they have used before. Adequate infrastructure, including human resources, is also considered in this category.
- *Force 2: Threat of substitute products or services*. In the private healthcare industry, these threats could come from public or not-for-profit organisations.
- *Force 3: Bargaining power of the buyers and customers*. In healthcare, the buyer may not necessarily be the patient, although they may be influenced by the potential cost of the treatment, including co-payments. Buyers in this context may include private insurers or governments.
- *Force 4: Bargaining power of suppliers*. In the healthcare industry context the suppliers

include medical or other clinical practitioners who provide the services, and medical equipment, pharmaceuticals or consumable suppliers.
- *Force 5: Competitive rivalry*: This describes the intensity of competition for market share from other companies in the industry or sector. The weapons used in this rivalry may include pricing, product or service design, advertising and promotion, and post-service support. Perrott and Hughes [14] from the University of Technology, Sydney, and the University of Canberra describe in some detail the use of this methodology to analyse the main forces at play in the private hospital industry in Australia. The strategic plan should ensure that the most effective use of available resources is made, and at the same time, be realistic about any additional resources that may be required to deliver the goals and objectives. In the health sector, funding is always tight and often capped; therefore, it is pointless to set aspirational goals that are dependent on substantive injections of resources unless these have already been secured.

7.4.4 Development of Goals and Objectives

As discussed earlier, once the vision, mission and values have been confirmed and adequate and relevant stakeholder consultation has occurred, it is time to formulate the goals and objectives of the strategic plan. Goals are specific statements of the desired results to be achieved over a specified period of time within the life cycle of the plan. Objectives are measurable statements or incremental milestones that specify changes or benefits the organisation hopes to achieve as it strives to achieve a specific goal. A number of objectives may be required to meet a specific goal. Merchant [7] advises against leaders over defining the specifics of how the strategy should be executed. Instead she recommends that there will be a greater sense of ownership if local area managers and frontline employees are asked how they might achieve the objectives. This often allows a broader range of ideas for potential success. Goals and objectives set in the strategic planning process should be SMART:

- **Specific:** Specific objectives or actions will be more successful than general ones. In setting specific objectives one should ask the six "W" questions: WHO is involved, WHAT is to be accomplished, WHERE the action will occur, WHEN will the action occur, and the timeframe, WHICH identify requirements to be considered and constraints or obstacles that need to be overcome, and WHY the action is required, the reasons, purpose and benefits.
- **Measurable**: Very specific criteria should be developed for measuring progress towards attaining each objective or action. Having well-defined metrics increases the likelihood of success.
- **Attainable**: Once objectives and actions have been identified, a process should also follow where the steps towards achieving them are clearly spelt out with anticipated timeframes to enable purposeful tracking.
- **Realistic or relevant**: An action must represent an objective that the area concerned recognises as important and that the members of that area are willing and able to work towards in achieving this objective. Resource requirements and risks need to be taken into consideration.
- **Timebound:** There is no drive to complete actions without a defined timeframe.

7.4.5 Alignment with Organisational Plans and Operations

No strategic plan can be effective unless it is aligned with the day-to-day operations of the business. It is, therefore, essential that there is an action plan to support the implementation of the strategic plan. In most organisations, this will take the form of an annual operational plan. This describes the operational priorities for the next 12 months, who will be responsible for each of the actions, the key performance indicators (KPIs)/measures, the steps or tasks to be completed to achieve the objectives and the time-

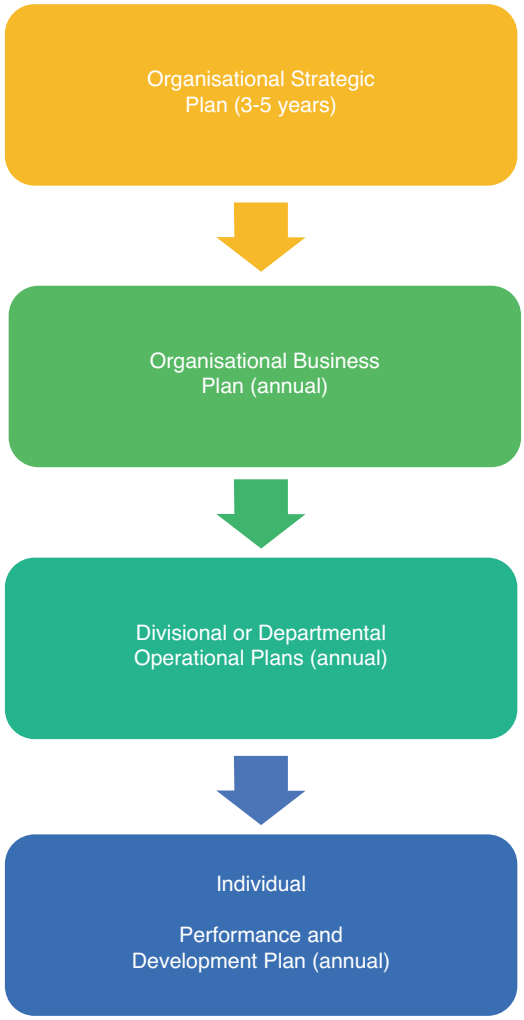

Fig. 7.5 The cascade from the organisational strategic plan to the performance of individual staff members. Source: Author

frame for completion. This operational plan will then be monitored on a regular basis, usually by the organisation's executive.

The organisational operational plan will then usually inform operational plans for divisions and departments throughout the organisation. Individual workers will generally have annual plans with key performance measures which relate to these plans as well as the agreed organisational values. This relationship is illustrated in Fig. 7.5.

The strategic plan should be aligned with other organisational strategy documents which provide more detail from a specific perspective. For example, there may be an information technology strategy, culture strategy or workforce strategy to name a few.

7.5 Implementation of the Strategic Plan

Most successful strategies will comprise 10% formulation and 90% implementation. It is harder to put the strategy into effect than it is to plan it.

Once the content of the strategic plan has been agreed, a document will be developed that describes it. This document usually starts with an introductory message from the organisational board chair or equivalent position and/or the Chief Executive Officer. An executive summary will be followed by a section that articulates the vision, mission and values of the organisation. There will be some description of the service environment, including reference to current policy and planning documents that are relevant to the sector. There will be a summary of the key achievements from the previous strategic plan. This will then be followed by the core content of the document, the strategies, objectives and/ or the actions to be undertaken to achieve these and the KPIs that will represent achievement of the objectives.

7.5.1 Communications and Launch

Once the strategic plan is completed, it should be communicated and promoted across the organisation and be freely available for both internal staff and consumers as well as external parties. Generally, this will be coordinated through the marketing, communications or public relations departments of the organisation. The plan may be distributed in hard copy and available in electronic format on the organisation's website. It is normal practice to have a 'Plan on a Page' version of the strategy, which can be used as a communication tool and focus on the key messages.

As discussed earlier in this chapter, Merchant (2010) and others suggest that a whole of organ-

isation approach to strategy development results in a greater level of buy-in and will make the execution of the plan easier and smoother. However, whatever the level of organisation wide involvement in the development of the strategic plan, it needs to be relayed to all employees through their managers so that it feels real, achievable and valuable to the customer. Tools such as visual aids, using "strategy maps", can help frontline employees see how the organisation plans to achieve its mission. A good example of the types of tools that can be used by managers to communicate about the strategic plan can be seen at Johns Hopkins Medicine [15]. Metrics are an invaluable accompaniment to strategy communications and can bring more meaning into the "what" and "why" for all employees.

Fig. 7.6 Illustration of the range of components that may be linked to the organisational vision and strategy that may be reflected via the Balanced Score Card. Source: Author

7.5.2 Monitoring and Reporting on the Strategic Plan

The reporting on the strategic plan and its associated operational plans will vary between organisations. As a general rule in healthcare, the responsibility for this will sit with the CEO and the Executive reporting up to the Board of Management (or equivalent).

Many organisations now use a Balanced Scorecard (BSC) approach for tracking and monitoring achievements against their strategic plan, as first described by Kaplan and Norton [16]. The high-level components of a scorecard and their relationship to the strategy are illustrated in Fig. 7.6.

The BSC approach supplements the traditional financial measures with criteria measuring performance from other aspects. These are listed below with examples relevant to the healthcare sector (see also Table 7.3 for how the BSC may be displayed by incorporating a traffic light system to highlight areas of greater concern). Clearly, however, these are only a small number of indicative measures and these are very specific to the organisation and the regulatory environment. The details of how these measures are clustered and presented need to be tailored for the organisational context, and the targets may be prescribed by external parties or agreed on an internal basis, whether this be historical or aspirational.

- Financial: For example, operating +/−capital expenditure versus budget. This might also include parameters that relate directly to revenue including inpatient and non-admitted patient activity (for example separations, occasions of service, National Weighted Activity Units (NWAU's) which are measures of activity-based funding in Australia as shown in Table 7.3). Specific performance for areas of expenditure such as salaries and wages, or agency or locum staff expenditure may be included.
  - Access (for patients): Metrics may include surgical and outpatient waiting times and lists, emergency treatment performance, achievement of episodes of clinical activity and performance against externally established targets.
  - People and culture: This can cover a wide range of parameters such as leave (particularly tracking excess leave balances and sick leave), staff retention/turnover, mandatory training and education metrics, and

Table 7.3 Example of the construct of a Balanced Score Card

			Month				YTD		
			Actual	Target	Variance		Actual	Target	Variance
Financial	NWAU achievement								
	Operating result surplus (deficit) ($ 000s)								
	Operating result as % total revenue								
	Salaries and wages expense ($ 000s)								
	Agency expense ($000s)								
	Debtors days								
	Creditors days								
Access	Potentially preventable hospital services (%)								
	Transfer of care – Patients transferred from ambulance to ED ≤ 30 minutes (%)								
	Waiting list for new Outpatient appointments								
	Emergency department Mental Health patient extended length of stay > 24 hours								
	Emergency Treatment Performance – Admitted (% of patients treated in less than 4 hours								
	Emergency Department triage categories treated within benchmarked times (%)								
	Elective Surgery Access Performance (Cat 1,2 and 3)								
	Elective Surgery overdue patients per Cat 1, 2 and 3								

Table 7.3 (continued)

People & Culture	Sick leave as % hours worked								
	Excess annual leave hours								
	Performance appraisals completed within 12 months (%)								
	Mandatory training up to date (%)								
	Staff WHS incidents (n)								
Quality and safety	Critical incidents (Harm Score 1)								
	Patient Experience Index								
	Hospital Acquired Complications (per 10,000 episodes of care)								
	Hand hygiene compliance								
	Fall-related injuries in hospital – Resulting in fracture or intracranial injury								

workplace health and safety measures relating to employees. It might also include monitoring of staff credentialing.

– Quality and safety: A wide range of measures may be included such as monitoring of serious of critical clinical incidents and infection related parameters. Consumer feedback, patient experience and consumer involvement might be included here.

The BSC can cascade down from the whole of organisation level to divisional, departmental, team or individual. Ideally it should be formatted so that it can be expanded or diminished to suit the audience. For example, the BSC presented to the Board and Executive will cover the high-level critical components, particularly those reflecting the greatest risks within the organisation. However, the BSC presented to lower level governance committees or to individual Divisions or Departments may include a greater level of detail which is targeted at their specific purpose or activities.

7.6 Key Success Factors for Strategic Plans in Health and Why Strategic Plans Fail

Beckham [17] proposes there are a number of key characteristics of an effective strategy:

- Sustainability: The effects of the strategy are sustained over a time horizon that is long relative to lesser initiatives. Beckham suggests that the plot of a strategy is bell curve shaped with the height and width of the bell curve reflecting the strength of the strategy.
- Performance improvement based on agreed organisational key performance indicators: The strategy creates significant value above what existed before. This relates to not only financial factors but access, quality of care, ethical practice and stakeholder/ consumer satisfaction.
- Quality: This links in with performance improvement. Strategies should also be evidence based where adequate evidence exists.

- Direction: This may not necessarily be linear but may bend and weave according to uncertainty and resistance that is encountered.
- Focus (or prioritisation): There are often many activities that could be reflected in a strategic plan but some will be more important than others at any given point in time. It is impossible to pursue all suggestions at once and any attempt to do so will generally end in failure. It is best to focus on an annual basis on the top 3 priorities and spend most of the organisation energy, resources and focus on these.
- Connection: Components of the strategic plan have a high-level of interdependence and synergy.
- Importance: While Beckham notes that importance is a subjective notion, there needs to be some contextualisation of strategies. A strategy needs to be supported by the argument that it is essential to sustainable success and has the highest impact on the business.

There are many reasons why strategic plans may fail. Some of these reasons are listed below, along with some suggested mitigation strategies:

- Failure to involve the appropriate people: This can be avoided by a robust stakeholder analysis process at the commencement of the planning process. The consequences of this may be that frontline concerns are not heard: every failed strategy has people on the frontline who expressed concerns. These concerns should be heard and dealt with at the time to get these people on board with the strategy and its implementation.
- Cultural resistance: There is cultural resistance from within or outside of the organisation. This can result in delays, waste or even total derailment of a strategic priority. It can also be minimised by careful and appropriate stakeholder engagement from the early stages of planning, rather than as a real or perceived token gesture late in the process.
- Flawed group dynamics: Unresolved conflicts remain or there is a lack of decision-making or compromise. The use of an expert facilitator or strategic planner during the consultation process can mitigate this risk.
- Wrong time and place: The plan was wrong for the time and or the environment. This can be avoided by ensuring that all of these factors are identified and carefully considered in the early stages of the planning process, for example, by using the SWOT or PEST analyses or a related process.
- Ineffective leadership: Beatty [18] quotes statistics that fewer than 10% of leaders exhibit strong strategic skills. Beckham also discusses that generally, senior management in the healthcare industry tends to have a more operational and administrative focus. Clearly, senior leaders need to take responsibility for the development and delivery of a strategic plan but, again, assistance may be provided by an experienced strategist either as a regular member of the team or in a consultancy role.
- Poor adaptability or flexibility: If the strategic plan is too rigid, this can inhibit flexibility, creativity and innovation. There should be the capacity even within the life cycle of the plan to adapt the course.
- Imbalance between visioning and operationalisation: Insufficient detail in design, financials, logistics or conversely too much time spent on how the plan will be operationalised and insufficient vision incorporated. This can result in failure to implement the strategic plan.
- Isolation of the strategic plan from other organisational decision-making processes: The strategic plan needs to be used on an ongoing basis when considering things such as annual budgets and resource allocation and workforce management.
- Lack of clear metrics/measures: Not creating enough, or the right, measures to evaluate the success of goals or objectives. Metrics need to be specific and measurable.
- Overplanning or poor planning: Too much emphasis on the formal process of planning rather than the implementation. Keep it relatively simple, be inclusive of stakeholders, seek feedback throughout the process and

ensure that there is a clear implementation process.
- Top-heavy or too lengthy approach: Too much of a top-down approach can be problematic, as discussed earlier, and if the process is too lengthy participants may lose interest and momentum. Both of these two problems can be avoided by ensuring an efficient but effective consultation process with clear timelines and a well-thought-through stakeholder engagement approach.

Finally, Sull, Homkes and Sull describe how to "bust" 5 "myths" associated with strategic planning [19]:

- Myth 1: Execution equals alignment.
- Myth 2: Execution means sticking to the plan.
- Myth 3: Communication equals understanding.
- Myth 4: A performance culture drives execution.
- Myth 5: Execution should be driven from the top.

You can locate a more information on the myths here https://hbr.org/2015/03/why-strategy-execution-unravelsand-what-to-do-about-it.

7.7 Reflections and Things to Try

In this chapter, you learned:

- Strategic planning provides a high-level roadmap for an organisation but must be aligned with the operational aspects of the entity.
- Development of a vision statement, mission statement and organisational values are the first step to developing the strategic plan.
- Identification and engagement of key stakeholders is an early and critical component of strategic planning.
- Tools to assist the development of the plan including a SWOT analysis, a PEST or PESTLE analysis and other models such as Porters Five Forces model.
- After consultation and analysis have occurred to inform the plan, clear goals and objectives must be developed and the plan aligned with the operational plans for the organisation.
- On completion an implementation plan is required including a launch and communications: the balance of effort between planning and implementation is important as often too much time is spent on planning with too little focus on implementation.
- Key factors for a successful strategic plan include sustainability, a clear value proposition, flexibility and prioritisation as well as relevant stakeholder consultation and engagement, not just in the development of the plan but throughout its life.

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Clinical Service Planning

8

Kate Worsley

Learning Objectives
By the end of this chapter, the learner should be able to understand:

- What clinical service planning is and how it aligns with other types of health service planning.
- The regulatory, policy and funding context.
- The Governance and process of clinical services planning, include the involvement of key stakeholders.
- The key internal and external information required including key factors such as Self-sufficiency. Capacity, Capability Frameworks and Models of Care.
- Finalisation and Implementation of the Clinical Services Plan.
- The introduction of New Technology and Clinical Procedures.

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8.1 Introduction

Clinical service planning constitutes an enormous range of possibilities, from small to large scale, and short to long timeframes.

In the longer term for a health network or facility, this will relate to the strategic plan and define the clinical service profile of a health service over a period of time. It will be what the health service aims to provide to its population based on its capability and capacity, at an organisational, site and or unit level, and the 'how' in terms of guiding principles and models of care.

Clinical service planning will inform the capital planning, which outlines the key capital investments required by the health service over a period of time to support the achievement of its strategic and clinical service plans.

Clinical Service planning will also inform the workforce plan, which outlines the key workforce, requirements in terms of number and expertise of clinicians and support staff required to achieve the health service strategic and clinical service plans.

Clinical service planning also informs business and operational plans, including the financial and operational aspects required for a health service, facility or unit required to achieve its strategic and clinical service plans.

At a unit level, clinical service planning can relate to a strategy to improve a particular patient

E. Loh, P. W. Long (eds.), *Textbook of Medical Administration and Leadership*,
https://doi.org/10.1007/978-981-99-5211-3_8

experience or journey, or the introduction of a new clinical service or technology.

Compared with many of the other types of planning, clinical service planning usually adopts a longer-term (e.g. 10 years) perspective [1]. Despite the importance and regularity with which health service clinical service planning is undertaken, there is very little literature regarding how to best manage the process. Having the patient population central to the planning is essential to ensure the clinical service plan will meet their needs. It will need to consider the interest of the health workforce and financial and sustainability outcomes.

Clinical service planning for health services has increasingly focused on the patient journey not just inside an acute hospital setting but also outside this, such as pre-admission, and hospital in the home services. This is to reduce the pressure on hospital resources in the acute setting, and also improve patient satisfaction through increased community-based health interventions.

Clinical Service Plans also need to focus on environmental and social impact of the health service. The NHS in the United Kingdom has become the first to legislate towards it having zero emissions—see Box 8.1.

Box 8.1: Greener NHS—Delivery of a Net Zero NHS [2]

On 1 July 2022, the NHS in England became the first health system to embed net zero into legislation, through the Health and Care Act 2022.

The vision is

To deliver the world's first net zero health service and respond to climate change, improving health now and for future generations.

Health services contribute a significant proportion of a country's carbon emissions, with approximately 4% of carbon emissions in the UK.

There are two targets are outlined in the Delivering a 'Net Zero' National Health Service report:

- The NHS carbon footprint: For the emissions we control directly, net zero by 2040.
- The NHS carbon footprint plus: For the emissions we can influence, net zero by 2045.

The Greener NHS National Programme exists to drive this transformation while delivering against our broader environmental health priorities, such as reducing single-use plastics and water consumption, through to improving air quality.

New hospitals and buildings will need to be net zero compatible. To support this, a new Net Zero Carbon Hospital Standard will be available from spring 2021, and applied across the 40 new hospitals to be built as part of the government's Health Infrastructure Plan.

Ideally, clinical service planning is based on a strategic plan and informs the capital and workforce plans, so as to ensure alignment and effective provision of care based on the core capabilities of the service, and effective partnerships with primary, secondary, tertiary and quaternary and community care. However, often this is not the case. Often clinical services are developed based on opportunities that arise, internal interests and areas of expertise, and are limited by funding and capacity.

In some jurisdictions, there is not always effective and efficient information and data to give a reliable indication of the needs of the catchment population over a 10-year time period, although this is improving.

There also may not be a coordinated strategic approach across the health sector to ensure that health facilities are part of a jurisdictional clinical plan, meaning that often health service clinical

service plans are made in isolation of the health services within that jurisdiction.

Dedicating the necessary time and resources to develop health service plans is also a limitation, given the long time frame that is ideally used (10-year time frame) and the need to collect the relevant information and follow a process, including the involvement of a large variety of stakeholders. Given health services are often rapidly responding to the acute healthcare needs of their community, this can make longer-term planning challenging.

The partnership and collaboration of hospitals with primary care is made difficult in Australian jurisdictions, due to the overarching governance structure of Australia's health sector, dividing the governance and funding of primary and secondary health care between federal and state government. This is a factor that the OECD has recommended be addressed in order to improve the provision of health services in Australia [3].

This chapter is written from the perspective of organisation-wide (strategic) clinical service planning of a large public health service, but many of the principles are applicable to alternative settings.

Service planning usually results in a key guiding document; however, it is the process itself that is of value to medical leaders. The process of assessment, consultation, partnering, leadership, and evaluation, confirms the health service's strategic direction and vision, and align its service operations with this.

8.2 Definitions

There are a number of planning processes that occur concurrently and that inform each other—some of the key planning processes being:

- Strategic Planning—defining the overall vision and mission for the health service, i.e. its role, relationship with the community and other key stakeholders, and values that support its approach to its activities—see Chap. 7.
- Clinical Service Planning—defining the clinical service profile of a health service over a defined period, including its capability and capacity at an organisational, site and/or unit level. It will broadly define the 'what' in terms of clinical service profile, and the 'how' in terms of guiding principles and models of care. The services comprised will generally include some or all of primary and preventive services, ambulatory care, acute care, subacute care and mental health.
- Capital Planning—defining the key capital investments required by the health service over a defined period to support achievement of its strategic and clinical service plans.
- Workforce Planning—defining the key workforce requirements of the health service over a defined period to support achievement of its strategic and clinical service plans—see Chap. 4.
- Business/Operational Planning—defining the financial and operational requirements for the health service or clinical unit over a defined period to support achievement of its strategic and clinical service plans—see Chaps. 11 and 12.

It is important that these plans align with and inform each other (Fig. 8.1). Changes in one planning document need to be reflected in updates to other planning documents.

New technology or clinical practice is defined as a **therapeutic intervention** or diagnostic procedure that is considered by a reasonable body of clinical opinion to be significantly different from existing clinical practice.

It is important that these plans align with and inform each other (Fig. 8.1). Changes in one planning document need to be reflected in updates to other planning documents.

Clinical services plan		Capital plan
	Organisational Strategic Plan	
Workforce plan		Operational plan

Fig. 8.1 The inter-relationships between health service planning processes

8.3 Regulatory, Policy and Funding Context

Public health services operate in a highly regulated environment. Health services must comply with state-based legislation relating to the delivery of public health services for their specific local government areas. Additionally, individual health services develop agreements with state governments regarding annual activity and performance measures to meet funding requirements.

Legislation relating to occupational health and safety requirements, enterprise bargaining agreement requirements, and accreditation requirements all impact on the clinical services that may be able to be delivered across a health service or on a particular site. Broader regulatory reform such as in the aged care, mental health and disability sectors also impacts funding models and service delivery. State and territory government policy and framework documents may also heavily influence the objectives and direction of overall and service-specific clinical service planning. Public health services receive funding from a range of sources, and it may be useful as part of the clinical service planning process to identify the current and future potential sources of funding related to particular services. Generally, the main source of funding for acute inpatients of public health services is activity-based funding from the state and Commonwealth governments.

Alternatively, patients may access services in the public system as private patients where funds are derived from the patient directly, private health insurance, or other government-funded programmes such as the Transport Accident Commission (TAC), Work Cover or the Department of Veteran Affairs (DVA).

Subacute inpatient services and mental health services have been funded based on occupied bed days but are currently moving towards an activity-based model. Public emergency department patients are funded generally through activity-based systems and increasingly, hospital-based ambulatory services are being funded through Medicare via the Medicare Benefits Schedule (MBS).

8.4 The Governance and Process of Clinical Services Planning, Include the Involvement of Key Stakeholders

8.4.1 Governance of Planning Process

Initially, the scope of the service planning exercise needs to be defined by the health service Board and Executive, usually in conjunction with the relevant jurisdictional Department of Health. Organisation-wide (strategic) clinical service planning involves the development of a high-level guiding document that provides broad strategic direction under which multiple specific clinical service plans may be developed. For strategic clinical service plans, generally, the scope includes the breadth of clinical service delivery across the health service but not necessarily down to individual unit clinical service plans.

For public health services, strategic clinical service planning is a collaborative process between the relevant state Department of Health and the organisation (health service), and this needs to be reflected in the membership of the Steering Committee set up to oversee the process.

The Steering Committee is often chaired by the health service CEO and has Department of Health representation to ensure buy-in to the process and final plan. The Steering Committee should also include the health service Executive team and key clinician leaders to ensure that the overall clinical service vision is articulated in the plan.

The Terms of Reference of the Steering Committee includes defining the scope of the planning exercise; endorsing the funds and resources available to develop the plan; endorsing the consultation and communication plans; endorsement of key project milestones and regular review against these; review of the draft plan; and endorsement of the final plan. The process of the plan development will need to be agreed (Fig. 8.2).

The Steering Committee meets regularly throughout the planning process (e.g. 3-monthly),

Fig. 8.2 The planning process

and receives updates from the Project Team. Service plan development is a complex undertaking and generally requires the services of an experienced population health services planner [4] as well as dedicated in-house resources. These personnel require expertise in service planning and project management and the time to collect and collate the necessary information and meet with key stakeholders throughout the plan development process. Together with an organisational Executive Sponsor(s), they form the Project Team that develops the project and clinical service plans and reports regularly to the Steering Committee (Fig. 8.3). A time period of approximately 12 months is generally required to develop a plan from the initial meeting through to Board endorsement and final document production.

The Steering Committee will set guiding principles and ensure alignment with the organisational strategic objectives and values.

8.4.2 Planning Guiding Principles

At the commencement of the planning process, the Steering Committee develops a set of planning guiding principles, aligned with the organisation's strategic plan, vision and values, to assist in guiding the direction of the planning process. Planning principles may include statements regarding the role of the health service in the local community as well as any broader role, its way of engaging with its consumers, its approach to new service models and introduction

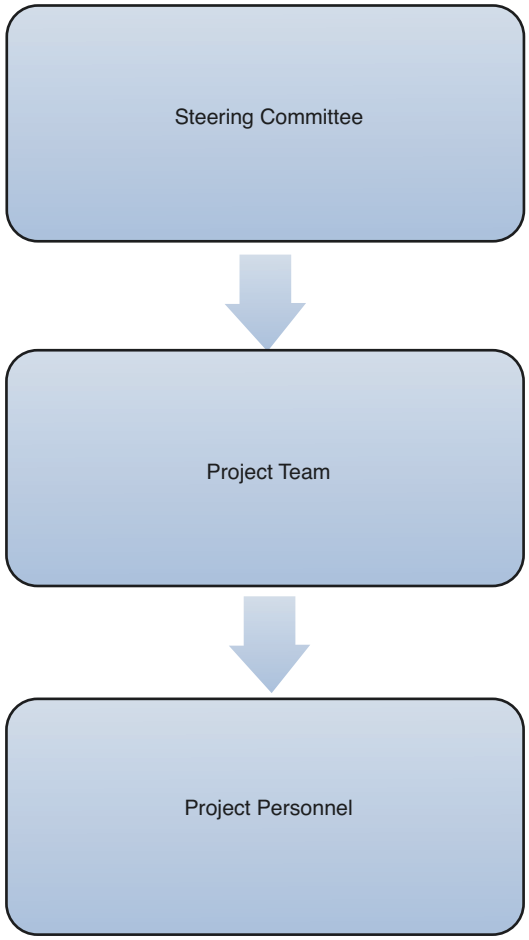

Fig. 8.3 Governance of planning process

of new technologies, the development of partnerships to support service capability, and its approach to infrastructure management to maximise service delivery.

8.4.3 Evaluation of the Current State

The governance committee will establish a project team to drive and carry out the process, commencing with an evaluation of the current state.

This will include a comprehensive review of the internal factors relating to the organisation that impact on the clinical services provided. Key documents to review will include the organisational strategy, previous and current clinical service plans, models of care and any service reviews/recommendations.

This will assess how the current organisational governance, infrastructure, equipment, workforce and partnerships provide for the current population and demand.

Reviewing how the organisation meets the current community and jurisdictional performance indicators will also inform the evaluation of the current state.

8.4.4 Understanding Future Clinical Service Requirements

Understanding the future clinical service requirements will require review of data and projections, as well as undertaking significant consultation with a wide range of stakeholders. One factor which helps outline how the organisation is meeting the demand of its local population is organisational self-sufficiency (see Sect. 8.4). The capacity of the organisation (see Sect. 8.5) must be reviewed against relevant existing capability frameworks (see Sect. 8.6), to inform the future Models of Care. Data review will include future demographic projections, changes in population, socioeconomic status, health service utilisation, and current and estimated future demand for the health service as a whole, as well as for particular services.

Understanding the jurisdictional strategy and Department of Health priorities will also be a key factor to incorporate into any clinical service plan, as well as the legislative requirements and the mandatory standards and accreditation requirements.

Benchmarking with other organisations that provide services is an important part to the process, to ensure that the experience of others' can be incorporated into the review, and result in improved and best practice Models of Care being developed. This is also a time to forecast the future service innovations and changes that may result in a change in the way and manner that care is provided.

8.4.5 Consultation Process

Consultation is essential at all stages of plan development. The membership of the Governance Committee composition will need to reflect that clinical service planning of public health services is a joint partnership between the health service and the state health department and planning progress should be overseen and contributed to by this group.

The project management team leading the planning process will require the support and engagement of the health service Executive and clinical leadership staff at every stage of the process. Developing an understanding of current clinical services, support services and workforce models and understanding the current site infrastructure and local cultures will form a solid basis on which to plan for the future.

Meeting with internal and external stakeholders to ensure that this knowledge of the service and its strengths and weaknesses is accurate will determine the usefulness of future data and recommendations. Internal consultation will include meetings and presentations to key leadership groups—the Board, Health service executive, senior clinical leadership team, operational managers, site managers, diagnostic and support service leadership, workforce and human resource managers, infrastructure (capital and IT) managers; health service volunteers and community committee members. External consultation will include further consultation within the state health department, consultation with external health partners—public and private, primary and tertiary, local primary and community health providers, academic partners, local politicians and local community groups.

Consultation will need to occur during the information gathering phase, the future state planning stage, and once a draft has been developed, during the document consultation phase. Feedback on the plan will need to be provided through appropriate channels, and incorporated. Proposals for change may require sensitive leadership and more in-depth consultation with potential affected groups. Strategies may need to be developed to deal with any local or community concerns, including public relations and media management, and briefing of the state health department or Minister. Consistency in communicating the key messages is important, and key documents should be carefully managed during the consultation phases.

Stakeholder management planning can aid in the process of key stakeholder consultation—an outline of what may be included in a Stakeholder management plan, as described later.

Stakeholder Management Plan

Stakeholder	Internal/ external	interest	effect	power	likelihood	Capacity for change	Mx strategies	Freq'y	Comms strategy
–	–	–	–	–	–	–	–	–	–

8.4.6 Defining Future Models of Care

It will be important that the components of the clinical service plan incorporate the proposed future models of care, which have the patient's journey central to their development. Any Model of Care will need to be reviewed against any jurisdictional Capability Framework (see Sect. 8.5.6) and will inform the capacity requirements of the organisation in the future.

These will be the basis of a draft clinical service plan that will require extensive internal and key external stakeholder consultation and input. Ultimately it must be in line with the expectations of the current and future patients, the clinical leaders within the organisation, and the Department of Health. How the plan is to be supported and funded will also need to be discussed and reviewed at this stage.

Future models of care need to address the environmental and social impact if the health service. This will have an impact on the clinical service planning, and on other plans such as the workforce and capital planning, as well as operational and business plans. New designs should allow for flexibility and shifts in how care will be delivered in the future. Specific measures identified through the Greener NHS National Programme include [2]:

- The use of renewable energy, solar panels and LED lighting in areas and buildings.
- Improved waste management by reducing use, reusing and recycling, improved waste sorting.
- Going paperless with suggestions around a digital-first approach and stopping paper letters.

8.4.7 Prioritisation

Prioritisation of components of the service plan will require consideration of a range of factors including available funding and resources, clinical risk, current and future demand, changes in external environment, and local factors including local readiness for change. The impact of changes in one service on upstream and downstream services should be planned for in a coordinated manner, e.g. additional acute services may require communication with local primary care providers, additional ambulatory space, theatre infrastructure, bed capacity, and rehabilitation capacity. Infrastructure and staffing requirements need to be considered along all stages of the patient journey. Immediate capacity issues may be a priority, particularly if performance targets are not being met, or if there are clinical risks associated with current service capacity. Immediate infrastructure needs may also necessitate changes in service models, where infrastructure cannot be immediately repaired or replaced. Beyond this, prioritisation should progress in a planned, staged manner, in co-ordination with state government or local partner support and specific funding availability where required. Planning initiatives may also be ranked or scored according to objective criteria to assist with prioritisation.

Once the plan is signed off by the Governance Committee and the organisational Board it will need to be operationalised. This involves publishing and communicating the plan to stakeholders. The implementation will need to monitored through the organisational governance processes, to ensure deliverables are reviewed against timeframes and budget.

8.5 The Key Internal and External Information Required Including Key Factors Such as Self-Sufficiency, Capacity, Capability Frameworks and Models of Care

Clinical service planning occurs within the context of a heavily regulated environment, with funding from multiple sources including state and commonwealth governments, private health insurers, various government agencies, and patients themselves. One of the challenges for health services operating in this environment is to

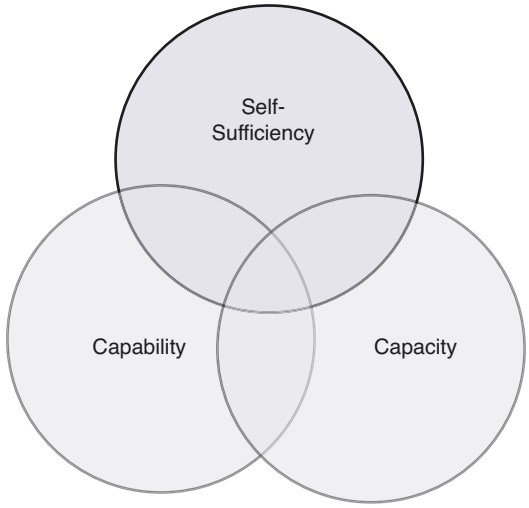

Fig. 8.4 Clinical service planning tools

focus not only on responding to the community's tertiary healthcare needs but also support service development that focuses on primary and secondary disease prevention. There are specific areas to consider such as self-sufficiency, capability and capacity that are interlinked and inform clinical service planning decisions (Fig. 8.4).

8.5.1 Current Clinical Service Profile of Health Service

For Strategic Clinical Service Planning, an overview of current clinical services should be documented. For each service, this should briefly describe the clinical discipline, the target population and clinical conditions managed, the sites and settings in which it is undertaken (inpatient, ambulatory, use of theatre/procedure rooms/birthing suites), annual activity, any relevant service partnerships, models of care, workforce requirements, and specific support services required. Current services should be identified by discipline and by site, and any gaps in service delivery should be noted, including explanations if appropriate, e.g. low-volume, highly specialised procedures may be more appropriately managed at a higher-level facility. In particular, referral pathways to particular services should be noted, so that any potential access and transfer issues may be identified. The current status should also acknowledge the current workforce and support services. Health worker (medical, nursing, allied health) recruitment, retention, skills and expertise, and emerging health workforce requirements should be noted. Clinical support services (radiology, pathology, pharmacy) significantly impact on service operations and service development. In particular, investment in radiology services is frequently required to support increased service capability, particularly in the surgical and procedural specialities. Timely access to routine radiology and pathology is also a requirement for acute clinical services, particularly when located away from the main health service campus, and to a lesser extent, for subacute and ambulatory services.

8.5.2 External Context

When undertaking service planning, the health service needs to consider the health profile of its local and catchment community, factors that are likely to impact on community health both broadly and locally, identify specific services required, and aim to develop sustainable service models to respond to these local needs.

Identification of the health service's catchment area, its boundaries and demographic features, access to public transport, and access to other local and specialist health facilities is important in identifying local patterns of health service-seeking behaviour. Patient inflows and outflows (to and from other local government areas/health service catchments) also need to be considered in planning, particularly for catchments that may experience significant seasonal variation such as peak demands in the holiday season.

Local population analysis includes current population and future projections, as well as socio-demographic information including population age and projected ageing, socioeconomic status (including proportion with private health insurance coverage) and health characteristics (such as risk-taking behaviour, vulnerable children and prevalence of diseases). This data can be

provided by state government departments and agencies as well as academic institutions and other health-related organisations.

8.5.3 Planning Frameworks and Data

Government frameworks and policies will need to be included as key information for any clinical service plan. Most state jurisdictions, have a policies and frameworks for clinical service planning. Multiple sources of information and data should be identified and utilised to determine the current status, and future clinical service demand projections.

Forecast modelling of demand for inpatient and ambulatory services may be undertaken by state health departments. Modelling methodology may make a number of assumptions, and as a result there will be limitations to the data, particularly for data beyond the immediate forecasting period. Therefore forecast data should be validated during the consultation process, with clinicians, community members and local stakeholders.

Key planning frameworks and documents that you should consider include:

- Government Health Strategy and Policy documents (State/Territory/Commonwealth governments).
- Health Service Capability (Role delineation) Frameworks (State governments).
- Capital Planning & Policy documents.
- Local Health Area or Clinical Network documents (State governments).
- Other government documents.
- Planning documents relevant to other local providers (public, private).
- Other documents identified from a literature review.

Key data pertaining to the external environment factors which need to be considered can often be obtained by the State Department of Health and include

- Population growth projections.
- Population health, including the changing burden of disease to one with a focus on ageing and chronic disease management.
- Socio-demographic changes, including changing immigration patterns.
- Projected service demand.
- Socioeconomic status and employment patterns.
- Increasing access to health information and changing healthcare expectations.
- Health services provided by other public and private hospitals.
- New technologies and services available.
- Workforce changes including provider availability.

8.5.4 Determining Self-Sufficiency

As a health planning concept, self-sufficiency is a tool that considers the extent to which a health service responds to the local inpatient demand of its primary catchment community. Public self-sufficiency may be defined as the percentage of all public separations for the catchment community provided by that particular public health service. Appropriate levels of self-sufficiency may vary between catchments depending on the availability of alternative providers, including private sector, and the local rates of public health insurance.

Self-sufficiency data for the relevant catchments may be provided by the State Department of Health. Once target levels of self-sufficiency are determined, where forecast public inpatient separations fall below these rates for specific services, this may represent a service gap that the health service may need to address.

8.5.5 Determining Capacity

The capacity of a health service refers to the internal resources that are available to provide or support a service.

These internal resources pertain to a multitude of aspects related to a health service, including:

- Infrastructure: provision of ambulatory or overnight stays, theatre, delivery suite, Special care nursery, intensive care units, and emergency departments.
- Clinical Workforce: number, type and expertise of the clinical workforce, credentialing and scope of practice.
- Clinical support services—Pathology, Medical Imaging, Medication Management, Allied Health.
- Equipment.
- Clinical Governance – including oversight of services provided by the facility in terms of quality and safety, innovation and improvement, patient experience, Risk Management, Legislative compliance and adherence to the national accreditation standards.
- Qualitative data may also be useful to identify current service 'gaps/issues' and future service priorities, e.g. results of previous consumer and staff feedback.

The other critical aspect related to capacity is the volume of patient services able to be provided over a specific time period.

Service Volume impacts on critical factors such as:

- Maintaining quality and maintenance of skills and expertise for low volume high complexity procedures.
- Meeting the timeframes associated with the specific patient service need or categorisation.
- Managing the size of waiting lists—particularly for elective surgery.

Review of the impact of future changes to the way health care is to be provided, and clinical service efficiency is essential to accurately reflect in the models of care.

Such changes can include what we have seen in terms of the dramatic shift to telehealth for outpatient appointments, during the COVID-19 pandemic.

There is increasing emphasis on Models of Care that do not rely on acute hospitals beds, such as inpatient substitution models including

- Reduction in multi-day beds and increase in same-day admissions.
- subacute patients with early discharge to ambulatory rehabilitation services.
- Home-based models of care, Hospital in the Home.

Preventative care processes including community care, integrated ambulatory care services, and elective admissions (e.g. to geriatric evaluation and management units) are more likely to be required with an ageing population. Preventative care programmes for management of patients with chronic disease will increasingly be required to be developed in partnership between health services and community providers.

Emergency care demand is frequently highest by patients on both ends of the age spectrum—the very young and the very old. As these utilisation trends are expected to continue, health service emergency departments will continue to be required to adopt strategies to substitute for admissions, including use of short-stay areas (particularly for routine paediatric presentations), discipline-specific services based in or near the emergency department, e.g. chest pain management services and mental health management services; and diversionary models of care including co-located general practice clinics, Hospital Admission Risk Programs that assess patients presenting to the emergency department.

8.5.6 Capability Frameworks

Capability frameworks exist in many jurisdictions and outline minimum requirements a health service or facility must have in order to provide a specific level of care.

The capability frameworks outline the level of complexity associated with a particular service, and the resultant minimum standards and the resultant services that a health service can provide. These will relate to the highly complex and

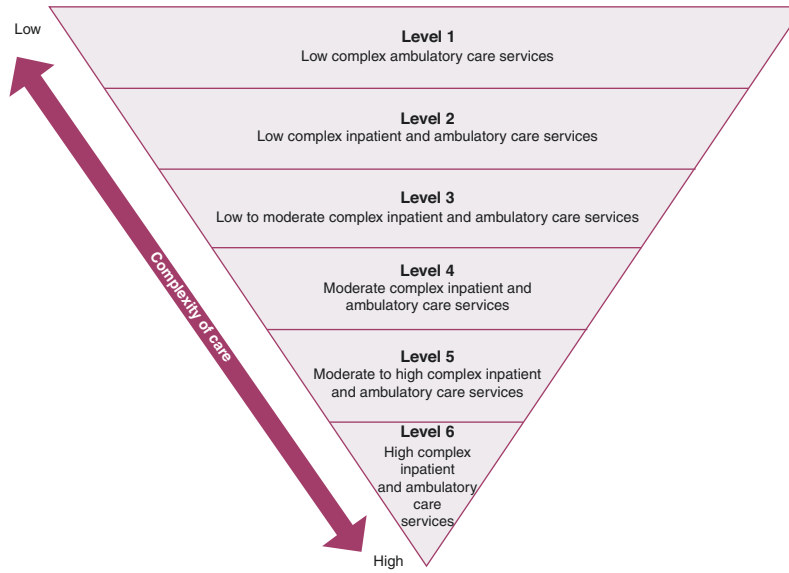

Fig. 8.5 Queensland Health Service Capability Framework—Service Levels by Complexity of Care. (From Queensland Health Service Fact Sheet, with permission)

difficult services with significant requirements from support services as well as to relatively simple services, with low-level requirements needed to still provide safe and high-quality services.

Capability frameworks enable consistency of care, and access to high-quality and safe care, as well as support a transparent approach to clinical service planning and service development at local and jurisdiction-wide levels. These frameworks can also be used by health services to plan to increase their capability by meeting the minimum standards required for providing a higher complexity of care. This is part of the clinical services planning process and is assessed in terms of the need of the population and the strategic direction the health service wants to take.

Capability frameworks outline what is required by the health service in terms of the complexity of care provided and the capacity for

- Emergency services.
- Pre-admission services.
- Surgical and Anaesthetic services.
- Post-operative care.
- Post-discharge care.

In addition, capability frameworks may outline what levels are required in other capability frameworks. Once a capability framework is adopted in a jurisdiction, it can be applied to both the public and private sector. This will mean that health services will have a designated service level as outlined by the capability framework, and agreed with the Department of Health. Health services will be bound to comply with the requirements of that service level.

There are several examples of capability frameworks available across many jurisdictions. The Queensland Clinical Services Capability Framework for public and licensed private facilities [5] categorises clinical services into one of six capability levels (Fig. 8.5). A brief summary of service levels according to this Framework is outlined in Table 8.1. In Victoria, these pertain surgical and procedures services [6]: Maternal and Newborn Care, Urgent, emergency and trauma care services; Palliative care and Renal Care services [7].

8.5.7 Future Model of Care

Models of care are developed for specific or strategic services, and outline the patient journey and the resultant health service resources that will support the service, and be in line with the relevant jurisdictional capability framework, if one exists.

Table 8.1 Queensland health service capability framework—service levels by complexity of care

CSCF service level	Description
Level 1 service	• Provides *low-risk* ambulatory care clinical services *only* • Predominantly delivered by health providers such as registered nurses (RN)and/or health workers rather than a general practitioner (GP). However, a visiting GP may intermittently provide a medical service • Patients requiring a higher level of care can be managed for short periods before transfer to a higher level service
Level 2 service	• Provides *low-risk* inpatient and ambulatory care clinical services • Delivered mainly by RNs and GPs with admitting rights to the local hospital • Some limited visiting/outreach allied health services provided • Manages emergency care until transfer to a higher level service • May have a university affiliation including an education and teaching commitment
Level 3 service	• Provides *low* to *moderate-risk* inpatient and ambulatory care clinical services with access to limited support services • Predominantly delivered by GPs (available 24 h a day, 7 days a week but not necessarily on-site) and RNs including midwives and/or nurses with speciality qualifications, possibly inclusive of visiting day-only specialist services as well as low-risk surgery and/or minor procedures, and an education and training role (longer than day only may be arranged) • Manages emergency care and transfers to a higher level if required • No intensive care unit, although the facility may have access to a monitored area • May have a university affiliation including an education and teaching commitment
Level 4 service	• Provides *moderate-risk* inpatient and ambulatory care clinical services delivered by a variety of health professionals (medical, nursing, midwifery and allied health) including resident and visiting specialists • Medical staff on-site 24 h a day, 7 days a week and an intensive care unit (maybe combined with a cardiac care unit) with related support services also available on-site • If higher level or more complicated care is required, patients may need to be transferred to a level 5 service • Some specialist diagnostic services are also available • Has a university affiliation including an education, teaching and research commitment
Level 5 service	• Manages *all but the most highly complex* patients and procedures • Acts as referral service for all but the most complex service needs, which may mean highly complex, high-risk patients require transfer or referral to a level 6 service • Has strong university affiliations and major teaching with some research commitments in both local and multi-centre research
Level 6 service	• Is the *ultimate high-level service* delivering complex care and acting as a referral service for all lower-level services • Can also be a state-wide super speciality service accepting referrals from across the state and interstate where applicable • Generally provided at a large metropolitan hospital • Has strong university affiliations and major teaching and research commitments in both local and multi-centre research

8.5.7.1 Model of Care Components

Models of care are related to a disease grouping, population subgroup or service need based on an evidence-based framework describing the right care, at the right time, by the right person/team in the right location across the continuum of care [8].

The patient journey must be central to the development of the Model of Care (Fig. 8.6).

- Governance over operations.
- Specialised Infrastructure.
- Equipment.
- Workforce.
- Support services: Pharmacy, Pathology, Radiology requirements.
- No. of beds/Hours of operation.
- Referral process.
- Admission inclusion/exclusion criteria.
- Care provided.
- MDT requirements – Allied health.
- Policies/ quality and safety.
- Links to other wards/services.
- Escalation pathway.
- Discharge pathways.
- Quality indicators.

Fig. 8.6 Patient journey

8.5.8 Support Service Planning

Strategic clinical service planning thus identifies health service capability needs and future capacity requirements, and compares this with current clinical service delivery to identify future areas of service and infrastructure development. Diagnostic support service requirements are increasingly important for many clinical disciplines, including subspecialty surgery, procedural medical specialities, and cancer care. Depending on clinical service demand, access to such services may be through in-house resources or access via partnerships, public or private. Issues regarding financing of infrastructure and ongoing revenue streams may need to be considered in business cases to support diagnostic and treatment infrastructure investment.

Workforce requirements and roles are also likely to change to meet emerging service demands. Nursing roles include substitution models and expanded scope of practice models such as nurse practitioners. Allied health roles are increasingly supporting early discharge models and ambulatory care substitution models.

Medical service delivery depends on a mix of consultant specialists and junior doctor workforce, the latter frequently dictated by vocational College training requirements, which must be considered. Opportunities for workforce progression and retention should also be considered in the development of supporting health workforce plans. Community representation and the engagement of local stakeholders and providers is a key enabler of clinical services planning. Where possible, services should respond to local community need, should be person-centred, should be accessible, and should have infrastructure appropriate to the purpose and population. Local providers may be more likely to engage with the health service if they see the clinical services plan as meeting local service needs and supporting their role in the continuum of patient care.

Information technology is another enabler that has the potential to influence models of care and service delivery, increase efficiencies, provide better and more consistent quality of care, and improve communication and collaboration. Its role in supporting patient care and clinical service planning is integral to effective clinical service delivery.

8.6 Finalisation and Implementation of Plan

Once a draft plan has been refined based on feedback of the stakeholders, it needs to be finalised and endorsed by the Steering Committee, and then by the health service governing body (e.g. Board). A comprehensive final version of the plan should be made available to senior health service executives and managers, and a summary version of key points of the plan is generally made available for the majority of internal and external stakeholders for reference. It may be appropriate to formally launch the plan to generate awareness. The final clinical services plan needs to be reviewed against other strategic health service plans, including the health service strategic plan, workforce plans, operational/business plans,

and infrastructure plans to ensure alignment. Once finalised, it needs to be made available to be regularly referenced by internal and external stakeholders, and thereby incorporated into the development of future planning and operational documents. The next stage of service planning is the development of discipline-specific clinical service plans following the overarching service plan. These may be developed bottom-up, that is, by the relevant clinical leadership team, and undergo relevant internal consultation and review. Capital requirements may also need to be separately considered and evaluated.

A process for organisational review and prioritisation of service planning initiatives should be established to implement and regularly review

the original clinical service plan. This should be a Board or Executive level governance group that sets service goals and priorities, and regularly reviews plan implementation progress.

Key risks associated with the implementation of the plan must be considered. Please see below for what can be included in a risk management plan.

Risk management

Date identified	Description of risk	Consequence	Likelihood	Impact	Risk rating	Mitigation strategies
–	–	–	–	–	–	–

The plan should be a living document that is regularly reviewed and updated—this might include an annual informal review and a 3 or 5-yearly formal review. Regular communication regarding progress made in relation to the service plan will promote ongoing engagement and collaboration, as well as engender confidence in the planning process and delivery. Please see below for the outline of what can be included in a communication plan.

Communication plan

Target Audience Who do we want to inform	Key messages: what do we want to tell them	Communication methods: How are we going to tell them	Who is responsible for doing it?	Deadline: by when does this need to happen	Date Completed
–	–	–	–	–	–

8.6.1 Site Planning

Health service sites typically evolve in response to the service demands and models of care of the time, and should be regularly reviewed to ensure they meet the service needs of the future. Specific sites generally fulfil one or both requirements of meeting the local population clinical service needs, and/or providing a particular clinical service across the health service/catchment (e.g. a subacute service). Ageing infrastructure is a common issue with public health service sites, and options to renovate or rebuild may need to be considered. Individual sites should be reviewed and master plans developed based on clinical service planning for a defined period of the future.

Sites require certain economies of scale to be operationally efficient. For acute wards an operationally efficient number of beds is approximately 32, for mental health is approximately 20, and for subacute services is approximately 30 beds, to reflect optimal nurse staffing ratios [9]. An operationally efficient inpatient facility.

is generally a minimum of three wards, and an operationally efficient theatre suite includes a minimum of two theatres. Medium to high complexity theatre procedures require critical care capability, including radiology and pathology/blood transfusion services, and specialty critical care trained staff.

Consolidation of acute inpatient services to a minimum number of sites is generally required to allow for sufficient on-site support services. This may also include specialist and multidisciplinary ambulatory care services. Alternatively, community ambulatory services may be better provided separate to the acute site, in accessible settings associated with other community health and primary care service providers. Community rehabilitation services may benefit from being co-located with inpatient rehabilitation services and infrastructure. Specific site plans will include clinical services provided, forecast capacity requirements and models of care, and any additional infrastructure or clinical support services required. Any proposed changes to site services requires considerable engagement with internal and community stakeholders to identify any potential barriers and to generate engagement. Health service-wide infrastructure including

facilities for clinical training and research and non-clinical functions also needs to be considered within site profiles to ensure that these are located in conjunction with the most appropriate clinical services.

8.6.2 New Facility Capital Planning

The clinical services plan may outline the requirement for a new facility to be built. This may be an entirely new facility, or an addition to an existing one. The necessary approvals and financial budget must be agreed to by the Board and the State Government for public services. Such facility developments are large management projects which often last several years, and require a specific Governance and project management process.

Any building plans must be developed in line with the Australian Health facility guidelines.

In addition the environmental impact of buildings will need to be assessed. Key areas to review in relation to the environmental impact include efficient infrastructure, which will involve both the use of innovative, low-carbon materials.

For energy generation, suggestions made for the Greener NHS National Programme include [2] included the installation of fuel cells, biomass boilers and combined heat and power engines that run on hydrogen, developing heat networks and exploring heat generation. A suggestion to invest in batteries designed for storing photovoltaic power has been investigated further.

Although not an exhaustive outline of what is involved, below outlines the key steps in the process of new facility capital planning.

The phases of the development of a new facility includes

- The clinical service requirements and resourcing—as per the clinical services plan.
- The building brief and design—approved by the Board and Jurisdictional Government.
- Construction of the physical facility.
- PCG—Project Control Group to manage the day to day aspects of the construction.
- Steering committee to oversee the process of construction against objectives, timeframe, budget and risk management.
- Completion of physical facility for occupation by contractor.
- Operational commissioning group: preparation of staff and facility for commencement of operations.
- Equipping/ Fixture, Fittings and Equipment (FF&E) selection; purchasing, receipt; installation; testing—training of staff in its use.
  - FF&E classification.
  - Group 1—Supplied by contractor.
  - Group 2—Supplied by client and fixed by contractor.
  - Group 3—Supplied and installed by client.
  - Group 4—Consumables.
- Staffing and training.
- Operationalising.
- Pre Occupation Cleaning, Testing, Fit out.
- Occupation by staff and patients.
- Relocation activates.
- Stocks and supplies.
- Commencement of operations, which can include a roll out or staged approach.
- Decommissioning of previous facilities if applicable.

8.7 Clinical Service Planning: Introduction of a New Technology or Clinical Service

The introduction of a new technology or clinical practice has specific governance requirements that allow for safe introduction to occur. This will not form part of the organisational clinical services plan, and occurs on a much shorter timeframe, with meetings held usually quarterly throughout the year, to enable innovation in clinical practice to occur in a timely manner. The facility will outline the process within its policy pertaining to the introduction of a new technology or clinical service, which will be overseen by a Committee established to review and monitor new practices. The Committee will have a specific term of reference, which will outline its membership, meeting requirements and core functions.

It is important to note that the process ought to be perceived as an enabling and supportive way

for new innovations to be adopted by the hospital, and that the hospital actively supports the safe introduction of new therapies. It is difficult in complex organisations to have complete oversight of all activities, and hence the committee should facilitate a relatively easy process, that is not onerous and helps and provides the support for innovation through its governance structure.

The committee will usually comprise of the CEO or delegate, Medical Director/ Chief Medical Officer, and an appropriate range of management and clinical staff to be able to assess any new proposal being submitted to the committee. The Committee will provide written approval outlining any requirements related to the introduction, including when to report back to the committee before the new technology or clinical practice can proceed. Often the Committee will advise that there ought to be a report back to it over a specific timeframe (either 6–12 months) or earlier if there is any adverse incidents.

Once the Committee feels that the introduction has gone smoothly and that the new technology or clinical procedure is now running as part of the usual model of care associated with a particular service, it can then sign this off as no longer needing to be monitored, and can become part of business as usual for the hospital. This will mean that credentialing and quality, and safety will be addressed via the established and usual practices of the hospital or facility.

A new technology or clinical practice is a therapeutic intervention that has not been performed within the hospital, or variation of existing practices to include a new device or equipment, including prostheses, devices, robots, medical, surgical or other clinical or diagnostic procedures. It does not include technology of clinical practice that is new to a clinician but not new to health service, which will fall under the usual credentialing and scope of practice.

It is also different from researching into a new technology and clinical practice, which needs to be reviewed by the institutions research ethics and governance processes. It also does not include the introduction of new medications, which ought to go through the Hospital Drug and Therapeutics Committee.

Anyone wishing to introduce a new technology or clinical practice will provide a briefing note/completed template with the following information.

- Proposal and Recommendations, including the context, burden of disease, incidence, cost of care.
- Description of the new technology itself and current alternate treatment options, clinical evidence, ultimately, how this will benefit patients and patient consent.
- Comparison of the cost of care, and expected utilisation, Financial projections and funding framework.
- Risks and mitigation of these in terms of implementation and safety and quality; mitigation may include patient selection, and escalation processes.
- Value proposition: Outcomes over costs.

The Committee will review evidence of clinical effectiveness, cost-effectiveness, and whether it can be safely performed within the available resources within the health facility.

In particular, the Committee will consider

- Clinical need and indication.
- Alternative models of care.
- What does the literature say/how did it perform in trials, and is there TGA approval?
- Is it being used anywhere else?
- Potential patient safety issues.
- Potential risks and how these may be mitigated.
- What systems of support need to be in place during early introduction?
- Support from colleges and patients.
- How to monitor the introduction and evaluation of what is being proposed.
- Costs and utilisation.
- Expected numbers/utilisation.
- Financial impact overall.
- Is there an MBS number available?
- Is it on the prosthesis schedule.
- Do you require extra care/ medication.
- Training costs.

- Practical aspects.
  - Patient—information and consent process, long term care of the patient.
  - Staff—skills and OHS.
  - Credentialing—how to ensure that this is credentialed? Extended SOP.
  - Hospital—clinical and physical infrastructure, equipment, resources.
  - Any ethical issues, does it align with the values of the hospital.

8.8 Conclusion

Health services need to undertake a broad range of planning, and ensure that the various plans interrelate effectively and consistently and are appropriately communicated to all relevant stakeholders. The clinical services plan is informed by the strategic plan, and will inform the workforce, capital planning and business and operational plans. The process of involving key stakeholders during the development of the clinical service plan is essential to ensure buy-in and support during implementation. Long-term planning is increasingly challenging due to many unknown factors, including funding, workforce, technology, and changes in government and departmental regulations.

A governance process needs to exist for the implementation and monitoring of the introduction of new technologies and clinical procedures. This will ensure that the organisation can support the safe and timely introduction of innovations, for the benefit of patients and staff.

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Conflict of Interest The committee will review evidence of clinical effectiveness, cost-effectiveness, and whether it can be safely performed within the available resources within the health facility.

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Health Policy and Advocacy

9

Jennifer Alexander, Joe McGirr, John O'Donnell, Mary Boyd Turner, and Allison Turnock

9.1 Objectives

This chapter provides an understanding of health policy and advocacy, the different types of policies and policy development issues as well as information about some of the key players who influence health policymaking. Advocacy can be an important part of health policy development and implementation, with various interest groups often advocating from different perspectives.

Health policymaking is a political process that attempts to balance competing influences and demands within a society. There are different categories and forms of health policies, all of which regulate the complex interactions between the health system inputs, outputs, and outcomes.

Medical leaders face the challenge of keeping up to date with health policies that affect the health system in which they work, as well as translating these policies into meaningful action for clinicians. Medical leaders also face the challenge of making a value judgment on what to advocate for in the health policymaking process. Increasingly, medical regulatory bodies are reaffirming that advocacy is also a medical competency and there are increasing expectations of all doctors to demonstrate how they meet this expectation.

The focus of this chapter is practical and includes a discussion of how the development and implementation of health policy pertains to medical leaders, as well as the challenges that health policy presents for medical leaders. As far as possible, the illustrative examples will have been drawn from all sectors of health, including the public, private, and charitable sectors as well as, in some cases, from other sectors.

9.2 What Is Health Policy?

The World Health Organisation (WHO) defines health policy as "health goals at the international, national or local level "(which specify)" the decisions, plans and actions to be undertaken to achieve these goals". The World Health Organization observed that a strong health policy proposal generally has the following traits:

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- It is inspired by an intimate knowledge of the context and a systemic, long-term, realistic approach.
- There is evidence from other contexts that it has produced the results that are expected in the present environment.
- It frankly admits the weaknesses and the distortions that plague the sector, proposing sensible ways of overcoming them.
- It is explicit about preconditions and risks, the measures to be introduced, the obstacles likely to be encountered, and the relative prioritisation of the proposed actions.
- It tries to anticipate processes and events, rather than trying to mend those that already took place or are underway.
- Its design is technically sound and recognises the resource and capacity implications of successful implementation.
- It is formulated in terms understandable to different actors and is widely disseminated.
- It tackles issues perceived as central to concerned actors.
- It recognises the power games going on at the country and sector level, tries to strike workable trade-offs, and looks for political alliances.

According to Palmer and Short, health policy refers to actions or intended actions by public, private, and voluntary organisations that have an impact on the healthcare system. The policy may refer either to a set of actions and decisions or to statements of intentions. For example, the Ottawa Charter for Health Promotion includes policies designed specifically to promote health (such as banning cigarette advertising) and policies not dealing directly with health but acknowledged to affect health (including policies in such sectors as transport, education, and economics). Examples of health policies include areas as varied as personal health care, health care financing, health workforce planning, medical research, digital health, and global health. While private health companies and organisations may develop their own health policies, they too may need to comply with government health policies, such as those regulating the sector in which they operate. As well as outlining changes to address a particular situation, a policy can also be a decision or policy to not change something.

In a heavily contested political environment changes to draft legislation may be negotiated to ensure passage through the parliament. This may limit the extent or reach of the policy that is to be implemented. However, the legislative process should also be viewed as an important contributor to policy implementation. Often the resulting legislation represents what an electorate or constituent group will accept willingly, and this will do much to ensure that the agreed legislation and policy is in fact implemented. Consensus can then be strengthened, and various groups can understand what their expected role might be in implementing the policy. In contrast, policies implemented by decree with little prior consultation may end up being ignored, impractical, or ineffective.

As instruments to achieve a desired outcome, health policies can differ in how they are used. For example:

- *Distributive policies* may be used to ensure that health services or benefits are provided to certain population groups. These are usually system-level policies pertaining to issues such as funding, Aboriginal and Torres Strait Islander health care, aged care, private health insurance, the balance between private and public funding, or access to services, such as the Pharmaceutical Benefits Scheme in Australia. In some policies, gatekeeping may be the instrument used, such as the role of General Practice in the Australian Medical Benefits Scheme.
- *Redistributive policies* change the distribution of income, wealth, property, or rights between groups (e.g. the Australian Medicare Levy on taxable income above a threshold.)
- *Regulatory policies* limit behaviour of organisations or individuals. For example, at the institutional level policies may mandate the mix and volume of services, day surgery standards, minimum hospital staffing numbers, and skills mix per shift or ward as well as outlining targets for various tasks, such as elective

surgery waiting list targets, emergency department treatment targets and immunisation targets. At the individual level they may regulate the licensing of food handlers, smoking bans within hospitals and certain public spaces, and banning illicit drug use.

- *Self-regulatory policies* usually take the place of or are an alternative to government regulation. Self-regulation is often a key aspect of professional practice. It has been common for professions to self-regulate, though these days self-regulation may be reinforced by legislation. For example, the Australian Health Practitioner Regulation Agency (Ahpra) administers compliance with the Health Practitioner Regulation National Law, as in force in each jurisdiction. Ahpra's scope of work is defined by National Law. Ahpra is advised by the various professional discipline boards, which includes the Medical Board of Australia. Over time the mandate for some policies may change and may be strengthened. Previously, advertising by doctors was self-regulated by the profession but is now regulated by Ahpra and the Medical Board of Australia.

For aspects of its work, Ahpra relies on the medical colleges, which are managed and directed by various medical professional groups. The colleges set the professional standards for practice which usually includes the attainment of college Fellowship after a period of training and assessment by the college. In awarding specialist recognition, the Medical Board of Australia (MBA) recognises the Fellowships awarded by the colleges. Further, the MBA also requires registered medical professionals to undertake Continuing Professional Development (CPD). The Board recognises compliance with the CPD requirements of the relevant college as meeting this obligation. In one sense this collaboration and commitment benefits the professional group by preserving reputation and limiting entry; however, it also protects the public.

The "big" issues that need to be addressed through policy change may require a multi-sector approach, and there may be a danger of being too siloed (i.e. just considering only health policies relevant to the issue). The concept of the social determinants of health provides a good framework for a multifaceted approach. For example, "closing the gap" of life expectancy between indigenous and non-indigenous Australians cannot be addressed solely through better health policy and improvements in healthcare. If life expectancy is to be improved, a multi-sector policy approach is required that addresses interrelated issues in various sectors including education, health, housing, sanitation, income, employment, and prevention of family violence. Further, it will be necessary to address underlying values regarding self-determination and local control by indigenous groups.

Example

The website for the James Martin Institute for public policy (JMI) (jmi.org.au) outlines that. They have adopted "a *collaborative approach" (as an) "independent, non-partisan policy institute, (which) is designed to improve lives by tackling complex societal problems, such as inequality, renewable energy, or accessible health care"*.

The institute has identified several interconnected areas where they see a strong potential to contribute to significant policy reform and innovation including:

- The new economy.
- Skills, education, and equality.
- The transition to a net zero economy.
- The social and economic vitality of our regions.
- The future of healthcare and the care economy.

While various instruments are used to implement policy, including regulations, additional new policies, guidelines, and position statements, many government policies are expressed, in whole or in part, by legislation enacted by Parliament that is binding and legally enforce-

able. These laws may be supported by rules and regulations, also called subordinate legislation, which are designed by executive agencies responsible for implementing the laws. These rules and regulations, which government agencies can then enact without parliamentary approval, guide the implementation of the legislation. As part of implementing a new law, the executive agencies may also introduce operational decisions, which are less permanent decisions usually in the form of procedures and protocols. Judicial decisions made in the court system also shape policy by helping clarify the interpretation of laws. Organisations may also need to develop new policies so that they comply with government legislation.

As well as policy in healthcare, other instruments, such as protocols and guidelines, may also be used to outline a process to achieve an outcome. A key difference is the implication of non-compliance. Policy derived from legislation must be complied with, and there may be penalties for non-compliance. However, protocols and guidelines may be difficult to enforce, and rely more on voluntary compliance, often in association with professional practices or employee obligations.

Driving certain behaviours, policies, and targets can sometimes have unintended consequences, especially where individuals and organisations "game the system" so that agreed targets are met or exceeded. Such behaviour may also place one target in conflict with another, where targets are locally managed by different people. For example, if patients are kept in the hospital an additional day to maintain a specialist unit's bed numbers, it may mean that this "bed blockage" may deny admission for another patient, thus adversely impacting a waiting list target.

Example

Medical leaders are often challenged with managing hospital waiting lists. Frequently policies or guidelines about this area of practice are issued by relevant government health departments. Policies may have conflicting objectives, and each may not be of great assistance to the medical leader in resolving policy conflicts. For example, at times, the medical leader may find themselves in a difficult position in relation to accepting patients onto the waiting list in the relevant policy-determined clinical urgency category when they know that the waiting times for surgery may not be met due to "bed block" or other pressures, such as those demonstrated during the Covid-19 pandemic period.

Should the patient be informed? Should the referring doctor be informed? Should the patients be referred elsewhere (if that is a possibility)? Of course, waiting times for procedures could be addressed by expanding services. Yet the medical leader managing the waiting lists, commonly also is charged with keeping within an agreed budget in which there is usually no provision for expanding services on demand.

The National Australian Medical Board publishes "Good medical practice: a code of conduct for doctors in Australia". Section 7.2 addresses "wise use of healthcare resources", which includes "upholding the patient's right to gain access to the necessary level of healthcare and, whenever possible, helping them to do so" and "Supporting the transparent and equitable allocation of healthcare resources". The guide also says that doctors should give "priority to investigating and treating patients on the basis of clinical need and the effectiveness of the proposed investigations or treatment".

At times, in managing a waiting list in a resource-constrained situation the medical leader may find themselves questioning the degree to which their actions in accepting patients onto very long waiting lists could be compromising their own adherence to the national code of good medical practice.

Example

Hospitals may require junior medical staff to always notify the consultant on call in a hospital of a new admission, regardless of the hour. However, the junior staff may be informally aware that certain consultants do not want to be woken up at night about a new admission unless their attendance or advice is required at that time.

The junior medical officer may be confronted with a dilemma about whether the requirement to notify is a guideline (which guides but does not mandate behaviour) or a policy that must be complied with.

9.3 Values, Vision, Politics, and Ideology

A common view is that policy is the result of very rational thinking and is a predominantly technical undertaking. However, policies are about making choices, and choices are always based on values. Hence, the policy is linked with, and influenced by values and vision, whether this be at the government, sector, organisation, or individual level.

There are various ways to describe values. At the individual level, personal values, are the things that an individual believes are important in life and which influence the way they live and work. Personal values may be influenced by an individual's upbringing and cultural background. Values can also be described as the ethical beliefs and preferences that guide an individual's sense of right and wrong. The latter may also be called an ethical framework, a value system, or a moral code. Values are different from values in health care, such as is outlined in the World Economic Forum definition of value which is "*The health outcomes that matter to patients relative to the resources or costs required.*" [1]

Thus, there are often different and competing agendas in policy devolvement. Sometimes the underlying values are evident in the priorities and targets of the policy framework, such as suggesting that some services are valued more than others. For example, it could be argued that the weight given to waiting lists and emergency department targets in the performance assessment of health services may mean that important work on prevention and primary care may not be given as much focus, even though they arguably would have greater benefit in the long term. The funding sources may also impact here, with jurisdictional governments funding hospitals where waiting lists and emergency department targets are used, and the Commonwealth government predominantly funding prevention and primary care activities.

Similarly, the "Medicare Freeze" in Australia, which curtailed costs by limiting increases in Medicare payments to General Practitioners for some years, could be seen as demonstrating an underlying value in relation to primary care. The policy implications of not supporting the sustainability of primary care became evident by 2022 when General Medical Practitioner shortages generated fears of an incipient crisis.

Values may mean that some organisations may seek exemption from compliance with a policy. For example, while many faith-based health services may provide pregnancy counselling, they may seek exemption from a requirement to provide medical and surgical termination of pregnancy services. Similarly, due to their personal values some medical practitioners may abstain from providing some services, such as those above, or participating in Voluntary Assisted Dying interventions that

[1] Further information about value-based health care can be found at the Australian Centre for Value-Based Health Care, which was established by the Australian Healthcare and Hospitals Association. Their vision is for a healthy Australia, supported by the best possible health care system where health care is funded and delivered with a prime focus on outcomes achieved at an affordable cost for patients and the health system. In that sense, the use of value here is more akin to its use in the concept of a "value chain", popularised by Michael Porter from Harvard. His Value Chain Analysis is a business management concept, outlined in his book Competitive Advantage (1985), and which he defines as "a collection of activities that are performed by a company to create value for its customers".

are now lawful in many Australian jurisdictions. To comply with a requirement to provide health advice free from personal values, patients must be referred to an alternate practitioner if the initial practitioner is unable to provide the service required.

Societal values will also play an impact on policy development. For example, Australia's public health system is based on the values of universal access, providing safe and affordable health care for all Australians.

Example

Voluntary assisted dying VAD legislation is a good example of values overtly seen in policymaking.

In Australia, several jurisdictions have or are planning to, introduce legislation for voluntary assisted dying. Competing values are evident with this issue as there are groups that support the legislation and others that oppose it on either ethical, technical, philosophical, or religious grounds. Up until recent times, the ACT & NT have been prevented from considering this type of legislation due to commonwealth restrictions based on ideology.

Voluntary assisted dying (VAD) legislation was initially introduced to the NSW parliament in 2017. At that time, it was defeated because of concerns by various politicians about the wording of different parts of the legislation.

When the legislation was brought back to the NSW parliament in 2022, it had the benefit of the work done in other states on similar legislation and extensive consultation so that the legislation was much more precisely worded than before. As a result, it had more co-sponsors than any other piece of legislation in Australian parliamentary history. It passed Parliament on 19 May 2022 and was assented on 27 May 2022.

9.4 Policy Development

Policy development is a complex process. The eventual outcome will be influenced by many factors such as evidence, facts, and ethics. The development of government health policies involves different levels of government and numerous stakeholders with diverse needs and interests. Many others advocating in these areas have significant resources available to them. Private hospital chains as well as health insurance and pharmaceutical companies may not seem to lobby directly but rather use various industry associations for advocacy. Understanding this process can help policymakers to achieve their health targets.

Where policy development has been heavily influenced by values, the outcome may be unexpected and not that which would have resulted from a policy based solely on technical or efficiency considerations. Thinking about the role that values may have played may explain why some policies do not seem to "make sense" when looked at solely from a technical or efficiency point of view.

Many policies are refined and further developed over time, sometimes by different bodies.

Example

Health reform and further policy development may also continue to occur despite not only policy-making structures changing but even when there has been a change in government.

In March 2022, the then Coalition government announced "Australia's Primary Health Care 10 Year Plan 2022–2032" in order to strengthen primary health care as part of the health system and provide an agenda for primary health care reform over a decade. The intended audience of this plan was the general public. The plan iden-

tified 12 action areas grouped under 3 reform streams:

- Future-focused primary health care.
- Person-centred primary health care supported by funding reform.
- Integrated care, locally delivered.

In July 2022 the new Labor government announced the establishment of the "Strengthening Medicare Taskforce", the aim of which was to make "it easier for Australians to see a doctor", including after-hours, increasing GP-led multidisciplinary team care, including nursing and allied health, greater affordability, better management of chronic conditions and reducing pressure on hospitals. $750 million was allocated to support these reforms to Medicare, as well as another $220 million for the Strengthening Medicare GP Grants program.

But the new government kept in place the "Primary Health Care 10 Year Plan", which was very high level and strategic with a focus on 'funding reform' and other broad concepts. The two reform agendas seem to share much in common. Taskforce members had the opportunity to discuss the reform journey to date from the co-chairs of the former Primary Health Care Reform Steering Group, which guided the development of the Primary Health Care 10-Year Plan 2022–2032. It could be argued that the "Strengthening Medicare" work is about the implementation of the 10-Year Plan and concrete actions for primary care reform.

The first Strengthening Medicare communique, issued in July 2022 (health.gov.au) outlines five focus areas for action which are:

- A reliable training and development pipeline, to build a strong and vibrant primary healthcare workforce
- Increased access to multidisciplinary care, harnessing the full skills of nurses, pharmacists, and allied health professionals
- New models of care and stronger relationships between patients and practices, to better respond to today's health needs, including older Australians and those with complex and chronic conditions
- Ensuring access to care is modern, patient-centred, and easy, harnessing the power of technology, and
- Providing universal health care and access for all through health care that is inclusive and reduces disadvantage.

It is likely that this major piece for health reform will be underpinned by new health policies and, possibly even, new legislation.

As this work develops, hospital-based medical leaders may find that they are part of a cross-sectoral approach to health system change, particularly in the implementation of initiatives about integrated care delivered locally, which is about "delivering regionally and locally integrated health service models through joint planning and collaborative commissioning at regional and state-wide levels", especially to address "gaps in service delivery, and build on best-practice models". The plan recognises that "leadership will be required across all governments, organisations and disciplines to deliver value and make these changes work".

9.5 Non-Health Policies and Healthcare

There are many non-health policies, such as policies on housing, education, social security, transport, and even paid parental leave that can impact healthcare, health services, and health outcomes. In addition, the various industrial relations laws and policies, as well as government standards regarding Australian buildings, can influence the way that medical leaders do their work.

At times the interface between health and other sectors can present problems, in the same way that interface issues with the various parts of the health system can (e.g. the hospital and primary care interface with GPs.) The diversity of the areas that impact health illustrates the importance that the cultures of different sectors may play in influencing health outcomes. Each sector will have its own mandate and their leaders may have varying knowledge of the health context, all of which may influence policy development that may impact health.

Some categories of policy, such as environmental policies, have extended their reach to a position where environmental impact studies are often required as part of the approval processes for certain developments. But there have been no system-wide strategies to effectively coordinate action between various sectors that impact health. This is slowly changing in Australia.

In 2007 South Australia introduced a policy of "Health in All Policies". This was "based on the understanding that health is not merely the product of health care activities, but is influenced by a wide range of social, economic, political, cultural and environmental determinants of health" and that "actions to address complex, multi-faceted 'wicked problems' such as preventable chronic disease and health care expenditure require joined-up policy responses". This was successfully implemented supported by a high-level mandate from the central government.

In early September 2022, the NSW Government advised that it planned to consult with the South Australian Government to review the evidence, benefits, costs, and risks of adopting a Health in All Policies framework. The Government's response also noted that "there are many examples where NSW Government agencies are currently collaborating to ensure whole-of-or cross-government ownership of health outcomes for people living in New South Wales".

The principles of the Health in All Policies (HiAP) approach are not new. The international roots can be traced back to 1978 and the Alma-Ata Declaration and the 1986 Ottawa Charter. Health in All Policies approaches includes five key elements:

- Promoting health and equity,
- Supporting intersectoral collaboration,
- Creating co-benefits for multiple partners,
- Engaging stakeholders,
- Creating structural or process change.

9.6 Culture and Policies

Organisational cultures are built on collective belief systems, values, and shared customs and practices including assumptions about how people should behave and interact, how decisions should be made, and how work activities should be carried out. The culture in an organisation can powerfully influence policies and what is done.

In addition, personal internalised belief systems guide our actions. They have been given various names, such as "mental models"[2] or "world views" and can impact on how each of us behaves within an organisation or system, including as a leader. Sometimes, those developing policy may not be aware of how their underlying values and personal "worldview" could be influencing their decisions and underpinning the way that they think and act. Therefore, it is important to try deliberately to "surface" values (both implicit and explicit) and other factors, such as organisational culture, that might influence what is being done and not done. One way to do this might be through explicit questioning of what underpins the status quo.

[2]From Wikipedia "A mental model is an explanation of someone's thought process about how something works in the real world.

Example
Mental models could be influencing the current direction and actions of the Royal Australasian College of medical administrators (RACMA) with respect to the roles of medical leaders, future possible roles, and the direction of the college.

- Given its origins, does RACMA have a predominantly public hospital (medical superintendent) focus in terms of the work of medical leaders, placing emphasis on operational issues in hospitals, such as managing doctors, roster management, and dealing with "difficult doctors"?
- Could such a focus be limiting consideration of the other types and locations of the work of medical leaders, despite the fact that many college members already work in a variety of other sectors?
- How might the work of medical leaders be expanded (such as in the clinical governance area, CEO, and company director roles)?
- Should RACMA develop specific training for medical leaders working in different areas, such as those who work in regional, rural, and remote areas where medical leadership may face specific challenges?
- What other sectors should be considered, such as potential roles for medical leaders in other sectors such as aged care and the community and disability sectors?

9.7 The Role of Government and Interest Groups in Setting the Health Policy Agenda

While the health policy agenda of a country is set by its government and various government departments, these agendas are also invariably shaped by the special interest groups who are affected by these health policies. In general, the more organised special interest groups are, the more effectively they exert influence over the health policy agenda. Various terms are used to describe these activities including lobbying (defined by the Oxford dictionary as seeking to influence members of the legislature regarding a bill), advocacy (defined by the Oxford dictionary as "pleading in support of"), and activism and those involved in these activities can be called an ally, an advocate or an activist. All are seeking to influence an outcome.

Some examples of Australian nongovernmental special interest groups include:

- Professional groups, such as the medical colleges, the Australian Medical Association, Australian Physiotherapy Association, and the Australian Nursing Federation.
- Industry and employee/union groups, such as Medicines Australia, Pharmacy Guild, Private Hospitals Association, Australian Healthcare Association, Catholic Healthcare Association, and the Australian Salaried Medical Officers Federation (ASMOF).
- Consumer groups, such as the Consumers Health Forum, the Australian Consumer's Association, the Australian Council of Social Service, Cancer Councils, and the National Stroke Foundation.
- Disease/Disability groups, such as the National Heart Foundation, Cancer Council Victoria, and Diabetes Australia.
- Sector groups, such as the National Rural Health Alliance, Council on the Ageing, and the Mental Health Council of Australia.

Interest groups are most readily observed trying to influence the government in policymaking using the media to criticize or praise the government and its policies. Alternatively, they may be active in lobbying government decision-makers, participating in expert stakeholder consultation sessions, commissioning research, and advertising to promote the interests of the members they represent and highlighting the need for new or changed policies in their field of interest.

The examples below illustrate how the system interrelates to form policy, the various tensions that can arise, and how health policy is predominantly a collective activity.

Example

Many disease-specific advocacy groups, such as Diabetes Australia (diabetesaustralia.com.au), combine lobbying and advocacy. For example, Diabetes Australia is the leading diabetes advocacy organisation in Australia. It represents the interest of all people affected by diabetes by advocating and lobbying the Australian government for better standards of care and on other issues of national concern.

It does this by

- Addressing and providing solutions for national issues which are raised by individual people with diabetes or their families.
- Identifying the needs of and working towards improvements in the quality of life for people with diabetes.

Diabetes Australia has established relationships with the Australian government, its departments, and other health and private national bodies to advocate on issues such as insurance inequities, better access to pharmaceuticals, driver's license standards, and discrimination in the workplace or in everyday life. Diabetes Australia is also supported in its endeavours by the parliamentary friends of diabetes, an energetic non-partisan group of parliamentarians.

Diabetes Australia publishes various position statements and, on behalf of its members, campaigns on issues and makes submissions to the government.

Example

The Medicare benefits schedule (MBS), initially established in 1984, is a listing of the Medicare services subsidised by the Australian government. The more than 5700 MBS items provide patient benefits for a wide range of health services including consultations, diagnostic tests, and operations.

The government frequently establishes expert committees to advise it on policy development in this area. For example, the Medicare benefits schedule (MBS) review advisory committee (MRAC) and its counterpart for the PBS, advise the government on new MBS numbers and medications that should be subsidised.

A review of MBS items was commissioned by the then-coalition (conservative) government between 2015 and 2020. An MBS review taskforce was established to look at more than 5700 MBS items to see if they needed to be amended, updated, or removed. It identified services that were obsolete, outdated, or potentially unsafe in the light of contemporary evidence. The taskforce also recommended adding new items where needed, along with broader structural changes to the MBS.

The website says that "the end result of the process is a better MBS for all Australians". The use of the word "better" highlights how values are an important part of policy work as "better" implies that a judgement is made to decide what is better. But whether something is better will often depend on the perspective from which it is viewed. For example, for government "better" might be whether the changes provided more services for the same financial outlay or whether costs were reduced, such as

through reducing a subsidy. For others, "better" might be whether their payments for services were unchanged, or even increased, or whether additional new payment categories had been added to the MBS listing.

Consultation with stakeholders was central to the MBS review and the taskforce received feedback from thousands of stakeholders, which helped inform its final recommendations to the government. Two groups who advocated proposed changes were general practitioners (GPs) and ophthalmologists but with very different outcomes for each group.

On 2 August 2018, the Cardiac Services Clinical Committee (CSCC) of the Medicare Benefits Schedule Review Taskforce issued its final report with various recommendations in relation to changes to MBS item numbers. In relation to ECGs, the Report indicated that "more than 2.7 million ECG services are claimed under the MBS every year at a cost of over $71 million… (and the) Committee voiced concern about … the growth of 7% per year (well above population growth 1–2% per year). The Committee agreed that growth at this rate is not driven by shifting disease patterns and felt that the substantial and growing investment in a relatively straightforward activity could be better directed to other necessary services". Despite lobbying from the Royal Australian College of General Practitioners (RACGP) and others that the rebate for the existing ECG item (11,700–$27.45) was inadequate as it was, given the cost of the service and consumables, that a reduced subsidy will reduce patient access to this care in the community unless GPs and practices increase patient out-of-pocket costs and that the proposal to pay differently for tracing and interpretation by different medical practitioners (more for any other specialist than a GP) was an inequity and unfair, the reduced subsidy (11,707–$16.15″) for Electrocardiograms (ECGs) performed by GPs was introduced covering an ECG trace only, but not its reporting.

The Medical Benefits Review Taskforce also recommended changing the government subsidy for cataract surgery, but stakeholder lobbying from the Australian Medical Association (AMA) and ophthalmologists reversed the decision and the status quo was retained. On 22 September 2009, the then AMA President released the results of an AMA survey of ophthalmologists to highlight "why the Government should reverse its Budget decision to halve the Medicare patient rebate for cataract surgery" arguing that many of the assumptions on which the policy was based were wrong and would lead to poorer patient care.

9.8 Developing Health Policy

From time to time a medical leader may identify the need for a policy. At the outset it is important to consider the broad structure of the health system, and whether the proposed policy should be integrated across the system. Also important are the values upon which the proposed new policy is based and how they align with the values of the entity that might sponsor the policy, as well as the audience to which this health policy is directed.

It is also important to understand the key stakeholders who may be affected by a particular policy and who may be important to the policy's creation, or its communication and implementa-

tion in the future. Commonly, key stakeholder lists are separated into various categories, such as those stakeholders whose support is critical, those whose opposition is to be avoided or managed, and others who need to be consulted but may not have the potential to provide significant opposition or support. A detailed strategy, communication, and delegations of actions plan (i.e. project management) are developed for each stakeholder category. Some of these steps will also be useful in the implementation stage of policy development and the medical leader should find themselves in an advocacy role for the policy. This analysis will also be relevant to the broader communication strategy for the policy, especially if that includes the use of social media.

Medical leaders who have identified the need for a new or changed policy may find this practical 'hands-on' process of policy development, which is outlined below, of some use when confronting the challenges of policy development. It is important to remember that it's rare to be the first to consider a policy and reviewing the work of others can be of great assistance. Many colleagues will gladly share their work and commonly allow copying.

Practical Guide to policy development by the medical leader

Step	Questions and actions
Opening questions	• Am I the right person to lead this issue? • What outcome is sought? • Who has the authority to approve the policy when finalised? How to proceed will be influenced by the type of policy that is required, and who has the authority to approve the developed policy. If the answer to this question is outside the facility (such as the Department of Health or health minister), then the medical leader will require a formal delegation to undertake this work. In such cases, the medical leader might consider working with others to develop a draft policy and advocate for its adoption, such as through a particular advisory committee within whose mandate the suggested health policy might reside. It may be preferable to approach the relevant approving authorities through that avenue. The medical leader should also consider whether some policies might need to be developed and implemented across different sectors, apart from public hospitals
How have others solved this problem?	• Undertake literature searches and other research • Consult experts in the relevant areas • Does the organisation require policies to be presented in a particular format?
The initial draft	Prepare an initial draft of the proposed policy

Step	Questions and actions
Initial consultation	• With those affected by the policy • Others who see the need for the policy • Those required to implement the policy If the authority to develop the policy rests with the medical leader, or within the organisation where the leader works, then one way to proceed with the policy development might be to consider using a stakeholder framework. Within an organisation, a policy may affect patients, junior medical officers, the board of directors, or general staff
Wider consultation	• Release a penultimate draft for comment, distributing broadly, including beyond the clinical realm • Find out how this policy will impact others (e.g. other professions; financial implications, marketing, and communications)
Approval	Who must approve this policy? Is approval needed other than from the medical leader (e.g. hospital executive; general manager, regional general manager)?
Publish and publicise	Many policies include details of when the policy was published and when it will be reviewed (e.g. in 3years of time)
Implementation	Monitor for implementation (or not) Monitor for unforeseen consequences
Revision	Revise as necessary

While the development of health policy usually takes some time as the issues are considered and stakeholders consulted, there are times when policy development must occur quickly and under some pressure, such as in a health crisis when a range of new policies may be needed rapidly, often by medical leaders. The COVID-19 pandemic starkly concentrated attention on the urgent need for further development of infection control policies and processes in hospitals. Medical leaders had to deal rapidly with the infection control implications of the new virus, as well as dealing with many other impacts, such as obtaining Personal Protection Equipment (PPE) and the workforce issues as hospital staff themselves became infected or "burnt out" due to the heavy workloads. In the case of infection control, the pandemic provided an opportunity to reinforce the practice of hand washing—an area where it had been very hard to get implementation.

The same set of issues was also evident in primary care, without the infrastructure that was already in place in the hospital sector. The responsive policy change was illustrated by the rapid introduction by the government of bulk billing for telehealth services with the introduction of new MBS item numbers. Telehealth had only been implemented in patches prior to the pandemic. As many noted, the implementation of

new telehealth arrangements occurred in 10 days rather than over a period of many years as is usually the case for various aspects of health reform.

9.9 Implementation of Government Policy

Policy implementation is an important part of policy work. Implementation difficulties can adversely impact the effect of the policy. Some large government policy initiatives have been adversely impacted by implementation difficulties, which may be the result of inadequate implementation resources or flawed action plans. For example, the Australian National Disability Insurance Scheme (NDIS) has been plagued by issues that have impacted its implementation.

Another example of poor implementation of policy is the social security program introduced by the Australian government with the aim of increasing budgetary savings by increasing the pursuit of outstanding debts within the Centrelink social security system. The program, which the media called "Robo-debt", had to eventually be abandoned due to adverse outcomes with its royal commission.

9.10 The Medical Leader, Policy and Policy Implementation

The challenge for a medical leader is to maintain an up-to-date understanding of policies at different levels of the health system. Medical leaders may need to develop a compliance schedule for their work, in the same way that boards require a compliance schedule for the organisation. Such a schedule lists all the laws, regulations, and policies (e.g. Work, Health & Safety (WHS) and staff welfare; infection control) that pertain to the organisation and which must be complied with, and where the responsibility for compliance lies. A formal list will ensure that nothing is missed. Similarly, by virtue of the positional leadership held by medical leaders within the health system, medical leaders may be approached by national or state health authorities to provide feedback on various draft policies as part of their stakeholder consultation process.

The medical leader may be charged with implementing various health and other policies. Examples may include policy notifications from the relevant health department or changes due to recently enacted legislation. The medical leader needs to keep up to date with relevant legislative changes in health policy especially those that impact the organisation for which they are responsible. At the hospital level, the medical leader may be held responsible for ensuring adherence to the various funding policies, while also needing to manage overt and covert "cost shifting" practices within the organisation as departmental managers try to manage tight budgets.

The medical leader may find that their policy focus is twofold, being within their own organisation as well as the "bigger picture," which might be about system change.

It is important, at the outset, to consider what is going to happen when a policy is implemented, including possible unintended consequences. The scope of a policy usually means that there are certain situations, or people, that are included and those that are not covered. It is important to consider how, or if, exemptions to the policy will be handled. Working out how to address these issues should form part of the implementation plan. If it is a locally authorised policy, then consideration will need to be given to agreeing if the policy should be changed to deal with the unintended consequences, such as people excluded from the policy umbrella who, on reflection, should be included.

For example, the National Disability Insurance Scheme (NDIS) is available only to Australians whose disability was diagnosed before aged 65 years, though it can continue after that age if the recipient has already been accepted as eligible for NDIS support. The person's age at the time of application will determine whether, or not, they are eligible for NDIS support, not the nature of the injury itself. But there may be situations, such as accidents leading to ventilator

dependency, that may warrant consideration of some over 65 years being included as eligible for NDIS support and medical leaders may decide to advocate for their inclusion. In most cases, older Australians can access aged care support. But this is insufficient, in some rare cases, where tetraplegia, such as arising from a sporting injury, leaves the person ventilator dependent. Community-based 24-h ventilator support is extremely expensive and few, if any, residential aged care facilities are equipped to provide this service. It could be argued that the exclusion of age criteria of Australians with certain conditions may be an unintended consequence of the NDIS policy framework. At times, aware of such an exclusion, the medical leader may decide to advocate for change to the policy.

Another illustration of unintended consequences came to light during the COVID-19 pandemic. State health ministers, on the advice of Directors of Public Health and Chief Medical Officers, issued policies in relation to quarantine periods following infection. However, once implemented it became clear that these policies had an unintended consequence in hospitals where staff shortages quickly developed as an increasing number of healthcare workers were confined to home on quarantine leave while hospitals were dealing with unprecedented demand from patients with COVID-19. Faced with the pressures on hospital resources and the need for key personnel numbers to be maintained, the Executive Directors of hospitals were often given the authority to grant exemptions from the quarantine policy for certain key personnel.

For policy implementation to be successful in bringing about the desired change in behaviour, it will be necessary to initiate a process of engagement with those impacted by a new policy. Such engagement is more powerful if there is a clear link between the mission and values of the organisation and the introduced policy. In most cases, a "command and control" approach is unlikely to be successful. The medical leader will usually find that the "soft" people management skills are more likely to lead to the successful introduction of a new policy. In implementing a new policy, the medical leader might consider the following issues:

- Are changes in internal organisational policies and processes required because of the recently received policy?
- If changes are needed, then the medical leader might also consider whether similar changes are required in all organisations across the sector and whether working with other colleagues might hasten the process, as well as assist with a common approach to implementation.
- What is going to happen when this policy is implemented? What is not going to happen?
- What actions are included in the policy, and what are not included? Not all of this may be able to be determined at the outset and may arise as the policy is implemented.
- What might be the unintended consequences of this new policy? How might these be addressed?
- How will exemptions to the new policy be handled?
- If the policy approving authority rests with the medical leader, or within the organisation where they work, does the new policy require amendment in order to deal with unintended consequences that emerge during implementation (i.e. by further clarifying what is, and is not, captured by the policy)?
- Does the new policy conflict with any existing policy? For example, would a clinical policy of waiting list management using 3 categories of urgency, conflict with a policy (possibly implicit) that the organisation may not go over budget? If so, which policy prevails?
- Is the new policy aligned with the values of the organisation or is it likely to generate issues where personal and ethical considerations may conflict with the new policy? One example might be the implementation of legislation for Voluntary Assisted Dying.
- How will those dissenters who don't agree with the new policy be handled?
- Another issue that might arise is determining whether something is, or is not, a policy, especially if it is not called a policy.

- How will policy compliance be measured and monitored?

Medical leaders may encounter barriers when setting out to develop or implement a new policy, which requires careful consideration and working with relevant stakeholders. These might include:

- Policy may not be aligned with the values of the organisation.
- Policy may generate issues where colleague's personal and ethical considerations may conflict with the new policy. For example, the implementation of legislation for Voluntary Assisted Dying.
- A conflict of interest is where an individual places their personal interests above those of others.
- Staff may not see the policy as relevant to them, their patients, or service provision.
- Policy may clash with established "custom and practice" within the organisation.

From time to time in implementing policy medical leaders may experience tension between an espoused policy and existing "customs and practices" that may adversely impact the intended implementation of the policy. In such instances, medical leaders may find themselves trying to implement what seems to be a clear and straightforward policy yet experiencing "unexplained" barriers in this pursuit. These barriers may be the result of a clash between the values of the hospital, from which the policy is derived, and the values of the group impacted by the policy if they perceive the policy as "undermining". For example, for junior medical staff, many directions on how to do things will come from more senior staff to whom they report. Junior staff may at times experience conflict when the customs and practices espoused by their more senior medical colleagues do not align with formal hospital policies.

Example

This example, which is about the implementation of a handwashing policy as part of a broader strategy to reduce in-hospital cross-infection, shows how strong "custom and practice" can be and what a powerful barrier it can present in introducing the policy, even that which is evidence-based.

Because hospital-acquired infections cause a great many deaths and illnesses within hospitals, hand hygiene is of major concern for state and federal jurisdictions. The Australian Commission for Safety and Quality in healthcare (ACSQHC) publishes the audit findings on hand hygiene.

Yet, despite the fact that most doctors are aware of this connection and the importance of hand hygiene, studies have shown that doctors have been the least likely health professional group to adhere to the policy. And the question is why this is so?

The medical leader may ask why an obvious policy will sometimes be ignored, but more importantly, what can be done about it. Are there barriers to policy compliance, such as the availability of hand washing equipment or time pressures that need to be addressed? It may be important to consider very practical issues such as where the handwash is placed and how frequently it is refilled.

Sometimes a crisis or new situation can provide more impetus to the implementation of a policy. The COVID-19 pandemic provided an opportunity to reinforce the practice of hand washing, an area where it had been very hard to get implementation.

9.11 Advocacy

Medical leaders may find that they play roles in both policy development and implementation in many arenas, as well as advocacy. This can be as a medical leader, as a health professional and collectively under the umbrella of various professional organisations, such as medical colleges. Advocacy by medical professionals played a significant role in the introduction of policies in relation to bicycle helmets, pool fencing, and seat belts, each of which have had profound societal impacts nationally and internationally. Where there is a shared view, groups may collaborate to strengthen policy and advocacy, as illustrated by the example below.

The World Health Organization (WHO, 1995) describes advocacy for health as a 'combination of individual and social actions designed to gain political commitment, policy support, social acceptance and systems support for a particular health goal or programme'. Advocacy may be on an individual basis, where an individual represents another, or it may be speaking in favour of, or against a particular proposal. Advocacy involves promoting the interests or cause of someone or a group of people. An advocate is a person who argues for, recommends, or supports a cause or policy. Advocacy is also about helping people find their voice.

Sometimes, the medical leader may find that they need to advocate to fight against a proposed policy change that they believe will make things worse. Medical regulation may impact medical practitioner advocacy activities, especially in relation to the use of social media.

When providing feedback in an advocacy role, it can be difficult for medical leaders to determine which interest group he/she is representing, especially when different interest groups have differing positions on the same issue. Do they represent the voice of the patient, the voice of clinicians, or are they the voice of the health service organisation that they work in, or should they advocate their personal views? It is important for the medical leader to be aware of the outcomes he/she wants to achieve when adopting a particular advocacy position and to make this clear when providing advice.

The mission of most Australian medical colleges includes not only training future practitioners but embraces health policy and advocacy, with many colleges establishing well-resourced policy and advocacy divisions with prominent advocacy reputations on issues such as drug and alcohol issues, climate change, and health system design. The Royal Australasian College of Physicians (RACP) defines advocacy as "the deliberate pursuit of changes in policy, attitudes, behaviour, and decision-making, usually in the public interest. Part-science, part-art, modern advocacy involves much more than a media release, a submission or petitions to MPs (Members of Parliament) …… (and) evidence-based policies must compete in a crowded policy arena to even get onto a key decision maker's agenda, let alone persuade them to change".

It is important to remember that decision-makers, such as politicians, are approached by many groups advocating for changes. Successful advocates have a carefully developed advocacy plan or strategy, with a sensitively crafted framing of the problem and clarity about the changes that they are seeking. An advocacy strategy may be guided by an organisation's theory of change, whether explicit or not. It is the logic model that maps the process of change from beginning to end. For many, the map of change works backward from the outcomes that are being sought, stepping back to identify the building blocks that will be essential to get "from here to there". It is therefore important to make explicit assumptions about how change is going to happen.

It is important to be explicit about the value proposition of an advocacy campaign, which is the unique quality or characteristic that is going

to compel people to join and support the campaign.[3] What unique skill, perspective, or asset does the campaign bring to the advocacy space that no one else does? Also important is to ensure that the goal(s) (the "what") of the advocacy campaign is explicit, focussed, and winnable. The goal should be underpinned by incremental objectives, which are the small steps along the way that will lead to change.

The campaign strategy is 'how' the goal will be achieved. It includes how targets will be approached, what levers need to be pushed to win, and how and by whom these levers are going to be pushed. A clear understanding of the interests, positions, and conflicts of stakeholders, targets, and potential support networks is critical to success. It is important to identify stakeholders whose influence could have the greatest multiplier effect.[4] An advocate needs to consider the tools, including social media, to which they may have access to promote their message. Lastly, it is important that, at the outset, the measures of success of the advocacy activity are clearly enunciated.

9.12 Advocacy as a Medical Competency

Health policy and advocacy are central to effective medical practice. Since 2021, in Australia, the learning outcomes for medical graduates have included health advocacy, professionalism, and leadership, along with the more traditional science and clinical practice-based outcomes.

Since 1996, the CanMED framework from Canada has been adopted by many colleges around the world. This model, which is specifically targeted at specialist training, identifies and describes the abilities doctors require to effectively meet the healthcare needs of the people they serve. Its competencies are organised around seven roles that include Communicator, Collaborator, Health Advocate, Manager, Scholar, and Professional. In Australia, the code of conduct for doctors now also includes a reference to health advocacy in the section on working within the healthcare system.

The Royal Australasian College of Medical Administrators (RACMA) provides specialist medical administration education and training for medical practitioners who use both their clinical training and experience and specialist medical management expertise to lead and influence health service delivery. RACMA's medical leadership and management curriculum is based on the CanMEDS framework and outlines competencies grouped under seven key headings. 'Health advocate' is listed as one of RACMA's domains of competencies for a medical leader. Four knowledge and skills areas support this capability being

- Health promotion.
- Understanding the social determinants of health.
- Identifying community needs.
- Responding to health issues.

More simply "defined", health advocacy is seen as both a "mindset" as well as a set of skills, many of which are common capabilities for medical leaders. Supporting the other seven capability headings are competencies such as "building relationships", conveying information, and "effective communication". Leadership involves the ability to use various competencies at different times and circumstances. In developing and implementing health policy, and advocating for better health, the medical leader will need to call upon a wide range of leadership competencies.

While it is easy to appreciate these areas as part of the domain of practice of a medical leader, it is also important to recognise that health advocacy is a competency area for all doctors and increasingly is included in undergraduate curricula. Health advocacy is increasingly being regarded not as an optional "out of hours" undertaking but a core responsibility of being a doctor and caring for patients. But the scope of respon-

[3] From 8 Strategies and Techniques for Running an Advocacy Campaign (Links to an external site.), Mark Kelly 2017

[4] https://www.ourcommunity.com.au/advocacy/advocacy_article.jsp?articleId=2407

sibility of individual doctors in this area is vague. Action in many areas of advocacy is inherently political and maybe beyond the "reach", authority, and probable skill base of many doctors.

In relation to doctors, a key issue is the argument that doctors, in their professional work, should see addressing the social determinants of health and health inequities as part of their professional obligations. Acting collectively, such as through medical colleges and other medical and health associations, as well as working with others in disease-specific advocacy organisations, doctors can be a powerful voice in addressing health inequality issues.

In supporting these areas, the Australian Medical Council (AMC) recommends strengthening the area of "providing culturally safe care". Further, the AMC also proposes that medical schools themselves could act as advocates for improvements within the communities that they serve, and which are also served by their graduates.

Example

International physicians for the prevention of nuclear war (IPPNW) is a non-partisan federation of national medical groups in over 60 countries, representing tens of thousands of doctors, medical students, other health workers, and concerned citizens who share the common goal of creating a more peaceful and secure world freed from the threat of nuclear annihilation and armed violence.

In 1981 Dr. Bernard Lown, IPPNW founding co-president said:

"Physicians charged with responsibility for the lives of their patients and the health of the community must begin to explore a new province of preventive medicine, the prevention of nuclear war."

Their website details their history:

Founded in 1980, IPPNW was an inspiration born of the cold war. With the world divided into two militarized camps poised on the brink of nuclear war, a small group of Soviet and American doctors took a leap of faith. They reasoned that their common interest in survival was more powerful than the ideological divides between them. They believed that their obligation as physicians included a common commitment to the prevention of nuclear war.

Acting together, the doctors advocated that nuclear war would be the final epidemic, with no cure or meaningful medical response. In so doing, they sounded a medical warning to humanity.

Their advocacy efforts were successful with their message reaching millions of people around the world. In the words of former New Zealand prime minister David Lange, "IPPNW made medical reality a part of political reality." IPPNW won the 1985 Nobel Peace laureate. The Nobel Peace committee recognized IPPNW for "considerable service to mankind by spreading authoritative information and by creating an awareness of the catastrophic consequences of atomic warfare."

IPPNW continues its active advocacy in this area such as through the provision of resources and supporting world congresses that are hosted by national IPPNW affiliates and associated other events.

As a group, health leaders can be very effective in bringing about health system change. In the early 1970s, health industry leaders led an initiative to improve the quality, consistency, and safety of health services, which eventually resulted in the establishment of the Australian Council of Healthcare Standards (ACHS). At the time, there was a substantial threat that if the industry didn't do the work to develop objec-

tively measurable standards, then it would be imposed from outside, possibly by people with less knowledge of what was required. It was important that any system of healthcare standards should be embraced by all health professionals, especially doctors and nurses. In the initial years, hospital accreditation was voluntary. But medical leaders pushed participation, including through medical colleges. Peer pressure ensured widespread acceptance of the process of accreditation, even though it was a voluntary undertaking. Participation rates were high in part because medical leaders agreed accreditation was an important and effective way to improve patient care processes and outcomes. Many medical leaders became voluntary accreditors, to add credibility to the standards and the findings of surveys, and to provide support and advice about how to address shortcomings.

Over time the standard setting separated from the accreditation process, and in 2006, the Council of Australian Governments (COAG) established the Commission for Safety and Quality in Health Care (ACSQHC) to lead and coordinate national improvements in the safety and quality of health care. The Commission was given permanent status with the passage of the *National Health and Hospitals Network Act 2011*, while its role was codified in the *National Health Reform Act 2011*. The Commission commenced as an independent statutory authority on 1 July 2011, funded jointly by the Australian Government and by state and territory governments.[5]

There are now eight (8) National Safety and Quality Health Service (NSQHS) Standards which outline the standards of care expected of health service organisations. All hospitals, day procedure services, and the majority of public dental services across Australia must be accredited against the eight NSQHS standards.

Medical leaders have been at the forefront of making changes to comply with these standards, some of which have changed over time. A key issue has been how the medical leader "translates" the practical implementation of these standards to clinicians.

Sometimes, medical leaders may find that they are called upon, or of their own initiative are willing, to advocate on behalf of an individual or a group of individuals with similar needs. In such circumstances, it is worth bearing in mind the advocacy principles promulgated by the UK Social Care Institute for Excellence which are:

- *Clarity of purpose* outlining the advocacy provider's aims, objectives, and plans and the scope and limitations of their role.
- *Independence* shows that there is no conflict of interest.
- *Person-centred approach* being non-judgmental and respectful of people's needs, views, culture, and experiences.
- *Empowerment* supports self-advocacy and empowerment ensuring the individual has a say in the level of involvement and style of advocacy support they want where they are able and wish to.
- *Equal opportunity*, recognising the need to be proactive in tackling all forms of inequality, discrimination, and social exclusion.
- *Accessibility* issues are attended to.
- *Accountability* is addressed through effective monitoring and evaluation of the advocacy work.
- *Confidentiality* and awareness of relevant legislation.
- *The complaints* mechanism is clear.
- *Safeguarding issues* are identified and acted upon, especially in relation to abuse and neglect.
- Advocates are prepared, *trained, and supported* in their role and provided with opportunities to develop their knowledge, skills, and experience.

Example

At one Australian university, the Head of the Department of Obstetrics and Gynaecology (O & G) has extended the teaching of O & G to include advocacy on

[5] ACSQHC website

women's health issues, in which students are either observers or active participants. Students have been onsite observers (and more recently virtual observers through video conferencing) of the work of the United Nations Commission on the Status of Women as they debated the issues faced by women and girls all over the world, particularly in rural areas, including gender equity, female genital mutilation (FGM), human trafficking, child sex trafficking, the plight of female doctors in Nigeria, child marriage and the treatment of widows.

Students who have participated in these activities have reported that their observation of practical advocacy and partnering with communities to change health outcomes for women around the world gave them an enthusiasm for advocacy work. Many said they would continue advocacy work after graduation. Some said that this involvement had changed their planned career path with some deciding that they wanted to pursue public health as a career path, especially working with the NGOs on practical advocacy and partnering with communities to change health outcomes for women around the world.

Students reported that their involvement in these activities gave them insight into how the social determinants of health impact a woman's ability to access quality healthcare.

A study is being proposed to follow up with such students some years after graduation to see if their passion for advocacy continued.

For doctors, advocacy is often seen as having two dimensions with the doctor as an advocate for the individual patient taking care to understand the social circumstances of the patient which might impact their diagnosis and treatment (often called agency or case advocacy), and a broader societal and system activist advocacy role seeking to address structural and system issues that adversely impact on the health of community members. This second category, sometimes called cause or activist advocacy, may include interventions on both health issues—such as tobacco advertising and labelling, restrictions on sugary drinks, the availability of various health services, car seat belt legislation and helmet policies - as well as non-health issues such as housing and health insurance, which may impact adversely on health outcome.

For clinicians, case advocacy (the doctor as advocate for an individual that they are treating) may mean reaching beyond the biomedical paradigm of diagnosis and treatment to understand how various social and personal circumstances impact the care that the patient needs and being willing to assist with interventions, such as referrals to allied health professionals and writing letters of support for various forms of assistance so as to ensure that the individual patient and their family receive the best care possible in order to achieve a good outcome.

Beyond the individual perspective, doctors may decide to engage in advocacy activities at local, regional, state, and national levels to address various health and other system issues that they encounter in their clinical activities or become aware of. Such activities might be very local and undertaken on a personal basis by the doctor, such as lobbying for better disabled parking near local health facilities, or joining other doctors advocating on specific issues. This may occur on an ad hoc basis for certain issues, or through medical associations and colleges, many of which have permanent "policy and advocacy" units.

While not every doctor will become engaged in such activities, various medical professionalism frameworks emphasise that doctors have a responsibility not only to care for individual patients but also to identify and advocate for changes to the system and structural issues that adversely impact community health outcomes. It is argued that the knowledge and experience that doctors have can give them a unique insight into certain societal issues that need to be addressed, and their professional standing in the community can give them certain advantages when undertaking activist advocacy activities.

However, doctors can, at times, forget that advocacy must go beyond pronouncements as a doctor or group of doctors. Increasingly, doctors are being urged to move beyond the "medical paradigm" to work with other health professionals and community members of patients and carers when undertaking advocacy work. Ernest [6] et al. argue that doctors can be very powerful if they collaborate, lead and "share their experience with the community". Skillful community advocates and lobbyists understand the importance of careful framing of an issue or message, as well as how to use "trigger" events to bring attention to their issue and the change that they are lobbying for.

The concept of framing is about getting language that fits your worldview. It is not just language. The ideas are primary and the language carries and evokes those ideas. The Royal Australasian College of Physicians recommends that advocacy strategies should consider the best frame(s) to use. According to Lakoff [7] frames for social and health issues fall into three levels:

- Level 1 is the expression of overarching values, such as fairness, responsibility, equality, equity, and so forth, the core values that motivate us to change the world or not change it.
- Level 2 is the general issue being addressed, such as housing, the environment, schools, or health.
- Level 3 is about the nitty gritty of those issues, including the policy detail or strategy and tactics for achieving change.

9.13 Advocacy Training

Medical leaders are very well placed to act as advocates. Advocacy curricula, to the extent that they have been developed, usually include knowledge of the social determinants of health, health promotion, and a clear understanding of the structure of the relevant health and other systems, as well as team skills and leadership. Mark A Ernest et al. in an article in Academic Medicine [8] outline some of the skills and competencies necessary for health advocacy work, such as "identifying a problem amenable to advocacy, defining the problem and scope, identifying strategic partners, developing a strategic action plan and communicating effective message". It could be argued that medical leaders are already well-equipped in these areas.

The RACMA provides a training module "Being a Medical Manager and an Advocate: Taking it further—How to be an Advocate". Medical leaders are urged "to be a champion for equity of human-centred healthcare provision within the parameters of their daily work".

RACMA Tips

1. Leverage your own particular skills and interests within and beyond your workplace.
2. Do your research and seek out information from relevant stakeholders.

[6]Perspective: Physician advocacy: what is it and how do we do it?

Mark A Earnest, Shale L Wong, Steven G Federico Acad Med 2010 Jan;85(1):63–7. Academic Medicine Vol 85 No 1/January 2010

[7]More Than a Message: Framing Public Health Advocacy to Change Corporate Practices Lori Dorfman, DrPH Lawrence Wallack, DrPH Katie Woodruff, MPH

[8]Perspective: Physician advocacy: what is it and how do we do it?

Mark A Earnest, Shale L Wong, Steven G Federico

Acad Med 2010 Jan;85(1):63–7. Academic Medicine Vol 85 No 1/January 2010

3. Raise awareness within your workplace including at the appropriate executive level and offer to sponsor a project, including writing content for your organisation's bulletins and circulars beyond your workplace, writing content for social media, and writing a position statement to the government in response to the call for commentary.
4. Allocate/source funds and consider the extent of discretionary funding in your own portfolio, or approach the appropriate committee and lobby for funding and consider external fundraising strategies.
5. Create liaison/build networks, join community meetings/boards, develop contacts in appropriate media organisations (e.g. local television/newspapers), and develop regular contact with appropriate local organisations (e.g. service providers/universities).
6. Create accountability and build responsibility for change into position descriptions creating an expectation for regular reporting to ensure appropriate progress in advocacy as well as creating a regular public reporting mechanism (e.g. a standing report in organisational bulletins).
7. Embed advocacy in regular practice by including the desired behaviour change into position descriptions, as well as the desired structural change into organisational policy. Set expectations for the workforce and consumers and implement small but regular actions that keep the message visible and change perceptions over time (e.g. acknowledgement of country before meetings, posters advocating self-care).
8. Review progress by gathering regular reports on actions already taken and take a regular "pulse" of the experience of your target group reflecting on findings and continuing or adjusting the approach as necessary.
9. Maintain focus and discipline to effect culture change. Don't give up! Effecting culture change is hard. Make sure you practice good self-care in the process.

9.14 Advocacy Toolkits

Numerous advocacy toolkits are available on the internet. Examples include that published in March 2005 by the Save the Children's Fund, and "The Advocacy in Action Toolkit for Public Health Professionals published by the WA Public Health Advocacy Institute,[9] now in its fourth edition (2019). This toolkit provides illustrative case studies and practical tips and offers tips for working with the media as well as a comprehensive guide to evaluation.

Another toolkit is that [10] published by the American Alliance for Academic Internal Medicine, which aims to be a practical resource that supports and encourages health professionals and interested organisations to engage in advocacy. Some toolkits have a specific focus of concern, such as the "Advocacy Toolkit for Health Professionals To Improve Cardiac Rehabilitation and Heart Failure Services", published by the Heart Foundation.

[9] https://www.phaiwa.org.au/the-advocacy-toolkit/

[10] https://higherlogicdownload.s3.amazonaws.com/IM/fecab58a-0e31-416b-8e56-46fc9eda5c37/UploadedImages/Documents/resources/Advocacy_Toolkit_for_Health_Disparities_CLC.pdf

9.15 Advocacy in the Age of Social Media and Misinformation

In recent years, social media have become powerful marketing tools. The major social platforms include Facebook, LinkedIn, Instagram, Twitter, and YouTube, but there are many others and which platform you choose may depend on the audience you wish to reach. Social media can have a profound effect on decision-makers and are now another issue that policymakers have to deal with.

But social media are also powerful vehicles for giving feedback during the process of policy development. Much activity in support of (or opposing) a new proposed policy is likely to be communicated through social media. Hence, it would be sensible that any activity advocating for (or against) a new policy, or advocating for change, should include a social media strategy. This should clearly outline "the what, when, how, and why" for proposed social media content. Key factors that need to be considered include:

- Goals.
- Who is the Audience?
- Which platforms to use.
- Creating a content bank.
- Identifying Keywords and Hashtags.
- Developing a Content Schedule.
- Setting Up Social Tool.
- Analytics.

With the advent of social media, the idea of a "single source of truth" seems old-fashioned and obsolete. Some now see the notion of "truth" as much more fluid. This is made worse by campaigns of disinformation—deliberately misleading information—which have often been led by prominent political and celebrity figures. It is highly likely that much vaccination misinformation during the COVID-19 pandemic was promulgated by disruptive social media entities. This can increase the difficulty of making good policy decisions and gaining support for certain policy directions. Social media has heightened the importance of values when people make decisions. But current medical regulations around the use of social media may have created an unbalanced environment where good health information may not be the predominant message in many social media fora.

9.16 Media Training for Medical Administrators

The reader is referred to the chapter on media which covers this issue in some detail. Needless to say, medical leaders involved with advocacy should feel comfortable dealing with media issues, and media training is highly recommended.

Acknowledgement We would like to acknowledge Jason Goh and Erwin Loh for their contribution to provide some of the content for this chapter in the first edition of this textbook.

Health Crisis Planning

10

Kevin Luong

Learning Objectives
Readers of this chapter will gain an understanding of:

- The definitions, terminology, and key principles that underpin crisis management.
- Legal and ethical principles are considered as part of health crisis planning.
- Organisation of state and national emergency management responses.
- The role of health agencies in the prevention of and preparedness for crisis.
- Coordination and communication of a crisis response in a health setting.
- The challenges of a health disaster response at a state and health facility level with reference to sustained and prolonged disaster responses such as the COVID-19 pandemic.
- Special considerations for business continuity and recovery after a major incident.

10.1 Introduction

10.1.1 Definition

There are many definitions used to describe crises or disasters and these usually reflect the different operational agendas of the agencies involved. At a fundamental health service and hospital level, a crisis is less about the specific type of event or even the number of casualties involved but is more focused on where the event occurs, the health resources available and their capacity to respond.

In essence, a crisis occurs when the available health resources are insufficient to meet the health service requirements at that point in time [1]. A bus crash that occurred near the small town of Manjimup in 2009 was a disaster due to the minimal health and other resources available; the same crash in Perth would have taxed but not overwhelmed the local emergency response and trauma facilities.

Crises may impact health services by increasing the demand for services, reducing the capacity of the system to provide services, or both [2]. Severe or catastrophic crises are those that exceed our current systems and resources, and have degraded or disabled whole-of-system structures, strategy, and decision-making functions [3]. It is also important to consider the temporal impact of crises, particularly those that stretch into days, weeks, or even longer (as evidenced by the

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COVID-19 pandemic); noting that short-term strategies to manage immediate challenges may not be safe, sustainable, or palatable when applied over a longer period.

10.1.2 Terminology

Crisis or disaster management is often known as emergency management and these terms are frequently used interchangeably. Disasters are also often broken into various subcategories, such as natural, manmade, biological, technological, or transport disasters. These subdivisions are arbitrary and, while they may be useful for research purposes, the principles for the management of the various disasters does not and should not significantly change [4]. For example, should a bioterrorism attack with anthrax be defined as natural or manmade, and what impact, if any, would this definition have on health services to be provided?

However, from an organisational perspective, it may be helpful to consider internal vs external crises, and although in many situations there is significant overlap between the two categories, a broad understanding of where a crisis may have originated or is potentially impacting will assist with preparedness, planning, and operational management.

Disaster medicine, in its broadest definition, involves the delivery of health care, often under very adverse conditions, with limited resources, and frequently with substantial ongoing risks to patients and responding health staff. It is primarily a mix of emergency and public health medicine but also includes elements of trauma care, surgery, aero-medical evacuation, occupational health, environmental health, health care management, rehabilitation medicine, and mental health [4].

10.1.3 Principles

Crisis management systems are based on an identified set of principles. In the Australian context, the key principles are:

- Graduated response or subsidiarity—The response should be provided at the lowest and most local level available, and should only be escalated when resources are not available.
- The all-hazards approach—As part of policy and planning, one set of management arrangements should cover all hazards.
- Shared responsibility—All stakeholders (including agencies, communities, and individuals) understand their own risks and responsibilities, and that of others; and subsequently, the need to prevent, prepare, plan, respond, and recover from a crisis [3].
- Integrated response—Any response to a significant crisis will require assistance from, communication with, and coordination of a range of government and non-government agencies.
- Comprehensive response—All agencies need to be addressing prevention, preparedness, response, and recovery (PPRR) as part of their planning.
- Resilience—Ongoing effective prevention, preparedness, and response requires the community to take a role in preparing themselves for any likely crisis [5].

10.2 Health Planning

To effectively plan for a crisis involving their health area or hospital, the medical administrator needs to have an understanding of a range of factors that will be incorporated into the planning process.

10.2.1 Legal and Ethical Framework

In all jurisdictions, there is an Emergency Management Act of some form and related legislation, which dictates the roles and responsibilities of the local Department of Health and other response agencies. For example, in Western Australia (WA), the WA Department of Health has responsibilities under the *Emergency Management Act 2005* and *Emergency Management Regulations 2006*. These include

responsibilities for coordination as a hazard management agency for human epidemics and heatwaves, and health support to other agencies for other disasters.

While the states and territories have responsibility for disaster response within their own borders, the Australian Government has responsibility for coordinating responses to disasters that require interstate assistance, are occurring overseas, or that require specific assistance, such as Australian Defence Force (ADF) aeromedical assets. This is coordinated by the National Emergency Management Agency within the Department of Home Affairs, which maintains and updates the Australian Government Crisis Management Framework. They are also responsible for the coordination of several national plans, including (but not limited to) the Australian Government Disaster Response Plan (COMDISPLAN), the National Response Plan for Mass Casualty Incidents involving Australians Overseas (OSMASSCASPLAN), and the Australian Government Overseas Disaster Plan (AUSASSISTPLAN) [5]. AUSASSISTPLAN was activated in the first 6 months of 2015 to provide assistance for Cyclone Pam in Vanuatu and the Nepal earthquake.

From an ethical standpoint, crisis management is fraught with a range of ethical issues. As a consequence, most non-government and government agencies involved in this work have Codes of Conduct that people are expected to adhere to, although ethical principles are rarely explicitly referenced. The key ethical principles and issues to consider are:

- **Utilitarianism.** Perhaps the greatest challenge is how to ethically triage and ration resources to provide the greatest benefit to the greatest number of people. Although this approach prioritises equality of personal importance and utility, it does not dictate equal treatment for all. In a limited resource environment, the sickest salvageable patients are the top priority, followed by patients with lesser injuries and the walking wounded. In some circumstances, this may mean that patients unlikely to survive are made comfortable and only reassessed if more resources become available an expectant category. While this may appear harsh, a decision to concentrate a significant proportion of the personnel and medical resources on one or two potentially unsalvageable patients, in a resource-stretched environment, will be at the expense of other patients who could survive and recover.

  There are limits, however, and special care needs to be taken that decisions are not taken on ethnic, cultural, or physical grounds, where more importance is given to an able-bodied person or a particular group [6]. The situation in Florida Hospital Memorial Medical Center after Hurricane Katrina, where a number of patients died because of decisions to only give palliation under the circumstances, highlights the ethical challenges and possible legal ramifications of such decisions [7].
- **Deontologicalism**. This duty-based ethical construct is based on Kant's second moral imperative in which every human life has the same value and is underpinned by the principles of patient autonomy, beneficence, non-maleficence, and justice. Under a deontological approach, rationing of care is unacceptable under all circumstances, and every patient has an equal right to access services regardless of their individual risk profile.
- **Distributing scarce resources**. In considering distribution, justice should come into play, with resource distribution being relatively fair, equitable, and according to relative need [8]. Justice has its limits in this setting, however, and deontological arguments may be challenging in a resource-strapped environment where every decision to treat or provide resources may have an adverse impact on others [6].
- **Principle of Equal Chances—first come, first served**. This is based on the premise that the first to arrive should be the first looked at. In a disaster situation, this concept may be fatally flawed, as generally the first patients to arrive are the minimally injured and emotionally stressed, who are more capable of getting to the hospital independently. If all the

resources are concentrated on this lower priority group, it will be at the expense of the more seriously injured, which will bring it into direct conflict with utilitarian principles [9].

10.2.2 State and National Emergency Management Organisations

Each state and territory has an emergency management section within its Department of Health. Depending on the jurisdiction, these areas usually sit within their public health areas and are responsible to their Chief Health Officers, although there may be local variations. These units broadly have responsibility for state-wide health preparedness, coordination, communication, and response to a disaster.

These health agencies interact closely with other emergency response agencies, particularly police, fire, emergency services, and welfare agencies, and will support these and other agencies, as required, in any disaster response. Health agencies usually have representation on the State Emergency Management Committee and any subcommittees that support it. Support includes involvement in multi-agency exercises, training, and policy development.

Health agencies have a range of disaster plans that are either hazard-specific, such as pandemics, part of an overarching state plan, or as a specific health support plan. These plans will generally outline the roles of health-related subelements within the plan, such as ambulance services, metropolitan hospitals, country hospitals, and mental health services. They may include support services, such as pathology and laboratory services; community health services, local government and private hospitals [10].

The Australian Government's role in emergency management is to build and promote disaster resilience, coordinate national strategic emergency management policy, provide support for emergency risk assessment and mitigation measures, coordinate and provide operational support for an emergency response to the states and territories where their local resources are overwhelmed, and provide financial assistance for mitigation, risk assessment, and relief and recovery expenditure [5]. This work is largely done in conjunction with the states, territories, and local governments. The Australian Government also has specific responsibilities in relation to national security and defence, border control, aviation and maritime transport, quarantine, enforcement of Australian Government legislation, the safety and welfare of Australians overseas, international relations, and assistance to other countries [5].

Local governments have responsibilities, in partnership with respective state and territory governments, to build and promote disaster resilience, promote community interests in jurisdictional arrangements, and prepare for disasters in their local areas, including public information and warnings, as required [5].

10.3 Comprehensive Emergency Management

10.3.1 Prevention

Prevention measures are designed to eliminate the negative consequences of hazards and reduce vulnerability to them; while mitigation seeks to limit the impact of an inevitable hazard, and increase the level of community resilience through education and awareness [3]. The Australian Government has a role in prevention, primarily through border controls of biological agents and hazardous materials, quarantine of suspected infected people, and funding of nationwide mitigation projects. State and territory governments have the primary operational role in prevention, particularly in areas such as bushfire and flood mitigation, land-use planning and building codes, and critical infrastructure protection [5]. Health agencies at a state or territory level generally do not have significant additional prevention roles, beyond that of normal operations of statewide environmental health, such as food, water, hazardous materials and radiation safety, and communicable disease control services.

10.3.2 Preparedness

Preparedness refers to a range of actions that increase an organisation or community's ability to respond to or recover from a crisis [3]. A key part of preparedness is planning, and it is critical that this is done in a collaborative, comprehensive, and iterative fashion including testing through exercises and simulation.

10.3.2.1 Surveillance

Surveillance is designed to identify the baseline number of particular types of infectious disease cases within a state or territory and to provide early warning of outbreaks or epidemics of infectious diseases above that baseline. The baseline may be zero for diseases never seen, such as smallpox or plague, or a more substantial figure, as seen with chlamydia and other sexually transmitted illnesses.

Surveillance may be passive, with routine collection of notifiable disease data from medical providers and pathology laboratories; active, with contact tracing and active testing for a particular agent in at-risk populations during an outbreak, such as measles; or syndromic, where there is regular reporting of a cluster of symptoms that may be closely related to a disease or infection, such as heat-related conditions or influenza [11]. Syndromic surveillance is often labour intensive and is generally not used routinely, but has been used in a number of major events in Australia, including the Sydney Olympic Games in 2000 and the Perth Commonwealth Heads of Government Meeting in 2011.

In Australia, each state and territory Department of Health has a Communicable Disease Control Directorate or unit, which hold the responsibility for surveillance, including collection, storing, analysing, reporting, and providing advice on communicable diseases of interest. Nationally, these units are connected through the Communicable Disease Network of Australia (CDNA), a subcommittee of the Australian Health Protection Principal Committee, which publish a Series of National Guidelines (SoNGs) that give nationally consistent, best practice advice and guidance to Public Health Units on notifiable diseases.

10.3.2.2 Hospital Preparedness

All hospitals have a responsibility to be prepared for an external disaster, known as a Code Brown, and an internal disaster known as a Code Yellow event (as defined by Australian Standard 4083 (1997)). These responsibilities extend to a frequently revised and well-exercised disaster plan; a dedicated hospital emergency operations centre; clear coordination and communication arrangements with the jurisdictional health incident coordination centre; concise guidance on operational issues, such as clearing the Emergency Department and decanting patients, and a regular staff training and exercise program, including field and desktop exercises, such as the EmergoTrain™ exercises [12].

10.3.2.3 Personal Protective Equipment

Personal protective equipment (PPE) includes different types of clothing, masks, and other devices designed to protect health staff in their response to a mass casualty incident or an infectious disease outbreak [13]. This may be as simple as protective shoes, gowns, gloves, and masks to allow to allow hospital teams to operate safely at a disaster site, through to sophisticated coverings, overshoes, face shields, and P2 (AS/NZ 1716:2012)/N95 (NIOSH-42C FR84) rated masks to allow health staff to manage highly dangerous infectious disease outbreaks, such as Ebolavirus Disease (EVD), or contaminated patients after a chemical, biological, or radiological (CBR) incident. Hospitals need to be prepared for a range of scenarios.

Most major hospitals should have, as a minimum, emergency protective gear to allow a hospital team to respond to a disaster site; protective gear to allow for the handling and management of a highly pathogenic infectious disease, including P2/N95 masks, face shields, and appropriate gloves, footwear, and gowns; and appropriate gear to deal with a CBR incident, including chemically resistant gowns and gloves, and powered air-purifying respirators (PAPR). It is also

important that staff are trained in appropriate donning and doffing procedures and undergo annual testing to ensure adequate seal of P2/N95 respirators (AS/NZ 1715:2209).

10.3.2.4 Surge Capacity

Surge capacity is the measure of the ability of the healthcare system to respond to a sudden influx of patients with the given resources. This concept has developed over the last 10 years through responses to various crises and now is an important part of health crisis planning [14].

In an urban mass trauma event, the majority of casualties are likely to arrive at a hospital in the first 60–90 min [15]. Health systems need to be capable of meeting this increased demand, including for specialised surgery, and the requirements that go with it. This will involve an integrated effort between clinical services, logistics, human resource management, and facility staff to ensure that these requirements can be met [14].

The COVID-19 pandemic that commenced in 2019 also highlighted some significant challenges with surge capacity, with challenges ensuring healthcare facilities had sufficient negative pressure isolation rooms in different contexts (including emergency, intensive care, general inpatient care, and recovery/rehabilitation). Additionally, staff sickness, furlough of close contacts, and restrictions on travel put additional strain on an already depleted workforce, limiting the ability to respond to periods of increased demand.

Some of the ways of increasing hospital capacity include:

- Cancellation of elective surgery and clinics and decanting of select patients to other hospitals or community care [16];
- Increasing use of home-based ambulatory models of care such as Hospital in the Home and telehealth consultations;
- Creating additional temporary hospital facilities within hospitals, such as ICU beds, by utilising caches of medical equipment and supplies, and repurposing spaces, such as theatre recovery rooms and outpatient clinics;
- Using diagnostic and treatment capacity in alternative health facilities, such as private hospitals and day surgical units, to treat minimally injured and decanted patients from the public hospital;
- Using other health providers, such as general practitioners and nurse practitioners, to manage the minimally injured and patients decanted from the hospital [14]; and
- Modifying models of care, such as shift lengths and ward-based teams, and extending the scope of practice for other health practitioners, including nurses, allied health staff, and medical students [17].

Medical administrators should be intimately familiar with the hospital disaster response plan, including areas likely to be utilised for additional ICU or trauma beds, additional medical equipment and consumables caches available at a hospital or jurisdictional level, and any decanting plans.

10.3.2.5 Communications

Communication systems in hospitals, including switchboards, are vulnerable, particularly in a disaster, to overloading or physical damage. Similarly, pagers, mobile phones, and mobile data may not be available, due to the overloading of the mobile towers in the vicinity of the incident or near the hospital. This may be further exacerbated by power outages.

It is important to quickly understand the exact impact of a communications outage so that backup plans and mitigation measures can be actioned; such as allocating DECT (cordless landline) phones or spare mobile phones, or ensuring that there is a list of personal mobile phone numbers circulated so that lines of communication are maintained. In the event of an external outage e.g. a specific mobile phone network, it is also important to consider critical staff who are not on-site, and what options you have if the only means of contacting them is not available.

Most hospitals should have an overhead paging system for the broadcast of announcements, although in older facilities there may be multiple

unconnected systems (often associated with fire panels) and in the context of a complete communications outage it may be necessary to rely on 'runners' to convey critical information. Major hospitals should also be connected via a dedicated or shared radio network to the jurisdictional health incident coordination centre, other hospitals, the ambulance service, and any deployed teams. In more remote areas, this should be supplemented with satellite phones [18].

Internal health intranets and the internet may also continue to operate when the telephones are unavailable, although with the move away from PABX to Voice over IP (VoIP) phone systems there may be concurrent loss of internal and external network access (including cloud-based applications) unless there are redundancies built into the network.

The use of an electronic web-based Critical Incident Management System (CIMS) should also be considered for sharing current information, developing situational awareness, documenting emerging issues and decisions made, and enabling tasking requirements between health services, hospitals, and external agencies, such as local police, fire and emergency services departments.

10.3.2.6 Training

Training should be both comprehensive and targeted. At a basic level, all health workers should have some training on principles of crisis management, response arrangements, and their expected role. As the likelihood of their involvement increases, such as with emergency department (ED) staff, the staff should be further targeted for training and simulation that addresses the full gamut of disaster preparedness and response arrangements, including the role of leading players in health crisis management. This may involve more operationally focused courses for hospital teams, such as the Major Incident Medical Management Support (MIMMS)™ course.

Finally, there will be a subset of the hospital, health service, and health department staff who have primary roles in emergency management and will benefit from further training and courses in specific disaster-related topics, including health planning, exercise management, incident control systems, and incident control centre operations [19].

10.3.3 Response

10.3.3.1 Coordination

Coordination of the health crisis response will depend on the location of the crisis and the scale of its impact. It is important that Medical Administrators understand what plans and procedures are activated in the event of a crisis—this often involves standing up an Emergency Operations Centre (EOC) with the aim to command and control the facility's response and proactively manage and mitigate potential risks and hazards. This approach leverages clearly identified roles, with allocated tasks, a clear understanding of responsibilities, and closed-loop communication and feedback—EmergoTrain™ exercises are an excellent way of simulating how an EOC operates and interacts with other key staff under real-world situations.

In regional and remote areas, the local hospital or region will manage the crisis in the first instance. Once the crisis overwhelms or threatens to overwhelm resources, the State or Territory response will be activated. In the health arena, the jurisdictional Health Incident Coordination Centre will be activated and will assume responsibility for managing the health response to the crisis. The Health Incident Coordination Centre will utilise an incident command system (ICS), such as the Australasian Inter-service Incident Management System (AIIMS), which includes sections dedicated to operations, planning, logistics, and administration [18]. The State Health Coordinator, however, named, will usually have the delegations to make decisions on behalf of the jurisdictional health system and can make decisions on the use, mobilisation, and deployment of health resources. The State Health Coordinator will liaise closely with other emergency management agencies in accordance with the local emergency management plan.

10.3.3.2 Triage

Triage, in the context of an immediate crisis or disaster, is concerned with determining how best to prioritise limited resources to produce optimal patient outcomes. From the French word "trier" (meaning to sort) and dating back to the Napoleonic Wars, triage is concerned with rapidly evaluating patients to determine their most appropriate level of patient care in a mass casualty scenario [20].

While there are a range of different triage systems utilised around the world, the fundamentals are similar. The system is designed to prioritise the affected casualties into four main categories:

- Minimal or minor cases. These are usually the walking wound with minor injuries, which will generally make up the majority of casualties. They are often coded as Priority 3 or Green patients.
- Delayed Cases. These are patients, usually non-ambulatory, who require medical intervention but have no immediate threat to life or limb. They may be coded as Priority 2 or Orange patients.
- Immediate Cases. These are patients with life-threatening illnesses who require immediate medical attention. They may be referred to as Priority 1 or Red patients.
- Deceased patients. The deceased patients are often coded as black patients. In some scenarios, where resources are limited and patients are not expected to survive due to the scale and type of their injuries, the patient may be classified as "expectant" and provided only with supportive therapy (sometimes depicted by a white label) [20].

Triage is an ongoing process, with all patients subject to re-triage and recategorisation as conditions deteriorate or improve and more resources become available. Frontline staff are primarily trained in disaster triage through the MIMMS™ course in Australia. The MIMMS™ triage uses a triage sieve and sort methodology. There may be additional triage considerations for different populations, including paediatric, burns, and chemically exposed patients [21].

The triage assessment is recorded on a triage tag, which includes basic demographic information on the patient (name, age, gender), as well as their triage category. In Australia, there is general agreement between jurisdictions to use the SMART™ triage card system, which also incorporates a unique barcode that can be incorporated into patient tracking systems.

10.3.3.3 Patient Identification and Tracking

Identifying and tracking patients from the scene back to the hospital is a critical requirement. Usually, this is done with triage tags attached to the patients at the scene, and communication of general numbers by telephone or radio. A number of electronic systems have been trialled in the United States, including electronic triage tags and radiofrequency identification devices [22].

In Australia, the National Critical Care and Trauma Response Centre (NCCTRC) in Darwin have developed a barcode tracking application, called TrackMe, that scans triage bar codes and links them to basic patient and condition information, including triage priority, which is then electronically transmitted to Health Incident Coordination Centres and integrates with the WebEOC™ system. This has already been successfully used to track patients in a number of planned hospital moves in the Gold Coast Hospital, Queensland, and Fiona Stanley Hospital, Western Australia.

10.3.3.4 Decontamination

Decontamination is designed to remove the suspected chemical, biological or radiological (CBR) or other hazardous material contaminants from the patient to enable their appropriate treatment and to protect treatment staff from their effects. The sarin attacks in Tokyo in 1995 led to 13 staff developing signs of organophosphate poisoning because the patients had not been decontaminated and the staff did not have adequate personal protective equipment (PPE). All major hospitals with emergency departments should have a decontamination shower area, which has controlled access for patients and staff, can be utilised regardless of the season, has pri-

vacy screens, has arrangements for secure containment and disposal of liquid and other waste, and provides appropriate PPE for decontamination teams [13]. Many hospitals also have a contained internal decontamination room and shower area for patients who are discovered to have been contaminated or to be off-gassing, particularly after phosphine exposure.

10.3.3.5 Hospital Response Teams

Ambulance services have a key role in the first response to disasters, including triage, rapid clinical review, life-saving therapeutic interventions, and communication of critical medical information from the scene. The information from the ambulance health commander on the scene is critical in ensuring that hospitals have a clear view of the scope, type, and number of casualties to expect [23].

In some circumstances, when ambulance services are overwhelmed, there will be a need to deploy small teams of doctors and nurses, usually from the ED of a nearby major hospital, to the vicinity of the disaster to establish a casualty clearing station, where patients can be further triaged, stabilised and prepared for transport to the appropriate hospital. This can also assist the ambulance service to free up ambulances to transport priority patients to the hospitals. The medical commander may take over the site health commander role, with the responsibility of coordinating the medical teams, prioritising patients for transport, providing information back to the State Health Coordinator and receiving hospitals, and coordinating requests for additional personnel or other resources for the site. These teams should be suitably trained, usually through the MIMMS or similar courses; have appropriate PPE to enter the scene, and be self-sustainable with regard to medical equipment and consumables.

10.3.3.6 National Teams

The Australian Medical Assistance Teams (AUSMATs) are national disaster medical assistance teams, with self–sustaining field deployment capability (including a 4000sqm EMT2 field hospital), for deployment to domestic, national, and/or international responses. They are sourced from state or territory health staff, who provide specialist health personnel as the situation demands. These teams were initially developed after the 2004 tsunami in South East Asia and have been refined and standardised over the last 15 years. There are now over 700 AUSMAT team members across all the jurisdictions and the AUSMATs have been deployed to a range of crises, including the Pakistan floods (2010), the Christchurch earthquake (2011), the Vanuatu cyclone (2015), Nepal earthquake (2015), Australian Bushfires (2019–20), and COVID-19 deployments domestically and internationally (2019–2022).

The team members are required to have undertaken specific AUSMAT training, including security and safety training; to be up to date with vaccinations, to be medically fit, to be a volunteer to deploy, and to be competent in their professional role. The teams are expected to be self-sustainable, with access to caches of both self-sustainability, such as water, food, tentage and utilities, and medical equipment. They may deploy as individuals, as small forward needs assessment teams, or as part of a bigger medical treatment team [24].

AUSMATs are enablers under the National Health Emergency Response Arrangements (the NatHealth Arrangements), which outline the strategic authorities, responsibilities, arrangements, and mechanisms that enable a coordinated national health sector response to emergencies of national consequence. The NatHealth Arrangements may be utilised in response to a domestic or international event that impact or threatens to impact two or more states and/or territories and across jurisdictional borders; has the potential to overwhelm or exhaust a state and/or territory's health assets, and resources; or its scale or complexity warrants a nationally coordinated response. They can also be utilised internationally, under the AUSASSISTPLAN or the OSMASSCASPLAN, and are tasked by EMA at the Australian Government's request [25]. The Australian Health Protection Principal Committee (AHPPC) plays a key strategic role in determining the requirements to meet the task. The

National Health Emergency Management Standing Committee, a standing committee of AHPPC, has a key role in developing the policies and guidelines that govern the operations of the AUSMATs, including the development of the AUSMAT manual.

In 2013, the World Health Organisation published the Foreign Medical Team (FMT) guidelines, which are designed to lead to standardisation and ultimately international registration of all FMTs. These guidelines were used successfully in the FMT coordination after the Nepal earthquake in 2015 and have been endorsed by AHPPC [26]. The AUSMAT capability was accredited and registered through this process as an international Emergency Medical Team (EMT) in October 2016. EMT has replaced the former FMT term.

10.3.3.7 Emergency Department Management

In the event of a disaster, the nearest Emergency Department (ED) usually takes the brunt of the casualties, sometimes without warning and not necessarily because it is the most appropriate, but the nearest. As hospitals generally operate with high occupancy and turnover in their emergency departments, and diversion to other hospitals or ramping of ambulances is not uncommon, hospitals need to react quickly to the changing circumstances.

Most Eds will have some time before the first seriously ill patients arrive, although those less injured fleeing from the scene may arrive earlier. It is important that ED staff are appropriately briefed, and consideration is made as to what additional workforce might be required (including staff from other services) and how they might be best utilised.

A key priority is to clear the ED of as many patients as possible, by discharging them home, transferring them to other health facilities, or admission to the hospital. A plan for such an evacuation should be developed and exercised prior to any major incident. While this may be daunting with a full ED, it can be carried out successfully, as demonstrated by the hospitals involved in the response to the 2004 Madrid bombing. In Israel, regular ED patients are transferred to pre-determined areas, usually acute medicine wards, where they are evaluated for discharge home by physician teams [27]. While the patients are being cleared, the ED resuscitation area should be prepared for the most critically injured victims, with supplementation of medical equipment, medical consumables, and pharmaceuticals to manage the suspected patient load and injury types [27].

Hospital capacity will also need to be expanded rapidly, particularly as routine occupancy rates can be up to 95%. Hospital patients should be evaluated for discharge by health teams, elective surgery, and clinics cancelled, recovery rooms cleared for possible use as high-dependency units, and intensive care unit (ICU) patients evaluated for possible transfer to other public or private ICU units. The membership of the teams should have been determined prior to any event and documented in the hospital's disaster management and/or surge plans [27].

Hospitals and health services should also have contingency plans to separate the more minimally injured from the more serious cases. This can be done by establishing a dedicated area in the hospital for such cases, such as an outpatient department, staffed by appropriate health staff, or by redirecting ambulances to secondary hospitals to manage such cases [12].

10.3.3.8 Hospital Management

Hospital management will be focused on preparing the hospital for mass casualties, including utilising surge capacity within the hospital by repurposing various rooms, preparing and rostering staff, expanding morgue capacity, and assessing and topping up medical consumables and pharmaceutical supplies. Given the impact on families, areas need to be set up to receive and assist family members, and this will need appropriate staffing (generally coordinated by social work). If this is done well, as in the 2005 London bombings, the trauma for both family and staff will be reduced [18].

As the disaster may impact utilities, topping up fuel supplies for emergency generators and water tanks is also a prudent step. Other steps that

should be considered are assessing and replenishing any shortfalls in blood supplies; requesting additional medical equipment, such as ventilators and monitors, from disaster medical caches or medical warehouses; and ensuring that there are no problems with service deliveries of critical supplies, such as medical gas, linens, and food, or with clinical and general waste removal [18].

With external disasters it is also important to understand if there are any impacts on transport infrastructure and/or the ability for staff to access the workplace—this will largely depend on where the healthcare facility is physically located, where your staff normally reside, and how they normally get to work. Damage to transport infrastructure may impact ambulance arrivals as well as disrupt the delivery of consumables and perishables, which may need to be conserved until alternative arrangements can be made. Likewise, in some circumstances, it may be prudent to consider the need for temporary accommodation for staff who cannot safely return home.

10.3.3.9 Radiology and Laboratory Services

Radiography, including computerized tomography (CT) scanning, is the most common bottleneck in the ED flow, particularly in terrorist bombings and other multiple trauma events. In various bombings, nearly half of the victims received at least one radiographic study [27]. To address these bottlenecks, all radiographs, including CTs, should be prioritised based on their likelihood of changing planned management, with non-critical radiographs, such as foreign bodies and fractures, deferred until radiography access improved. The radiography capacity can be augmented with portable X-rays, either in the ED or another part of the hospital, for the more minimally injured, remembering that radiation safety requirements around mobile machines may impact patient management in the ED. Patient deterioration, either in the radiography suite or the CT scanner, is an important consideration and suitable staff, equipment, and processes should be in place to manage any deterioration. Finally, an attending radiologist should be available to immediately read radiographs and CT scans to maximise flow through the ED. [27]

Getting timely results from laboratory requests, particularly where they impact patient care, may also adversely affect patient management, and consideration should be given to prioritising samples to those that will affect treatment and supplementing staff and supplies in these areas to ensure efficient processing of specimens and result reporting [28]. The use of point-of-care testing devices may assist in this context, as does a good knowledge of what non-laboratory testing equipment is available and where it is in the facility (such as arterial blood gas machines, activated clotting time analysers and thromboelastography devices).

10.3.3.10 Paediatric Patients

Depending on the type and site of the disaster, children may make up a significant part or even the majority of the casualties, as was highlighted by the Beslan school siege in Russia. Children are also more vulnerable to infectious diseases and exposure to adverse environments, are usually dependent on the family for support, and have special dietary needs, particularly among neonates and young children [29]. Unfortunately, national, state, and hospital disaster plans often lack paediatric components [30]. As children are more vulnerable to the hazards of various disasters, present with different patterns of injury and illness, and have different medical and psychosocial needs from adults, disaster-trained paediatric medical and nursing staff are key to any effective disaster response. The paediatric staff needs to be appropriately equipped with medical equipment suitable for use with paediatric patients [30].

Other considerations with paediatric disaster victims are the care of their parents or guardians, who will probably have prioritised the child's care over their own and may need their own assessment and treatment; the management of children whose parents who have died, are hospitalised or unavailable, which may require them to remain in the hospital for longer than clinically indicated while other guardians are found [31]; and, if they come from an impoverished background, may have poor nutritional status,

increased exposure to communicable disease, and a low immunisation rate [29].

10.3.3.11 Burns Patients

Burns from bushfires, terrorist attacks, volcanic eruptions, or other fires have the potential to rapidly overwhelm both the jurisdictional and national capacity for burns beds, depending on the number of patients affected and the capacity and occupancy rates of the burns units. Hospitals with burns units should consider their surge plans, including identifying additional wards, equipment, and consumables [32]. A national burns plan (AUSBURNSPLAN) and a burns network were developed in Australia after the 2002 Bali bombings to coordinate the national response to an influx of serious burns patients [33].

10.3.3.12 Infection Control, Isolation, and Quarantine

While many crises relate to acute manmade or natural events, such as an earthquake, they may also be due to an epidemic or pandemic. In recent years, the 2009 H1N1 pandemic, the West Africa Ebolavirus Disease epidemic in 2014–2016, and the 2019 COVID-19 pandemic have highlighted the challenges of such events. These outbreaks may be natural or related to the intentional release of a biological agent, as seen in the U.S. anthrax attacks in 2001.

Epidemics can occur with a variety of diseases in different settings. Some diseases may be endemic to the area and there may be seasonal variation, such as with influenza, and a baseline needs to be established. Large increases in cases compared to the baseline, cases in lower-risk populations, and a sustained increase over a longer period are all suggestive of an evolving epidemic. These changes will be picked up by passive and active surveillance, as discussed above [11].

While the core public health response to epidemics is early detection, surveillance, contact tracing, use of vaccines, prophylaxis, and therapeutic options, where available, health services and hospitals need to be prepared to manage infected inpatients, minimise the nosocomial spread, and ensure the decrease of spread in the community [11]. The 2019 COVID-19 pandemic also highlighted the need to risk assess and appropriately manage staff exposure in the context of high community transmission—in the delta and omicron waves, managing high rates of staff furlough was often as much of a challenge as the actual COVID-positive inpatient load.

Infection control involves the use of various measures to prevent the spread of infectious agents within a hospital setting. This is routinely performed to prevent resistant strains from spreading in the hospital and into the community, through standard precautions, such as gloves, gowns, and masks, where required, but may need to be enhanced where there are increased infectious risks from contact with the patient (contact precautions, from respiratory droplets from the patient (droplet precautions) or airborne spread (airborne precautions) [11]. The pathogenicity of the organism, and the ability to protect with vaccines or treat the resultant disease, should also be factored into infection control decisions. The 2014 Ebolavirus Disease outbreak focused many Australian hospitals on preparing to manage such a highly dangerous pathogen.

Under Public Health law in most jurisdictions, there is the ability for public health authorities to enforce isolation of patients infected with the disease of concern, either in a hospital, at home, or another facility depending on their medical condition. Similarly, the public health powers exist to quarantine those who have been exposed, and may or may not develop the disease, from the general community [11]. These powers were historically used sparingly, due to challenges with enforcement, human rights, and other options to resolve the situation, but were certainly exercised during the 2019 COVID-19 pandemic.

10.3.3.13 Mental Health

Mental health is a key concern after disasters and the ability of a jurisdictional mental health service, often already stretched, to handle this need will be challenged. Disaster relief and hospital responders should have a basic understanding of the likely psychosocial needs of the disaster victims, including the likely acute stress

reactions [34]. Psychological first aid may be required and early involvement by psychiatrists and other mental health professionals may enable triage of those likely to be at risk for more severe mental illness [35]. This will impact both adults and children, with children particularly prone to a wide range of psychological responses, with depression, behavioural disturbances, and phobias being common [31]. These events may also be very traumatic for hospital and emergency response staff, and mental health plans should cover support for staff following the incident.

Prolonged crises (particularly where there are limitations on travel and other public health policies resulting in social isolation) are also associated with an increase in clinically significant symptoms of anxiety, depression, and psychological distress amongst both patients and staff. Ensuring staff are well supported should be a high priority, with consideration for enhancing access to workplace assistance schemes such as EAP, or digital mental health services [36].

10.3.3.14 Mass Fatalities

Jurisdictions and hospitals should have plans for dealing with mass fatalities. For the general community, the number of dead is seen to reflect the true scale of the disaster and the management of the deceased will come under greater scrutiny, as society endeavours to ensure that these people are treated appropriately in death. This involves the location, recovery, storage, identification, and, ultimately, final disposition of these bodies. Depending on the type of disaster, the amount of damage caused, and the involvement or not of a criminal element, such as a terrorist attack, will dictate the degree of forensic investigation required [37].

In a mass fatality incident, victim identification will become a key focus, particularly where bodies have been badly damaged in the incident. Identification is required for certification of death, which has significant legal ramifications for next of kin on a range of issues from life insurance to child guardianship [35]. Families need to be kept informed of these processes and why they are required.

With multiple fatalities and/or certain infectious diseases, capacity and safe storage of the victims may become an issue [18]. Mass fatality plans need to address arrangements for storage of the deceased beyond the normal mortuary capacity, which may be done in refrigerated warehouses or containers, portable facilities, and enhanced facilities to allow forensic staff to carry out identification and post-mortem procedures. Any attempts to use mass graves, particularly without suitable identification of the bodies, should be strongly resisted, due to long-term complex legal, societal, and economic issues of such a move [37].

Once the body is identified, and all forensic examinations are complete, there may be a requirement to work with families and funeral home operators to ensure that burial or cremation is expedited. Cemeteries and crematoria can expedite the process if and when required. With certain communicable diseases, there may be requirements to either not embalm the body (e.g. for the plague) which will need to be explained to the family; or a need to cremate (e.g. for Anthrax) which will also need to be explained to the family [37].

10.3.3.15 Other Issues—Volunteers, Public Communication, Security

Following a disaster, many health providers are keen to assist and look for effective ways to help. Within the system, these staff can be utilised through good personnel management by planning the anticipated staffing requirements for the next 24–48 h and programming those offering to come back from leave or days off to relieve those who are currently in the frontline (including staff running the Emergency Operations Centre, who also need appropriate rest and downtime). Other health professionals are more problematic and 'spontaneous volunteerism' needs to be appropriately managed to ensure this does not overly complicate staffing [4].

The same holds true for government or non-government organisation (NGO) medical assistance teams as well. If health providers are interested in disaster response, they can register

with AUSMAT or other disaster response NGOs, who will ensure the volunteers are prepared for deployment, including vaccinations, credentialing, and training, to enable rapid deployment. Previous disaster-relief experience is beneficial in applying for such positions.

Public messaging is also important. In a national disaster, there are well-established mechanisms through AHPPC to share key information, frequently asked questions, and public messages across jurisdictions. Similarly, in response to a disaster, jurisdictions will develop common public messages and frequently asked questions through their established State public information coordination arrangements [5]. This messaging is critical for hospitals, as it can be utilised to pass essential information to the community, reassure the public about various aspects of the response, request non-urgent patients to not attend the hospital, or provide contact numbers for worried family and friends to reduce the load on hospital switchboards.

In the event of a disaster, plans need to address securing the facility, directing traffic, protecting staff and patients, and managing personal effects. In addition to media, hospitals will need to manage family and friends of the injured, volunteers, and senior officials and politicians, who wish to visit the hospital. As security is often minimal at most Australian hospitals, even to deal with routine threats of violence within the hospital [38], security staff may need to be supplemented by other hospital staff for some duties, such as traffic direction, or by contracted security staff or police if security needs to be bolstered, noting that police may be heavily involved in the disaster response itself [18]. The latter will need to be facilitated through State or Territory emergency management arrangements. The facility must also have a plan to lock down the total facility, with limited supervised access, if required for contaminated patients or an active shooter on site [18]. In terrorism or major criminal incidents, there is also the possibility that the incident could be brought back to the hospital, and screening for weapons may be required.

10.3.4 Recovery

Recovery aims to learn from the crisis experience, and support communities to attain higher levels of resilience. It commences from the time of the initial response but may continue for months or years—successful recovery requires a planned and coordinated approach with consideration for an ongoing assessment of impacts and needs [36].

Recovery arrangements are a core part of Australia's emergency management arrangements, occur at all levels of government, and are well outlined in jurisdictional plans. From a health perspective, the focus is on the physical and mental health recovery of the patients, health support to local evacuation or relief centres, and public health and environmental health support to affected communities [5]. The latter is focused on preventing disease outbreaks by ensuring food and water safety, appropriate sanitation, vector and vermin control, and management of hazardous materials and other waste [34]. In the Maldives, Australian public health teams assisted the Maldivian Government to implement shelter, food security, water and sanitation, and waste management strategies post-tsunami [39].

Recovery may also involve the management of unintended or unexpected consequences—for example, there has been a significant uplift in cardiology, geriatric, and mental health presentations following the COVID-19 pandemic that can probably be explained in terms of patients not seeking appropriate care during a lockdown, families being reluctant to move their aged relatives into aged care facilities and the impacts of social isolation and work-related stress and burnout (particularly amongst healthcare workers); however, this change in demand, acuity, and case-mix needs to be carefully managed so as not to disrupt the return to business as usual.

10.4 Other Issues

10.4.1 Media Management

The media can be expected to arrive or contact health services and hospitals as soon as a disaster strikes. A communication plan must be in place for such an eventuality, which will generally identify a senior spokesperson to talk to the media in the first instance. In the immediate stage, the media should be strongly discouraged from attending hospitals and should be strictly controlled if they do [18]. Initial media messages will concentrate on what has happened and what has been done, and patient conditions should only be discussed in the most general of terms due to medical confidentiality and privacy concerns. This should be done without identifying patient details or specific details of injuries.

10.4.2 Special Considerations—Chemical, Biological, or Radiological

In any disaster, there may be consideration of special conditions that occur due to the accidental or intentional release of a chemical, biological, or radiological agent. The most likely of these is the contamination of a patient with chemicals from a hazardous material spill, but intentional incidents, such as the 1995 Tokyo sarin attack and the 2001 anthrax release, have occurred. The primary concerns are the protection of ED and hospital staff, the decontamination of patients, and the treatment of their illness. Unprotected staff may become secondary victims of contaminated patients. Most patients exposed to chemical or radiological agents will be decontaminated at the scene, but there may be a requirement for decontamination of those who avoided or were only partially decontaminated on site. Hospitals need to have decontamination facilities, PPE for staff that they are comfortable with and have trained in, and protocols for the receipt, management, and treatment of these patients. To assist and provide guidance, the Australian Government has developed the Domestic Health Response Plan for Chemical, Biological, Radiological, or Nuclear Incidents of National Consequence (2014). The National Medical Stockpile was also developed in 2002, which can provide a range of therapeutic agents, PPE, and medical equipment, in the event of a CBR or conventional terrorist attack [12].

10.4.3 Other Events—Internal Failures, Contamination, and Shortages

Hospitals and health services should also be prepared for internal failures, contamination of therapeutic supplies, and shortages of key drugs. Over the last 10 years, Australia has seen contamination of propofol supplies, shortages of heparin, and multiple outages of utilities, including natural gas supplies and electricity grids. Hospitals need to work closely with jurisdictional health disaster agencies to ensure that these events are appropriately identified, managed, and solutions found to ensure continued patient care. Given their nature, contamination, and shortage incidents often become national incidents for discussion and coordination at the AHPPC.

There should be a low threshold for standing up the EOC when critical infrastructure is being tested, or taken down for maintenance. For example, while there are typically redundancies built into the design of healthcare facilities (such as dual high-voltage electrical feeds, automatic backup generators, emergency power via central batteries, uninterrupted power supplies, and device-specific batteries), multiple points of failure or cascading faults may still occur (and not infrequently during routine maintenance/testing). In this context, it is important to understand how the system is nominally designed (or at the very least know who to call to find out)—if it's 2 AM and you have just lost power from the grid and your backup generators have failed, how much time do you have before your emergency batteries are depleted?

10.4.4 Business Continuity Planning

To ensure that the hospital organisation is resilient and able to manage both external disasters and internal failures, there needs to be a commitment at the senior executive and hospital board level to both disaster planning and business continuity planning (BCP). Such commitment should include policy development, resource allocation, risk evaluation and management, training, and exercising. Risk management needs to be robust, objective and, optimally, to have risk assessments and treatments built into operational plans and processes [40].

While disaster preparedness and response are generally well understood, business continuity management and planning are less well prepared for. Business continuity management had its origins in information technology disaster recovery, where backup of critical data became a priority. The concept has now broadened to include continuity across the whole organisation, from utilities to staff to communications. All hospitals now need to have analysed their critical areas and developed plans and procedures to clearly outline how these critical areas will continue to function after an internal failure, major damage to the facility, or an external disaster that impacts the hospital [40].

10.5 Aftermath

This chapter is designed to give medical administrators an introduction to crisis management and disaster medicine in a relatively short chapter. By its nature, it is not comprehensive and there are many disaster medicine texts and journals if further information is required (see below). It, however, should encourage medical administrators to consider the topic, identify the various pitfalls they would like to avoid and assist with the disaster planning, which is a critical part of hospital and healthcare operations.

10.6 Reflections

Crises may impact health services by increasing the demand for services, reducing the capacity of the system to provide services, or both.

- The key principles for crisis management are:
  - Graduated response—The response should be provided at the lowest and most local level available, and should only be escalated when resources are not available.
  - The all-hazards approach—As part of policy and planning, one set of management arrangements should cover all hazards.
  - Shared responsibility—All stakeholders (including agencies, communities, and individuals) understand their own risks and responsibilities, and that of others; and subsequently, the need to prevent, prepare, plan, respond, and recover from a crisis.
  - Integrated response—Any response to a significant disaster will require assistance from, communication with, and coordination of a range of government and non-government agencies.
  - Comprehensive response—All agencies need to be addressing prevention, preparedness, response, and recovery (PPRR) as part of their planning.
  - Resilience—Ongoing effective prevention, preparedness, and response requires the community to take a role in preparing themselves for any likely disaster [5].
- Health planning requires a good understanding of:
  - The ethical and legal requirements and the jurisdictional and national emergency management requirements;
  - The hospital and health services requirements under each component of the PPRR;
  - The particular planning requirements around surveillance, staff protection, equipment caches, communications redundancy, and training in the preparedness phase;

- The rapid transition required in the response phase to effectively manage mass casualties, including deploying medical teams, implementing triage and surge management procedures, managing patient flow, and addressing potential bottlenecks and vulnerable groups in the process;
- The necessary next steps in the recovery phase, particularly in the public health and mental health areas; and,
- The requirement to keep the hospital or health service operational through robust business continuity plans that can manage the full range of risks from internal utility failure to contaminated patients from a chemical or radiological attack.

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11 Health Economics, Healthcare Funding including Activity-Based Funding: What a Medical Manager Needs to Know

Craig Margetts

Learning Objectives
The reader should gain the following:

- A broad understanding of the economic and political environment in which healthcare functions, as well as a brief international comparison of healthcare expenditure.
- An introduction to the five key funding paradigms for healthcare, including activity-based funding (ABF), and the risks, benefits, and challenges associated with each one.
- A detailed understanding of ABF including a brief history of Casemix, the International Classification of Diseases (ICD-10-AM), Australian Refined Diagnosis Related Groups (AR-DRGs), and National Weighted Activity Units (NWAU).
- An appreciation of the crucial importance of accurate and complete documentation in the monitoring of quality, and maximisation of revenue.

11.1 Introduction

Healthcare is one of the largest sectors for expenditure in any developed economy. In 2019, an average of 8.8% of Gross Domestic Product (GDP) or US$4,097 per person was spent on healthcare across 34 countries according to the Organisation for Economic Cooperation and Development (OECD) [1].

This chapter will explore the role that Health Economics plays in the design and implementation of healthcare methodologies and commences with a discussion on healthcare funding comparisons around the nations of the world.

Next, a model is presented explaining various ways healthcare is funded using two dimensions:

1. The extent to which clients or patients group together as joint *Purchasers*, ranging from an individual patient paying out-of-pocket for themselves, through various levels of private insurance, up to "universal healthcare".
2. The extent to which the resources of health service providers are aggregated or "bundled" into identifiable *Services* to be funded or purchased. This ranges from fixed, or expenditure-based funding, through activity-based funding and up to population-based funding.

Each method involves a defined level of both financial and clinical quality risk that must be unpacked, understood, and managed by the medical manager. An understanding of these funding methods and the ability to manage these risks represents an essential knowledge base and skill set for medical administrators and clinical leaders.

An in-depth review of Activity-Based Funding (ABF) follows, as one of the key and enduring methods of healthcare financing.

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11.1.1 Board-Level Reporting

Balance sheets and cash flow statements are important reports for board members, particularly in the private sector where capital funding and cash solvency are key issues to be managed. Clinical directors and medical administrators are rarely required to analyse these two aspects, and the analysis and interpretation of these reports are not covered in this chapter.

Aspiring board members should consider the Australian Institute of Company Directors (AICD) course aimed specifically at this level of corporate governance.

The management of expenditure, the maximisation of revenue, and the interpretation of their associated reports, on the other hand, are core skills and are covered in some depth in this chapter and the subsequent chapter.

11.2 Health Economics

Health economics describes a branch of economics that is concerned with the efficiency, effectiveness, value, and behaviour in the production and consumption of health and healthcare [2]. Kenneth Arrow is acknowledged as the father of health economics following the publication of his paper entitled *"Uncertainty and the Welfare Economics of Medical Care"* in 1963 [3].

A major consideration for Health Economists is the optimal method of funding care. The discipline also focusses on the signals that are being sent by healthcare purchasers to healthcare providers, explicitly or implicitly, by the choices in funding methodology. This can vary significantly over time, and between countries. A brief overview is provided here.

11.2.1 Healthcare as a Luxury Item

In 1977 Joseph Newhouse compared Gross Domestic Product per head of population with expenditure on healthcare and noted a "price elasticity significantly greater than one" between countries.[1] He argued, therefore, that healthcare had the hallmarks of a "luxury" item.

Others subsequently questioned this, pointing out that ***micro***economic approaches, which consider the behaviours of individuals, are not appropriate for ***macro***economic studies between countries, and in any event, a better analysis was based on Purchasing Power Parities (PPPs). When this was done the data tended to suggest that healthcare behaved as a necessity rather than a luxury in terms of its behaviour economically. It was suggested that system design, doctor remuneration, and the ratio of public to private healthcare were more significant factors to explain the variability between countries than price alone [4]. More recent studies have continued to further debunk the "luxury" argument [5].

Despite this, governments, lobbyists, and the public, continue to debate whether or not healthcare should be free to consumers at the point of consumption, with the argument tending to be split along political lines: conservative views favouring a co-payment to avoid over-use, while more liberal views calling for healthcare to be provided at no cost to the consumer.

Others argue a better alternative to rationing based on price and the ability to pay, is by the use of gatekeepers or rationing based on availability and clinical need. The Australian Medicare system, for instance, requires a referral from a General Practitioner (GP) to see a specialist, ensuring that higher-level services are provided only where there is a genuine need for specialist advice. Patients can then be discharged, back to their GP, for ongoing care in a less expensive setting.

[1] "Price elasticity" describes the impact on purchasing behaviour when the cost of the item rises. A price elasticity of one means that price has no effect on purchasing and is typical of the necessities of life which tend to be purchased regardless of price. Items with a price elasticity significantly greater than one (such as luxury goods) tend to be purchased less when the price rises, and more when it is cheaper or free.

11.2.2 Healthcare Expenditure Growth Over Time

Like all countries, Australia and New Zealand have increased their healthcare expenditure over time. Table 11.1 reveals significant growth in cost per person over 50 years.

For example, the 1971 cost of healthcare per person in Australia was US$213, or US$2383 in 2020 dollars, after allowing for Australian inflation. By 2020 this had grown to US$5627.

When measured as a percentage of GDP, this represents growth from 4.5% to 10.6% meaning that both in real terms, and in the percentage of GDP, the cost of healthcare per person has grown 236% over 50 years in Australia, and about 190% in New Zealand, according to the OECD.

A similar calculation for the US, on the other hand, shows a 518% growth [1, 6].

The causes for this growth in cost are varied. One reason is the ageing of the population, and this is clearly one of the major causes, as are the increases in the variety and cost of available diagnostic modalities and treatments, with healthcare inflation significantly outpacing the Consumer Price Index (CPI).

One other, often forgotten reason for this increase is the success of healthcare itself. Interventions now cure many previously fatal conditions, and surviving patients go on to experience other illnesses and will inevitably require many more episodes of care throughout their (now longer) lives. Clearly, this is to be celebrated, but it is also important to remember when looking at healthcare planning and healthcare economics into the future.

11.2.2.1 The Economic Impact of Artificial Intelligence, Robotics and Automation

Healthcare is still largely a cottage industry, notwithstanding the expense. Its relative lack of standardisation and little automation makes healthcare stand out when compared with other industries, which have reaped massive quality and productivity improvements through automation, robotics, and now through artificial intelligence [7, 8].

It is likely that automation will play a central part in health economics of the future, as it holds the promise to radically alter the cost and quality paradigms for health, in the same way as automation has changed many other industries [9].

Calls for health technology to be controlled and regulated so that it can never replace a human doctor, are reminiscent of historical battles against automation of knitting mills and other industries, dating back two hundred years. Those

Table 11.1 Historical health expenditure in Australia and New Zealand

Health Spending: Year	New Zealand per capita in US$	New Zealand as a percent of GDP	Australia per capita in US$	Australia as a percent of GDP
1970[a]	215	5.1%	213	4.5%
1980	500	5.7%	592	5.8%
1990	1,023	6.7%	1,166	6.5%
2000	1,565	7.5%	2,153	7.6%
2010	3,043	9.6%	3,593	8.4%
2018[b]	3,913	9.0%	5,194	10.1%
2019	4,250	9.0%	5,130	10.2%
2020[c]	4,469	9.7%	5,627	10.6%

At current prices and PPPs in US dollars
OECD (2022), Health spending (indicator). doi: 10.1787/8643de7e-en (Accessed on 14 September 2022) https://data.oecd.org/healthres/health-spending.htm
[a]Australia = 1971
[b]Pre-COVID-19
[c]Post COVID-19

who repeat the tactics and approaches of the past are likely to be similarly unsuccessful [10].

A more valuable role for medical leaders is to seek to understand how best to manage and govern the judicious introduction of technology to ensure that healthcare continues to be both readily available and affordable to everyone, without having to choose between the two.

An unpublished document entitled "Digital Health Training for RACMA Members" authored by the Royal Australasian College of Medical Administrators (RACMA) in 2020 begins by calling on the reader to picture a world where automation is heavily embedded in the healthcare journey: with holographic doctors providing an infinitely scalable service with greater accuracy and at a fraction of the cost compared with today's human-based healthcare delivery models. The paper poses the ethical question: "At what point will we have to ask ourselves whether a human doctor should be permitted to deny a safer, more accurate, and less costly service to patients provided by robotics, AI, and automation?"

Although these hold great promise for healthcare into the future, and indeed may be the only viable solution to the growth in expenditure, they are not otherwise covered in this chapter but may be more deeply covered in other chapters or in a subsequent edition.

11.2.3 International Comparisons

International expenditure on healthcare varies widely, however many of the OECD nations spend a remarkably consistent proportion of Gross Domestic Product (GDP), indicating that as countries become more (or less) wealthy they use similar proportions on healthcare.

As noted above, the 2019 OECD average expenditure was 8.8% of GDP or US$4,097 per person. For Australia and New Zealand, these figures were US$5,130 (10.2%) and US$4,250 (9.0%) respectively, just slightly above the OECD average in both measures.

The US, by comparison, spends US$10,856 per person (16.7%) on healthcare, while Canada comes in at US$5,190 (10.9%). The equivalent figures for the United Kingdom are US$4,285 per person and 9.9% of their GDP.

Interestingly, the proportions of GDP spent on healthcare for the five countries listed above are not similarly reflected in healthcare employment. The US healthcare engages 13.6% of the workforce, Australia 13.3%, the UK 12.4%, Canada 11.4%, and New Zealand 10.5% (see Table 11.2).

This lack of alignment suggests that something other than raw employment numbers may be driving the costs. Indeed, using the number of medical staff per thousand population the ratios are further skewed with the USA having the fewest doctors per 1,000 population. Nursing is also not where the money is going with fewer US than Australian nurses.

There are likely to be a range of factors leading to this outcome, including geography and isolation, which may, for example, increase the required number of doctors in Australian regional areas.

Other factors of interest to economists are the relative profits made from healthcare—either by individuals or corporations—which may not be reflected in employment numbers.

Table 11.2 Comparison of five countries

Health spending	Cost per capita in US$	$ of GDP	% of employment	Doctors per 1,000 pop'n	Nurses per 1,000 pop'n
Australia	5,130	10.2%	13.3%	3.8	12.3
Canada	5,190	10.9%	11.4%	2.7	10.1
New Zealand	4,250	9.9%	10.5%	3.4	10.9
UK	4,285	7.5%	12.2%	3.0	8.7
USA	10,586	16.7%	13.6%	2.6	12.0

At current prices and PPPs in US dollars

OECD (2022), Health spending (indicator). doi: 10.1787/8643de7e-en (Accessed on 14 September 2022) https://data.oecd.org/healthres/health-spending.htm

Total expenditure on healthcare per capita for a range of other OECD countries is shown in Table 11.3 for all years between 2014 and 2020 (and 2021 where available).

It should be noted that the percentage of GDP may not always be a good indicator, but it is certainly a common one. To see why this can be an issue, a review of the GDP expenditure on healthcare for Ireland shows that it ranged from 7.5% of GDP in 2007, to 10.5% in 2010, only to fall again to as low as 6.7% in 2021. At the same time the health expenditure per person was growing, but not significantly faster than in other countries. The issue in this case was the sudden reduction in Ireland's GDP which occurred in the post-2008 Irish economic downturn. Accordingly, care must be taken when interpreting such statistics [1, 11].

11.2.3.1 Data Sources

As a medical administrator, it is important to have ready access to authoritative information

Table 11.3 Total expenditure on health per capita

	2014	2015	2016	2017	2018	2019	2020	2021
Australia	$4,563	$4,777	$5,037	$5,075	$5,194	$5,130	$5,627	
Austria	$4,858	$4,944	$51,96	$5,315	$5,519	$5,624	$5,883	$6,693
Belgium	$4,580	$4,807	$4,999	$5,121	$5,315	$5,353	$5,274	
Canada	$4,537	$4,635	$5,044	$5,150	$5,308	$5,190	$5,828	$5,905
Chile	$1,755	$1,834	$1,941	$2,120	$2,281	$2,297	$2,413	$2,596
Czech Republic	$2,565	$2,545	$2,671	$2,970	$3,129	$3,272	$3,805	
Denmark	$4,597	$4,727	$4,901	$5,113	$5,307	$5,360	$5,694	$6,384
Estonia	$1,821	$1,940	$2,097	$2,201	$2,364	$2,452	$2,729	$2,989
Finland	$3,956	$3,992	$4,104	$4,215	$4,330	$4,382	$4,566	
France	$4,627	$4,667	$4,928	$5,006	$5,099	$5,168	$5,468	
Germany	$5,152	$5,296	$5,669	$5,970	$6,282	$6,408	$6,939	$7,383
Greece	$2,011	$2,123	$2,258	$2,251	$2,315	$2,350	$2,486	
Hungary	$1,864	$1,891	$2,000	$1,997	$2,106	$2,094	$2,402	
Iceland	$3,600	$3,733	$3,932	$4,111	$4,236	$4,318	$4,620	$5,096
Ireland	$4,197	$4,295	$4,537	$4,683	$4,871	$4,947	$5,373	$5,836
Israel	$2,238	$2,310	$2,524	$2,626	$2,749	$2,791	$3,057	
Italy	$3,037	$3,089	$3,274	$3,376	$3,496	$3,565	$3,747	$4,038
Japan	$4,328	$4,516	$4,296	$4,413	$4,554	$4,611	$4,666	
Korea	$2,233	$2,492	$2,665	$2,802	$3,079	$3,277	$3,582	$3,914
Luxembourg	$4,707	$4,692	$4,864	$4,989	$5,292	$5,360	$5,596	
Mexico	$990	$1,063	$1,103	$1,100	$1,122	$1,117	$1,227	
Netherlands	$4,935	$4,927	$5,096	$5,254	$5,489	$5,649	$6,190	
New Zealand	$3,491	$3,501	$3,733	$3,842	$3,913	$4,250	$4,469	
Norway	$5,707	$5,727	$5,904	$6,234	$6,495	$6,476	$6,536	$7,065
Poland	$1,687	$1,819	$1,959	$2,063	$2,107	$2,232	$2,286	$2,568
Portugal	$2,538	$2,636	$2,815	$2,906	$3,134	$3,224	$3,348	$3,816
Slovak Republic	$2,010	$2,059	$2,040	$1,974	$2,009	$2,115	$2,134	
Slovenia	$2,499	$2,579	$2,738	$2,833	$3,045	$3,222	$3,498	
Spain	$2,858	$3,020	$3,149	$3,318	$3,427	$3,523	$3,718	
Sweden	$4,866	$5,004	$5,128	$5,219	$5,419	$5,388	$5,757	$6,262
Switzerland	$6,159	$6,466	$6,808	$6,866	$6,931	$6,942	$7,179	
Turkey	$1,007	$1,040	$1,129	$1,176	$1,205	$1,232	$1,305	
United Kingdom	$3,759	$3,806	$3,960	$4,059	$4,190	$4,385	$5,019	$5,387
United States	$8,926	$9,355	$9,718	$10,046	$10,451	$10,856	$11,859	$12,318

At current prices and PPPs in US dollars

OECD (2022), Health spending (indicator). doi: 10.1787/8643de7e-en (Accessed on 4 September 2022) downloaded from https://data.oecd.org/healthres/health-spending.htm

regarding health economics. One such source is www.oecd.org/health.htm which has a range of excellent web-based tools that are freely available by searching for "Health Spending" [11].

As with all data, however, statistics are refined over time. An illustration is that there are slight differences between the data published in the most recent "Health at a Glance" publication in 2021 OECD [1] and the current live data available using their interactive tool. Information for the most recent years is often an estimate, and as better data is submitted, static reports quickly become dated.

11.2.4 Public vs Private

Chapter 8 explores the private healthcare sector in more detail. From the perspective of health economics, however, one of the international and national debates relates to the optimal role of private healthcare providers in the delivery of healthcare.

The Australian setting, although not unique, is unusual. The Federal and State governments are largely responsible for separate sectors: with the private sector including GPs and the health insurance industry being funded or subsidised federally (as well as by patients), whereas the public sector is largely funded and managed by State Governments, and the Australian Health Reform Agreement (AHRA) acts as the key document which maintains the balance [12].

Over the years, numerous initiatives have been introduced to support the private sector and these are depicted along a timeline in Fig. 8.3 earlier in this book. Some authors have called into question the traditional view that supporting the private sector reduces pressure on the public system [13]. Other studies have indicated that there is little or no efficiency benefit that increased private subsidisation is associated with ***increased*** waiting times in public, and that public subsidies at the expense of public care may not be appropriate [14].

The Grattan Institute publication entitled *"The history and purposes of private health insurance"* is a particularly useful synopsis, and provides an interesting summary and description of private sector funding in the Australian setting [15].

11.2.5 Value = Quantity and Quality

Health economics is not only focussed on the outputs of healthcare but also the outcomes. This can be summarised as a concept of delivering "Value" where quality is just as important as quantity, if not more so.

$$\text{Value} = \frac{\$}{Q^2}$$

This can be expressed as a simple easy-to-remember equation where Value is the Cost divided by both the Quantity and the Quality of the healthcare provided.

11.2.5.1 Historical References: It's Not New!

Notwithstanding recent enthusiasm about "Quality Assurance", "Patient Safety", "Patient-centred Medicine", "Value-based Health Care", "Choosing Wisely" and the avoidance of "Low-Value Care", the concept is not a new one.

Hippocrates medical school opened in Cos over 2,400 years ago with a code of conduct that put the needs of the patient first and foremost. Similarly, Galen in 200 AD was keen to separate the disease from the needs of "this patient" in his approach to surgical practice [16].

More recently Florence Nightingale during the 1850s Crimean War noticed the correlation between the quality of the care provided and the outcomes—and was one of the first to call for a case classification or case-mix system of groupings based on the diagnosis (the core concept underpinning Diagnosis Related Groups or DRGs) to facilitate the comparison of cases from both a cost and a quality perspective.

In 1914 Dr. Ernest Codman, a Boston surgeon, called for a system for comparisons of outcomes and created a categorisation system based on a matrix of diagnosis on one axis and treatment procedures on the other, and encouraged patient follow-up at 12 months. By doing so he created

the first systematic Diagnosis Related Grouping system, even if they were not referred to as "DRGs" at the time [17]. Moreover, his approach, like Nightingale, Galen, and Hippocrates before him, has strong similarities to the "new" concepts expressed today under Values-Based healthcare [18, 19].

> *Really the whole hospital problem rests on one question: What happens to the cases? … We must formulate some method of hospital report showing as nearly as possible what are the results of the treatment obtained at different institutions. This report must be made out and published by each hospital in a uniform manner, so that comparisons will be possible. With such a report as a starting point, those interested can begin to ask questions as to management and efficiency.*—Ernest A Codman - Address to the Philadelphia County Medical Society, 1913 Codman [17].

Both Nightingale and Codman emphasised the importance of documentation. It is also of note that, as with anyone attempting to make inroads into clinical quality, Codman was not popular amongst his peers and was forced to resign from the Massachusetts General Hospital. In a footnote of reconciliation and recognition, he is remembered as the acknowledged founder of outcomes management in patient care, and the Codman Center for Clinical Effectiveness in Surgery at the Massachusetts General Hospital is named in his honour [20].

11.2.5.2 Value-Based Healthcare

Drawing on the US free market healthcare model, where competition is held as the driver of both quality and cost containment, Porter in 2004 suggested that a re-design was needed with a focus on value - encouraging employers to lead the way [21].

In 2010, Porter stated that "*Achieving high value for patients must become the overarching goal of health care delivery, with value defined as the health outcomes achieved per dollar spent"*, and described a hierarchy from tier 1, which focusses on survival and recovery, to tier 3 which included long term treatment sustainability and any consequences of therapy, but by then he was calling for clinicians to take the lead [22].

Porter's equation is not unlike the simpler one presented earlier, but perhaps a little more specific:

$$\text{Value} = \frac{\begin{array}{c}\text{The set of outcomes that}\\ \text{matter for the condition}\end{array}}{\begin{array}{c}\text{The cost of delivering those outcomes}\\ \text{over the full cycle of care}\end{array}}$$

The call for providers to lead the way echoes Codman's efforts nearly a century beforehand [23, 24]. Porter suggested funding "packages" or "*bundling*" of healthcare—spanning more than a single encounter. This approach will be discussed later as either Condition-Based Funding (CBF) or Population-Based Funding (PBF). Both approaches are not really novel, and both bring new challenges while assisting in solving earlier ones [25].

11.2.5.3 "Low Value" Care

A similar, but more targeted approach to value involves identifying specific treatments or interventions which are deemed to be of limited or no benefit to patients unless certain indications are present (for instance colonoscopies performed for constipation in patients under 50 years of age or a knee arthroscopies for simple osteoarthritis are examples of "Low Value" Care) [26].

An Australian private hospital study looking at 21 such procedures, revealed that between 20.8% and 32% were "low-value procedures" using narrow and broad indicators respectively. This amounts to between $A12.4 and $A22.7 million spent on low-value care per year on just 21 procedures in private, and more if the public sector were included [27]. Clinicians are more influential than consumers in the ongoing use of such procedures in the absence of strong regulatory or funding interventions [28, 29].

Some 30% of US healthcare expenditure is considered to be of "uncertain" value, and in a similar vein, it has been postulated that much of end-of-life care is low value with nearly 10% of all inpatient costs in Australia spent in the last year of life. Moreover, in the final 6 months, one in three older patients receive interventions that are unlikely to be beneficial [30, 31].

The question remains whether such procedures should be permitted at all, and if so, whether they should be paid for or subsidised by the public purse.

11.2.6 Insurance Pooling and "Universal" Healthcare

Many countries have some form of health insurance, which involves a pooling of financial risk. Often this is legislated or mandated at a national or regional government level requiring individuals to be covered—either with third-party insurers, or frequently as part of government-run programs such as the NHS in the UK, Medicare in Australia, and the New Zealand Health System.

Countries with "universal" healthcare systems covering the entire population automatically have strong purchasing power and can therefore exert downward pressure on the costs of healthcare. This is missing when there is competition between multiple purchasers for a finite service, forming a "sellers' market" for an essential item.

11.2.6.1 Individual Patient Payment

Perhaps the simplest and oldest approach is where the patient or their family pays directly out of pocket for healthcare, indeed this was the norm prior to the development of the first charitable organisations, followed more recently by health insurance and national health approaches.

11.2.6.2 Provider-Based Funders

The earliest form of "free" healthcare provision was provided by charitable and religious organisations that used subscriptions, bequests, or donations to pay for healthcare, which was then provided free of charge or highly subsidised, to the patient or client. In the case of charitable organisations, eligibility to receive care is commonly based on an inability to pay by other means.

Many such organisations used honorary senior medical staff who provided their services on a volunteer basis either free of charge, or for a token remuneration plus the reputational kudos gained from philanthropy and the enjoyment associated with teaching.

This practice continued in Australia well into the 1970s when Medicare was introduced, and gradually many such doctors became engaged as salaried medical officers on staff, or on a paid visiting basis, however, a few "honoraries" continue to this day [32].

11.2.6.3 Health Maintenance Organisations (HMOs)

HMOs are a special example of provider organisations that are also health insurers. In these models, the insurer owns and operates one or more healthcare facilities.

Many also act as simple insurance companies as well so that their members can attend other hospitals, particularly when travelling, or for services not provided within the HMO's owned and operated facilities.

One of the best-known US-based HMOs is Kaiser Permanente. At 12.6 million members, Kaiser is half the size of Australia's Medicare and double the size of the New Zealand health system. In some ways, they adopt many of the approaches associated with public universal-health systems such as a focus on outcomes, preventative health, continuity, and primary care.

One of the key differences is that the cost of membership often varies by age or health status rather than being means tested. On the other hand, public systems like those in the UK, Canada, New Zealand, and Australia are based on an allocation of state revenue which itself is based significantly on the tax levied on income or wealth [33].

Some employers, such as the military, may provide healthcare to their staff by directly employing their own doctors and nurses and pay for their facilities and consumables, and therefore act somewhat like HMOs, particularly when on deployment, or at sea on a warship, for example.

11.2.6.4 Insurance Separate from Provider

Just like motor vehicle or home insurance companies, health insurance companies are set up to share financial risk across their membership base. Likewise, they may impose exclusions or conditions in the form of waiting periods or limitations for pre-existing ailments, to filter out known high risks.

Public (government-owned) insurance schemes that fall short of single-payer health systems also exist, and may have elements that resemble private insurance organisations, but may also be subsidised by a broader taxation base in order to provide health cover to those otherwise unable to afford it.

The key feature, however, is that they neither employ nor run the healthcare facilities, and their cover is restricted to policy fund-holders or patients who meet an eligibility threshold. The US Medicare Part A system, for instance, provides hospital cover for patients over 65, who are eligible for retirement benefits from the US Social Security (or the Railroad Retirement Board) and who paid Medicare taxes while they worked, amongst other stipulations [34].

11.2.6.5 Single-Payer "Universal" Healthcare

Single-payer systems are often managed centrally by governments. A single insurer forms a natural *monopsony*, or single purchaser in the market, and can exert strong market pressure to reduce costs. Many believe such market power is not appropriate for private sector firms where profit is a motive.

Being universal, they are typically funded based on the ability to pay—usually through taxation, however, this is not always the case.

Universal coverage also has clear equity advantages, with no ability to select more profitable patients or "cherry-pick". Other strengths are cost containment and the ability to influence the types of services that are provided, and the ability to set minimum quality standards.

Such purchasing power concentrated in the hands of government is often resisted by supplier organisations, and these approaches are strenuously attacked by *"those who do well out of the old order of things"* when first suggested, to paraphrase Machiavelli [35], but are equally strenuously defended by the public when politicians are "courageous" enough to contemplate dismantling them once in place and accepted by the population.

11.3 Health Funding/Revenue Models

Across the world, there are a range of methods that the purchasers of healthcare use to negotiate, quantify and pay for the health services provided by healthcare providers. This purchaser-provider split is most easily identified when:

- a *single* patient pays out of their own pocket to,
- a *single* clinician for,
- a *single* healthcare service.

This simplest of funding models has been in operation since the first healer received a gift from a grateful patient. In recent times there has been a growing array of approaches to funding healthcare services which can appear daunting to understand, and initially, it may seem that there is no systematic structure underpinning the myriad of terms and systems used. Fortunately, a simple classification can be described based on the essential characteristics of the methods of funding.

11.3.1 Funder and Provider Aggregation

Two characteristics define all known funding methodologies. Unfortunately, they are sometimes confused and even used interchangeably but it is important to consider them separately:

1. The first, as outlined in the previous section, is the level or method of aggregation on the *funder* side, that describes ***who*** is paying.

(a) Are patients or clients paying themselves,
(b) or have they grouped together as members of a mutual fund or an insurance company,
(c) or a health maintenance organisation,
(d) or part of a national health single-payer scheme such as the New Zealand health system, Medicare in Australia, the NHS in the UK, and many others?

2. The second which we will discuss below is the level of aggregation (sometimes called bundling) on the **provider** side that describes ***what*** is being paid for:
   (a) is it an hour of the surgeons' time?
   (b) an operation?
   (c) an episode of care?
   (d) care for an entire condition?
   (e) or care for a whole population?

11.3.2 "Intermediate Products" and the "Vending Machine" Metaphor for Healthcare Production and Funding

Although Activity-Based Funding, or "ABF" is increasingly common, it is only one of a group of five models that are used around the world.

The first three map neatly to the inputs and outputs of the two-stage process of healthcare as described by Bob Fetter, the father of DRGs, who used the management cost-accounting term *"Intermediate Product"* to describe the output of the first process and the input to the second: [36].

1. Raw materials and Labour are combined to produce the Intermediate Products of care by the departments of the hospital. These tests, investigations, procedures, medications, days of care, etc. are the building blocks of the care process.
2. Physicians then order and combine unique tailor-made combinations of Intermediate Products for the successful treatment of an individual patient episode of care.

In the late 1980s, the author was engaged in explaining this concept to clinicians and developed a diagrammatic metaphor where vending machines represent the departments of the hospital selling Intermediate Products to a doctor wheeling a patient past the front of the machines. A more professionally drawn version was commissioned and is reproduced in Fig. 11.1, but alas the identity of the commercial artist was lost.

11.3.3 The Five Funding Models

In summary, the five models are:

1. *Expenditure-Based Funding (EBF)* where income or budget is set without a clear, if any, link to activity.

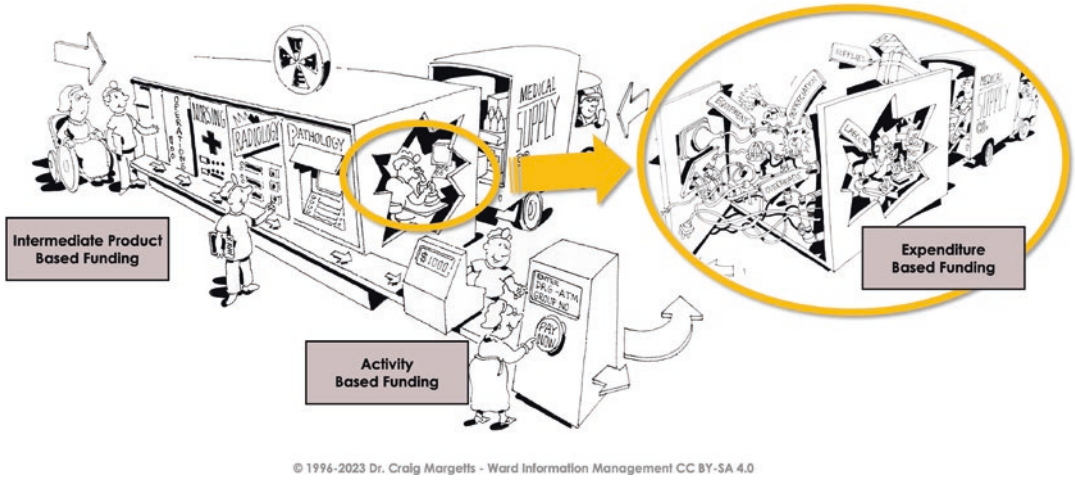

Fig. 11.1 Healthcare as a two-stage process—mapped to three of the five funding models. © Dr. Craig Margetts - Ward Information Management (CC BY-SA 4.0)

2. *Intermediate Product-Based funding (IPBF)* pays for identifiable components of an episode of care: an example is a "Fee-for-Service" (FFS) payment for an operation, a doctor's visit, a medication, or an X-Ray.
3. *Activity-Based Funding (ABF)* pays for an entire episode of care—an admission or an outpatient visit, including any associated investigations, treatments, and care.
4. *Condition-Based Funding (CBF)* sees a patient's care bundled over time, perhaps for a year, for the treatment of a condition like Renal Dialysis, or for the term of a pregnancy.
5. *Population-Based Funding (PBF)* where funding to a healthcare organisation is based on a described geographical population, such as an Australian State or a New Zealand District. Populations may also be defined by membership of an organisation or another characteristic such as age instead of geography. Healthcare providers are typically funded based on a capitation basis within a catchment area.

EBF, IPBF, and ABF relate to the processes of a healthcare provider or facility and are applicable up to the level of an area health service.

CBF and PBF work well at the health department or state level but are challenging to manage at the level of an individual facility or clinical department.

11.3.3.1 Aside: The "Zombie" Options

CBF and PBF have been repeatedly promoted over the past 30–40 years, only to be abandoned due to issues, particularly around the implied restrictions in patient freedoms to travel, or to be treated at other facilities; not to mention the overhead costs that arise when healthcare providers start becoming healthcare purchasers of services whenever their patients are treated in neighbouring facilities.

Undaunted these models are resurrected every 7–9 years, coinciding with two half-lives of health ministers and senior health officials who, after hearing of such models, mistake them for new ideas, only to have them wither and die again, awaiting their next resurrection, just like the zombies in a b-grade teen movie.

TIP: As with all models, there are underlying gems that should be salvaged regardless of the funding model being implemented. These include funding for multidisciplinary team meetings and complex case committees where the focus is on the whole patient over the longer term. Seeking and measuring patient-reported experience and outcome measures as well as efforts to avoid admissions and to empower patients are to be encouraged. The development of increasingly sophisticated care plans spanning and preventing admissions are further illustrations. Such approaches can empower patients to self-manage their own conditions in the community and are simply good healthcare.

11.3.4 Funding Models Vs. Purchasers

With four purchaser groupings and five funding models, there are 20 possible combinations, but not all are viable. Table 11.4 illustrates the 13 combinations that tend to be used in practice.

Table 11.4 Funders vs funding models

	Individual Patients	Insurance Funders	Provider Funders	Single Payer
EBF			✓	✓
IPBF	✓	✓		✓
ABF	✓	✓		✓
CBF	✓	✓		✓
PBF			✓	✓

This matrix identifies the common models used by patients, insurance companies or governments to purchase healthcare from healthcare providers. ✓ indicates models in common use

The first and the last of the funding models (EBF and PBF) represent funding for care for *groups of patients*. Notwithstanding bequests and donations, individuals and insurance companies tend not to provide EBF or PBF to healthcare providers.

The middle three of the five (IPBF, ABF, and CBF) are defined by care to *individual patients*. Individuals and insurance organisations tend to gravitate to these models.

Single Payer approaches have the luxury of being able to work in any of the five models.

11.3.4.1 Funding the Funders

It is a separate question of how the funding bodies, in turn, receive their income: non-government insurance companies and HMOs typically levy membership subscriptions which in some cases are paid by other parties, such as employers. Single-payer health purchasers are often government-run and are commonly funded via various forms of taxation.

11.3.4.2 Providers as Purchasers?

Within and ***between*** healthcare organisations, one or more of these models may be used for budgeting and payment.

For instance, employed staff are typically paid on a salary or hourly rate (a form of EBF) rather than fee-for-service (IPBF) within the organisation; the exception being sole traders such as Visiting Medical Officers in some Australian States.

Similarly, individual facilities or services within an HMO may have their budgets and funding distributed using ABF, or IPBF.

An example of Population-Based Funding at a broader scale is illustrated in the arrangement between the Australian Federal government and the States of Australia even though it is then distributed to individual facilities via Activity-Based Funding for the most part.

11.3.4.3 Summary

The array of funding processes can be broken down into variations and combinations of these basic *five* funding models sourced from *four* groupings of patients.

Although increasing aggregation on the purchaser side magnifies the relative market power of the healthcare consumer, insurance company, or single-payer to put downward pressure on healthcare costs, it is the model of funding that defines the cost and quality risks that the medical administrator or clinical leader must attend to and manage predominantly.

The next chapter will review the management implications of each of the five funding models and will provide a more detailed review of the characteristics, strengths, and challenges of each.

Prior to concluding this chapter, however, we will take a deeper look at the internal mechanics of Activity-Based Funding.

11.4 ABF: A Deeper Dive

Although ABF is only one of the five models, it continues to be the dominant approach to funding, particularly in acute healthcare, with increasing use in both the public and private sectors. Before turning our attention to the challenges of managing under the other models, a deeper understanding of the mechanisms of ABF is warranted.

Armed with a more detailed knowledge of the mechanics of ABF, the medical administrator will be better equipped to leverage its power to facilitate quality comparisons and simplify funding negotiations, both resulting in benefits to patients.

11.4.1 ABF History

The historical focus of Case-mix and Activity-Based Funding in Australia and New Zealand were quite different and each will be covered in turn.

11.4.1.1 New Zealand

New Zealand traditionally used a population-based funding formula (PBF) to distribute the health "Vote" (the funding allocation by the New Zealand Government) to twenty District Health Boards (DHBs) who then used Activity-Based

Funding to purchase care from each other, for instance when patients travel.

To varying degrees ABF has also been used to determine internal budgets for facilities, however, the initial emphasis was on cost control, and for this reason, many clinicians felt it was "black box" medicine with accountants, rather than clinicians at the helm.

In recent times the Australian Refined Diagnosis Related Group (AR-DRG) classification system has been adopted, with the New Zealand government contracting the Australian Independent Health and Aged Care Pricing Authority (IHCAPA) for a localised New Zealand version [37].

Of note, the New Zealand health system is currently undergoing a major reform involving the abolition of the DHBs and the centralisation of healthcare management under a single structure named Health New Zealand, to be modelled after the National Health Service (NHS) in the UK, so the ultimate balance between the use of PBF versus ABF remains to be seen.

11.4.1.2 Australia

Although Australia commenced its journey shortly after New Zealand, the emphasis from the start was clearly as a funding mechanism, rather than a cost control tool, and the implementation saw a clear separation of the State Health Departments as purchasers, from the Hospitals as providers.

This gave momentum, particularly in Victoria, where it was first introduced in 1993 as the predominant funding model for acute care, and clinicians welcomed the opportunity for uncapped growth, at least for a brief time.

ABF funding spread gradually through other states and territories until 2008 when an agreement was made for a nationally consistent approach, and the Independent Hospital Pricing Authority (IHPA) was formed to continue the development of the AR-DRG system and to publish a National Efficient Price (NEP) for an average inpatient separation. This enabled funding arrangements to be specified in a more or less transparent manner.

11.4.2 Four Criteria for a DRG System

In the original design, four criteria were stipulated, and these have remained current in all subsequent refinements:

1. Class definitions are based on *information routinely collected* by hospitals. (Remembering ICD coding was in use for statistical reporting and international comparisons for many years before DRGs were invented),
2. A *manageable number* of classes (generally considered to be somewhere between 500 and 1,000),
3. *Similar resource intensity* patterns within a given class (**Inputs**),
4. *Similar types of patients* in a given class from a clinical perspective (**Outputs/Outcomes**) [36].

Although not perfect, the DRG system provided, at relatively low overhead, a mechanism to align inputs (costs) to outputs (episodes) for the first time, and in a way that had meaning to both clinicians and managers. It is this combination of concepts, that has led to the broad use of DRGs as a central element of ABF across the globe.

11.4.3 ICD-10-AM Coding

The determination of most funding classifications starts with a process known as *"Coding"* where the clinical notes made by doctors, nurses, and allied health professionals are converted into International Classification of Disease (ICD) codes.

It is the globally uniform ICD coding system, now controlled by the World Health Organisation (WHO), that allows for the incidence of diseases in different countries to be measured and compared.

According to Encyclopedia Britannica, the ICD system was first implemented in 1893, so it clearly pre-dated DRGs [38]. Since they were already being routinely collected, ICD codes served as ideal data to enter into algorithms for the calculation of DRGs. Although a patient

admission may have many ICD codes, the *"grouping"* process results in a single DRG per patient, per episode of care.

A local version of the ICD system has been created for Australia and New Zealand and this is called ICD-10-AM or the International Classification of Diseases, Tenth Edition, Australian Modification. The "Australian Modification" involves replacing the original ICD Procedure Codes with the Australian Classification of Health Interventions (ACHI) codes—themselves derived from the Commonwealth Medicare Benefits Schedule (MBS) but with an additional two digits added to give finer detail.

The current version of ICD-10-AM is in use in Australia and New Zealand in its twelfth ***revision*** of the tenth ***edition*** and contains a total of 28,061 codes as outlined in Table 11.5. Other countries including the Republic of Northern Ireland and Saudi Arabia have also adopted ICD-10-AM.

In addition to the codes, there are 139 *coding standards* defined to ensure that the coding practices are not only consistent across Australia but also internationally, so that health economists, planners, and health researchers can be sure that ICD-10 codes are comparable throughout the world.

Table 11.5 ICD-10-AM/ACHI/ACS

Type of Code	Number
Diagnosis Codes	17,268
Morphology (neoplasms)	2,895
ACHI Procedure Codes	6,505
ACHI Blocks – used for structure	1,393
Total	**28,061**
Australian Coding Standards (ACS)	**139**

Twelfth edition
Ref: https://www.ihacpa.gov.au/resources/icd-10-amachiacs-twelfth-edition

11.4.4 ABF: The Fundamentals

Figure 11.2 represents the basic approach common to all ABF systems.

11.4.4.1 Episode Volume

Essential to an Activity Base Funding model is the defining of the activity unit to be counted. The individual patient episode count (an admission or an ambulatory care visit) is the basis of ABF. Sometimes a single hospitalisation can be counted as more than one episode, however, as is the case when an Acute Patient moves to a Sub or Non-Acute Patient (SNAP) phase of their treatment: for example, rehabilitation or palliative care. This is considered a second episode, even though it is within one hospital admission.

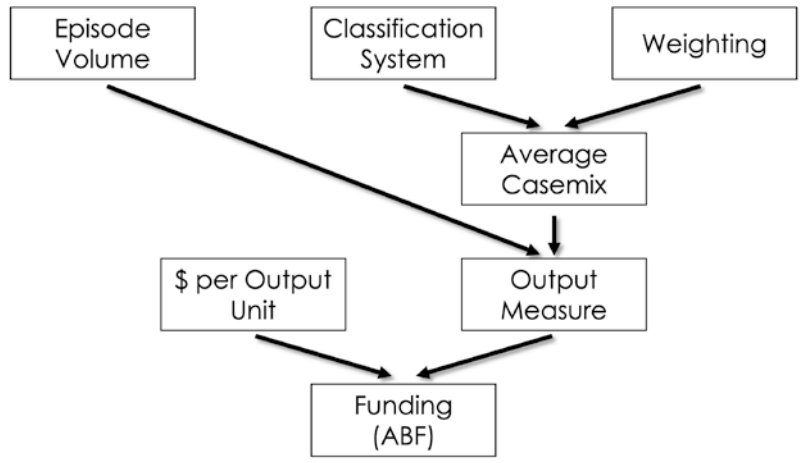

Fig. 11.2 Casemix and ABF. © Dr. Craig Margetts - Ward Information Management (CC BY-SA 4.0)

11.4.4.2 Current Australian Classification Systems

A fundamental requirement of an episode funding approach is the development of a nomenclature and pricing for each episode so that the mix of cases, or "*Casemix*" can be considered as well as a simple count of inpatient separations or ambulatory care episodes.

The initial approach focussed on inpatients, and the most widely used categorisation is the *Diagnosis Related Group (DRG)* system developed by Bob Fetter in 1975 and first used for funding purposes by the US Medicare program in 1981 [18, 36]. Table 11.6 outlines the history of ABF, DRGs, and Casemix.

There are many classification systems currently in use with Australian Refined Diagnosis Related Groups (AR-DRG v10.0) used for Acute Inpatients in Australia and New Zealand. There are *795* DRGs in Version 10.0 and *801* in Version 11.0 released on 1 February 2022 for use from 1 July 2023.

Five other classification systems are also in use or development and are published by IHACPA for non-acute settings [41].

The current versions are:

1. *AN-SNAP v5.0* - Australian National Subacute and Non-Acute Patient) classification with *89* end classes.
2. *AECC v1.0* - Australian Emergency Care Classification (AECC) which is replacing Urgency Disposition Groups. (UDG v1.3).
3. *Tier 2 v7.0* - A Non-Admitted Services Classification for ambulatory care visits based on specialty with *1340* end classes. (Tier 1 is no longer used and was based on the clinic.)
4. *AHMCC v1.0* - Australian Mental Healthcare Classification with *91* end classes.
5. *ATTC v1.0* - Australian Teaching and Training Classification with *20* end classes.

In Australia and New Zealand, the Independent Health and Aged Care Pricing Authority (IHACPA) is responsible for both the creation and maintenance of the groups, but also to undertake costing studies to determine relativities in cost between each element within these classifications, and further details can be obtained from:

- https://www.ihacpa.gov.au/service-categories
- or https://www.ihacpa.gov.au/health-care/classification

Table 11.6 A brief history of DRGs and ABF

1852	Florence Nightingale suggests a system of categorisation of cases to track the cost and benefits to patients
1914	Dr. Eugene Codman referred to "The product of a hospital" as a conceptual method to define a uniform output with which to compare quality
1967	A group of Yale physicians ask Bob Fetter for a way to apply quality control to healthcare by grouping diagnoses
1975	US Medicare program and the Bureau of Quality Assurance fund Bob Fetter to develop a categorisation system
1981	Bob Fetter produces the Health Care Financing Administration (HCFA) DRG Version 1 with 327 groups
1988	Dr. Craig Margetts begins working with Casemix and Clinical Costing
1989	Australian National Casemix Development Program launched
1992	Australian National DRGs (AN-DRGs) released, and the first National Costing Study commenced
1993	Australian Medicare Agreement five-year Casemix Strategic Plan
1993	Victorian Government "pays" for services rather than "funding" hospitals using DRGs and introduced Weighted Inlier Equivalent Separations (WIES) as the unit of activity
2008	Council of Australian Governments (COAG) agrees to a nationally consistent *ABF* approach as part of the *National Partnership Agreement on Hospital and Health Workforce Reform*
2011	Independent Hospital Pricing Authority established to continue the development of Activity-Based Funding in Australia and expanded ABF into a range of healthcare outside hospital admitted patients and re-named WIES to National Weighted Activity Units (NWAU)
2022	IHPA re-named to Independent Health and *Aged Care* Pricing Authority (IHACPA) to reflect broadening of scope

References: [17, 18, 36, 39, 40]

11.4.4.3 Cost and Revenue Weightings

Each DRG is assigned relativity or "weight" compared to an "average" DRG. This process is done in Australia by IHACPA using individual patient costing data submitted by public hospitals

Table 11.7 Highest volume AR-DRGs

AR-DRG	Seps	ALOS	Av. cost
L61—Haemodialysis	1,271,068	1.0	$606
R63—Chemotherapy	272,429	1.0	$2,126
F74—Chest pain	112,322	1.1	$899
G48—Colonoscopy	92,106	1.1	$2,565
C16—Lens interventions	59,826	1.0	$3,176

Data from round 24 of the IHPA NHCDC analysis for the 2019–2020 financial year [42]
NB: ALOS average length of stay or average "LOS"

(and separately by some private hospitals). In the latest round 24 data was collected from 552 unique public hospitals with costed patient-level data for 39,702,010 encounters, of which 6,141,848 were admitted acute separations [42]. A sample of the highest volume AR-DRGs is shown in Table 11.7.

The average cost per inpatient episode in Round 24 was $5,335 and this is given a relativity or weighting of 1.0000 by definition. The average is also used to establish the National Efficient Price in 2022 after a CPI adjustment is applied.

The average cost for each AR-DRG is then divided by $5,355 to calculate relativity or cost weight for each one, so a heart transplant results in 36.56 weighted separations and a colonoscopy of major complexity 1.24.

11.4.4.4 Outliers as Equivalent Inliers: Acute Care

In the case of acute inpatient episodes, an average Length of Stay (LOS) is calculated for each DRG as part of the National Health Cost Data Collection (NHCDC). High and low boundary points are determined: Originally set at 1/3 and three times the average LOS for each AR-DRG, they are now calculated on regression analysis. For specific details please see the National Pricing Model Technical Specification on the IHACPRA website. Patients with LOS between these boundary points are considered LOS "inliers" and they receive the DRG weight unmodified (see Fig. 11.3).

For LOS "outliers", an adjustment is made which varies from DRG to DRG to discount the weight for short-stay outliers and to apply small additional per diem weights to long-stay outliers. There are two ways to approach this calculation, but both arrive at the same result.

The original Victorian model applied this adjustment to the number of separations within a DRG to arrive at a total number of "Inlier Equivalent Separations" or IES. This was then multiplied by the DRG Weight for that DRG to get a Weighted IES or WIES.

The alternative approach is to apply the adjustment to the weight and multiply this adjusted weight by the separation to get a Weighted Activity Unit or WAU (pronounced "wow"), the national version of which is referred to as "N"WAU. Some states have their own versions, for instance, Queensland also has a QWAU as well as an NWAU calculation for example. Either way, the result will be the same provided the parameters are the same.

11.4.4.5 Output Measure: WIES Becomes WAU

With the inclusion of ambulatory care into ABF, referring to WAU became more appropriate than converting outpatient visits to fractions of an inpatient stay, and WAU is now regarded as the standard unit of activity which forms the basis of Activity-Based Funding in Australia and New Zealand, however "WIES" is still used as a term in Victoria, much as "QWAU" is used in Queensland.

11.4.5 Private Practice in Public Facilities: An IPBF Fly in the ABF Ointment?

In Australia, all eligible inpatients in public hospitals *must* elect to be private or public as a requirement of Sections G14-G23 of the National

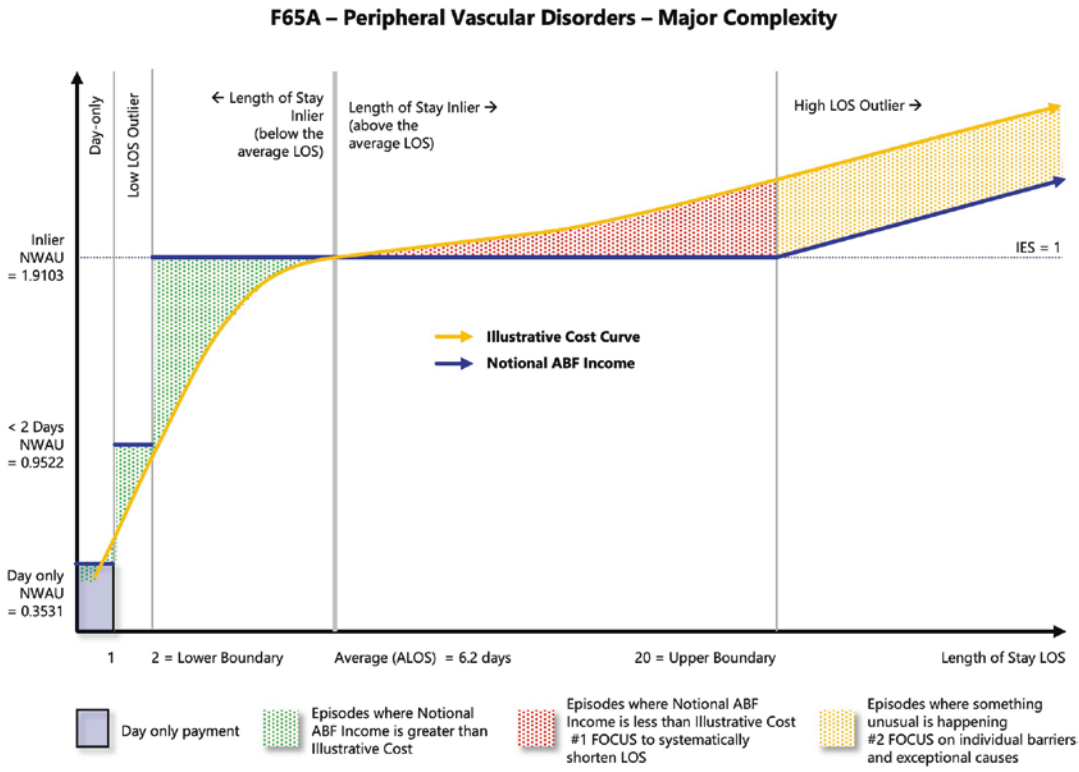

Fig. 11.3 Length of stay adjustments to acute inpatient Activity-Based Funding. © Dr. Craig Margetts - Ward Information Management (CC BY-SA 4.0)

Health Reform Agreement (NHRA) published by the Council of Australian Governments (COAG). Indeed it is prohibited for a hospital employee to direct patients or their legal guardians toward a particular choice (in *either direction* [my emphasis]) [12].

Further, for outpatients, all that is required is a named referral to a specialist with a right of private practice and the agreement of the patient to be private.

This leads to several anomalies:

1. IHACPA has determined that, as an additional payment has been received via Medicare or private insurance, the weighting (not the price) should be reduced. Accordingly, the NWAU for a public and a private patient now differ—and in the case of outpatients, there is zero NWAU. As a result, NWAU is *no longer a useful or reliable measure of hospital output* which is frustrating as many budgeting approaches are based on throughput. For this reason, Queensland developed QWAU as a more meaningful and consistent measure of activity that does have this discrepancy, and similarly, Victoria has, until recently, continued to use WIES for a similar purpose.
2. Medicare billing often goes to the specialist, in whole or in part; leaving little or no revenue to pay for the outpatient clinic and a reduced amount to pay for inpatient care.
3. All consequential billing must follow suit as clause G20 stipulates that "Where a patient chooses to be treated as a public patient, components of the public hospital service (such as pathology and diagnostic imaging) will be regarded as a part of the patient's treatment and will be provided free of charge". This means that a public outpatient can't have private pathology /radiology or vice versa. This has, on several occasions, caused significant issues. For instance, radiologists in many jurisdictions rely heavily on private billing to support their incomes.

4. Finally, many doctors, encouraged by the private health insurance industry lobbyists and industrial groups, falsely believe that this approach amounts to "double dipping" and may refuse to allow billing in their names. This can, paradoxically, result in reduced funding for public patients as the national agreement calculations may apply a private patient discount even where the local specialist has not billed Medicare—resulting in a situation sometimes described as "skinny dipping" to the detriment of their own hospital and department funding, and ultimately to patient access to care.

There are some who feel that the abolition of private patients altogether would simplify the accounting and save money, as well as making NWAU a useful measure of activity once again. Against this careful negotiation with adversely affected doctor groups would be required. Ironically, in some cases, the same bodies who called for the ending of "double dipping" are now the fiercest opponents to its abolition!

11.4.6 NEC and NEP

As mentioned earlier the IHACPA costing studies determine the average cost. In round 24 of the NHCDC, this was $5,335 in 2009–20 financial year. After allowing for CPI, the *National Efficient Price* (NEP) is determined and published annually for larger hospitals, and a *National Efficient Cost* (NEC) is published for small rural hospitals, consisting of a fixed component and a per-NWAU component. Both can be found in the National Efficient Price Determination available annually on the IHACPA website. The 2021–22 values are outlined in Table 11.8. As this is updated annually, current values should be sourced from the IHACPA website.

Table 11.8 IHACPA NEC and NEP for 2021–22

NEP: National Efficient Price = Average cost of an admitted episode of care in a public hospital	**$5,797** per NWAU
NEC: National Efficient Cost = Average cost for small rural hospitals	**$M2.265** fixed *plus* **$5,850** per NWAU

Prices in $A

Ref**:** NEP and NEC determinations and the pricing framework infographic available from https://www.ihacpa.gov.au/resources/national-efficient-price-determination-2021-22

11.4.7 Activity-Based Funding Calculation

Using inpatients and AR-DRGs as an illustration, the following steps determine the overall funding:

1. The clinical documentation for the episode of care is reviewed and coded according to the Australian Coding Standards using the International Classification of Diseases—Australian Modification—ICD-10-AM/ACHI/ACS Twelfth Edition.
2. This information along with patient age, etc. is fed into "Grouper" software to assign a single AR-DRG for each inpatient (or the equivalent code for ambulatory patients, emergency patients, etc.).
3. The appropriate weight is identified from a Table published by IHACPA, with a discounted weight applied for private patents as outlined above.
4. An adjustment for length of stay is made for inpatients if required for short- or long-stay outliers to determine the NWAU per patient.
5. The result is an NWAU value expressed as a number with four decimal places per patient episode and aggregated to make a total NWAU for the facility.
6. The Total NWAU is then multiplied by NEP to arrive at the notional Activity-Based Funding. (Or the NEC in the case of small rural hospitals).

11.4.8 AR-DRGs

As outlined above, the DRG system in use in Australia and New Zealand is currently the Australian Refined Diagnosis Related Group version 10 released in mid-2019 and implemented in July 2020. Version 11 has been released and will be implemented in July 2023.

11.4.8.1 Structure and Nomenclature

The structure of the AR-DRG code typically consists of:

- *A letter*, representing one of the 23 Major Diagnostic Categories (MDCs),
- *Two numbers* representing the Adjacent DRG (ADRG) within the MDC—with interventional partition DRGs having numbers under 50 and medical DRGs being over 50, and
- *A letter* (A, B, C, or D) indicating complexity splits ADRGs if required, into individual DRGs with "A" being the most complex, and therefore carrying the highest weight. If there is no split, the letter "Z" is used to avoid confusion with an ADRG which could occur if left blank.

This structure covers the vast majority of the AR-DRGs but there is a small additional group:

- There is a group of AR-DRGs known as "Pre-MDC" which relate to ventilation, tracheostomy, and ECMO and are procedure rather than diagnosis-related (with a first letter of "A").
- MDC 21 (Injuries, Poisons and Toxic Effects of Drugs) is split into two—with multi-trauma having its own letter "W" and the remainder starting with "X".
- Two numeric ranges with AR-DRGs starting with "8" relating to General Interventions not related to the principal diagnosis and "9" being for various forms of "error" AR-DRGs.
- And as a final "fun fact" for a trivia quiz—there are no AR-DRGs starting in "S"!

11.4.8.2 Splits

Table 11.9 demonstrates that the vast majority of AR-DRGs are part of a set of ADRGs that are split based mostly on complexity (a few are split on length of stay). Indeed 78% of ADRGs have an A, B, C, or D split and this translates to 89% of individual DRGs.

An illustration of a few AN-DRGs along with their splits, associated Price Weights, and notional revenue (Price weight x NEP at $5597) is shown in Table 11.10. There are significant differences in the funding, as well as the Average LOS (ALOS) which is used to calculate a Relative Stay Index (RSI) so ensuring the correct DRG is assigned is important.

Table 11.9 Number of splits in AR-DRGs

Number of splits	ADRGs	DRGs
No split (Z)	87 (22%)	87 (11%)
2 (A or B)	227 (57%)	454 (57%)
3 (A, B, or C)	78 (19%)	234 (29%)
4 (A, B, C, or D)	5 (1%)	20 (3%)
Total	**397 (100%)**	**795 (100%)**

Version 10 AR-DRG

11.4.9 The Importance of Good Documentation

In repeated unpublished studies by the author and Ms. Michelle Cope, Director of Clinical Information at Redcliffe Hospital, Queensland, Australia, clinical coding is found to be 100% accurate around 70% of the time (Fig. 11.4).

The remaining 30% is divided up as follows:

- Only 5% is coder error.
- A further 5% relates to ambiguous or illegible clinical documentation misinterpreted by Coders.
- In 20% of occasions the clinical documentation itself was wrong or simply missing altogether.

In addition, many co-morbidities were incorrectly categorised as complications.[2] This was almost entirely due to medical, and to a lesser degree nursing and allied health staff failing to record that a condition was present on admission.

The importance of documentation accuracy cannot be overstated. The above studies were commissioned due to an apparently high stan-

[2]The key difference between a co-morbidity and a complication is whether it was present on admission. A flag is set for every diagnosis to distinguish these, but they must be documented on the admission notes for this to be a valid entry.

Table 11.10 Selected AN-DRGs with and without splits

ADRG	DRG	DRG description	ALOS	Price weight	@ NEP * $5597
D10	D10Z	Nasal Interventions	1.0	1.0064	$5,632.82
F20	**F20Z**	**Vein Ligation and Stripping**	**1.2**	**0.9209**	**$5,154.28**
H08	H08A	Laparoscopic Cholecystectomy, Major Complexity	5.7	2.8758	$16,095.85
H08	H08B	Laparoscopic Cholecystectomy, Minor Complexity	2.1	1.5859	$8,876.28
H07	**H07A**	**Open Cholecystectomy, Major Complexity**	**12.6**	**5.9483**	**$33,292.64**
H07	**H07B**	**Open Cholecystectomy, Intermediate Complexity**	**7.0**	**3.7538**	**$21,010.02**
H07	**H07C**	**Open Cholecystectomy, Minor Complexity**	**4.3**	**2.6092**	**$14,603.69**
B70	B70A	Stroke & Other Cerebrovascular Disorders, Major Complexity	13.0	3.9505	$22,110.95
B70	B70B	Stroke and Other Cerebrovascular Disorders, Int. Complexity	6.4	2.0269	$11,344.56
B70	B70C	Stroke and Other Cerebrovascular Disorders, Minor Complexity	3.9	1.1542	$6,460.06
B70	B70D	Stroke and Other Cerebrovascular Disorders, Transferred <5d	1.9	0.6917	$3,871.44

Version 10 AR-DRG

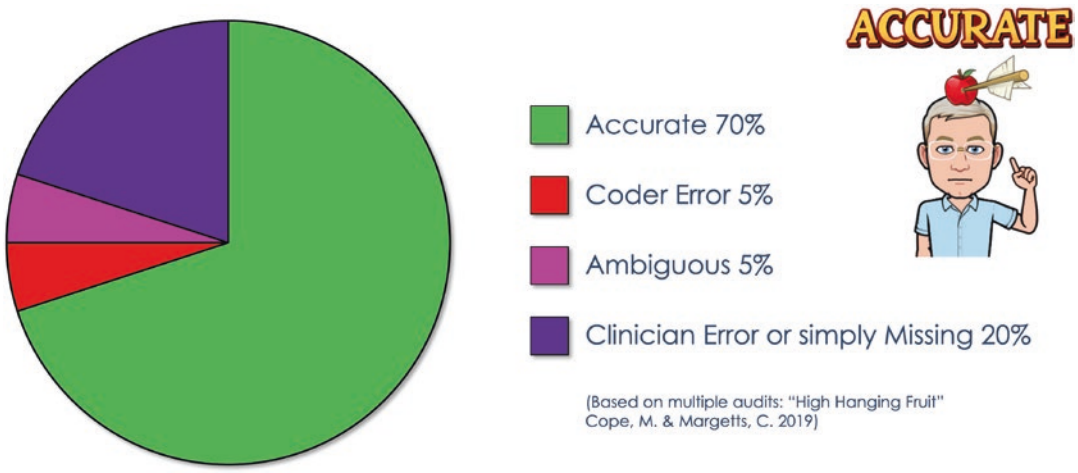

Fig. 11.4 Documentation accuracy

dardised mortality rate accompanied by a Hospital Acquired Complication (HAC) rate of 3% in a range of key sentinel complications—again higher than the 2% benchmark.

When this was identified, a process was undertaken to review the documentation in consultation with the clinical teams, to ensure that the correct care type "04-Palliative" was recorded instead of "01-Acute"—but only where the patient was genuinely being admitted for palliative care.

Concern was initially expressed by the finance department that there would be a budget impact of losing a significant number of acute NWAUs as a by-product of improving the documentation and correcting the data, however, this proved to be unfounded.

At the conclusion of the clinical documentation improvement the following results were noted:

- The Health Roundtable (HRT) Hospital Diagnosis related Standardised Mortality Ratio (HDxSMR) fell from *127%* (a 2 standard deviation outlier) to *84%* which was below the peer group average.
- The Hospital Acquired Complication (HAC) rate fell from *3%* to *1%*.
- At the same time an additional *888.8833* NWAU, worth an additional *$4.4 million* in notional revenue, was identified and submitted.

This kind of improvement has been repeatedly found—to the extent that the Royal Brisbane and Women's Hospital now has funded a permanent RMO position in Medical Administration. 20% of their time (1 day a week) is spent reviewing and improving clinical documentation and they generate sufficient additional NWAU in a single month (5 days) to fund the position for an entire year!

TIP: As a medical administrator, an early consideration in all unexpected quality and financial challenges should be to review the quality of the clinical documentation. This is particularly the case where (junior) staff are fatigued or are facing burn-out as one of the earliest signs is a deterioration in clinical documentation, which translates into lower NWAU and worsening quality markers.

Ironically, the deterioration in documentation makes it harder to demonstrate that there is both the workload and the revenue to justify additional FTE.

This is another illustration of the deep connection between financial and quality considerations for the medical administrator to keep front of mind.

11.5 Conclusions and Summary

The economics of healthcare and its funding varies throughout the OECD but there are some underlying lessons to be learned. Some take-home messages include:

- Healthcare behaves a little like a luxury ***between*** countries, but ***within*** a country, it behaves more like an essential service, and price signals may not be the best way to control expenditure, indeed the country with the greatest emphasis on cost signals has the most expensive healthcare.
- Increased expenditure does not necessarily translate into better care, more clinicians, or better outcomes.
- Greater aggregation of patients (as purchasers) results in increased downward pressure on healthcare costs, and tends to promote health equity, with the ultimate level of aggregation being single-payer systems such as the NHS.
- There are four levels of aggregation of patients/purchasers from an individual, to insurance, to provider-funders, and ultimately to single-payer systems.
- These *four* aggregations fund healthcare in one of *five* funding models—Expenditure, Intermediate Product, Activity, Condition, or Population-Based Funding.
- The first three EBF, IPBF, and ABF mirror the internal production process of large healthcare facilities where expenditure is first converted into Intermediate Products which are then utilised by doctors and other clinicians to combine with a patient's episode of care.
- Condition-Based Funding (CBF) and Population-Based Funding (PBF) have been suggested repeatedly for many years and repeatedly struggle to gain traction due to a mismatch between the cost drivers and the span of influence of healthcare provider organisations.
- Care must be taken when proposing initiatives borne out of necessity from other health systems, facing problems that may not currently exist in Australia and New Zealand. Caution is prudent prior to adopting cost-saving and quality solutions from countries with the poorest track records.

11.6 Further Reading

For a deeper dive into Health Economics and the topics raised here the following resources are worthy of consideration.

- *"Healthcare at a Glance 2021 OECD Indicators"* provides an excellent and informative summary of *healthcare expenditure and outcomes across the 38 OECD countries* and can be downloaded via www.oecd.org/health/ by clicking the link at the bottom of the page. In addition, on the same page, is a link to the OECD Health Statistics including Health Expenditure and Financing or you can click here …for hours of fun with interactive health data!
- A deeper understanding of the subject of *health economics* McPake, Normand, Smith, and Nolan's 2020 book *Health Economics: An International Perspective* is published and downloadable as a 348-page pdf.
- Detailed information and current updates regarding the *Australian ABF funding arrangements*, including AR-DRGs, SNAP, Ambulatory, Mental Health, Emergency, Teaching, and Training service categories. Also available are the latest releases of ICD-10-AM, AR-DRGs, NEP, NEC, and the outcomes of National Costing Studies – the IHACPA website is superbly laid out and gives access to a host of resources and educational material. This can be sourced at https://www.ihacpa.gov.au/service-categories
- For those interested in understanding Porter's *Value-Based Healthcare* in more detail, his 2006 book co-authored with Elizabeth Teisberg entitled *"Redefining Health Care: Creating Value-based Competition on Results"* is available from the Harvard Business School Press and can also be found online as a .PDF version.

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12 Managing Budgets, Costs, and Variances: A "How-to" Guide for Medical Managers

Craig Margetts

Learning Objectives
The reader should gain the following:

- Management skills associated with healthcare revenue and expenditure, budgeting, and variance reporting—particularly from the perspective of a medical leader within a healthcare provider.
- A deeper understanding of the five key funding models, including the financial and quality risks associated with each one.
- A diagnostic tool to help analyse and identify financial issues, leading to a "diagnosis" of the underlying reasons for cost or revenue variances that need to be managed by the medical manager.
- A practical "How To" guide to apply management treatments to the financial diagnoses identified, with parallels drawn to the funding models in operation.

12.1 Introduction

This chapter provides the medical manager or clinical leader with a practical guide for managing under any scenario described by the hierarchy of five funding models introduced in the last chapter.

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A detailed understanding of the implications of the various models is essential for the medical manager to draw upon when faced with budget, expenditure, revenue, or funding challenges. Each of the funding models brings with it new challenges to manage financially as well as new quality considerations to take into account. Similarly, each model requires a new set of tools and techniques to monitor and manage.

Rather than one model replacing another, the five models are cumulative. As a result, the management requirements and challenges grow in number and complexity as the funding paradigm progresses up the hierarchy. This occurs as a result of financial and quality risks progressively being handed over from funder to provider.

The chapter starts with a brief overview of the distinction between funding and budgeting, followed by a description of a typical budget process. Individual sections then address the management implications of each of the funding introduced in the previous chapter:

1. *Expenditure-Based Funding (EBF)* where funding is set without a clear link to activity.
2. *Intermediate Product-Based funding (IPBF)* such as the Medicare Benefits Schedule (MBS) which pays for identifiable components of an episode of care.
3. *Activity-Based Funding (ABF)* where an entire episode of care—an admission or an

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outpatient visit is paid for, including any associated investigations, treatments, and care.
4. *Condition-Based Funding (CBF)* where a patient's care is bundled over time, perhaps for a year, for the treatment of a clinical condition.
5. *Population-Based Funding (PBF)* where funding is based on a described geographical population, such as an Australian State or a New Zealand District.

Next, a diagnostic tree entitled "*The Clinical Map of Value*" is presented as a tool to help the medical manager analyse financial variations from a top-down perspective. Parallels are made between the management interventions required and the previous discussion of health funding models.

Finally, a Medical Administrator's "How to" guide to managing revenue and cost variances is provided with practical and task-oriented strategies to manage the most common financial issues likely to challenge a clinical director or medical administrator in a healthcare provider setting.

12.2 Funding Versus Budgeting

Although the two terms are often used interchangeably there are important differences.

For our purposes we will define funding as being monies provided to the healthcare organisation from a healthcare funding body—either a patient themselves, an insurance company (including HMO), or from a single-payer source like a government. The most obvious form of funding is a cash transaction for a service paid out of pocket. Funding equates to revenue from an organisational perspective.

A budget on the other hand is a pre-planned amount of expenditure that is expected and authorised regardless of whether there is a funding source identified to cover it.

An example may be budgeting for a step-down facility or a medi-hotel to accommodate patients before, after, or instead of a hospital stay on the basis that it is less costly than an inpatient bed. No additional funding (revenue) may be generated, but an internal budget may be re-allocated out of savings from another area that is funded.

12.2.1 A Budget Is Just a Plan

The easiest way to understand a budget is to replace the word in any sentence with the word "Plan". A budget is simply an agreed plan of expenditure.

This works equally well for:

- Budgeted (planned) revenue,
- Budgeted (planned) activity.
- Budgeted (planned) FTE,
- Budgeted (planned) Sick Leave.
- Budgeted (planned) Activity—WAU.
- Budgeted (planned) Mix of cases—Casemix.

According to military doctrine, however, no plan survives first contact with the enemy, and similarly budgets should be regarded as the best-guess plan made at a point in time and based on an expected set of conditions and activity [1].

TIP: Try this in your mind at your next finance or performance meeting and see how this impacts your thinking when someone remarks "But I have this in my budget (plan)!"

12.2.2 Private Sector Funding

Many, but not all, private sector funding agreements take the form of a contract for service where there is an explicit and itemised payment (funding) for each item of work done. The Commonwealth Medicare Benefits Schedule works this way when visiting a GP for instance and may be supplemented by a cash co-payment from the patient. Other private organisations may be funded on an annual fixed grant basis.

In both cases, prudent management would independently determine a budget (planned) expenditure which would typically be at the level of each work unit, even though the funding may be at the level of the entire facility.

12.2.3 Public Sector Funding and Budgets

One key difference with many state-based services is that their funding is by way of allocation, rather than actual payment in cash. Even where separate corporate entities are established, the transfer is made on the basis of an agreed, often annual, allocation even if it is paid in monthly or fortnightly transfers.

The exact method varies from jurisdiction to jurisdiction. Using Queensland, Australia as an illustration, the 2022 Appropriation Act (Qld) authorised the government to spend $69,860,232,000, of which the allocation or "vote" for the Department of Health was $14,253,426,000 or 20.4% [2]. Of note, there is no mention of activity in the Appropriations Act even though the hospital funding is ABF for the most part, although the budget papers released at the same time do contain a range of activity and quality targets.

This sets up a tension or paradox for governments where their ability to pay is fixed, yet the agreements *appear* to vary with activity. This is doubly challenging when it is illegal for the government to spend more than they are allocated—so any activity-caused budget overrun at a global level must go to parliament to authorise additional funding *before* it is spent.

12.2.4 A Typical (Annual) Budgeting Process

Underpinning most internal financial structures is the use of Cost Centres (occasionally known as Profit Centres) to break the overall budgets and costs into small management cells, where a distinct workload or output can be identified. Well-designed cost centre structures will also align with the leadership hierarchy—with one or more cost centres aligned to the span of control of each clinical director, for example. Finally, cost centres may be duplicated to match expenditures to the different external funding sources.

The process of establishing budgets within organisations varies somewhat, but the following represents a typical budget cycle. These steps usually start several months prior to the end of the financial year:

1. An initial starting point may be provided by the Finance Department and may contain the following adjustments:
   (a) A "Zeroing" of expenditure which occurred last year that is not routinely expected to recur each ear.
   (b) A global "Efficiency" target imposition—often of the order of 2–3% across the board.
   (c) An adjustment for any known increases such as industrially agreed pay rises, although these may or may not be passed on in full.
2. Budget Packs are then distributed to Cost Centre Managers including the above starting point calculations and outlining current and prior year budgets and expenditures along with the current year's projection.
3. Cost Centre Managers are (optionally) invited to bid for additional activity or funding based on business cases for new work.
4. These bids are summarised for approval and support at Director and Executive levels.
5. The total of supported budget bids is then compared with the available budget.
6. If these do not match—the bids are returned to lower levels for review which involves:
   (a) Identification of services that are not required or are of "low value" or are not supported.
   (b) Review of labour productivity, leave and overtime management, staffing mix and seniority, and costs of supplies.
   (c) Analysis of utilisation of bed days, pathology, imaging, drugs and therapeutics, procedures, prosthetics, and consumables.
7. Re-summarisation and comparison once again with available revenue—this can undergo several iterations.
8. Once the planned (budgeted) expenditure matches the expected (budgeted) funding the costs are distributed over the reporting periods (months) to take into account historically identified seasonal fluctuations.

9. The final budgets are distributed, and everyone is happy—in an ideal world.

12.2.5 Variance Reporting

For the medical administrator or clinical leader, it is important that an individual budget and expenditure report is available for each cost centre in a format outlined below in Sect. 12.3.3. Identically formatted reports for higher levels of aggregation should also be available to match the management hierarchy of the organisation.

These reports are called "expenditure reports", "variance reports", or "budget reports", and some may include revenues and be referred to as "profit and loss" reports. Common to most formats is the identification of differences or **"variances"** between the budget (plan) and the actual expenditure.

The key financial responsibility of the medical administrator or clinical leader is to be able to read, analyse, and interpret these reports, and to develop strategies to reduce any unfavourable variances. This is covered below as are management techniques for managing all variances.

12.2.6 Tips for Medical Managers

Remember that:

- A Budget is just a "Plan" that was made at a point in time and was based on a budgeted (planned) activity—regardless of whether that activity was documented or articulated.
- Variance from a plan needs to be understood and explained, and a process identified to rectify the actual expenditure or to alter the budget.
- Few budgets vary with activity over the shortest of terms (days or months), but all vary with activity over the long term (years or decades).
- The key difference in the funding models is the relative ease or difficulty in demonstrating and quantifying the financial impact that changes in activity might reasonably make.
- Three of the models which are based on various measures of workload (IPBF, ABF, and CBF) provide explicit linkages between funding and outputs (and potential outcomes). This can establish an objective basis for negotiation and accountability and tends to reduce some of the politics of healthcare funding. Accordingly, some feel these models represent a more objective and transparent approach.

The next five sections of this chapter explore in more detail the ramifications for the medical administrator or clinical leader of each of the five healthcare funding models. Table 12.1 on the next page, summarises much of the chapter in a single diagram and may be useful to bookmark or print out for reference. For the purposes of this exploration, it is assumed that funding and budgets are aligned, notwithstanding the comments above.

Table 12.1 Key Comparisons of the Five Funding Models

Name	Expenditure-based funding (EBF)	Intermediate-product-based funding (IPBF)	Activity-based funding (ABF)	Condition-based funding (CBF)	Population-based funding (PBF)
Examples:	Grants, bequests, donations, historical funding, fixed funding	Fee-for-service Australian Medicare, PBS, per-diem payments	DRG funding, Casemix, NWAU, or WIES funding episode of care funding	Asthma management dialysis for a year Pregnancy management	Australian states, NZ DHBs HMOs e.g. Kaiser Permanente military health services
Based on:	$ spent FTE employed	CMBS ICD procedure codes Medications dispensed	AR-DRGs URGs Other episode classifications	Chronic diagnosis over a fixed period time. Specific self-limiting condition	Population numbers defined by geography, age, membership, or other criteria
Financial risk to manage	Expenditure (5 items) FTEs, overtime, rate, leave + non-labour costs	Productivity (1 item) (e.g. Procedure times, throughput per clinic, nurse h/pt./day, minimum staffing)	Utilisation (5 items) (utilisation of imaging, pathology, drugs, prostheses, etc., everything else = LOS)	Overservicing (avoidable or unnecessary admissions and appointments)	Disease prevalence (population health, lifestyle, employment, poverty)
Quality risk to manage	Inadequate staffing for the required workload Fatigue/burnout low-cost materials	Rushed procedures missed diagnoses perverse incentive: Reward for treating complications	Discharged too quickly and under-treated Perverse incentive: Reward for re-admission and re-treatment	Under-servicing (seeing fewer times than is clinically indicated)	Cherry-picking of patients ignored populations
Reporting systems required	Expenditure Variance Report Profit & Loss (P&L) leave balances	Cost accounting cost per: X-ray, path test, theatre hour, nursing day	Clinical costing system utilisation per patient episode clinical benchmarking	Linked episode reporting, analysis, and benchmarking	Actuarial research tools and expertise reports on social determinants of health
Management toolkit	FTE caps, leave mx, staff-mix and overtime mx, purchasing controls roster review	Productivity mx staffing vs. activity, "lean", time and motion studies	Documentation & "10+ utilisation mx" techniques	Protocols for entire case mx tracking across facilities and sectors	Healthcare avoidance lifestyle mx incl. Social determinants

This Table summarises the five key funding models, what they represent in terms of risk (both financial and clinical quality), and what a medical administrator should have in their toolkit to manage each one. It may be useful to refer to this matrix as we explore each type of funding

12.3 Expenditure-Based Funding (EBF)

Expenditure-based funding is also known variously as Historical Funding, Block Funding, or Fixed Funding. Under this category, we can also include grants or bequests—any funding source where there is no explicit linkage to a form of output or outcome.

One of the strengths of EBF is that staying within a budget and/or running with a margin or profit is relatively simple, (provided, of course, you don't worry overly about clinical demand). All that is required is to make sure employment is managed and that the organisation does not purchase more goods than the budget or revenue allows.

12.3.1 Financial Risks for the Provider Under EBF

There are five key risks to manage and four of them are labour risks:

- *Base FTEs*—recruiting more staff than your budget will allow.
- *Base Rate* per hour—recruiting more expensive staff even if you have the correct number of FTE.
- *Overtime FTE*—this is a special kind of rate issue largely related to rostering and workload. It is identified separately as the tools to manage overtime and rate differ somewhat.
- *Leave* Management—As staff earn (or "accrue") leave entitlements while they are working, this accumulates as a liability to be paid later as leave, or as cash when they resign or retire. A failure to allow staff to take leave means they are working their FTE ***plus*** they are banking their leave as well to be taken later. This will lead to cost overruns even if the overall number of staff on the payroll remains the same. For a practical example, see Box 12.1.
- The final expenditure class to manage is **non-labour** costs. Under expenditure-based funding, this is most simply controlled by simply ceasing spending if the money runs out, and conversely when nearing the end of the financial year, spending any potential surplus to demonstrate that the same or more funding is needed in the following year.

Box 12.1 Accrual Accounting and Leave Management

Scenario: In this somewhat simplified world you have 5 full-time staff. Each of them is allowed 5 weeks of leave a year and they earn 13 weeks.

Long Service Leave in 10 years = 1.3 weeks a year. There is no other leave and no overtime in this scenario for simplicity.

Total Leave allowance is 6.3 weeks per year but as the manager, you don't let them take any leave as you're busy.

What will the accounting look like at the end of the year?

Accounting Method	Cash	Accrual
Reports to ask for	Payroll data	Accounting
5 FTE ordinary time	5.00 FTE	5.00 FTE
Leave cost	0.00 FTE	[a]0.38 FTE
Total	**5.00 FTE**	**5.38 FTE**
Budget	5.00 FTE	5.00 FTE
Variance	0.00 FTE	(0.38 FTE)
Percentage	0.0%	(7.6%)
Management	Don't care	Unhappy
Total weeks "worked"	52.00 weeks	55.32 weeks

[a]6.3 weeks × 5 FTE = 19.5 weeks ÷ 52 weeks/year = 0.32 FTE

By doing nothing you're 7.6% over budget! How can this be?

Remember under the accrual system the future cost (liability) of leave your staff are earning is also considered a cost you should have managed as it is "accrued" for your employees to take in the future but must be paid for while they were doing the work that earned them the leave.

The management of the five EBF cost elements remains a critical task under all the subsequent funding scenarios.

12.3.1.1 Labour Vs. Non-labour

To some degree, the distinction between labour and non-labour is an artificial one as illustrated in Box 12.2.

Box 12.2 Labour? Non-labour? What's in a Name?

Typically, healthcare is quoted as roughly *70% labour* and 30% supplies or non-labour. Non-labour costs are the costs for anything you purchase from outside the organisation. This statistic, however, is not a particularly useful one, and here is the reason why:

Scenario: Two identical hospitals except that hospital B has outsourced their imaging and their pathology costs, but they still have to pay for them (eg a public hospital). What do the costs look like? We assume there are no other cost differences—just accounting ones for this example:

Types of Cost ($'000)	Hospital A	Hospital B
Labour	**$700,000**	**$600,000**
Outsourced imaging		$100,000
Outsourced pathology		$75,000
Other non-labour	$300,000	$225,000
Total non-labour	**$300,000**	**$400,000**
Total cost	$1000,000	$1000,000
Labour percentage	70%	60%

So here we can see with an accounting/business structural change, we can almost have any percentage of labour we like – it simply depends on whether the staff is our staff or someone else's.

Outsourcing is a technique used to reduce labour costs, (while increasing non-labour costs). It makes sense where there are volume efficiency or specialised equipment considerations. Few hospitals would find it cost-effective to manufacture their own prostheses, for example (but even this may change with 3-D printing).

The other reason that items are sometimes outsourced is the ability to vary costs and volumes rapidly by purchasing supplies only when required… but is this real? Many suppliers insist on long lead times or will offer lower costs for fixed contracts in which minimum volumes are guaranteed.

Non-labour supplies simply represent the labour of the supplier, the non-labour of the supplier plus any profit for the supplier. This, of course, can go on indefinitely. In other words—apart from profit—everything is (eventually) labour! Some of it is:

- "Our Labour" while the rest is
- "Someone else's' Labour" (plus profits)

12.3.1.2 Leave Liabilities

Remember that under accrual accounting the future cost (liability) of leave your staff are earning is also considered a cost you should manage. It is "accrued" for your employees to take in the future but must be paid for while they are doing the work that earns them the leave as outlined in Box 12.1 above.

12.3.2 Quality Risks to Be Managed Under EBF

One of the theoretical benefits of a strict EBF system is that there is no output measure, or if there is a target—it is not linked to funding.

Hospitals funded this way have been known to suggest that they simply stop seeing patients till the new funding arrives in the next financial year, and this is obviously an issue for any healthcare system, but in this case, it is an issue for the purchaser—not for the healthcare provider as such (at least in theory).

A major risk is continuing to operate with insufficient resourcing. This can lead to significant quality failings and staff turnover.

There have been several inquiries that followed patient deaths and other serious quality

issues that have, at least in part, been attributed to historical funding which had not kept pace with activity growth. The lack of suitably trained and senior staff in Camden and Campbeltown Hospitals in NSW was cited as one of the causes of the issues identified [3–5].

Similarly, the Queensland Public Hospitals Inquiry has an entire section named "A grossly inadequate budget and an inequitable method of allocation" and cites historical funding as the culprit [6]. Victoria too has similar headlines [7].

12.3.3 Reporting Systems Required to Manage Under EBF

The fundamental reporting systems required are those based on a *General Ledger*:

- A *Profit and Loss Statement* (listing income and expenditure) is an appropriate report at an organisation-wide level.
- A *Budget versus Actual Variance Report* is more common at the unit level as revenue is difficult to allocate to individual cost centres.

In circumstances where individual hospitals or health services are not independent corporate entities, they may not receive income as such, and therefore variance reporting is all that may be available.

The medical manager should ensure that they are provided with, and can understand these reports. An illustration of a typical layout is provided in Box 12.3. The focus overall should be on managing the five areas:

1. *Base FTEs* (which should be reported separately)
2. *Base Rate* per hour.
3. *Overtime* (as both $ and FTE).
4. *Leave* Management.
5. *Non-labour* items.

Further details on how to manage variances in these areas are covered in Sect. 12.9.

Box 12.3 Reading a Budget Vs. Actual Variance Report

The most common layout of a variance report has blocks of four columns as shown in the following illustration. Sub-totals and totals are usually found beneath the individual entries:

Expenditure in $'000	Budget	Actual	Var	%
Labour				
Ordinary time	$1,000	$900	$100	10%
Overtime	$300	$400	($100)	(33%)
Leave Accrual	$200	$180	$20	10%
Sick/Other Lve	$100	$140	($40)	(25%)
Allowances	$400	$450	($50)	(13%)
On-costs[a]	$300	$400	($100)	(33%)
Total Labour	**$2,300**	**$2,470**	**($170)**	**(7%)**
Non-Labour				
IT Levy	$25	$25	$0	0%
Other Costs	$50	$60	($10)	(25%)
Overhead[b] 20%	$460	$494	($34)	(7%)
Non-Labour	**$535**	**$581**	($56)	(10%)
Total Expenditure	**$2,835**	**$3,051**	**($246)**	**(9%)**

[a]On-costs may include superannuation, etc
[b]Overheads are often allocated on a % of the expense

These blocks of four columns are typically laid out with one block for the current month, another for the year-to-date expenditure, and a final set that represents a projection to the end of the financial year.

Tips: To read the report:

- Start at the bottom right corner—looking for significant (>5%) variances that explain at least 10% of any budget overrun.
- Ignore On-Costs and Overheads—or anything based on a percentage of expenditure as these will correct if the expenditure issues are identified and rectified.

In this case, the report is indicating that Sick Leave and Overtime require explanation and possibly management attention.

12.4 Intermediate Product-Based Funding (IPBF)

The first level of aggregation of resources, or "bundling" as it is sometimes called, is to combine expenditure into identifiable components of care which contribute to a patient episode. These are known in cost accounting as intermediate products, to distinguish them from the end product – in this case, a patient's admission or an outpatient visit, complete with any investigations and treatments [8, 9].

Fee-for-Service Payments
Perhaps the best-known form of IPBF is fee-for-service payment. In the Australian context, this is the fundamental underpinning metaphor of the Commonwealth Medicare Benefits Schedule (MBS) for instance. Other countries, such as the US, use the International Classification of Diseases (ICD) treatment codes as their fee-for-service intermediate product classification.

Under IPBF each service is allocated a standard revenue which is usually based on management cost accounting studies and a schedule of services, and their payments are either part of a contract or sometimes even published as a standard reference like PBS.

Relative Value Units (RVUs)
A slight variation on the Fee-for-Service model uses a weighting system that represents the relative cost between services. This RVU is then multiplied by a unit price to calculate the revenue or payment.

As these relativities tend to remain constant over the short term, to accommodate inflation, all that is required is indexation of the unit payment while the RVUs can remain the same. The payment per unit will alter accordingly with minimal re-calculation.

Over the longer term, however, as technologies and practices change or become automated, the relativities may need to be reviewed with a new cost accounting study. The unit cost of a manually done pathology test of yesteryear, is much higher than with modern multi-analysers, notwithstanding the initial capital cost. Accordingly, the RVUs for these have decreased over the years.

12.4.1 Financial Risks for the Provider Under IPBF

The move from EBF to IPBF is the first step to align inputs (payments) to output production and as a result, the key difference between EBF and IPBF can be summed up in a single word: "*Productivity*".

A slow surgeon being paid on a fee-for-service basis will end up with a lower income than a more efficient surgeon, for example.

12.4.2 Quality Risks to Be Managed Under IPBF

Rewarding productivity can provide a perverse incentive to undertake procedures too quickly. If a radiologist is paid only on the throughput of X-Ray reports without any quality checks and balances, the quality of the reporting may suffer. Similarly, it has been determined that proceduralists undertaking colonoscopies should have a slow withdrawal time—a multi-centre randomized control trial in 2022 has demonstrated a statistically significant improvement in the detection of pathology if the standard withdrawal time of 6 min is extended to 9 min [10, 11].

Another risk is that non-billable activities such as research and teaching may diminish, and care must be taken to protect them.

12.4.3 Reporting Systems Required to Manage Under IPBF

The idea is to have a fully-fledged Management Cost Accounting System, using "process" cost accounting principles, to monitor fluctuations in the cost of production of intermediate products.

Private hospitals have for many years, tightly controlled their nurse-patient ratio to ensure that the bed-day fees being charged cover the costs of nurses used to care for patients.

Calculating the costs associated with a surgical procedure may be more complex, requiring the cost of time inputs from many different staff who contribute to a particular procedure.

12.5 Activity-Based Funding (ABF)

ABF refers to any system where an **entire episode of care** is funded as a single unit. Box 12.4 lists several names that have been used for ABF over the years.

Box 12.4 The Many Names for ABF

ABF has been known by several largely interchangeable names in different jurisdictions and over time. Some of the more common are:

- Case-mix Funding.
- Weighted Separation Funding.
- DRG Funding.
- Output Funding.
- Episode Funding.
- WIES Funding.
- NWAU Funding.

It is fairly safe to assume that, with minor technical differences, they all refer to Activity-Based Funding or ABF.

For an inpatient hospital stay an episode usually relates to an entire admission, although an admission that has both an acute and a rehabilitation component may be divided into two episodes of care and be funded separately.

Ambulatory patient episodes typically include the resultant investigations and treatments and similarly represent a further degree of aggregation or 'bundling' when compared with a fee-for-service payment for a doctor's visit under IPBF systems such as Australia's Medicare.

12.5.1 Financial Risks for the Provider Under ABF

Under ABF the utilisation of investigations, imaging, drugs, prostheses, procedures, and days of nursing care no longer receive additional funding outside the case payment for the episode. "*Utilisation*" now becomes an internal risk and the monitoring of any over-ordering of the components of care is added to the management to-do list.

Previous elements such as the management of FTE, Hourly labour hourly rate, overtime and leave still need to be controlled, as do the cost of non-labour items. Productivity also remains an issue to monitor, so the to-do list is getting quite long.

12.5.2 Quality Risks to Be Managed Under ABF

As with the previous models, ABF also carries a new quality risk of ***under***-utilisation. There were significant concerns that patients would be discharged without being adequately treated. Accordingly, there is a greater focus on (Casemix adjusted) mortality and readmission rates as quality deliverables, as well as throughput [12].

In addition to this, patient satisfaction and outcomes—both elements of Value-Based Healthcare discussed earlier—became an increased focus of attention.

12.5.3 Reporting Systems Required to Manage Under ABF

To manage in an ABF environment, the utilisation of the intermediate products of care must be measured for each patient and monitored.

Particular attention is needed for reporting on *five* main elements:

1. *Imaging*
2. *Pathology* and other investigations.
   Drugs and other therapeutics.
   Prostheses and other high-cost consumables.
   Inpatient length of stay (*LOS*).

Reporting on readmission rates, complications, and patient-reported outcome and experience measures are also introduced or reinforced under ABF.

Such patient-level reporting is best summarised on a "per-DRG" basis, or at an aggregate level if normalisation for Casemix can be applied. Reports from benchmarking groups such as the Health Roundtable are key resources for clinical units, and this can be facilitated by the medical administrator and clinical leader.

ABF: A Deeper Dive

As ABF is such an important element of the current funding paradigm, Sect. 11.4 of the previous chapter on funding is devoted to its history and how it works in some detail.

12.6 Condition-Based Funding (CBF)

Under a CBF model, the healthcare provider is funded for an entire treatment regimen, or for an entire pregnancy, or for a year's treatment for a chronic condition such as renal failure requiring dialysis.

The theory is that this will encourage preventative healthcare and less invasive alternatives like outpatient care (peritoneal dialysis) versus in-hospital care (haemodialysis).

12.6.1 Financial Risks for the Provider Under CBF

As a provider under CBF, the risk of *overservicing* must be managed. Identifying the end point of treatment and ensuring that patients are discharged from outpatients, for instance, are elements of this model as there is no additional funding for additional episodes of care.

The repeated challenge with this model is the need to manage the care of patients who are treated by other providers, for instance when travelling for work or on holidays. Inevitably it becomes a requirement to establish inter-provider cross-payment processes, which typically revert to ABF or IPBF style cross-funding thereby defeating the purpose of CBF to some degree.

12.6.2 Quality Risks to Be Managed Under CBF

The key quality issue is the opposite of the financial risk—failure to see patients adequately, and encouragement of patients not to seek healthcare when it would be in the patient's best interests to do so—in other words—"*Underservicing*".

Another more insidious quality risk also emerges: "Cream Skimming" is the process of patient selection on financial grounds rather than healthcare needs. It applies at all levels, but particularly with CBF and PBF whole populations can be left under-treated or left out altogether [13].

Patients who are likely to need additional care and support may be avoided either explicitly, or via subtle means including selective promotion of the service or avoiding geographical areas with patients who are most in need of complex care.

Rural and Indigenous communities and those who treat them tend to fare poorly under such models, whereas affluent patient populations do better. To compensate for this, increasingly sophisticated models can be developed to add loadings for such groups, however, the added complexity may outweigh one of the objects of CBF being a simpler system to administer.

Further complexity is the emergence of another layer of (clinical) management with navigators whose job it is to manage the continuum of care.

12.6.3 Reporting Systems Required to Manage Under CBF

Management systems now need to be able to link episodes into continuity-based super-episodes. The challenge occurs when a patient either has multiple co-existing treatment requirements or when a patient may seek care from a different provider—either for convenience, due to travel,

or another preference. Tracking across multiple providers can prove challenging and requires the compensation of the other provider.

12.7 Population-Based Funding (PBF)

The final model is in use in both Australia for the distribution of healthcare funding from Federal to State level and in New Zealand under the District Health Board model. These provider groups are funded on population, with loadings for indigenous and age-related characteristics of the treated population.

In the UK this was taken to a more micro-level with the advent of GP fundholders in the UK in 1991 under the Thatcher government—where GP practices were funded per enrolled patient for the entirety of their care—having to then purchase care from hospitals and other providers as needed.

Due to concerns of a two-tier system and lack of coordination as well as several GPs making extraordinary profits while others ran up debts that the public purse had to settle, the system was abandoned in 1999. A lack of good studies makes it difficult to know whether it had a net positive impact, but several studies suggested that there was a reduction in referrals to specialists, and some downward pressure on drugs prescribed.

Unfortunately, this came at the expense of patient satisfaction which is somewhat ironic, as population-based funding is sometimes mistaken for a value-based model, and there are suggestions that GPs focus on economics may have come at the expense of patient care, whilst at the same time becoming more inefficient and overburdened with administrative functions detracting from their core function as healthcare professionals [14].

12.7.1 Financial Risks for the Provider Under PBF

As can be seen above, the provider is now ultimately responsible for all aspects of financial management, from FTE numbers, overtime management, productivity, utilisation, over/under servicing as well as managing the logistics of a miniature health department.

Without an activity driver, an unexpected health burden will be entirely unfunded, and this may lead to both financial and quality outcomes being unsatisfactory.

In short, all responsibilities of healthcare are now with the provider, and few are with the policy makers which itself is a concerning thought.

12.7.2 Quality Risks to Be Managed Under PBF

The key concern for population health funding is whether the care that is required will, indeed be given – or will the profit motive over-ride the clinical.

The second element is the propensity to cherry-pick populations with better underlying healthcare, and therefore relatively under-service the most in need.

12.7.3 Reporting Systems Required to Manage Under PBF

Managing these new risks involves an enormous additional administrative workload. Many of the functions traditionally associated with a health department must be duplicated in every healthcare provider; including actuarial and population health investigations; representing a significant cost and efficiency burden.

Data on population health and the social determinants of health such as employment, socioeconomic, indigenous, and disability status, as well as a range of other factors can lead to impacts not adequately compensated for by the funding models.

Finally, these social determinants are largely outside the control of healthcare providers and require societal-wide reform involving education, social housing, employment, policing, and corrective services involvement to name a few.

12.8 Navigating the Clinical Map of Value

Figure 12.1 provides a graphical map linking an overall budget variance to the finite array of "levers" that a medical administrator or clinical director can utilise to alter the value equation which was described in the previous chapter in Sect. 12.2.5 and repeated here:

$$\text{Value} = \frac{\$}{Q^2}$$

The map provides a decision tree starting with the universal concern: *Is there a problem with the value being delivered by my health service, facility, service line, department, or team?*

If the answer is "yes" then the map will guide the manager to consider the possible elements—each of which has a relatively prescribed approach that is likely to resolve the relevant issue if at all possible.

Alignment to the Five Funding Models

Four of the five funding models are superimposed on the map, and this will assist the medical administrator to focus on the tools most relevant to their particular funding scenario.

The final model, Population-Based Funding, is included for completeness, however, most of the new cost drivers are outside the control of healthcare providers. These include social determinants of health, however, the detailed management of these important healthcare issues is outside the scope of this chapter, as they generally require a broader approach than can be provided by an individual healthcare facility—or even a health department.

House of God (HoG) Law 13

In Samuel Shem's classic 1978 book *"The House of God"*, the medical registrar has several rules or "Laws". Law 13 states "The delivery of good medical care is to do as much nothing as possible". This is ironically central to Condition-Based Funding where the financial imperative is ***not*** to treat if it can be helped.

This also has parallels with the concepts of Low-Value Healthcare—and "Do not do" lists, as well as the tight management of new-to-review ratios in outpatients where the goal is to discharge as many patients as can be achieved safely [15].

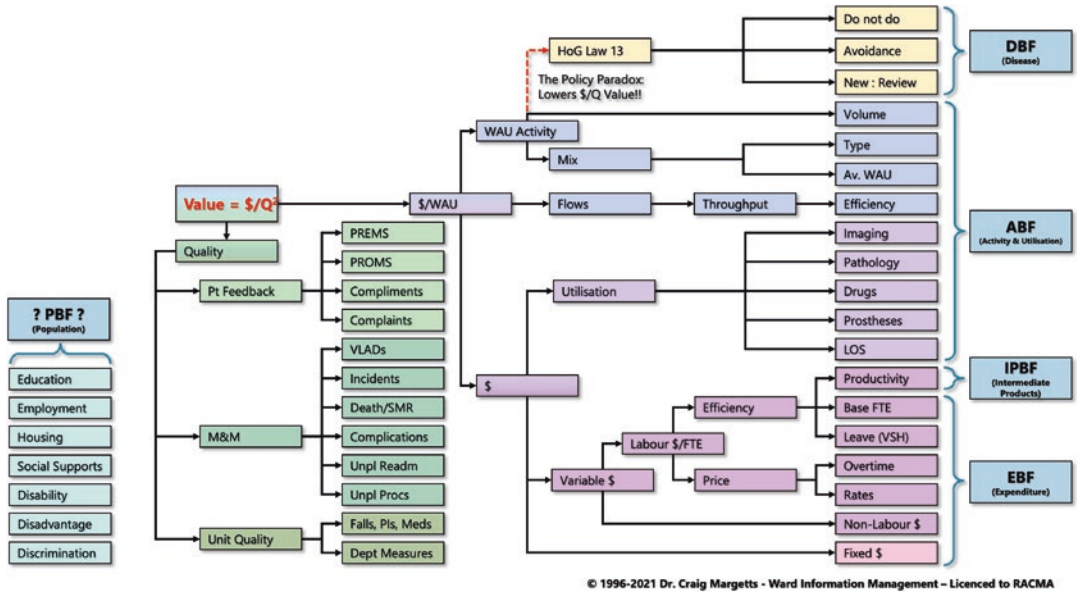

Fig. 12.1 The clinical map of value. The creation of economic and quality value is the fundamental role of the healthcare provider and can be expressed as: Value = $\$/Q^2$. To rectify a value issue, the medical administrator or clinical leader should follow the map to diagnose the issue(s), and this will indicate the correct treatment to be prescribed, depending on the funding model in use

12.8.1 Generic Approaches to Managing Variances

Several elements are common to all approaches to understanding a variance from the expected budget either in terms of expenditure, but also revenue.

For the purposes of this segment, we will treat the two as synonymous, although in reality, they are quite different. The techniques to manage a budget shortfall and those to manage a revenue shortfall do, however, have several overlapping elements.

Even when the budget is fixed (as in EBF)—or where Activity-Based *Funding* is simply used to inform an annual Activity-Based *Budgeting* model, it is always worth monitoring any additional work being done. Although additional throughput may or may not result in more budget/cash, it is always better to quantify and report additional work for several reasons:

1. If, for example, 10% additional activity has been reported and the facility or department is 5% over budget, this is a much stronger position to be in than if the results are the other way around when it comes to explaining a budget overrun.
2. Ultimately budgets—even fixed ones—do catch up and take notice of additional throughout despite the messages received from senior management, and in the meantime, the moral high ground has been claimed. The clinical leader can demonstrate that, as a manager, they are providing value. The only caveat is to guard against "unnecessary" or avoidable work and be mindful to avoid low-value services as outlined in Sect. 12.2.5 in the previous chapter.
3. As a manager you should be on the lookout for areas where activity is growing, and the labour force availability is not keeping up. This has been at the core of many medical disasters reported in the media, and the clinical leaders who have been in charge have been held accountable for not speaking up to protect patient safety and the quality of care [7].
4. Finally—a reduction in volume may indicate that you need to consider alternative labour or financial structures, or, in the case of an essential (but low volume) service, you should be lobbying for an EBF funding and budget process which is not activity-dependent. Some national or state-wide services are funded on this basis due to the unpredictability of their demand, and similarly, this is appropriate for smaller regional and rural services, or even small services in larger centres.

12.8.2 Obtain a Full Set of Reports

In all cases, the following four reports should be considered together, as one without the other is unlikely to lead to a full understanding of the situation and may be quite misleading.

- Dollars,
- FTEs,
- Activity,
- Quality.

Access Detailed Data

Make sure that the information is sufficiently detailed so that you can recognise whether it is correct or not. FTE and Labour data should be available, at the very least, by individual employee and by month particularly at the individual department level.

Activity reporting should ideally have the ability to drill to individual patients—once again to be able to satisfy yourself that the information is correct.

Look for Patterns

Are there patterns over time or between units or treating doctors? These will lead to a greater understanding and explanation of issues—and sometimes will highlight areas that should be funded differently.

This kind of information will also enable a check on fraudulent behaviour or may highlight patterns of work that may be amenable to changes in rosters.

12.8.3 Request Benchmark Data

Benchmark data is always available—even if it is just your own department's previous expenditure.

Historical Benchmarking
Data showing expenditure, revenue, or activity by month over the past 3 or 4 years is generally easy to obtain from your finance or informatics area. Particularly since COVID-19, a comparison with only the previous year is challenging to interpret, but a multi-year comparison can be very helpful.

Benchmark data should be sought for all four of the data types mentioned above and ideally for the same time periods and frequency.

Peer Benchmarking
The use of external agencies such as the Health Roundtable, or sharing with similar peer facilities, not only provides a comparison but also can be a good source of advice from "exemplar" facilities, service lines, or units.

Of historical interest, the Health Roundtable was started as a peer-to-peer membership group of hospitals in response to the Victorian Health Department embarking on its ABF journey, to provide a mechanism for financial benchmarking and quality improvement.

See www.healthroundtable.org

12.8.4 Explore all Budget/Revenue Opportunities

Don't forget that there are multiple funding sources and models—so make sure that you have considered **all** of them:

- Is all activity being captured and adequately representative of the complexity of the work being done?
- Is some of your budget better sourced from a fixed (EBF) budget. Examples include statewide services in larger facilities and low-volume services in smaller facilities.
- Is a research or education grant appropriate for work that is not directly attributable to individual patient care?
- Are any tests or procedures being provided for patients of other facilities? If so, an agreement or contract should be set up between the facilities, based on Intermediate Product-Based Funding (Fee for service).
- Are recent costs extraordinary—such as those for a Disaster? Such costs should be quarantined, and separate funding sought. Even if no actual additional funding is available, this provides the ability to analyse and report on the budget/expenditure situation excluding costs associated with the disaster.

12.8.5 Review Expenditure

Make sure that the expenditure is charged to your cost centres is *actually* being spent in your area.

A focus on reduction in "waste" is far less confronting than "cost-cutting". It is the clinical leader's duty to defend reasonable expenditure in the name of patient safety and clinical quality, remembering that maximising ***value***, rather than minimising ***cost*** should be the key motivation.

12.8.6 Maintain Quality

Similarly, appropriate quality reporting not only prevents the focus from being taken away from patient care, but also reinforces the emphasis on value. To avoid repetition, please review the quality considerations, listed under each funding model, earlier in the chapter.

12.9 A Medical Administrator's "How to" Guide to Managing Cost and Revenue Variations

Many of the areas requiring a Medical Manager's attention have been mentioned above. This section contains a step-by-step guide for managing any financial challenges the medical administra-

tor is likely to encounter, listed by the funding model.

TIP: In addition to the techniques listed below, try to become skilled at developing *business cases*. Alas, space does not permit a "How to" guide on this component, however, a future edition of this chapter may devote a section to this process.

12.9.1 How to Optimise EBF Budgets/ Revenue

Often a fixed budget does not have activity targets, or if they do exist, there is no automatic way to link additional activity to additional budget/ revenue.

Ensure that a *"bottom-up" budget* has been built using the following steps:

1. If possible, estimate the number of hours required to run the department or facility over seven days. At this stage, do not allow for any leave or absences of any kind—they will be added later. This gives you the *"Productive Hours"* required.
2. Divide those hours by the number of ordinary hours worked per week to calculate the *"Productive FTE"* required (38 or 40 usually, but 30 for VMOs in some jurisdictions).
3. Determine what proportion of this time needs to be over time. For some areas, such as large emergency departments, all staff are rostered 24/7. Although there will be penalty payments, there may be very little overtime. Use this to split your Productive FTE into *"Ordinary FTE"* and *"Overtime FTE"*.
4. Consider the impact of *Fatigue* on your Ordinary FTE—will staff be able to be there the next day? You may need to adjust for that.
5. Determine any *Minimum Staffing* required, even if there was very little activity. Does your department need to be available 24/7? Do you do on-call? What is the minimum on-call roster? Are your staff all full-time or can some be part-time or VMOs—can they help share the on-call from a smaller FTE base? How many separate individuals do you need? And do you need to increase your "Ordinary FTE" to allow for a sustainable roster?
6. Multiply the Ordinary FTE, by 115–125% to allow for *Leave FTE*. See Table 12.2 for some illustrative calculations. If you want to be lazy, use the "Casual" loading figure which, in some organisations is 23% + 100% = 123%. Your finance department may have its own figures, so ask them for advice.
7. *Repeat steps 1–6* for each level of staff, but at a minimum do the calculation at three levels: *Juniors* (Interns and Residents), *Registrars* (including "Principal House Officers" PHOs if you are in Queensland), and *Seniors*—with *VMOs* an optional fourth category.
8. Include a financial allowance for any planned *growth*, or known *award increases*, etc.
9. Finally—review *non-labour expenditure* for any expected increases due to activity, inflation, or new procedures not in the prior year's budget.

Table 12.2 Leave multiplier calculator

Type of Leave	Juniors	Seniors
Recreation leave	5.0 weeks	5.0 weeks
PDL/study/sabbatical	1.0 weeks	2.6 weeks
LSL	(rarely taken)	1.3 weeks
Typical sick leave used	2.0 weeks	1.0 weeks
Other leave	(rarely taken)	1.0 weeks
Total	**8.0 weeks**	**10.9 weeks**
Plus the "base" year	52.0 weeks	52.0 weeks
Weeks needed/FTE	**60.0 weeks**	**62.9 weeks**
Percent of 52 weeks	115%	121%

Example Only—use local numbers, yours may be different

TIP: Make sure you don't allocate work to the additional 15–25% FTE allocated for backfill—or you will not cope when someone goes on leave, and management won't rescue you because they will tell you that you already have cover for leave in your budget!

TIP: Ask your business manager or finance department to convert the FTE into $ based on the mix of staff to be recruited and their hourly rates. That way if there is an issue—they are the ones to explain it!

TIP: Ask to see your budget and actual annual figures for as many years back as they have—up to 4–5 should be sufficient. Particularly due to pandemics, last year's figures alone may not be indicative. Compare these with activity growth. Is your department perennially over budget (or is the budget just perennially inadequate?) Have inflation and award increases been factored in? Does budget growth match activity growth? ***Even though you're not using IPBF or ABF—claim it anyway!***

12.9.2 How to Manage EBF Cost Drivers

As outlined above, and reinforced in the Clinical Map of Value in Fig. 12.1, there are five key areas to manage under EBF:

1. **Base FTEs**: Ask for a Payroll-based FTE report (i.e. "Cash" not "Accrual") and request that it be broken down into the categories listed in Table 12.3 as a minimum:

   It is important to separate Accrued Leave (such as Annual Leave and Long-Service Leave) from other forms of Non-Accrued Leave like Sick leave, Study Leave and public holidays, etc., so that you can reconcile with the Accrual reports that won't have Annual Leave taken on them, but instead will have an allowance (accrual) for leave earned (i.e. to be taken some time in the future). With the detail, you should be able to reconcile them and also know how much productive time you have, as well as how many people you've employed (Base FTE), as this will equal the total FTE less any Overtime. Leave without pay (LWOP) can be included or not as you prefer.
2. *Base Rate* (also known as staffing mix)—If the hourly rate is higher than budgeted/expected, first separate out Overtime and Leave—we will look at those separately. If the base rate is still high, consider the following elements:
   (a) Is the *ratio between Juniors, Registrars, and Seniors* what you planned for? If not, why not? Is it just annual creep as staff progress to the next higher level, and if so, why wasn't this allowed for in the budget (plan)?
   (b) When considering the mix of senior staff, the availability of Visiting versus Staff doctors is important to consider. Several part-time *Visiting Medical Officers* (VMOs) or Visiting Medical Specialists (VMSs) may cover on-call in a way that a single full-time Staff Specialist would find onerous. Against that, their hourly rates may be higher depending on the industrial award. In some states, and, in particular, rural areas, visiting staff may be paid on a fee-for-service basis which converts to a high hourly rate, so that must be factored into planning, and can cause an unanticipated expenditure variance.

Table 12.3 Minimum FTE reporting detail

Type of FTE	Hours	FTE	Cost
Ordinary time	240 h	3.5 FTE	$350 k
+ overtime (double pay)	64 h	0.8 FTE	$160 k
= productive FTE	**344 h**	**4.3 FTE**	**$510 k**
+ accrued leave taken	80 h	1.0 FTE	$100 k
+ non-accrued leave (e.g. sick)	40 h	0.5 FTE	$50 k
= cash (paid) FTE	**424 h**	**5.3 FTE**	**$610 k**
+ LWOP (unpaid FTE)	40 h	0.5 FTE	$0 k
= Total FTE	**464 h**	**5.8 FTE**	**$610 k**
Base FTE (=Total FTE – Overtime)	**400 h**	**5.0 FTE**	**$500 k**

The table illustrates the minimum disaggregation of FTE required to understand the necessary elements—including productive FTE (to align to workload) as well as Base FTE (to align to recruitment). The separation of leave that is accrued in the general ledger from the leave that is not (sick leave, etc.) is useful to enable reconciliation to General Ledger Accrual Reports

(c) *Locums* with high hourly rates are another key cause for unexpected overspending particularly with junior doctors. Senior locum costs are closer to the cost of staff specialists, but junior doctor locums often much higher hourly rates than employed doctors.

Sometimes this cannot be avoided, but the importance of adequate forward planning in recruitment cannot be overstated, particularly in rural and regional areas where the recruitment lead times may be great. Where medical staff are recruited from overseas, and may not arrive for many months, locums may be required during the intervening period.

If the Base FTEs and staffing mix are correct, there should not be an issue with the associated costs. If there is, a discussion with your finance department may be in order! After all, it is usually the finance department that calculated the cost based on your FTEs.

3. *Overtime* is almost synonymous with *Roster Review* and *Fatigue Management*. An amount of overtime is almost inevitable in areas dealing with on-call or emergency cases, ironically except for the Emergency Department itself or other areas with a 24-hour roster where overtime is often small, or non-existent.

The essential first step is to get a detailed report, *by individual, by pay*—of $ and Hours to see if the spread of overtime across the department is as expected by the clinical director, or are there particular individuals are doing a disproportionate share.

(a) *Broadly shared excessive overtime* tends to indicate a systematic issue that is amenable to Roster Review or is simply an indicator that the activity demands are outstripping the available productive FTE.

TIP: Try to find administrative staff who are skilled at reviewing rosters for compliance with award provisions, fatigue requirements, and workload demand patterns. They are worth their weight in gold.

(b) *Excessive overtime in an individual* may simply indicate an overly *keen* (junior) doctor or someone happy to do the overtime for others.

At other times it can be an indication of a doctor who is *struggling* professionally.

In rare cases this can be an indicator of something else: perhaps even an *impaired practitioner* who may have personal issues in their home life or something more sinister, such as a drug or gambling issue.

Extremely rarely it is *fraud*.

Any way you look at it, a significant outlier needs to be taken seriously.

TIP: Become an expert in the industrial provisions, particularly around overtime and after-hours work so that you know how to roster to optimally match workload, whilst being mindful of penalty rates.

4. *Leave Management* is often done poorly in medical units, with many doctors gradually accumulating large amounts of annual leave and professional/sabbatical leave. When this occurs, the total cost will be greater than the budget allows as was demonstrated in Box 12.1 and Table 12.2 above.

Indeed, apart from unexpected overtime, the most common reason for budget overruns in medical units is the failure to manage leave adequately.

(a) Request two types of *monthly* reports: leave taken (payroll) and leave balances (General Ledger accrual system) to manage leave issues proactively.

(b) For *Annual Leave*, *Long Service Leave*, and *Professional Development Leave* one of the simplest techniques, with surprising effectiveness is to mount a year planner in the department and hand a whiteboard marker to doctors when they walk past asking them to indicate when they are thinking of taking leave. Similar

approaches can be achieved using online calendars and spreadsheets, but it is hard to beat the visual impact of an old-fashioned wall-mounted planner. Somehow, they seem to encourage both participation and forward-thinking.

TIP: on the wall planner indicate when the college conference(s) are scheduled so that early discussions can occur regarding how many can simultaneously attend.

(c) *Occasionally a private 1:1 conversation*, ideally at annual review time, is required to encourage leave to be taken when it is accumulating.

5. *Non-Labour Expenses* are often small in a traditional medical budget comprising little more than power, computing costs, and paper for the printer. In such circumstances, they are easily managed. Increasingly, however, the costs of prosthetics, etc. are charged to the cost centres that use them representing a larger amount.

There are three approaches that are generally used to manage non-labour expense budget variances under a strict EBF model:

(a) *Schedule Slowdowns* to coincide with college conferences and peak leave periods including Christmas, thereby reducing the need for locums and other forms of backfill cover.

(b) *Negotiate with Suppliers* to obtain a better purchase price—sometimes this can reduce the range of supplies held in stock—for instance, prosthetic suppliers will give large discounts if volume guarantees can be given. This requires clinical cooperation between the users of those supplies, and this can be challenging.

(c) Otherwise, it is simply a case of *monitoring expenses*, on a monthly basis, to give plenty of time to request additional budget or permission to stop providing the relevant service before it becomes a crisis.

TIP: As this can cause significant disgruntlement between a clinical manager/medical administrator and both senior management on the one hand and the coal-face clinicians on the other, it is important to identify and communicate this as early as possible to avoid surprises and unpleasantness.

Activity as a Cost Driver Under EBF

As there is no in-built compensation or recognition of activity, one of the challenges under EBF is the repeated need to advocate for budget and resource increases due to growing activity.

Limiting patient activity can be both politically and logistically difficult, yet the alternative can be even worse if patient safety suffers as a result of inadequately resourced facilities continuing to treat patients in a sub-optimal manner. Medical administrators and clinician leaders who allow this to occur can, and have been held to account [7].

12.9.3 How to Optimise IPBF Budget/Revenue

Fortunately, the budget/revenue under an Intermediate Product-Based Funding regimen varies with the volume of service provided—at least notionally. In circumstances where the price paid covers both fixed and variable costs, an increase in volume that does not require capital expenditure will usually result in improved volume efficiencies.

All the revenue considerations for EBF remain, but now the medical leader should include the following steps:

1. Where it is clinically appropriate, attempt to *increase the number of services provided* as larger volumes generally result in progressively improved financial situation.

   For this reason, private imaging companies and fee-for-service-based private hospitals will often run services 7 days a week and long into the evenings to maximise return on the existing capacity, but only to the point of having to buy or build more capital infrastructure.
2. Ensure that all Intermediate Products produced are included in *reporting or billings*.

3. Undertake *costing studies* to understand which intermediate products cost less to produce than the budget/revenue received and ensure sufficient production of those to compensate for any unprofitable work that is wanted or needed to be done for clinical, or academic reasons.
4. Consider *outsourcing* any non-profitable areas. For instance, small-volume Intermediate Product lines may be able to be undertaken more efficiently by a larger or more specialised supplier, with economies of scale or specialised equipment.

12.9.4 How to Manage IPBF Cost Drivers

First:

- Manage the five EBF Cost Drivers.
- Then, in addition, manage the new IPBF Cost Driver: *Productivity*.

The medical administrator should be familiar with common ratios and productivity measures, along with appropriate matching quality indicators to ensure a good balance between improving productivity and outcomes.

Ensuring that there is no wastage in the labour or materials required to generate each service is the key new element and there are two common approaches to monitoring this.

1. From a financial management perspective, the gold standard is *unit profitability for each Intermediate Product*—in other words, the cost of production versus the price or (notional) revenue gained for each intermediate product. As there are usually many similar products created each month, an average cost of production of, say, a Chest X-Ray is sufficient, rather than costing each individual film, as the overhead for calculating this level of detail is not warranted. Unit profitability requires a management cost accounting system and one which can cope with the many thousands of different types of intermediate products produced each day by a typical hospital.
2. In the absence of such a cost accounting system, many facilities use a range of *ratios* as productivity reporting proxies. It should be noted that quality ratios and minimum times are similarly important—a good example being colonoscopy withdrawal times to avoid poor quality, rushed procedures. The list of possible productivity ratios and metrics is endless but common ones include the following:
   (a) Nurse to Patient Ratios.
   (b) Nursing hours per patient per day.
   (c) Theatre changeover times.
   (d) Procedure times compared with averages or standard times for theatre and procedure rooms.
   (e) Number of outpatients seen per clinic.
   (f) New to Review ratios in outpatients.
   (g) Patient throughput per hour in the Emergency Department.
   (h) Radiology reports read per hour.
   (i) Pathology tests produced per day or per multi-analyser.

Access to a benchmarking group such as the Health Roundtable can provide valuable data to use as a comparison, or alternatively, there may be industry standards that are published.

12.9.5 How to Optimise ABF Budget/Revenue

Maximising reported patient volumes, or more precisely the Weighted Activity Units used in the funding or contracting agreements is a new element to be managed. The keys to this, as outlined on the Clinical Map of Value in Fig. 12.1 are as follows:

1. *Safely Maximise the Volume of Patient Episodes* within the constraints of the capital infrastructure and available resources.
   (a) Ensuring that all *changes of care type* are recorded—for instance Acute to Sub- and Non-Acute Patient types (SNAP) such as rehabilitation and palliative care.

(b) Ensuring all potential *nursing home-type* patients are identified as soon as the acute care phase of the inpatient episode is concluded, and the patient would normally be discharged if they did not require nursing home care. Although the definition for a nursing home type patient *remaining* an inpatient in a hospital requires the patient to have been admitted for 35 days, there is no preclusion to earlier discharge to a nursing home or a lower acuity facility such as transition care, in the interim—thereby enabling a second episode to begin for the first patient while freeing up an acute bed for another inpatient.

(c) Consider *opening any available wards* subject to staffing availability and workload but only if there is a prospect of a real (as opposed to notional) increase in budget and/or revenue.

(d) *Reduce the length of stay* as much as is safely possible to free a bed to be able to accept another admission.

(e) *Split Episodes into two.* Establishing a relationship with a rehabilitation or a palliative care facility can result in patients being discharged from an acute facility in a more timely manner, an entirely new episode being counted, and additional weighted activity units being claimed. This can also have a marked improvement in patient outcomes, as both facilities can focus their specialisation on different aspects of the care journey.

2. *Manage the services provided* and therefore the types of patients seen with a particular emphasis on identifying low-volume services where the quality or cost structures do not meet peer averages. It may be that consolidating these services into a larger more efficient unit may improve both the quality and cost of the service.
3. *Optimise the Average WAU per patient* to recognise the complexity of patients and clients seen. This is achieved by improving *documentation*.

As outlined earlier 20–25% of clinical records have inadequate or insufficient medical documentation to enable a complete set of ICD-10-AM codes to be assigned, and therefore grouped to the correct AN-DRG, which is invariably one with a higher cost weight and therefore a greater WAU.

Paradoxically poor documentation is exacerbated when workload and patient acuity rise due to (junior) doctor haste and burn-out—thereby reducing the very measure which would most aid in gaining more staff and reducing clinical workload.

TIP: Time spent addressing clinical coder queries (CCQs) identified by the Medical Records Department is undoubtedly the most reliable and predictable way to substantially increase (notional) revenue under ABF and is more likely to be successful than any efforts to reduce expenditure or utilisation.

TIP: Make a point to know the name of your Health Information Manager (HIM) or Clinical Coder as well as you know your own Tax Accountant – both will get you maximal returns.

12.9.6 How to Manage ABF Cost Drivers

First:

- Manage the five *EBF* Cost Drivers.
- Manage the *IPBF* Cost Driver (Productivity).
- Then manage the following five new Cost Drivers specific to *ABF*.

Broadly these come under the heading of *"Utilisation"*—the purchasing, by doctors (typically but not exclusively) from the departments or "vending machines" of the healthcare provider facility, the intermediate products that combine to form an entire episode of care for a patient/client.

These five are:

1. *Imaging*
2. *Pathology* (and other investigations).
3. *Drugs* (and other therapeutics, including blood and IV fluids).

4. *Prosthetics* (and other high-cost consumables).
5. And—as a final "catch-all": *Length of Stay (LOS)*.

Note: the following approach applies equally to the utilisation of any other component of care including services like allied health and treatments like radiotherapy, etc.

Management of Utilisation Other than LOS

To manage the first four key areas of utilisation, Imaging, Pathology, Drugs, Prosthetics, etc. the ideal approach is to obtain specific information from a patient costing system that captures the exact utilisation for every individual patient.

As a general approach to the control of unnecessary ordering, however, the following *10 Utilisation Management approaches* can be used. These can be used in the absence of patient costing or as an adjunct. Typically, the target audience of such interventions is junior doctors, and these steps are put in place to curb wasteful and unnecessary ordering.

1. *"Traffic Lights"* systems including department privileges and lists of pre-approved items. Certain tests and treatments may be able to be ordered by interns, others require a consultant, or perhaps an ID physician to order. Standard lists of available medicines or the requirement for authorities are similar examples.
2. *Re-Test Intervals* to prevent re-ordering of recent investigations that do not change rapidly.
3. *Price Signals* being made visible, or being discussed regarding the costs of tests, particularly expensive ones.
4. *Benchmarking* (and Variance Reporting)
   (a) Against Self—over a time series.
   (b) Against Peers in the same/other facilities.
   (c) Against an Externally Imposed Protocol/Regimen.
   (d) Against an Internally Agreed—Clinical Costing Utilization Budget (Ideal but Rare).
5. *Electronic Medical Records* enabling:
   (a) Better Access to Results.
   (b) Automated Decision Support re the above steps and price signals visible on the screen.
6. *High-Cost Drugs/Tests Analysis*—Specific analysis is sometimes called for, but due to low volumes, the financial benefits of intervention can be modest.
7. *Avoid Outsourcing* as increased access may counteract any unit cost savings. See Box 12.5.

Box 12.5 To Outsource or Not to Outsource: That Is the Question…

A potentially controversial suggestion is the ***avoidance*** of outsourcing.

Traditional wisdom would suggest that outsourcing can secure lower prices and therefore represent savings, and this is potentially true for items like linen, etc. that are tightly controlled.

For Imaging and Pathology, in particular, this may or may not be a good strategy. Personal and anecdotal experience from many senior health managers would suggest that while the unit cost may initially be cheaper, outsourcing also comes with a significant change in ease of access.

Whereas a junior doctor trying to order imaging from a hospital imaging department may be questioned about whether this warrants a call-back, or even if the Imaging is warranted at all, a typical response from an outsourced imaging service is likely to be "certainly we can do that plain film, at any time, but have you considered a CT, and would you like an MRI to go with that?"

The net result is often a significant increase in the volume of imaging, due to the reduced barriers, and whilst this may be to the benefit of patients, this is not always clear and costs are almost certain to go up in the long term, after a transient reduction for 12–34 months or so—ironically this is just long enough for the implementation team to tick it off as a "success".

8. *Waste Management/Monitoring*—for example, the number of Blood Products ordered, Theatre packs opened but not used, etc.
9. *Education* of Junior (and Senior!) Doctors and the use of Evidence-Based Medicine. This is an essential step, however, by itself has only a short-lived impact.
10. *Margin (Profitability) reporting* by Stream/Unit/Doctor and discussion at monthly meetings. This unfortunately requires a patient costing system to be in place and validated for any reliability. Optionally this can include visibility of which services are contributing to the viability of the organisation (noting that this can be controversial!)

    In addition, a generic *eleventh* is suggested:
11. *Avoid intimidation* of junior staff to stop them from ordering everything "just in case". For seniors, the equivalent is defensive medicine borne out of a fear of litigation.

Management of Length of Stay

The medical manager is often asked to assist in the management of Length of Stay (LOS). LOS is often used as a proxy for all costs, particularly in the private hospital sector where ward care forms one of the major cost drivers along with theatre time/utilisation. The following steps should be considered:

1. The first step should be to review the **Relative Stay Index (RSI).** See Box 12.6.

   For tips on how best to design routine reporting of RSI and LOS at the DRG level, see Box 12.7.
2. If an anomaly is identified, underlying issues should be sought. In Fig. 12.3 in the previous chapter, three shaded zones were identified – bearing in mind the cost curve is illustrative only and may not represent the actual cost in a particular facility. The break-even point is assumed to be at the Average Length of Stay (ALOS), however, facilities with a Patient Costing System will be able to calculate this rather than using assumptions.

Box 12.6 Use of the RSI: The Relative Stay Index

The relative length of stay or Relative Stay Index (RSI) is a measure reported by many benchmarking groups such as the health roundtable and can serve as a useful marker when looking at more than a single DRG.

The RSI simply divides the actual LOS by an Average LOS for a cohort – normalised by DRG, and often by other more subtle influencers of LOS such as age, comorbidities, etc. even where these do not result in a different AR-DRG.

The medical administrator should strongly resist the use of "raw" LOS data which is not normalised to an RSI measure, at least taking into consideration DRG.

TIP: There is a great temptation to target ***only*** those patients outside the upper boundary points—the area shaded orange—but this is rarely a fruitful exercise as these patients:

(a) Are relatively *few in number*, being at the tapering edge of the normal distribution curve.
(b) Usually have *individual issues* rather than system issues so there is less likelihood of an intervention benefiting a whole class of patients or leading to a long-term fix.
(c) Often have *been thoroughly discussed* with multidisciplinary and family meetings, so are likely to be receiving significant management attention in any event.

3. A more fruitful approach is to focus ***first*** on the episodes in the "red" zone where there are a greater number of patients, and a systematic reduction of LOS by 1 or 2 days for an entire class of patients may be of greater value, and the solutions may be longer lasting or permanent.

   There are several causes of high RSI, each with their associated management actions:
4. *Identify external discharge barriers* such as an inability to access nursing home care or the lack of an accessible rehabilitation or pallia-

Box 12.7 A Suggested LOS Report Layout To Help Identify LOS Issues Areas and To Target Documentation Improvement

TIP: To monitor and manage LOS, a particularly effective way is to obtain the following as a grid-oriented report for each clinical unit:

- Top 10 ADRGs (not top 10 DRGs!) by the clinical unit each month (and on a separate report YTD) on the *vertical* axis,
- For each ARDRG separate the numbers of A, B, C, D, and Z *horizontally*.
- In each cell of the grid, include:
  - the number of separations,
  - the unit's average LOS,
  - the national or state average LOS,
  - highlighting for any cells where the unit's ALOS is greater than the national or state ALOS.
  - individual patient costing and notional revenue data if available and highlight any for whom the cost exceeds the (notional) revenue.
- Focus on any highlighted cells in the "B", "C" or "D" column with a view to identifying clinical documentation improvements or discharge barriers.

If required repeat the above at a more granular level by teams or by individual treating doctors.

tive care facility. The management action in this case relates to working with external stakeholders to resolve these issues.

5. *Identify internal discharge barriers*.—Some examples of internal issues are:
   (a) Patients being discharged only on certain days of the week corresponding to when a Visiting Medical Officer comes to the facility.
   (b) A lack of weekend discharges in cases where junior medical (and nursing) staff are not empowered to discharge patients meeting pre-determined criteria to ensure patient safety.
   (c) Patients who could be moved to a discharge area on their final day while waiting for medications, etc.
   (d) Poor communication with patients or families who are not prepared for discharge.
   (e) A general lack of appropriate discharge planning and forethought.
6. *Monitor Complications and Quality issues*—an important cause for long LOS can relate to the acquisition of complications and the need for extended treatment times, which is not only a financial issue but a major clinical and quality concern.
7. *Manage Excess Capacity*—A sudden drop in bed pressure can result in a relaxation of the need to discharge patients in a timely manner. A review of LOS in any facility where a significant expansion in bed capacity has occurred (opening a new ward in a small facility, or a new wing or an entirely new hospital in the case of a larger one) is almost certain to show a lengthening of LOS once all other factors are accounted for.
8. For elective procedure, patients also review the proportion of *Day of Surgery Admissions* (DOSA) and the proportion of *Day-Only* procedure rates to ensure they meet peer benchmarks.
9. The final consideration is to ask whether the LOS may be appropriate, but once again consider whether the *clinical documentation* may be inadequate leading to an underreporting of the complexity of the patients being cared for. This can also show up in RSI along with other quality parameters such as Standardised Mortality Rates, and Standardised Re-admission or complication rates.

12.9.7 CBF and PBF Variances

The management of patients over multiple episodes of care, or the management of entire populations requires additional levels of reporting sophistication and skills in multi-admission analysis.

For PBF, population analysis, disease profiling, and the expertise of health economists are required, as is the analysis of the social determinants of health including education, employment, housing, and the like.

Great care must be taken to avoid undue pressure from financial imperatives to save money. Hospital avoidance is one thing but withholding or missing vital treatment is another.

In short—a population-based funding model carries with it the greatest administrative and analytical burden for which healthcare providers, and in particular clinicians, have neither the training, expertise nor interest unless they are of the size of current health departments.

12.9.8 How to Optimise CBF or PBF Budget/Revenue

One of the reasons that CBF and PBF are attractive to health departments and ministers is that there is little to nothing that can be done at a local level to increase resources by way of increased funding. Management focus should be spent on:

1. Ensuring that all CBF patients are enrolled and that population growth predictions are updated in light of actual growth.
2. Ensure that appropriate loadings are applied for ageing and the development of new technologies including novel medications and therapies.
3. Monitoring the survival of patients who are successfully treated for one condition, or who live longer with improved treatments, but with a growing list of comorbidities. Paradoxically, under PBF, higher quality healthcare provider organisations with greater survival rates can find themselves penalised for the quality of their care as they have to continue to provide the increasing intensity of services as their population ages.
4. Careful monitoring of patients from other jurisdictions (or Health Services) who are being treated locally and setting up cross-charging based on ABF (or preferably IPBF if that is possible), along with establishing the necessary administrative and accounting resources to monitor, manage and report on this.
5. Being vigilant to identify issues that may arise as the organisation's internal funding and budgeting process, in effect, comes full circle, and departmental budgets no longer take into account activity or growth—thereby re-establishing the Expenditure-Based Budgeting that was the initial cause for developing IPBF and ABF in the first place.

For these and several other reasons, including the potential for high-profile organisations in large cities to obtain a disproportionate share of funding, the push toward PBF, in particular, should be approached with caution. Other challenges associated with implied or real limitations in patient freedom of movement need to be addressed and managed.

Developing an internal level of skill and expertise in areas such as health economics and actuarial calculations at an individual facility or even at a district/area level are significant exercises in themselves.

Taking all this into consideration, the local management of PBF would be challenging at best, and at worst, may represent a significant distraction from the fundamental and highly specialised role of healthcare provision.

12.9.9 How to Manage CBF- and PBF-Type Cost Drivers

First:

- Manage the five *EBF* Cost Drivers.
- Manage the *IPBF* Cost Driver (Productivity).

- Manage the five Cost Drivers specific to *ABF*.
- Then manage the new Cost Drivers for *CBF* and *PBF*.

Consider the following:

1. Analysis of inpatient patients with a LOS = 1 (single overnight) to identify if the admission could have been avoided altogether.
2. Population Health initiatives, including vaccination programs.
3. Hospital avoidance programmes including general approaches such as obesity management and fitness (notwithstanding the poor evidence that these interventions work in a sustainable way, and therefore, ironically, may themselves qualify for Low-Value Care)
4. Deeper integration with primary care which, in the Australian setting is structurally challenging without wholesale parallel change to the Australian Fee-for-service Medicare System and the transferring of both hospital care, and primary care to the same layer of government.
5. Lobbying government to improve the social determinants of health including:
   (a) Employment.
   (b) Housing.
   (c) Education.
   (d) Social Connection and a sense of local community.
   (e) Fitness and Community Infrastructure.
   (f) Aged Care and Disability Management.

12.10 Conclusions and Summary

The alignment of the five funding models with their associated revenue, expenditure, and quality priorities is a useful way to both simplify and clarify the approaches that a medical administrator or clinical leader needs to take.

Some take-home messages include:

- The fundamental goal for any healthcare organisation is to improve value which can be simply expressed as $\$/Q^2$ remembering that both Quality and Quantity are important for value.
- There is a difference between funding (from an external body or individual) and budgeting (allocated within an organisation). The two may, but do not have to align.
- A "Budget" is a "Plan".
- For many years the Activity-Based Funding approach has served as the mechanism that is growing in usefulness and adoption, partly because it is administratively logical, but also because the management requirements are largely within the span of influence of a healthcare organisation up to and including a district or area health service.
- Good clinical Documentation is critical.
- As the funding model moves from Expenditure-Based Funding, through Intermediate-Based Funding, to Activity-Based Funding and beyond—there are an increasing number of both financial and quality risks that need to be undertaken by the Healthcare Provider, and none of the lower tasks are lost. Eventually, this results in an administrative overburden that effectively sees the replication many times over of the health planning and policy functions currently undertaken by health departments.
- Each type of funding model has a clear and limited array of issues and associated management steps to resolve them, and these have remained remarkably constant for well over 40 years, despite the propensity for old ideas to be re-badged and re-promoted as "new".

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Health Law and the Specialist Medical Administrator

13

Erwin Loh

13.1 Introduction

Australia's legal system is based on legislation and common law.

Legislation includes statutes or acts made by Parliaments and delegated or subordinate legislation made by individuals or bodies acting under the authority of Parliaments.

Common law is made when judges decide cases. Precedent applies in case law, requiring judges to follow the law declared by judges in higher courts in the same jurisdiction in cases with similar facts.

Medical administrators need to understand areas of the law relevant to the delivery of health services, to support the delivery of high-quality healthcare and ensure legal compliance and effective risk management in increasingly complex healthcare environments.

This chapter is divided into three parts:

1. Patient care.
2. Professional governance.
3. Organisational systems.

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13.2 Part 1: Patient Care

13.2.1 Adverse Events, Negligence, and Complaints in Health Care

13.2.1.1 Adverse Events

While the scope of responsibilities of medical administrators is broad and varies considerably between settings, the medical administrator's role is almost universally oriented toward the overarching goal of ensuring the organisation delivers safe, high-quality healthcare.

The contemporary medical administrator has a professional responsibility to lead a clinical culture that supports quality and continuous improvement while ensuring appropriate organisational and professional systems of accountability to patients and the community.

Incidents in which harm results to a person receiving healthcare, known as adverse events, are common in the healthcare environment. The landmark Quality in Australian Health Care Study [1], published in 1995, reported 16.6% of hospital admissions in Australia were associated with an adverse event, with 51% of those events considered highly preventable. Subsequent studies in a number of developed healthcare systems suggest 10% of hospital admissions are associated with an adverse event [2].

Many injuries that occur in association with the delivery of healthcare are a result of inherent risk, but a significant proportion is

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associated with care that does not meet accepted standards. In the Harvard Medical Practice Study, more than 25% of adverse events were found to be attributable to negligence, with the proportion of adverse events attributable to negligence increasing in the categories of more severe injuries and amongst the elderly [3]. The percentage of adverse events due to negligence was found to be consistent between medical specialties [3].

Since 2005, jurisdictional health authorities across Australia have required public hospitals to report all instances of nationally agreed 'sentinel events' [4]. Sentinel events are a subset of adverse patient safety events that are wholly preventable and result in serious harm to, or death of, a patient. They are the most serious incidents reported through the state and territory incident reporting system. In 2020, the Australian Commission on Safety and Quality in Health Care released a list of ten Australian sentinel events.

13.2.1.2 Negligence

Negligence is failure to exercise reasonable care to avoid causing injury or loss to another person.

A plaintiff must prove all of the following elements before a finding of negligence can be made:

- There was a duty in the circumstances to take care.
- The behaviour or inaction of the defendant in the circumstances did not meet the standard of care that a reasonable person would have met in the circumstances.
- The plaintiff suffered injury or loss (damage) that a reasonable person in the circumstances could have been expected to foresee.
- The damage was caused by the breach of duty.

A plaintiff must establish on the balance of probabilities that negligence occurred. This is a lower standard of proof than that which applies in criminal cases, where the prosecution must prove beyond reasonable doubt that criminal conduct occurred.

Duty of Care

A duty of care is a legal obligation to avoid causing harm, which arises where harm is reasonably foreseeable if care is not taken. Australian courts have repeatedly confirmed that a duty of care is inherent in the doctor-patient relationship. In *Rogers v Whitaker* [5] the Court said:

> The law imposes on a medical practitioner a duty to exercise reasonable care and skill in the provision of professional advice and treatment. That duty is a "single comprehensive duty covering all the ways in which a doctor is called upon to exercise his skill and judgment"; it extends to the examination, diagnosis, and treatment of the patient and the provision of information in an appropriate case.

It is unclear whether there is a duty to assist when there is a general call for medical assistance, for example when someone falls ill at an airport.

A duty of care was found to be owed when a doctor was called to provide emergency care to a patient with whom he did not have an established clinical relationship [6]. That case was decided, however, in the general context of a regulatory framework that has since changed.

Courts have found in some circumstances that a doctor owes a duty of care to third parties who are not patients, but who could be affected by the doctor's treatment of a patient. A doctor was held to owe a duty of care to the partner of his patient, whom he had never seen when he failed to investigate his patient's symptoms of the human immunodeficiency virus (HIV) and diagnose HIV infection [7]. Another doctor was found negligent for failing to inform a patient's partner of the patient's positive HIV status when they both attended the same consultation with the doctor, during which HIV testing was arranged. However, in *Hunter & New England Local Health District v McKenna* [8] the High Court unanimously held that the hospital and assessing psychiatrist did not owe the relatives of a patient a duty of care in the exercise of their statutory powers to detain and discharge mentally ill patients. In that case, the discharged patient killed the friend into whose care he had been discharged after a mental health assessment.

All Australian states and territories have Good Samaritan legislation, which protects medical practitioners from liability when they come to the aid of an ill or injured person, in good faith and without expectation of reward [9]. The detail of the legislation differs between jurisdictions.

In addition to potential consequences founded in common law, there may be regulatory consequences if medical practitioners fail to offer assistance to people in need of medical care. The Medical Board of Australia, in its code of conduct for doctors in Australia, notes that good medical practice involves offering assistance in an emergency that takes account of your own safety, your skills, the availability of other options, and the impact on any other patients under your care; and continuing to provide that assistance until your services are no longer required [10].

In *Medical Board of Australia and Dekker* [11] Dr Dekker was found guilty of improper conduct by the State Administrative Tribunal of Western Australia for failing to stop and render assistance following a motor vehicle accident in which she was involved. The decision was overturned, however, by the West Australian Supreme Court of Appeal [12], which found, amongst other findings, that there was no evidence of a specific professional duty as formulated.

The State Administrative Tribunal of Western Australia also found a medical practitioner, who denied when approached by a member of the public outside his practice that he was a doctor, to have acted improperly in the course of his practice as a medical practitioner [13].

The Board recognises that doctors who are registered as non-practising practitioners may find themselves in a circumstance when it is appropriate for them to provide assistance in an emergency. In such circumstances, the Board recognises that the practitioner will, and should, provide the best care they can. The Board has stated that it would not have any grounds to take action against a non-practising practitioner for rendering medical assistance in an emergency unless they claimed to hold a type of registration that they do not hold or used a protected specialist title [14].

In New South Wales, failure to attend and provide professional services if a practitioner has reasonable cause to believe a person is in need of urgent attention, or makes satisfactory alternative arrangements, constitutes unsatisfactory professional conduct [15].

Standard of Care

Medical practitioners and other healthcare professionals must exercise reasonable care. The duty of care is breached if care falls below the expected standard.

The standard of care for professionals has been defined in the legislation in all states as the standard widely accepted in Australia by a significant number of respected practitioners in the field as competent professional practice in the circumstances [16]. The professional opinion on which a practitioner relies must not be unreasonable in Western Australia and Victoria or irrational in other states [16]. The fact that there are differing professional opinions widely accepted in Australia by a significant number of respected practitioners in the relevant field does not prevent one or all of those opinions from being relied on [16].

Part of the professional's duty is to warn of material risks involved in medical treatment. Consistent with the High Court's decision in *Rogers v Whitaker* [17], the peer professional practice standard does not apply to claims arising from failure to warn a patient of the risks of proposed treatment.

Clinical guidelines are statements that have been systematically developed to assist clinicians in making decisions about treatment for specific conditions [18]. They may provide good evidence of peer professional practice, but should not be applied without consideration of the specific circumstances of the patient. The exercise of professional responsibilities requires independent judgments to be made and each practitioner is responsible for his or her own actions [19].

Damage and Causation

As well as requiring proof that a duty of care exists and has been breached, to succeed in an action in negligence a plaintiff must demonstrate

that the breach caused the relevant injury or loss, and the injury or loss was not too remote a consequence of the breach.

The common law is supplemented by civil liability legislation in most states and territories. As well as requiring proof of factual causation, that is, that the defendant's negligence, as a matter of fact, caused the patient's injury or loss, the legislation requires that the defendant should be held responsible in the particular circumstances, that is, the defendant was within the appropriate 'scope of liability' that should be imposed.

Factual causation is established by the *but-for* test—the question to be asked is whether the defendant's negligence was a necessary condition for the occurrence of the relevant harm or loss.

Consideration of the second part of the causation inquiry—scope of liability—is then required. This inquiry allows consideration about whether, and if so why, the defendant should be found liable for the harm suffered by the plaintiff. Consideration may be given to relevant matters including whether there were any new intervening acts that severed the chain of causation, or whether the harm/loss suffered was too remote a consequence of the defendant's actions to attribute liability to the defendant. The precise manner in which the harm has occurred does not have to have been reasonably foreseeable - the focus is on the kind of damage that occurred, rather than precisely what occurred [20].

Scope of liability was an issue in *Wallace v Kam* [21], for example. In that case, the High Court confirmed causation is not established if a doctor negligently fails to warn a patient of two or more material risks of treatment if the patient would have agreed to take the risk that materialised but not the risk that did not materialise. A patient can only succeed in a claim of negligence if a risk materialises that the doctor had negligently failed to disclose and the Court is satisfied the patient would not have been prepared to accept that specific risk, had they been aware of it.

Compensation

The aim of an award of damages is to make good to the plaintiff, so far as money can do, the loss which they have suffered [22]. Compensation can be claimed for actual financial loss, such as direct costs of medical care, earning capacity loss, and non-pecuniary loss, such as pain, suffering, and disfigurement.

Following the release of the report of the Review of the Law of Negligence Final Report in September 2002, which was undertaken in response to a perceived crisis in medical indemnity insurance, Parliaments in all Australian states and territories enacted significant tort law reforms, which restricted liability and/or damages and/or restated the common law in a more restrictive manner.

In all jurisdictions, significant limitations have now been imposed on the period within which claims must be initiated, the level of disability that must be evident before damages can be awarded, the amount that can be awarded under various heads of damages, and the availability of punitive or exemplary damages.

Following this tort law reform, there was a striking reduction in claim rates [23].

13.2.1.3 Disclosure of Adverse Events

Many patients want to be informed if an adverse event has affected their experience or outcome of care, and whether steps have been taken to reduce the risk of a similar adverse event affecting the care of other patients.

Where a patient's ongoing care would be affected by their knowledge of an adverse event, there is a duty to disclose the occurrence of that event. In *Wighton v Arnot* [24], for example, the Court found that early disclosure, investigation, and treatment would have improved the patient's prognosis. Studdert J stated [25]:

"…the patient had a right to know, and the defendant had a duty to inform her, that he had severed a nerve."

It has been suggested that the law should accept that the fiduciary obligations of the doctor-patient relationship extend to a presumption that any adverse healthcare event will be promptly reported to the patient involved [26].

Open disclosure is an open discussion with a patient about an incident that resulted in harm to that patient while they were receiving healthcare.

The discussion and an exchange of information may take place over several meetings [27].

The Australian Open Disclosure Standard was developed by the former Australian Council for Safety and Quality in Health Care. In April 2008, Health Ministers agreed to work towards the full implementation of the standard in all healthcare facilities [28].

The Australian Open Disclosure Framework (Framework) was developed by the Australian Commission on Safety and Quality in Health Care (Commission) to provide a nationally consistent basis for communication following unexpected healthcare events and harm. The Framework is intended for use by Australian health service organisations across all sectors and settings [28] and sets out the components that should be included in every open disclosure process [29]:

- The patient, their family, and carers should be told the name of every person attending an open disclosure meeting. This information should also be provided in writing.
- A sincere and unprompted apology or expression of regret should be given on behalf of the health service organisations and clinicians. The word sorry should be used.
- A factual explanation should be given, including the known facts and consequences of the adverse event. Speculation should be avoided.
- The patient, family, and carers should have the opportunity to give their views and ask questions.
- The patient, family, and carers should be encouraged to talk about the personal effect of the adverse event on their life.
- An open disclosure plan should be agreed upon and recorded, and a copy provided to the patient, family, and carers.
- The patient, family, and carers should be informed of any further reviews, and about any changes that are made to prevent recurrence.

As part of the open disclosure discussions, an offer of support should be provided to the patient, family, and carers, which includes [29]:

- ongoing support, including reimbursement of out-of-pocket expenses incurred as a result of the adverse event;
- assurance that necessary follow-up care or investigation will be provided promptly and efficiently;
- where relevant, details about who will be responsible for providing ongoing care resulting from the adverse event;
- contact details for services that may need to be accessed; and,
- information about how to take the matter further, including health complaint processes available.

Compliance with the Framework is not a legal requirement but implementation of a program that is consistent with the Framework is mandated under the *National Safety and Quality Health Service Standards* [30], and therefore adherence to the Framework may be a compliance obligation for organisations accredited to those standards.

A statutory Duty of Candour was introduced in Victoria in 2022, which requires all Victorian hospitals to ensure that any person harmed while receiving care is informed of this fact and apologised to by an appropriate medical professional. The *Health Legislation Amendment (Quality and Safety Act) 2022* introduces a substantial piece of law that will amend the *Mental Health Act 2014*, the *Ambulance Services Act 1986*, *the Public Health and Wellbeing Act 2008*, and particularly the *Health Services Act 1988 (Vic)* to:

- provide for the appointment of a Chief Quality and Safety Officer;
- provide quality and safety reviews of health service entities;
- introduce protections for serious adverse patient safety event reviews conducted by the health service entities;
- create a new statutory duty of candour for health service entities; and,
- extend protections for apologies offered by health service entities for harm suffered by patients.

While healthcare professionals may be concerned that open disclosure may increase the incidence of litigation [31], this does not appear to have occurred in Australia. For example, in 2012–13 the number of new public sector medical negligence claims was about 950, which was less than any of the previous 4 years, and the number of new private sector claims was about 3300 which was similar to the previous 2 years [32]. Internationally, open disclosure is reported to have had a favourable effect on litigation rates [33, 34].

As noted above, the Framework provides for the provision of a sincere and unprompted apology or expression of regret including the words 'I am sorry' or 'we are sorry' and describes such statements as central to open disclosure. The Framework explicitly warns of the risk of making an admission of liability, however, and advises that clinicians should take care not to speculate on the causes of an incident or pre-empt the results of any investigations. They must not apportion blame, or state or agree that they, other clinicians, or the health service are liable for the harm caused to the patient.

All Australian legislatures have enacted laws that prevent apologies given after an adverse event from being used in legal proceedings, but in a number of jurisdictions, a statement acknowledging fault or liability is excluded, explicitly or implicitly, from the definition of 'apology' [35].

13.2.1.4 Independent Health Care Complaints Entities

Medical administrators will frequently be asked to review and manage consumer complaints, some of which may have been escalated to an external statutory body such as a health services commissioner or ombudsman.

In the Medicare Agreements (1993–1998), the Commonwealth and States/Territories agreed to develop Public Patients' Hospital Charters and establish independent complaints mechanisms [36]. The *Medicare Agreements Act 1992* amended the *Health Insurance Act 1973* to incorporate these actions as a condition of the grant of financial assistance by the Commonwealth to a State for the provision of public hospital services [37].

NSW was the first jurisdiction to establish, in 1984, a statutory body specifically to deal with healthcare complaints followed by Victoria (1988), Queensland (1991), the Australian Capital Territory (1994), Western Australia (1996), Tasmania (1997), the Northern Territory (1998) and South Australia (2004) [38].

Although legislation varies between jurisdictions, the various health complaint entities are all independent of hospitals, providers, and jurisdictional health authorities. Their functions generally include:

- the resolution of complaints about healthcare, by conciliation or other means;
- investigating, in response to a complaint or on their own motion, systemic issues relevant to the provision of healthcare; and,
- promoting improved safety and quality in the delivery of healthcare.

Section 150 of the National Law regulates communication between health complaint entities and National Health Practitioner Boards. The Australian Health Practitioner Regulation Agency (AHPRA) and seven of the eight jurisdictional health complaint entities, all other than NSW, signed a memorandum of understanding that outlines the respective roles and responsibilities of AHPRA and the health complaint entities [39].

In NSW, all complaints about health practitioners and health organisations are notified to the Health Care Complaints Commission, even where the complaint is made to a Registration Board or Council. This includes mandatory notifications relating to a health practitioner practising in NSW. Mandatory notifications are deemed to be complaints in NSW and are automatically referred to the Health Care Complaints Commission [40].

In Queensland, mandatory notifications made under the Health Practitioner Regulation National Law Act 2009 are made to the Office of the Health Ombudsman [41].

13.2.2 Consent to and Withdrawal of Medical Treatment

13.2.2.1 General Issues of Consent and Capacity

The medical administrator is often asked to assist to resolve complex issues of consent to treatment.

At common law, adults with the necessary decision-making capacity can choose whether to undergo medical treatment, and medical practitioners proposing to treat patients are responsible for providing sufficient information, including information about material risks, for patients to make a decision about undergoing treatment [42].

Unless a lawful exception applies, failure to obtain consent prior to providing medical treatment can lead to actions in negligence and/or trespass or charges of criminal assault. Lawful exceptions to the requirement for consent to medical treatment include:

- where treatment is necessary in an emergency to save a person's life or prevent serious injury to a person's health; and,
- where there are statutory powers to treat and or detain in mental health or alcohol and other drug treatment facilities; or to take blood for alcohol and/or drug testing; or to examine and detain in regard to infectious diseases.

Capacity is a legal concept that describes the level of intellectual functioning a person requires to make and accept responsibility for important decisions that often have legal consequences [43].

The Australian Law Reform Commission (ALRC), in a discussion paper: *Equality, Capacity, and Disability in Commonwealth Laws* emphasised the right of citizens to make decisions and the necessity to provide persons who may require support in decision-making with the support necessary for them to make, communicate and participate in decisions that affect their lives [44].

In Australia, a person aged less than 18 years is legally regarded as a minor. The common law recognises the concept of the mature minor, however, who may be competent to consent to their own treatment [45, 46].

South Australia has legislation that recognises that a child aged over 16 years may consent to medical treatment. In addition, section 12(b) of the *Consent to Medical Treatment and Palliative Care Act 1995* (SA) permits medical treatment of a child if the child consents and the administering medical practitioner is of the opinion that the child is capable of understanding the nature, consequences, and risks of treatment and that the treatment is in the best interest of the child's health and well-being. The medical practitioner must also seek the written opinion of at least one other medical practitioner who personally examines the child before the treatment is commenced.

Under their general supervisory powers, Courts may overrule the wishes of parents and/or their mature minor children and authorise treatment based on the best interests of the child. The Court's guardianship jurisdiction may be invoked if the legal position on consent to treatment is unclear. In *X v The Sydney Children's Hospitals Network* [47] a teenage boy who was almost aged 18 refused a blood transfusion on religious grounds. The Court held that its jurisdiction is not restricted by the 'mature minor' principles and that in the circumstances it was not in the best interests of the boy to refuse treatment, whose closeness in age to 18 did not alter that decision.

In all Australian jurisdictions, the legislation authorises the administration of blood transfusions to children without consent under certain circumstances [48].

13.2.2.2 Advance Care Directives

With increasingly sophisticated medical technology enabling maintenance of life through the provision of complex and sometimes extremely burdensome interventions, issues of appropriateness of provision of healthcare at the end of life have been raised by individual patients, families, and healthcare professionals.

The common law recognises anticipatory refusals of medical treatment, which are treated

as binding if they are clearly established, applicable to the current circumstances, and made without undue pressure from others [49]. In *Hunter and New England Health Service v A [2009]* [50] the Court upheld Mr. A's wishes, expressed almost 12 months previously in an unsigned written statement, that he not be given dialysis, and provided a summary of principles for practitioners to follow when provided with an advance care directive in an emergency situation.

A number of Australian jurisdictions have introduced legislation that enables patients to record their wishes about end-of-life care, although there are significant differences between jurisdictions in the form and effect of this legislation [51].

In September 2011, the Clinical, Technical, and Ethical Principal Committee of the Australian Health Ministers' Advisory Council produced a *National Framework for Advanced Care Directives* [52], which provides guidance on policy and best practice in relation to advance care directives.

13.2.2.3 Substitute Decision Making

The High Court has recognised the courts' *parens patriae* jurisdiction in authorising treatment for children [46], but the common law otherwise provides little guidance on substitute decision-making in healthcare.

State and territory guardianship and mental health legislation provide detailed rules for substitute decision-making for the medical treatment of adults who are deemed incapable of giving consent. Guardianship legislation outlines criteria for appointing substitute decision-makers, the hierarchy of possible decision-makers, and the scope of their powers, which depend on the age of the patient and the type of treatment proposed. Decision-makers may be chosen by a person, assigned by legislation, or appointed by a court.

In exercising their powers, substitute decision-makers are required to adopt either the best interests test, which requires a balancing of the benefit to the patient against the risks of the proposed treatment, or the substituted judgment test, which involves making a decision consistent with what the person would have decided if they had the capacity to do so [44]. Evidence of such wishes may be provided by advance care directives, religious beliefs, and previous history of treatment.

13.2.2.4 Withdrawal of Treatment

Difficult legal and ethical issues can arise associated with concerns that life-sustaining medical treatment is futile. Often, the medical administrator has a key role in resolving uncertainty or conflict in such situations.

In *Brightwater Care Group (Inc.) v Rossiter* [53] the Court held that there was no duty to provide nutrition and hydration if a competent patient expressly refuses consent. Courts/Tribunals have also confirmed that refusal of medication or medically administered nutrition and hydration is not suicide [54].

Supreme Courts have jurisdiction to resolve disputes in cases where an agreement cannot be reached with substitute decision-makers about the incompetent patient's medical care. Six key themes have been identified from the developing body of jurisprudence in these circumstances [55]:

- Futile medical treatment is not in a patient's best interests.
- Treatment that is overly burdensome is not in a patient's best interests, even if the patient is unconscious or unaware of treatment burdens.
- Courts have generally not engaged expressly in quality-of-life assessments, but they remain relevant for determining best interests when considering the patient's medical condition and prognosis.
- A patient's wishes and values, gleaned when the patient was competent, are relevant to but do not determine, his or her best interests. Family members' views may also be relevant where they are reflecting a patient's wishes, and perhaps also when reflecting their own wishes, but these views are not conclusive in determining a patient's best interests.
- The interests of other people and organisations, including the wider health system, are

generally not relevant when determining a patient's best interests.
- Courts have generally deferred to medical practitioners' opinions about treatment decisions, even when the patient's family has strongly opposed them.

Although anticipatory refusals of medical treatment can have an effect, advance directives to the effect that a person is to be kept alive through active treatment and be given nutrition and hydration until they die of natural causes will not necessarily have any effect. In 2005 the Court of Appeal stated when referring to the *Bland Case*:

> While a number of their Lordships indicated that an advance directive that the patient should not be kept alive in a [permanent vegetative state] should be respected, we do not read that decision as requiring such a patient to be kept alive simply because he has made an advance directive to that effect [56].

13.2.3 Voluntary Assisted Dying

Voluntary assisted dying (VAD) is defined as the assistance provided by a health practitioner to a person with a terminal disease, illness, or medical condition to end their life. It includes:

- self-administration, where the person takes the VAD medication themselves, and,
- practitioner administration, where the person is given the medication by a health practitioner.

The person must have the decision-making capacity to decide to access VAD.

In Australia, laws that legalise voluntary assisted dying (VAD) have been passed in all States: Victoria, Western Australia, Tasmania, South Australia, Queensland, and New South Wales. The laws in each State are similar but there are key differences. VAD is illegal in the Northern Territory and the Australian Capital Territory. Commonwealth laws currently prevent the Territories from legislating on VAD.

To access VAD the person must meet all of the eligibility criteria in their State. A person is eligible if they:

- are aged 18 years or over;
- are an Australian citizen or permanent resident, who has been resident in the State for at least 12 months when they first request VAD (these criteria can be met in other ways in Tasmania, Queensland, and New South Wales);
- have decision-making capacity for VAD;
- are acting voluntarily and without coercion;
- have an enduring request for VAD (i.e. their request is ongoing); and,
- have a disease, illness, or medical condition that is:
  - advanced and will cause death. In all states except Tasmania, it must also be progressive (i.e. the person experiences active deterioration),
  - incurable (Victoria, South Australia, and Tasmania only), and irreversible (Tasmania only),
  - expected to cause death within 6 months, or 12 months for a person with a neurodegenerative disease, illness, or medical condition. In Queensland, however, a person expected to die within 12 months may apply for VAD, and,
  - causing suffering that cannot be relieved in a manner that the person finds tolerable. The person's suffering may be physical or non-physical, e.g., psychological or existential.

A person will not be eligible for VAD based on having a disability or mental illness (or in New South Wales, dementia) alone—they must meet all of the criteria above to access VAD.

Health**care workers** can conscientiously object to participating in VAD. In all States they may refuse to:

- accept a VAD request;
- participate in VAD assessment processes or administration decisions;

- prescribe, supply, or administer a VAD medication; or,
- be present during administration of VAD medication.

In Victoria, South Australia, Queensland, and New South Wales a person with a conscientious objection can also refuse to provide information about VAD. In Western Australia, Queensland, and New South Wales, a medical practitioner who refuses to accept a first request for VAD because of a conscientious objection must let the person know immediately. In Western Australia, Tasmania, and Queensland, they must also provide contact details of a service that provides VAD assistance.

Generally, institutions such as hospitals and residential aged care or disability facilities may decide whether to provide VAD and what level of support they offer to residents seeking VAD. The laws differ in each State. In Victoria, Western Australia, and Tasmania, the VAD laws do not discuss institutional participation in VAD. Institutions including residential facilities may decide what level of involvement they have. In South Australia, Queensland, and New South Wales, institutions may choose not to participate in VAD; however, residential facilities that decide not to participate have certain obligations so that a resident can access VAD if they wish.

13.2.4 Organ Donation

> *Arguably the single most dramatic and opportune medical advancement of the 20th century is clinical organ transplantation* [57].

Regulation of organ donation is the responsibility of the States and Territories, the Parliaments of each of which have enacted legislation covering organ donation and transplantation, including laws governing consent [58].

Currently, organ donation after death in Australia operates under an 'opt-in' system, with donors registering their consent or objection on the Australian Organ Donor Register (Register). People aged 16 years and over can record their decision to become an organ and/or tissue donor for transplantation after their death on the Register, however, family consent is always sought before such donations proceed.

The medical administrator of a health service is frequently appointed as the hospital's Designated Officer for the purposes of authorising the removal of tissue after death for transplantation. The Designated Officer must give authorisation for organ donation to occur, and needs to verify (subject to specific jurisdictional legislation) that:

- death has been certified in accordance with legislation;
- the donor had not objected to organ and tissue donation prior to death;
- the senior available next of kin has no objection to organ and tissue donation and has authorised donation; and,
- consent from the Coroner has been obtained in applicable cases.

State and territory legislation differs in its approach to regulation of transplantation of tissue from deceased donors, in the following areas:

- whether written donor consent is required;
- whether a next of kin may consent to removal and donation of tissue if the deceased person has not clearly indicated their wishes;
- whether donation can proceed if it is not possible to contact the next of kin.

13.2.5 Wills

A will is a legal document setting out a person's wishes for the distribution of their assets after their death.

Hospital staff may be asked to assess the testamentary capacity of a patient or to witness a patient's will. The medical administrator should have some knowledge of the law in this area.

A patient must have a testamentary capacity to make a valid will. The test of whether a person has sufficient capacity to make a will was set out in *Banks v Goodfellow* [59], where Cockburn CJ, giving the judgment of the Court, said:

> *It is essential to the exercise of such a power that a testator shall understand the nature of the act and its effects; shall understand the extent of the property of which he is disposing; shall be able to comprehend and appreciate the claims to which he ought to give effect; and, with a view to the latter object, that no disorder of the mind shall poison his affections, pervert his sense of right, or prevent the exercise of his natural faculties-that no insane delusion shall influence his will in disposing of his property and bring about a disposal of it which, if the mind had been sound, would not have been made.*

The medical administrator should be aware that the more complex the will the higher the standard of testamentary capacity is required to be established. A finding of incapacity in one area does not automatically mean capacity is lacking in another area. A person who is incapable of managing some aspects of their affairs may still be capable of making a will.

Statutory rules on executing a will are defined in legislation in all Australian jurisdictions [60]. Rules governing the witnessing of wills by beneficiaries vary between jurisdictions, however, even if legislation does not prohibit a beneficiary from witnessing a will it is always preferable for a beneficiary not to do so, and legal advice should always be sought.

Testamentary capacity should only be assessed by people with appropriate skills and experience, which generally will include specialist geriatricians, psycho-geriatricians, and neurologists. The request for assessment of testamentary capacity should be clear. The Law Society of NSW recommends that solicitors take great care in drafting referral letters for a capacity assessment, noting that "many medical professionals will have a different approach to the task of capacity assessment than the legal approach and will not necessarily understand the specific legal tests which must be satisfied", and recommends the referral letter sets out [61]:

- the client's background;
- the reason the client contacted the solicitor;
- the purpose of the referral- what is the legal task or decision being considered;
- the relevant legal standard of capacity to perform the task at hand;
- any known medical information about the client;
- information about the client's social or living circumstances; and,
- the client's values and preferences if known.

Documentation of an assessment of testamentary capacity should address the *Banks v Goodfellow* [59] criteria.

Supreme Courts can make statutory wills on behalf of persons who lack the capacity to make their own wills. In Tasmania, a statutory will may also be made in some circumstances by the Guardianship and Administration Board.

The medical administrator should ensure there are appropriate policies and procedures in existence in the healthcare organisation so that documentation of testamentary capacity and/or witnessing of wills occur appropriately.

13.2.6 Statutory Declarations

Registered medical practitioners, along with many other professionals, are authorised to witness statutory declarations. The authorisation is to be found in the legislation about giving evidence or in dedicated legislation (e.g., the Commonwealth *Statutory Declarations Act 1959* and the Victorian *Evidence (Miscellaneous Provisions) Act 1958*). In responding to such a request, the doctor is not attesting to the content of the declaration but is attesting to the identity of the person and to the fact that the doctor physically witnessed the person sign the declaration. The wording required varies between jurisdictions. In Victoria, the person making the declaration is required to state:

I acknowledge that this declaration is true and correct, and I make it with the understanding and belief that a person who makes a false declaration is liable to the penalties of perjury.

As a witness to the declaration, the doctor must print their full name, sign and date the document, and write their professional qualifications and address, which can be the practice address. In documents of more than one page, every page should be so signed.

13.2.7 Reporting Deaths to the Coroner

Ensuring compliance with statutory obligations to report certain deaths to the Coroner is an important responsibility of many medical administrators. Medical administrators need to familiarise themselves with the legislation in their jurisdictions and ensure medical staff are familiar with reporting obligations and processes.

Coroners Courts and the role of the Coroner are established by legislation in each state and territory. While legislation varies between jurisdictions, the role of the Coroner is to investigate the cause and circumstances of deaths that occur in defined circumstances.

Coroners have a key role in injury and death prevention and are empowered to make recommendations on matters of public health and safety and judicial administration. Homicide investigations form a very small part of the work of Coroners, with the vast majority of reported cases involving unexplained natural deaths and deaths where the cause is suspected to be direct or indirect trauma [62].

In all Australian states and territories, a doctor responsible for the care of a deceased person immediately before they died or who examined the deceased person's body must issue a cause of death certificate to the Births, Deaths and Marriages Registry within a defined period of the death or its discovery. If, however, the death falls into a 'reportable death' category as defined by the relevant Coroners Act, a death certificate must not be issued and there is a statutory obligation to report the death to the Coroner. Failure to report such a death to the Coroner is an offence.

There is considerable variation between jurisdictions in both the definitions of reportable deaths and the penalties for non-compliance with reporting requirements [63]. In general, unexpected, unnatural, or violent deaths must be reported, including those related to an injury or accident. Deaths occurring while a person is held in a state facility must be reported, as must most deaths in which the identity of the deceased or the cause of death is unknown. Traditionally, certain operative deaths were required to be reported, however, a number of Australian jurisdictions have amended their legislation to insert healthcare-related deaths into their Coroners Acts, replacing specific anaesthesia death categories and recognising a wider range of unexpected medical deaths that should be referred for coronial investigation.

The question of whether a death that occurs in a hospital setting is reportable is surprisingly complex. A study utilising a retrospective structured medical record review of inpatients who died at two major Victorian public hospitals between January 2002 and June 2003 provided evidence of significant under-reporting of deaths to the Coroner [64].

An analysis of legislation in each Australian jurisdiction confirmed that some deaths may be reportable in some jurisdictions but not in others [65].

Interestingly, only Queensland legislation expressly includes omissions in the provision of healthcare when determining whether a death is reportable [66]. The Law Reform Commission of Western Australia described the Queensland model as the "best and most comprehensive formulation" for the reporting of medical-setting deaths [67].

Following receipt of a report of a death, the Coroner is required to determine the cause of death. Usually, this is done following an investigation. An inquest or public hearing is held in a few cases.

13.2.8 Child Abuse Mandatory Reporting

Abuse of children may be physical, emotional, or sexual or may involve neglect or lack of care. Doctors need to be alert to the possibility that children presenting with unusual or poorly explained injuries, or even illness, and especially on repeated occasions, may be victims of abuse. Failure to identify reasonably evident abuse has been the cause of the criticism of doctors by coroners. Where there are reasonable grounds to suspect that a child is at risk of significant harm, there is a statutory obligation of doctors to inform

the relevant child protection agency. Doctors reporting in good faith are not liable to civil action. The relevant legislation is the *Children and Young Persons (Care and Protection) Act 1998* (NSW); the *Children, Youth and Families Act 2005* (Vic); the *Public Health Act 2005* (Qld); the *Children's Protection Act 1993* (SA); the *Children, Young Persons and Their Families Act 1997* (Tas); the *Care and Protection of Children Bill Act 2007* (NT); and the *Children and Young Persons Act 2008* (ACT).

The legislation affirms the right of doctors to continue to treat the child or other family members after a mandatory notification. Informing parents of the doctor's statutory duty to report that their child is at risk of significant harm can be a difficult decision. Reporting is likely to affect the doctor–patient relationship. However, the legislation is unequivocal that the welfare of the child takes precedence. Doctors who are uncertain of how to negotiate this legally and ethically complex situation should seek advice from their medical defence organisation.

13.3 Part 2: Professionals

13.3.1 Registration of Medical Practitioners

It is often the responsibility of medical administrators to ensure doctors who provide healthcare services in their organisation are registered in accordance with the Health Practitioner National Law (National Law) as in force in each state and territory. Medical administrators also need to pay attention to their own registration status.

The National Registration and Accreditation Scheme **(NRAS)** started on 1 July 2010. The NRAS was established by state and territory governments to [68]:

- protect the public by ensuring that only suitably trained and qualified practitioners are registered;
- facilitate workforce mobility across Australia; and,
- enable the continuous development of a flexible, responsive, and sustainable Australian health workforce.

Each health profession that is part of the NRAS is represented by a National Board, the primary role of which is to protect the public. The Boards register practitioners and students and undertake other functions for their professions.

The National Law provides for a National Board to establish State and Territory Boards to exercise its functions in the jurisdiction in a way that provides an effective and timely local response to health practitioners and other persons in the jurisdiction [69]. These Boards make individual registration and notification decisions, based on national policies and standards set by the relevant National Board, using powers delegated by the National Board.

Under the National Law, a person *must* be a registered health practitioner if they:

- use the title "registered health practitioner" with or without any other words (s. 116(1)(a));
- take or use a title, name, initial, symbol, word, or description that, having regard to the circumstances in which it is taken or used, indicates or could be reasonably understood to indicate, that the person is a health practitioner or is authorised or qualified to practise in a health profession (s. 116(b));
- claim to be registered under the National Law or hold themselves out as being registered under the National Law (s. 116(c));
- claim to be qualified to practise as a health practitioner (s. 116(d)); or,
- undertake a restricted act (specific dental acts, prescription of optical appliances, and manipulation of the cervical spine) (ss. 121-123).

Other legislation provides that registration is required to enable prescribing and for a patient to be eligible for a Medicare benefit for a medical service.

A person who is not registered cannot use the titles 'medical practitioner' or 'medical specialist' or titles of a number of medical specialties

recognised under the National Law [70]. The title 'doctor' is not, however, protected.

With the exception of students and non-practising registrants, all applicants for registration are required to meet the following mandatory registration standards [71]:

- Continuing Professional Development Registration Standard.
- Criminal History Registration Standard.
- English Language Skills Registration Standard.
- Professional Indemnity Insurance Registration Standard.
- Recency of Practice Registration Standard.

Medical administrators are eligible for registration as medical practitioners. Medical administration is included on the list of approved medical specialties and the title specialist medical administrator is protected [72].

A registered medical practitioner who holds non-practising registration must not practise the profession [73] but can use the protected title 'medical practitioner'. They remain subject to the Board's jurisdiction in relation to their professional conduct. They are not required to take any steps to meet the Board's registration standards in relation to professional indemnity insurance [74], continuing professional development [75], or recency of practice [76] and their registration fee is reduced [77].

In documents developed under its statutory authority, the Board has defined 'practice' as [77]:

> … any role, whether remunerated or not, in which the individual uses their skills and knowledge as a health practitioner in their profession. For the purposes of this registration standard, practice is not restricted to the provision of direct clinical care. It also includes using professional knowledge in a direct nonclinical relationship with clients, working in management, administration, education, research, advisory, regulatory or policy development roles, and any other roles that impact on safe, effective delivery of services in the profession.

For roles beyond direct patient care, the Medical Board of Australia advises practitioners to be registered when:

1. their work impacts on safe, effective delivery of healthcare to individuals and/or,
2. they are directing or supervising or advising other health practitioners about the healthcare of an individual(s) and/or,
3. their employer and/or their employer's professional indemnity insurer requires a person in that role to be registered and/or,
4. professional peers and the community would expect a person in that role to comply with the Board's registration standards for professional indemnity insurance, continuing professional development, and recency of practice, and/or
5. they are required to be registered under any law to undertake any specific activity.

The Board has also provided examples where registration may not be necessary or practitioners may choose to hold non-practising registration, including roles such as teaching/examining not involving patient treatment, research, public speaking on health- or medical-related topics, and provision of policy advice [78].

The Board has recognised that some of the activities it has identified as not necessarily requiring registration fall within the broad definition of 'practice' used in the registration standards. It suggests that as these activities do not contravene the National Law, the Board would not have any grounds to take action against an individual whose scope of activity did not amount to 'holding out' or using a protected title [78].

Medical administrators should take the Board's advice that [78]:

> If you require further assistance to help you decide whether or not you need to be registered, consult your employer, professional indemnity insurer or other legal adviser.

13.3.2 Notifications Under the National Law

The Board's regulatory role is supported by provisions in the National Law that require health practitioners, as soon as practicable after forming a reasonable belief in the course of practising

their profession that a registered medical practitioner has engaged in notifiable conduct or a medical student has an impairment that in the course of the student undertaking clinical training may place the public at substantial risk of harm, to notify AHPRA [79]. A similar obligation applies to employers of registered medical practitioners [80].

Notifiable conduct occurs when the following occurs (there are different levels of obligations depending on if the reporter is a treating practitioner, non-treating practitioner, or employer) [81]:

Types of risks and reporting thresholds for different groups.

Impairment	Intoxication	Departure from standards	Sexual misconduct
Treating practitioners must report practitioners who:			
Are practising with an impairment, and place the public at substantial risk of harm	Are practising while intoxicated by alcohol or drugs, and place the public at substantial risk of harm	Are significantly departing from professional standards, and placing the public at substantial risk of harm	Have engaged in, are engaging in, or might engage in sexual misconduct connected to their practice
Non-treating practitioners must report practitioners who:			
Are practising with an impairment, and placing the public at risk of substantial harm	Are practising while intoxicated by alcohol or drugs	By significantly departing from professional standards, and placing the public at risk of harm	Engage in sexual misconduct connected to their practice
Employers of practitioners must report practitioners who:			
Are practising with an impairment, and place the public at risk of substantial harm	Are practising while intoxicated by alcohol or drugs	By significantly departing from professional standards, and placing the public at risk of harm	Engage in sexual misconduct connected to their practice

Division 3 of Part 8 of the National Law also establishes provisions for voluntary notification on a range of grounds. This Division does not require the notifier to form a reasonable belief that the public may be at risk of harm.

The Board has broad powers to respond to notifications received about the health or performance of registered medical practitioners and medical students.

13.3.3 Credentialling and Defining Scope of Clinical Practice

The medical administrator is usually the senior executive responsible for ensuring effective systems for credentialing and defining the scope of clinical practice of medical practitioners are in place in their health service. The importance of this role cannot be overstated.

Credentialling refers to the formal process used to verify the qualifications, experience professional standing, and other relevant professional attributes of medical practitioners for the purpose of forming a view about their competence, performance, and professional suitability to provide safe, high-quality healthcare services within specific organisational environments [82].

Defining the scope of clinical practice follows from credentialling and involves delineating the extent of an individual medical practitioner's clinical practice within a particular organisation based on the individual's credentials, competence, performance, and professional suitability, and the needs and capability of the organisation to support the medical practitioner's scope of clinical practice [82].

A national standard for credentialling and defining the scope of clinical practice of medical practitioners, for use in public and private hospitals (Standard) was endorsed by Health Ministers and published by the Australian Council for Safety and Quality in Health Care in 2004 [82]. The Standard provides a framework for credentialling and defining the scope of clinical practice of medical practitioners who have independent practicing rights in public and private hospitals,

including public and private freestanding day hospital facilities. It clearly identifies credentialing and defining the scope of clinical practice of medical practitioners as organisational governance responsibilities.

A number of states and territories have published policy and/or guidance documents to support local implementation of the Standard. New South Wales has established a State Scope of Clinical Practice Units [83].

Standard One of the National Safety and Quality Health Service Standards addresses Governance for Safety and Quality in Health Service Organisations. Criterion 1.23 of that Standard requires health service organisations to define the scope of practice of clinicians, monitor clinicians' practices to ensure they are operating within their designated scope of practice, and review clinicians' scope of practice periodically and when new services, procedures, or technologies are introduced or substantially altered [84].

The tort of negligent credentialing has been recognised in the United States of America. For example, the decision in *Rabelo v Nasif* et al. [85] contemplates the existence of liability for negligent credentialing when a hospital knows that a clinician is incompetent and fails to take action, or when it negligently fails to identify incompetence prior to credentialing. While it appears that no similar actions have been pursued successfully in Australia to date, the potential exists for a plaintiff to allege negligent credentialing and pursue remedies through regulatory or tort law avenues.

13.3.4 Medical Indemnity Insurance and Claims Management

Public sector medical indemnity insurance arrangements are managed by state and territory governments. Different arrangements are in place in each jurisdiction, with particular differences relating to the insurance of visiting medical officers, private practitioners, and students.

In some jurisdictions claims are managed by the relevant state or territory health authority directly, while in others an external body undertakes claims management.

Processes for claims management vary between jurisdictions, and in some jurisdictions different processes apply for small and large claims.

The Australian Institute of Health and Welfare's publication: Australia's Public Sector Medical Indemnity Claims 2012–13 presents data on public and private sector medical indemnity claims in Australia from 2008–09 to 2012–13 and contains an appendix that details jurisdictional claims management practices.

13.3.5 Professional Standards Applying to Medical Administrators

Medical administrators who do not have a direct clinical role may still be disciplined for unsatisfactory professional conduct if patient care falls below expected standards.

In *Roylance v General Medical Council* [86], a medical administrator acting as the Executive Officer of the United Bristol Healthcare NHS Trust was charged with serious professional misconduct. Relevantly, the Privy Council said:

> The care, treatment and safety of the patient must be the principal concern of everyone engaged in the hospital service. The medical staff will have the specialist expertise in their various skills. But the idea of a gulf between the medical practitioners and the administration connected by some bridge over which the appellant had passed "from us to them", as appeared in the course of the argument to be a possible aspect of the appellant's case, must be totally unacceptable if the interest of the patient is to remain paramount. The enterprise must be one of co-operative endeavour.
>
> Once it is clear that a duty existed the question remains in the present case what the extent of the duty was in the circumstances. In ordinary circumstances there is no doubt that a medical practitioner who holds the office of Chief Executive Officer of a hospital is perfectly entitled to leave the day to day clinical decisions to the professional staff of the hospital. His duty as a medical practitioner is adequately performed by such a course. But there may occur circumstances in which more may be required of him. In such circumstances his medical skill and knowledge are undoubtedly relevant.

> Even if he does not have the specialised expertise of the particular area of medicine in which the problem arises, his general knowledge as a doctor will be of service, as for example by enabling him more readily to ask the relevant kinds of question, such as in the present case when was the child last examined and what was the degree of urgency for the operation.

Dr. Roylance was unsuccessful in his appeal against the General Medical Council's finding of serious professional misconduct.

In Australia, the Chief Health Officer of the Queensland Health Department during the time that Dr. Jayant Patel was employed at Bundaberg Base Hospital was involved in the initial investigations into the actions of Dr. Patel. On 29 November 2007, a Referral Notice was filed by the Medical Board of Queensland in the Queensland Civil and Administrative Tribunal referring the Chief Health Officer to the Tribunal on the basis that there were grounds for disciplinary action amounting to unsatisfactory professional conduct in relation to his investigation and management of complaints against Dr. Jayant Patel.

The Tribunal noted that it was accepted that the Chief Health Officer as a medical practitioner was compelled to comply with the professional standards of his profession whilst performing the duties of Chief Health Officer, and the standard of care to be applied in Queensland in relation to a medical practitioner whether as administrator or general practitioner is that which is outlined in the Act, namely, care which does not constitute 'unsatisfactory professional conduct' [87].

The Tribunal found, however, that there was no case for the Chief Health Officer to answer in relation to these allegations and made a costs order against the Medical Board of Queensland.

The only other case that considered the application of *Roylance* in Australia was *Keating v Medical Board of Queensland* [5]. Dr. Darren Keating was the Director of Medical Services at Bundaberg Base Hospital during the time that Dr. Jayant Patel was operating there. As with Dr. Fitzgerald, the Medical Board of Queensland alleged that he had engaged in unprofessional conduct for failing to follow up on complaints and for allegedly misleading others about the true extent of the problem. Unfortunately, the reasons for the Tribunal's decision remain subject to a suppression order that, to the authors' knowledge, was not lifted. However, it has been reported elsewhere that a condition was imposed on Dr. Keating's practice that '*he not practise as a Director of Medical Services, or in any similar administrative position, in any public or private hospital'*.

In summary, it would appear to be the law in Australia that registered medical practitioners working as specialist Medical Administrators are subject to the same standards of professional conduct as other registered medical practitioners in circumstances where their management decisions have a direct effect on patient outcomes. Although the case law to date only deals with professional conduct claims, there is no reason to suspect that a common law duty will not be implied in the relationship between Medical Administrator and hospital patient.

13.4 Part 3: Organisations and Systems

13.4.1 Service Standards and Accreditation

The Australian Commission on Safety and Quality in Health Care developed National Safety and Quality Health Service Standards (NSQHS Standards), which were endorsed by Health Ministers in November 2010 together with a national accreditation scheme. Accreditation to the NSQHS Standards commenced for hospitals and day procedure services across Australia from January 2013. The second edition of the NSQHS Standard was released in November 2017. Health service organisations will be assessed against the second edition of the standards from January 2019 [84].

The Australian Health Service Safety and Quality Accreditation Scheme consists of the following elements [88]:

- Health Ministers endorse the NSQHS Standards and receive information about

health service organisations' performance against the NSQHS Standards.
- The state, territory, and Commonwealth governments determine the health service organisations required to participate in an accreditation process using the NSQHS Standards. They receive data on the outcomes of the accreditation of health service organisations and respond to emerging issues.
- Health service organisations implement the actions required to meet the NSQHS Standards and select an approved accrediting agency to assess their compliance in meeting the NSQHS Standards. This involves a contractual relationship with the accrediting agency that recognises that accreditation data will be provided to Regulators and the Commission for reporting and review.
- The approved accrediting agencies assess health service organisations against the NSQHS Standards. They may also offer to assess against a range of other standards.
- A program of national coordination within the Australian Commission on Safety and Quality in Health Care that will:
  - develop and maintain the NSQHS Standards,
  - approve accrediting agencies to assess health service organisations against the NSQHS Standards,
  - undertake ongoing liaison with state and territory health departments on opportunities to improve the standards and the accreditation system,
  - report to Health Ministers annually on safety and quality.

While compliance with the NSQHS Standards is not directly mandated by legislation, compliance may be enforced by jurisdictional health authorities, through directives in the public sector or registration/licensing mechanism in the private sector, and by private health insurers, who may incorporate compliance requirements into their contractual agreements with private hospitals or groups.

13.4.2 Medical Records

The medical administrator needs to know the general legal principles that govern ownership of and access to medical records, as complex requests may be escalated to his or her desk.

Physical medical records may be owned by doctors [89] or hospitals [90].

Copyright may exist in medical records. In *Primary Health Care Ltd v Commissioner of Taxation* [91], Justice Stone found that copyright does not automatically exist in medical records such as prescriptions, health summaries, referral letters, and consultation notes. She noted that copyright can only exist in medical records where all the authors have been identified and are more likely to be found in a medical record with only one author because such medical records are more likely to display the level of independent intellectual effort that would justify classifying the record as an original literary work for the purposes of the Copyright Act 1968. The existence of copyright in a medical record must be determined on a case-by-case basis [92].

Medical records may be used as evidence in legal proceedings, including medical negligence claims, disciplinary hearings, criminal proceedings, or Coronial Inquests.

As medical negligence claims often involve a factual dispute, comprehensive and accurate medical records are an integral component of a defence to investigations, claims, or complaints.

From a medico-legal perspective, medical records should be kept until such time as there is little or no risk of litigation arising from the patient's treatment. This will depend upon the statutory limitation period within the relevant jurisdiction, and any applicable state or territory legislation governing medical records. The Australian Capital Territory, New South Wales, and Victoria have legislation that outlines the minimum period of time for which medical records should be kept, namely for:

- an adult—7 years from the date of last entry.
- a child—until the age of 25 years.

13.4.3 Privacy and Health Records Legislation

The *Privacy Act 1988* (Cth) sets out 13 Australian Privacy Principles (APPs), which must be complied with by Commonwealth government agencies and private sector organisations that collect and handle personal information.

'Personal information' means any information or opinion about an identifiable individual. 'Personal information' includes sensitive information, which refers to an individual's health (including predictive genetic information), racial or ethnic origin, political opinions, criminal history, sexual orientation or practices, religious affiliation, philosophical beliefs, membership of a trade union or professional association and biometric information.

The APPs set out requirements with respect to the collection, use, disclosure, storage, and handling of personal information. The APPs require, among other things, that an entity to which the APPs apply must:

- only collect personal information to the extent that the information is necessary for one of the entity's functions or activities;
- collect personal information in a manner that is fair, lawful, and not unreasonably intrusive and, where practicable, directly from the individual;
- ensure, as far as practicable, that individuals are given information about why their personal information is being collected, how it will be used, and to who it may be disclosed;
- not use or disclose personal information without the consent of the individual unless the use or disclosure is for a purpose that is related to the purpose for which the information was collected and that is within the reasonable expectation of the individual, or one of the other exceptions specified in the Act applies;
- take reasonable steps to protect the personal information it holds from loss, interference, misuse, unauthorised, modification, or disclosure;
- take reasonable steps to ensure that personal information the entity collects is accurate, complete, and up-to-date; and,
- take reasonable steps to destroy or permanently de-identify the personal information when it is no longer required.

The APPs also require organisations and agencies to take steps to implement practices, procedures, and systems to ensure that they comply with the APPs, and to have a privacy policy that sets out how the entity collects personal information and deals with and manages the personal information it holds.

Non-compliance with the APPs is deemed to be an interference with privacy. An individual may complain to the Office of the Australian Information Commissioner (OAIC) who may investigate and seek to resolve the complaint. The OAIC may also conduct 'own motion' investigations. Breach of the APPs can lead to an entity being required to pay compensation or to give an enforceable undertaking, for example, about how it will ensure that non-compliance does not occur in the future. Serious or repeated breaches of the APPs can lead to the imposition of a civil penalty of up to $1.7 m.

Information contained in medical records, and any other health information, is subject to more stringent requirements than other personal information. However, some specific health-related exceptions apply to the collection, use, and disclosure of personal information for clinical, quality assurance, and research purposes. Generally, collection, use, or disclosure for research purposes is required to be in accordance with guidelines published by the National Health and Medical Research Council.

The APPs also require organisations and agencies to provide access to, and correct, personal and health information held at the request of the individual. For public sector agencies, requests for access are handled in accordance with applicable FoI laws. Private sector organisations are required to comply with the access and correction requirements set out in the APPs.

All States and Territories impose privacy obligations on their public sector agencies that contain generally similar obligations to the APP requirements summarised above. Most jurisdictions have enacted legislation for this purpose, while South Australia and Western Australia impose these requirements administratively. Where legislation has been enacted, generally similar obligations to those set out in the APPs apply, although the requirements are not uniform between jurisdictions.

Some States and Territories have also enacted legislation specifically for the protection of health records. Generally, State and Territory health records legislation contain principles that are similar to the requirements of the APPs, although there are important differences, and the requirements are not uniform and vary between jurisdictions.

State and Territory health records legislation generally applies to public sector health providers, although some State health records legislation also applies to the private sector. In some jurisdictions, therefore, private health providers may be required to comply with both the Commonwealth Privacy Act 1988 and the jurisdiction's own health records legislation.

Various other laws contain privacy obligations that are relevant for health administration:

- The *My Health Records Act 2012 (Cth)* imposes specific requirements for handling information in the Australian Government's electronic health records system. The Office of the Australian Information Commissioner (OAIC) regulates the handling of personal information under the My Health Record system by individuals, Australian Government agencies, private sector organisations, and some state and territory agencies (in particular circumstances).
- The purposes for which healthcare providers may access and use healthcare identifiers are regulated by the *Healthcare Identifiers Act 2010 (Cth)*.
- State and Territory health services legislation also generally contains privacy and confidentiality obligations that apply to persons involved in the administration and delivery of public health services.

13.4.4 Access

As with many other areas of the law that apply to healthcare, there is a complex web of state/territory and Commonwealth legislation that governs access to medical records in Australia.

Freedom of information (FoI) laws and privacy laws both create a right of access to personal records in Australia. There is no common law right for patients to access medical records [89].

The Commonwealth FoI Act was passed by the Federal Parliament in 1982 and applies to ministers and most government agencies. FoI legislation with similar intent and provisions has also been enacted in each state and territory and also applies to ministers and government agencies, including public health services and hospitals. FoI legislation establishes certain exceptions and exemptions to the right to access information. For example, documents (or parts of documents) that:

- are subject to legal professional privilege;
- are subject to public interest immunity;
- contain private information about other people; or,
- contain information provided to a Government agency in confidence;

may not be accessible. Further, access to a patient's medical record may be denied on the basis that such access may create a serious threat to the life or health of an individual.

Decisions refusing access to information are reviewable by independent decision-makers.

Privacy laws also outline an individual's right to access their personal information, and the right to change that information if it is wrong or misleading.

13.4.5 Qualified Privilege/Statutory Immunity

Quality improvement activities, including peer review, are cornerstones of safety and quality in contemporary healthcare systems, but the participation of healthcare professionals in those activities may be hindered by fear that:

- information they contribute about the safety and quality of care they have provided may be incorrectly interpreted by the public or the media;
- information gained as a result of peer review or other quality improvement activities could be used in litigation against them; or,
- they may be exposed to legal action by colleagues, for participating in the assessment and evaluation of the safety and quality of services provided by those colleagues.

Laws have been implemented in all Australian States and the Australian Capital Territory, and by the Commonwealth, that protect the confidentiality of some information generated by certain quality assurance and improvement activities. In the Northern Territory, legislative protection is limited to Approved Procedures and Quality Assurance Committees declared by the Minister under s.145 of the *Mental Health and Related Services Act*.

While the legislation and its effects differ significantly between jurisdictions, its broad purpose is to facilitate participation in healthcare quality activities by providing:

- confidentiality of individually-identifying information that becomes known as a result of quality assurance activities; and,
- protection from legal proceedings for members of committees that assess or evaluate the quality of healthcare provided by others.

The legislation reflects acceptance by the relevant legislatures that there is an overriding public interest in maintaining the confidentiality of some healthcare performance information and prioritises the public interest in participation in quality activities by healthcare professionals over the public interest in access to information. In enacting this legislation, legislatures have accepted that many healthcare professionals will only participate in individually-identifying quality improvement activities if they are assured of confidentiality.

A number of concerns have been raised about this legislation, in particular in relation to:

- administrative difficulties;
- over-reliance on, and potential unreliability of, protection in some circumstances;
- over-use, in circumstances where transparency and/or disclosure would be appropriate; and,
- inconsistency with mandatory reporting obligations, for example to the Coroner or regulatory boards.

The mandatory notification obligation under the National Law does not apply when a member of a committee declared under the legislation of a participating jurisdiction forms a reasonable belief of notifiable conduct when undertaking that role but is prohibited from reporting because of qualified privilege legislation [93]. This exception in the National Law does not appear to extend to declarations made under Part VC of the *Health Insurance Act 1973* (Cth).

13.4.6 Whistleblower Legislation and Protections

A whistleblower is an insider within an organisation, who reports misconduct or dishonest or illegal activity that has occurred within that same organisation [94]. Effective whistleblower arrangements protect organisations from fraud and whistleblowers from reprisals. Medical administrators may have a role in ensuring their organisation's whistleblowing arrangements are designed and operating effectively.

In the Commonwealth public sector the *Public Interest Disclosure Act 2013* (Cth), which came into effect on 15 January 2014, encourages and enables public officials to raise suspected wrongdoing within the Commonwealth public sector. It establishes responsibilities for all Australian Government agencies, Commonwealth companies, and public authorities to investigate and act on suspected wrongdoing, and protections from reprisal action and certain immunities from liability for disclosers.

The *Corporations Act 2001* (Cth) also establishes obligations for company officers and others regarding whistleblower disclosures. These

obligations and protections relate to disclosures made by officers, employees, or contractors supplying goods or services to a company.

The *Aged Care Act 1997* (Cth) also contains whistleblower protection provisions in relation to reportable assaults.

All Australian state and territory parliaments have also enacted public interest disclosure laws [95], for the purpose of establishing:

- reliable means for wrongdoing to be reported;
- protections for those who make such reports; and,
- frameworks to address reported matters.

The comprehensiveness of whistleblower protection rules in a group of 20 developed countries was evaluated against 14 best practice criteria. The researchers concluded that [96]:

- Australian public sector protections are fairly comprehensive, with the public sector required to have internal procedures not only for facilitating disclosures but also for protecting and supporting whistleblowers;
- there remain significant differences between jurisdictions; and,
- legislative protection is considerably weaker in the Australian private sector.

13.4.7 Anti-competitive Legislation

Doctors who are in private practise are carrying on a business and are subject to the provisions of the *Competition and Consumer Act 2010* (Cth) (which replaced the *Trade Practices Act 1974* (Cth)). The Act also provides powers for consumer protection from misleading advertising. The Act is administered by the Australian Competition and Consumer Commission (ACCC) [97].

Doctors can cooperate with each other to develop arrangements that better serve their patients, but what is not permitted is anti-competitive conduct, such as market sharing or price fixing. The Act also protects doctors' rights if other doctors or hospital systems act in an anti-competitive way towards them—for example, take the case of ACCC v Ramsay Health Care [98], where the ACC alleged that Ramsay Health Care Australia told surgeons who were planning to establish a competing private day surgery facility in the same regional locality that they would have access to their operating theatre time at a local Ramsay Health Care private hospital substantially reduced or withdrawn.

To ensure fair practice, the doctor must be careful not to:

- use unclear criteria for credentialing or admitting rights at hospitals to restrict the trade of other health professionals;
- allow competing specialists to threaten boycotts at hospitals to prevent other specialists from being credentialed there;
- make agreements with associates or partners operating as separate legal entities on patient fees or joint negotiations with suppliers, financial service providers, or landlords unless they have gained authorisation from the ACCC;
- act unconscionably by using a superior commercial position to subject another party to, or force them to accept harsh or oppressive behaviour; and/or,
- employ unfair tactics or attempts to unreasonably extract benefits from another business or professional by using their size or bargaining power.

In addition, to protect the consumer, the doctor must not:

- mislead patients relating to fees, procedures, or outcomes;
- use misleading advertising relating to qualifications, area of expertise, fees, procedures, or outcomes; and/or,
- act unconscionably by acting in bad faith and deliberately taking advantage of patients who are disadvantaged by:
  - ignorance of important facts that you know but they don't understand;
  - financial problems;
  - infirmity or age;

  - lack of understanding of the nature of the transaction;
  - lack of assistance or explanation when these are necessary; and/or,
  - a special disadvantage that impairs their capacity to judge what is in their best interests, such as English being their second language or situational factors causing a lack of practical alternatives.

13.4.8 Workplace Relations

Australia's national workplace relations system is established by the *Fair Work Act 2009* (Cth) and other laws.

Employees are covered by the national workplace relations system if they [99]:

- work for a constitutional corporation;
- work in *Victoria*, the *Australian Capital Territory*, or the *Northern Territory* (except if they are a law enforcement officer or an executive in the public sector in Victoria, or a member of the Police Force in the Northern Territory);
- work in the private sector in *New South Wales*, *Queensland* or *South Australia; or,*
- work in the private sector or local government sector in *Tasmania.*

The key elements of the national workplace relations system include [100]:

- a safety net of minimum terms and conditions of employment;
- a system of enterprise-level collective bargaining underpinned by bargaining obligations and rules governing industrial action;
- provision for individual flexibility arrangements as a way to allow an individual worker and an employer to make flexible work arrangements that meet their genuine needs, provided that the employee is better off overall;
- protections against unfair or unlawful termination of employment and,
- protection of the freedom of both employers and employees to choose whether or not to be represented by a third party in workplace matters and the provision of rules governing the rights and responsibilities of employer and employee representatives.

Employers and employees not covered by the *Fair Work Act 2009* remain covered by the applicable state industrial relations system [101]. However, national entitlements to unpaid parental leave and notice of termination or payment in lieu of notice, as well as protection from unlawful termination of employment extend to employees who remain covered by a state industrial relations system [101].

13.4.9 Workplace Health and Safety

There are significant workplace safety risks in hospitals, including risks relating to infection, other environmental hazards, and workplace violence.

The medical administrator has an important role in ensuring a safe workplace for medical and other staff, and visitors, in the hospital environment.

Workplace health and safety (WHS) is primarily regulated by legislation. Safe Work Australia is the national body in charge of developing national work health and safety and workers' compensation policy. Each state and territory is responsible for regulating and enforcing WHS laws, which establish a framework for prevention, compensation, and rehabilitation in relation to workplace-related injury and illness. Their primary focus is on fostering safe work environments and systems of work, by eliminating or controlling risks.

WHS laws impose a duty on employers to take all reasonably practicable steps to protect the health and safety at work of employees. Further, the laws impose a general duty of care to persons other than employees who are present in the workplace, and to persons outside the workplace who are affected by the operations of the workplace.

Employees also have a duty to take care of their own health and safety while at work, and to take care for the health and safety of others in the workplace.

Regulations, standards, and codes of practice provide more detailed regulation and guidance.

Under the Intergovernmental Agreement for Regulatory and Operational Reform in Occupational Health and Safety [102], made on 3 July 2008, all states and territories agreed to work cooperatively to harmonise occupational health and safety legislation. Model work health and safety laws, supported by model regulations, codes of practice, and a national compliance and enforcement policy have been developed. The model laws and regulations have been implemented without material change in some jurisdictions and implemented with changes of varying degrees of complexity in other jurisdictions. The Commonwealth, Australian Capital Territory, New South Wales, Northern Territory, and Queensland implemented the model WHS laws in their jurisdiction on 1 January 2012. South Australia and Tasmania implemented the model WHS laws on 1 January 2013. Western Australia implemented its model laws on 1 March 2022. Victoria is the only jurisdiction that has not implemented the model WHS laws.

13.4.10 Human Rights Legislation

In Australia, human rights protection can be found in the Constitution, our common law system, and bodies such as the Australian Human Rights Commission. There is also federal legislation that exists to protect people from discrimination and breaches of human rights, such as the *Age Discrimination Act 1992, Sex Discrimination Act 1984, Racial Discrimination Act 1975, or Disability Discrimination Act 1992.*

The doctor should be aware of their obligations under the Australian Medical Council's Good Medical Practice Code of Conduct that outlines the doctor's right to not provide or directly participate in treatments to which they conscientiously object, and not using their objection to impede access to treatments that are legal, and also not allowing their own moral or religious views to deny patients access to medical care [103].

There are two Australian states and one territory that have enacted human rights legislation: Australian Capital Territory (ACT), Victoria and Queensland. The *Charter of Human Rights and Responsibilities Act 2006* (Vic) and the *Human Rights Act 2004* (ACT) both create a limited right to health arising from a right to life. However, these laws do not oblige healthcare providers to provide particular health services. The Victorian legislation does impose obligations on public authorities to consider relevant human rights in decision-making and requires public authorities to act in a manner compatible with human rights.

In summary, unlike some other countries, Australia does not have a protected right to health in legislation or in its constitution. The limited nature of rights arising out of state human rights laws in Australia are designed to hold public authorities to human rights standards, and are not meant to create causes of legal action for individuals to uphold these rights. State-based human rights commissions do not have the power to compel public authorities to provide particular health services or treatments, or invalidate existing legislation, and can only declare that an existing legislation, or a decision made by a public authority, is inconsistent with human rights.

During the COVID-19 pandemic, individuals were claiming a right to freedom and challenged public health measures to restrict movement. The High Court rejected the claim that lockdown public health measures imposed in the State of Victoria infringed an implied freedom of movement from the Australian *Constitution*, confirming the *Constitution* provides no basis for an implication of freedom of movement that limits legislative or executive power [104].

13.4.11 Bullying and Harassment

Bullying and harassment have been clearly identified as risks in healthcare environments.

The Fair Work Act (Cth) provides that a worker is bullied at work if, while the individual

is at work in a constitutionally-covered business. an individual or group of individuals repeatedly behaves unreasonably towards the worker, or a group of workers of which the worker is a member, and the behaviour creates a risk to health and safety [105]. Reasonable management action carried out in a reasonable manner is not bullying [106].

Examples of bullying include [107]:

- behaving aggressively;
- teasing or practical jokes;
- pressuring someone to behave inappropriately;
- excluding someone from work-related events; and,
- unreasonable work demands.

In accordance with their general WHS responsibilities, persons conducting a business or undertaking have the primary duty to ensure, so far as is reasonably practicable, that workers and other people are not exposed to health and safety risks arising from the business or undertaking. Workers and other people at a workplace have a duty to take reasonable care that their acts or omissions do not adversely affect the health and safety of others.

National anti-bullying laws cover all employees covered by the national workplace relations system as well as outworkers, students gaining work experience, contractors or subcontractors and volunteers [108]. A worker who reasonably believes that he or she has been bullied at work may apply to the Fair Work Commission (FWC) for an order under section 789FC of the *Fair Work Act 2009* (Cth). The FWC may make orders to prevent a person from being bullied at work (section 789FF). Civil remedies are available if such orders are contravened.

Medical administrators are key leaders and managers in preventing and addressing workplace bullying and harassment. They should familiarise themselves with workplace bullying and harassment laws, demonstrate leadership in prevention of bullying and harassment, ensure effective systems are in place to encourage appropriate workplace conduct and identify emerging problems and act promptly when problems are identified.

Specialist trainees often have a relationship with a professional college, which oversees their formal training, as well as a hospital, in which they play a service role. Medical administrators should ensure responsibilities for the management of trainees in hospitals, including management of allegations about bullying and harassment, are clearly delineated and that any relevant allegations are investigated and managed promptly and effectively.

13.4.12 National Agreements

Healthcare in Australia is delivered by a complex network of public and private providers.

The two main agreements that define roles, responsibilities, and funding arrangements for healthcare in Australia are the National Healthcare Agreement and the National Health Reform Agreement.

13.4.13 National Healthcare Agreement

The National Healthcare Agreement 2012 is one of six national agreements that cover the key service areas of health, education, skills and workforce development, disability, affordable housing, and indigenous reform [109]. It was signed in August 2011. Its objective is to improve health outcomes for all Australians and the sustainability of the Australian health system. It encompasses the collective aspirations of Commonwealth, State and Territory governments on prevention, primary and community care, hospital and related care, and aged care [110].

The National Healthcare Agreement 2012 defines:

- the parties' commitment to addressing the issue of social inclusion, including responding to Indigenous disadvantage;
- the agreement of all governments that Australia's healthcare system should be

shaped around the health needs of individual patients, their families, and communities;
- a commitment to focusing on the prevention of illness and injury and maintenance of health, not simply the treatment of illness;
- support for an integrated approach across the continuum of care;
- a commitment to transparency and performance reporting.

The Agreement incorporates a commitment to the following Medicare principles:

(a) eligible persons are to be given the choice to receive, free of charge as public patients, health and emergency services of a kind or kinds that are currently, or were historically provided, by hospitals;
(b) access to such services by public patients free of charge is to be on the basis of clinical need and within a clinically appropriate period; and,
(c) arrangements are to be in place to ensure equitable access to such services for all eligible persons, regardless of their geographic location.

Clauses 24–31 of the Agreement define the respective roles of the Commonwealth, States and Territories, private providers, and community organisations.

13.4.14 National Health Reform Agreement

The National Health Reform Agreement was entered into by all Australian governments (Commonwealth, State, and Territory) in 2011 and reflects an earlier agreement by the Council of Australian Governments (COAG) to reform the organisation, funding, and delivery of healthcare and establish new financial and governance arrangements for Australian public hospital services to ensure their ongoing sustainability [111].

Section 1 of the National Health Reform Agreement defines its scope as follows:

1. This Agreement:
   (a) sets out the shared intention of the Commonwealth, State, and Territory (the States) governments to work in partnership to improve health outcomes for all Australians and ensure the sustainability of the Australian health system;
   (b) introduces new financial and governance arrangements for Australian public hospital services and new governance arrangements for primary healthcare and aged care;
   (c) implements National Health Reform as agreed by the Council of Australian Governments (COAG) Heads of Agreement on National Health Reform in February 2011;
   (d) builds on and reaffirms the Medicare principles and high-level service delivery principles and objectives for the health system in the National Healthcare Agreement (agreed by COAG in 2008 and amended in July 2011);
   (e) supersedes the National Health and Hospitals Network Agreement and the Heads of Agreement on National Health Reform;
   (f) recognises that:
      - the States are the system managers of the public hospital system; and,
      - the Commonwealth has full funding and program responsibility for aged care (except where otherwise agreed) and has lead responsibility for GP and primary healthcare;
   (g) builds on and complements the policy and reform directions and outcomes, progress measures, and outputs outlined in the National Healthcare Agreement (NHA). This Agreement should be read in conjunction with the NHA; and,
   (h) is subject to the Intergovernmental Agreement on Federal Financial Relations (IGA FFR) and should be read in conjunction with that Agreement and subsidiary schedules.

The National Health Reform Agreement committed to the establishment of local hospital networks by States by 1 July 2012 and implementation of an activity-based funding system and included a commitment from the Commonwealth to fund a high proportion of 'efficient' public hospital cost growth.

To support the implementation of the National Health Reform Agreement, three national bodies were established [112]:

- the Independent Hospital Pricing Authority to develop a national funding methodology, including classifications for activity-based funding; a national efficient price for services; block funding criteria; resolve cross-border issues, and how to apply the national efficient price to eligible private patients.
- the National Health Funding Body to receive, administer and distribute Commonwealth and State activity-based funding to HHSs.
- the National Health Performance Authority to provide clear and transparent reporting on HHSs (and equivalent organisations in other States and Territories); monitor performance; develop indicators and maintain the MyHospital website.

The role of the Australian Commission on Safety and Quality in Health Care, which had been established in 2006, was further specified in the National Health Reform Agreement, including to "expand its role of developing national clinical standards and strengthened clinical governance".

In its 2014–15 budget, the Commonwealth Government announced its intention to consolidate the functions of these (and other) bodies into a single new Health Productivity and Performance Commission. This structural reform did not, however, progress. The Independent Hospital Pricing Authority and the National Health Funding Body continue to operate, while the National Health Performance Authority ceased operations on 30 June 2016, with its functions transferring to the Australian Institute of Health and Welfare, the Australian Commission on Safety and Quality in Health Care and the Department of Health.

13.5 Ready Reckoner

13.5.1 Patient Care

- Adverse events are common in healthcare. A significant proportion is associated with care that does not meet accepted standards.
- Doctors may owe a duty of care to third parties who are not their patients.
- The standard of care for professionals has been defined in the legislation in all states as the standard widely accepted in Australia by a significant number of respected practitioners in the field as competent professional practice in the circumstances.
- To succeed in an action in negligence a plaintiff must demonstrate that a breach of the standard of care caused the relevant injury or loss, and the injury or loss was not too remote a consequence of the breach.
- The aim of an award of damages is to "make good to the plaintiff, so far as money can do, the loss which he has suffered".
- Open disclosure is an open discussion with a patient about an incident(s) that resulted in harm to that patient while they were receiving healthcare. Compliance with the Australian Open Disclosure Framework is not a legal requirement but the establishment of an appropriate program is mandated under the *National Safety and Quality Health Service Standards*.
- Independent health complaint entities have been established in all jurisdictions. Section 150 of the National Law regulates communication between health complaint entities and National Health Practitioner Boards.
- At common law, adults with the necessary decision-making capacity can choose whether to undergo medical treatment, and medical practitioners proposing to treat patients are responsible for providing sufficient information to them. People aged 18 years or more are presumed to have the capacity to make decisions to accept or refuse treatment. People aged less than 18 years are regarded as minors in Australia. Parents or legal guardians of minors can consent to their healthcare. The

common law also recognises the concept of the mature minor.

- The common law recognises anticipatory refusals of medical treatment, which are treated as binding on doctors if they are clearly established, applicable to the current circumstances, and made without undue pressure from others. A number of Australian jurisdictions have introduced legislation that enables patients to record their wishes about end-of-life care.
- The High Court has recognised the courts' *parens patriae* jurisdiction in authorising treatment for children, but the common law otherwise provides little guidance on substitute decision-making in healthcare. State and territory guardianship and mental health legislation provide detailed rules for substitute decision-making for the medical treatment of adults who are deemed incapable of giving consent.
- There is no duty to provide nutrition and hydration if a competent patient expressly refuses consent. Supreme Courts have jurisdiction to resolve disputes in cases where an agreement cannot be reached with substitute decision-makers about the incompetent patient's medical care.
- Regulation of organ donation is the responsibility of the States and Territories, the Parliaments of each of which have enacted legislation covering organ donation and transplantation, including laws governing consent.
- A patient must have testamentary capacity to make a valid will. A finding of incapacity in one area does not automatically mean capacity is lacking in another area. Statutory rules on executing a will are defined in legislation in all Australian jurisdictions.
- Coroners Courts and the role of the Coroner are established by legislation in each state and territory. There is considerable variation between jurisdictions in both the definitions of reportable deaths and the penalties for non-compliance with reporting requirements.

13.5.2 Professionals

- The Health Practitioner National Law as it applies in each state defines requirements for the registration of medical practitioners.
- A person who is not registered cannot use the titles 'medical practitioner' or 'medical specialist' or titles of a number of medical specialties recognised under the National Law. The title 'doctor' is not, however, protected. Medical administration is included on the list of approved medical specialties and the title 'specialist medical administrator' is protected.
- A registered medical practitioner who holds non-practising registration must not practise the profession, but can use the protected title 'medical practitioner'.
- The Board has defined 'practice' as any role, whether remunerated or not, in which the individual uses their skills and knowledge as a health practitioner in their profession. Practice is not restricted to the provision of direct clinical care.
- Health practitioners, as soon as practicable after forming a reasonable belief in the course of practising their profession that a registered medical practitioner has engaged in notifiable conduct or a medical student has an impairment that in the course of the student undertaking clinical training may place the public at substantial risk of harm, must notify AHPRA. A similar obligation applies to employers of registered medical practitioners. Exceptions apply in Western Australia and Queensland in relation to the obligations of treating medical practitioners – refer to the National Law as it applies in those jurisdictions.
- Voluntary notifications may also be made under the National Law.
- There is a national standard for credentialing and defining the scope of clinical practice and a number of states and territories have published policy and/or guidance documents to support its local implementation.

- The tort of 'negligent credentialing' has been recognised in the United States of America.
- Public sector medical indemnity insurance arrangements are managed by state and territory governments. Different arrangements are in place in each jurisdiction, with particular differences relating to the insurance of visiting medical officers, private practitioners, and students.
- Medical administrators who do not have a direct clinical role may still be disciplined for unsatisfactory professional conduct if patient care falls below expected standards.

13.5.3 Organisations and Systems

- Accreditation to the National Safety and Quality Health Service Standards commenced for hospitals and day procedure services across Australia from January 2013. The second edition of the standards was published in 2017. Compliance may be enforced by jurisdictional health authorities (through directives in the public sector or registration/licensing mechanisms in the private sector) and by private health insurers, who may incorporate compliance requirements in their contractual agreements with private hospitals or groups.
- Physical medical records may be owned by doctors or hospitals. Copyright may exist in medical records.
- The *Privacy Act 1988* (Cth) sets out 13 Australian Privacy Principles, which must be complied with by Commonwealth government agencies and private sector organisations that collect and handle personal information.
- All States and Territories impose privacy obligations on their public sector agencies that contain generally similar obligations to the APP requirements summarised above. Most jurisdictions have enacted legislation for this purpose, while South Australia and Western Australia impose these requirements administratively. Some States and Territories have also enacted legislation specifically for the protection of health records. Generally, State and Territory health records legislation contains principles that are similar to the requirements of the APPs. Various other laws contain privacy obligations that are relevant for health administration:
- Freedom of information laws and privacy laws both create a right of access to personal records in Australia. There is no common law right for patients to access medical records.
- Laws have been implemented in all Australian States and the Australian Capital Territory, and by the Commonwealth, that protect the confidentiality of some information generated by certain quality assurance and improvement activities. In the Northern Territory, legislative protection is very limited.
- In the Commonwealth public sector, the *Public Interest Disclosure Act 2013* (Cth) encourages and enables public officials to raise suspected wrongdoing. Other Commonwealth legislation also establishes obligations and/or protections in certain circumstances. All Australian state and territory parliaments have also enacted public interest disclosure laws.
- Australia's national workplace relations system is established by the *Fair Work Act 2009* (Cth) and other laws. Employers and employees not covered by the *Fair Work Act 2009* remain covered by the applicable state industrial relations system.
- Each state and territory is responsible for regulating and enforcing workplace health and safety laws, which impose a duty on employers to take all reasonably practicable steps to protect the health and safety at work of employees. Further, they impose a general duty of care to persons other than employees who are present in the workplace, and to persons outside the workplace who are affected by the operations of the workplace.
- Model work health and safety laws, supported by model regulations, codes of practice, and a national compliance and enforcement policy have been implemented without material

change in some jurisdictions and implemented with changes of varying degrees of complexity in other jurisdictions.

- Bullying and harassment have been clearly identified as risks in healthcare environments. Medical administrators are key leaders and managers in preventing and addressing workplace bullying and harassment. They should familiarise themselves with workplace bullying and harassment laws, demonstrate leadership in the prevention of bullying and harassment, ensure effective systems are in place to encourage appropriate workplace conduct and identify emerging problems and act promptly when problems are identified.
- Specialist trainees often have a relationship with a professional college, which oversees their formal training, as well as a hospital, in which they play a service role. Medical administrators should ensure responsibilities for the management of trainees in hospitals, including management of allegations about bullying and harassment, are clearly delineated and that management of such allegations is prompt and effective.
- The two main agreements that define roles, responsibilities, and funding arrangements for healthcare in Australia are the National Healthcare Agreement and the National Health Reform Agreement.

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Private Health and Insurance

14

David Rankin

14.1 Introduction

For the medical leader in Australia, the private health sector and the private health insurance industry pose a range of complex challenges. Determining what services are covered by a particular patient's insurance product can be a challenge. Gaining assurance that the insurer will pay the account is seldom an intuitive or simple process. Clinical governance in private hospitals relies on by-laws rather than employment contracts.

This chapter attempts to outline the state of the private hospital sector and document the operation of the private health insurance industry.

Australia has a thriving private health sector. Over the 5 years from 2016–17 to 2020–21 private hospital separations have growing at a significantly higher rate (2.4% per year) compared to the public sector (1.7% per year).

There is a close and synergistic relationship between private hospitals and private health insurance. In 2018–19 private hospital revenue exceeded $17.2 billion, with $11.7 billion of that coming from private health insurance. Yet, there is an inevitable tension between the private hospital—seeking to maximise their revenue and the health fund—attempting to minimise the volume and cost of the claims they pay out. Both organisations, however, have a common goal—to maximise the number of people who have private health insurance.

The Federal Government has determined that it is advantageous to encourage Australians to take out private health insurance and so offers a range of mechanisms to encourage early and continuous uptake.

Public hospitals can also admit private patients and receive reimbursement from the patient's private health insurance fund.

14.2 Private Hospitals in Australia

14.2.1 Value Proposition for Private Hospitals

Private hospitals market themselves as offering:

- easy and timely access to health interventions (no waiting lists),
- care provided by the specialist of your choice,
- advanced medical, surgical and diagnostic technology,
- a higher level of privacy and comfort,
- more appetising meals and catering,
- more convenient visiting arrangements,
- a level of quality and patient experience not found in the public sector.

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14.2.2 Characteristics

There are 657 licensed private hospitals in Australia. Of these, 300 are overnight acute and psychiatric hospitals with 34,399 beds. In 2020–21, private hospitals accounted for 33% of all acute and psychiatric hospital patient bed days (9.9 million). This was an increase of 5.4% on the previous year, compared with an increase of 2.1% in the public hospitals.[1]

Private hospitals offer a range of specialised facilities. Data from 2016–17 indicates the following[2]:

Number of hospitals	Specialised facility
219	Operating theatres
70	Labour wards
108	ICU, CCU or combined units
56	High dependency units
30	Emergency departments
111	Rehabilitation units
24	Hospice care units

The 300 acute and psychiatric hospitals operate 1325 theatres—an average of just over 6 operating rooms per hospital. On average, each week these operating theatres are booked for 7.9 sessions and undertake surgery for 34 h a week.

There are 26 private acute psychiatric facilities and 22 private rehabilitation hospitals.

Private hospitals are classed into eight types of hospital.

- Private Acute Group A—>100 beds, ICU and Emergency Department (ED).
- Private Acute Group B—>100 beds and ICU.
- Private Acute Group C—>100 beds.
- Private Acute Group D.
- Private Acute Psychiatric Hospital.
- Other Acute Specialised Hospital.
- Private Rehabilitation Hospital.
- Mixed Sub-Acute and Non-Acute Hospital (Table 14.1).

The majority (82%) of private hospitals are in the major cities.

The 127 day-surgical hospitals operate 325 theatres and 260 procedure rooms. Private day-surgery centres provide a range of services including endoscopy (53 centres), eye surgery (38), mixed day surgery (40), plastic surgery (27), dialysis centres (14), dental surgery (13), haematology and oncology service (10), fertility clinics (8), hyperbaric health centres (4) and sleep centres (3).

14.2.3 Activity

Private acute hospitals traditionally provided elective surgical services, however with the emergency of private emergency departments, larger private hospitals have been increasingly able to admit acute medical patients.

Private hospitals accounted for 42% of all hospitalisations in Australia in 2020–21. The market share ranged from 67% of other specific interventions (endoscopy and interventional cardiology) to 22% of obstetric admissions (Table 14.2).

14.2.4 Determining Case Mix

The board of each private hospital or hospital group determines the range of services that will be offered at that hospital. This is based on the hospital's strategic priorities, the relative profit margin of various Diagnostic Related Groups (DRGs) or procedures, the competition, the number and skills of specialists credentialled to work at the hospital and the hospital's past investment in technology, facilities, or staff.

Each private hospital can exercise their discretion on whether to accept individual patients or patient types. Catholic hospitals will decline to admit patients for voluntary assisted dying (VAD) or termination of pregnancy, although in Queensland, the VAD legislation requires Catholic hospitals to allow VAD practitioners to offer VAD to their patients, despite their conscientious objection. Private hospitals may decline to admit patients with significant mental health

[1] https://www.aihw.gov.au/reports-data/myhospitals/intersection/activity/apc.

[2] https://www.abs.gov.au/statistics/health/health-services/private-hospitals-australia/latest-release#private-acute-and-psychiatric-hospitals-summary.

Table 14.1 Nature of the private acute and psychiatric hospitals (https://www.aihw.gov.au/getmedia/79e7d756-7cfe-49bf-b8c0-0bbb0daa2430/14825.pdf.aspx?inline=true)

Hospital type	Major city	Inner regional	Outer regional	Total	Average separations
Private acute group A hospitals	21	1		22	32,275
Private acute group B hospitals	29	6	1	36	21,398
Private acute group C hospitals	30	15	4	49	12,021
Private acute group D hospitals	44	19	6	69	5036
Private acute psychiatric hospitals	27	1	1	29	5438
Other acute specialised hospitals	15	1		16	
Private rehabilitation hospitals	22	1		23	5709
Mixed sub- & non-acute hospitals	4	1		5	475

Table 14.2 Private hospital activity and market share (https://www.aihw.gov.au/reports/hospitals/australias-hospitals-at-a-glance/contents/hospital-activity)

	Public hospitals	Private hospitals	All hospitals	Private % of total
Hospitalisations (thousand)	7000	4900	11,800	42%
Medical	4800	1500	6300	24%
Surgical	1100	1700	2800	61%
Specific intervention (other)	500	1000	1.5	67%
Childbirth	235	66	301	22%
Mental health care	143	232	375	62%
Sub-acute and non-acute care	196	368	564	65%
% same day patients	55%	73%	63%	
Number of days of patient care (million)	20.9	10.3	31.2	33%
Average increase past 5 years	0.2%	1.0%	0.2%	
Average length of stay (for overnight stays) - days	5.5	5.1	5.4	

conditions, particularly when the hospital lacks the staff to provide appropriate care.

14.2.5 Conditions Treated (Table 14.3)

Private hospitals treat just 18% of all infections, 26% of respiratory conditions and 22% of obstetric cases. On the other hand, they provide 73% of eye procedures and 69% of surgery for musculoskeletal disorders.

14.2.6 Ownership Structures

Private hospitals fall into four main ownership types—for profit group, for profit independent, religious and charitable and other not-for-profit.

Private overnight hospitals are primarily consolidated into six major hospital groups. These six groups now account for over 60% of all private beds (Table 14.4).

The largest group is Ramsay Health Care with 72 hospitals and day-surgery units while Healthscope has 41 hospitals. Both groups are now in private ownership, having recently delisted.

Fifty-one of the 300 acute and psychiatric hospitals are co-located with public hospitals. Private hospital operators also run public hospitals. Ramsay operates five public facilities including Joonalup in Perth, Mildura Base Hospital, Noosa Hospital and Peel Health Campus. Healthscope operates the Northern Beaches public/private hospital in Sydney and St Vincents operates a large public/private hospital in Sydney.

Private overnight hospitals owned by the for-profit groups tend to be medium-to-large in size,

Table 14.3 Acute separations—2020–21 (https://www.aihw.gov.au/reports/hospitals/hospital-resources-2017-18-ahs/data)

Major diagnostic category		Public hospitals	Private hospitals	Total	% private
PR	Pre-MDC (tracheostomies, transplants, ECMO)	9233	942	10,175	9%
1	Diseases and disorders of the nervous system	373,993	103,348	477,341	22%
2	Diseases and disorders of the eye	142,405	358,525	500,930	72%
3	Diseases and disorders of the ear, nose, mouth and throat	218,546	256,266	474,812	54%
4	Diseases and disorders of the respiratory system	315,544	90,319	405,863	22%
5	Diseases and disorders of the circulatory system	514,352	209,133	723,485	29%
6	Diseases and disorders of the digestive system	741,976	768,996	1,510,972	51%
7	Diseases and disorders of the hepatobiliary system and pancreas	122,829	40,470	163,299	25%
8	Diseases and disorders of the musculoskeletal system and connective tissue	480,342	459,017	939,359	49%
9	Diseases and disorders of the skin, subcutaneous tissue and breast	244,824	231,467	476,291	49%
10	Endocrine, nutritional and metabolic diseases and disorders	120,482	94,701	215,183	44%
11	Diseases and disorders of the kidney and urinary tract	1,548,117	490,250	2,038,367	24%
12	Diseases and disorders of the male reproductive system	54,742	81,430	136,172	60%
13	Diseases and disorders of the female reproductive system	142,066	209,573	351,639	60%
14	Pregnancy, childbirth and puerperium	436,344	120,637	556,981	22%
15	Newborns and other neonates	82,712	12,391	95,103	13%
16	Diseases and disorders of the blood and blood-forming organs	136,585	87,139	223,724	39%
17	Neoplastic disorders(haematological and solid neoplasms)	356,871	378,469	735,340	51%
18	Infectious and parasitic diseases	89,538	14,756	104,294	14%
19	Mental diseases and disorders	48,892	11,096	59,988	18%
20	Alcohol/drug use and alcohol/drug induced organic mental disorders	41,069	5077	46,146	11%
21A	Injuries, poisoning and toxic effects of drugs: Multiple trauma	7111	255	7366	3%
21B	Injuries, poisoning and toxic effects of drugs	211,104	29,298	240,402	12%
22	Burns	9145	223	9368	2%
23	Factors influencing health status and other contacts with health services	176,981	210,522	387,503	54%
ED	Error DRGs[a]	4353	4180	8533	49%
	General intervention total (surgical)	**1,208,704**	**1,735,743**	**2,944,447**	**59%**
	Medical total	**4,943,781**	**1,558,621**	**6,502,402**	**24%**
	Specific intervention total (other)	**477,671**	**974,116**	**1,451,787**	**67%**
Total		**6,630,156**	**4,268,480**	**10,898,636**	**39%**

Table 14.4 The larger hospital groups

Group	Hospitals
Ramsay Health Care	72
Healthscope	41
St John of God Healthcare Inc	20
Health Care Australia	17
St Vincent's Health Australia	16
Calvary (Little Company of Mary)	14
Epworth Healthcare	8
Uniting Health Care	5
Cabrini Health	3
Adventist Healthcare	2

with two thirds having over 100 beds and some 34% having between 51 and 100 beds. Hospitals owned by religious or charitable organisations tend to be smaller with only 42% having more than 100 beds.

Many of the smaller day hospitals are owned by surgeons or surgeon groups.

14.2.7 Distribution of Private Hospitals

In contrast to public hospitals, private hospitals tend to attract a higher proportion of patients from major cities rather than those from regional or remote areas.

Similarly, people from higher socio-economic areas are more likely to be admitted to private hospitals than those from the lower socio-economic areas.

14.2.7.1 Licensing

Each State is responsible for licensing private hospitals in their region. The licensing process and requirements vary from State to State. Each State lists the various types of services that private hospitals can provide. Again, this list varies from three types of service in Tasmania to 42 in Queensland.

14.2.7.2 Sources of Funding

Just over 80% of patients admitted to private hospitals were covered by private hospital insurance.

Table 14.5 Private hospital separations by funding source (https://www.aihw.gov.au/getmedia/f1284c51-e5b7-4059-a9e3-c6fe061fecdc/Health-expenditure-Australia-2019-20.pdf.aspx?inline=true)

Funding source	
Private health insurance	$8561
Self-funded	$1511
Australian government	$4543
State and local government	$1053
Other sources of funding	$1405

During 2019–20 the total health expenditure for private hospitals was $17.073 million. A proportion of the contribution from the Australian Government and State Governments includes the various state government's support for private hospitals during COVID (Table 14.5).

14.2.7.3 Growth and Marketing

The growth in private hospital activity has been consistently higher than that of the public sector, however this growth has slowed over the past 5 years. The growth in private hospital separations for the five-year period to 2016 was 4.2% per year, however this has reduced to 2.4% in the five-year period to 2021. The growth in public hospital separations has also fallen from 3.1% to 1.7% over the same two periods.

Private hospitals direct their marketing efforts at patients, specialists and referring general practitioners.

Patient-directed communications usually focus on advertising or media releases highlighting new technology, expertise, or the skills of a particular specialist. Patient experience is critical to private hospitals as satisfied customers share their positive experiences with their friends and relatives.

Marketing to specialists may involve introducing young specialists to the hospital by offering trainees and registrars roles as surgical assistants in the hope that they will establish their future private practice at the hospital. Hospitals may offer hospital-owned consulting suites at or near the hospital to attract new specialists.

Promotion to GPs may include lunch-time education sessions about the hospital or

promotion of particular specialists or services. Some hospitals develop educational videos that they make available on-line for GPs to view. Discharge letters and discharge medication records are also seen as ways to encourage referrals from GPs to hospital aligned specialists.

14.2.7.4 Billing and Payment of Private Hospitals

An admission to a private hospital can result in the patient receiving multiple invoices. These may include contributions such as:

- Health Insurance excess.
- Per-diem copayment.
- Emergency Department attendance fee.
- Pathology.
- Radiology.
- High-cost medication.
- Surgeon.
- Surgical Assistant.
- Anaesthetist.
- Perfusionist.
- Peri-operative medical attendance.

Accounts from medical specialists, pathology and radiology will attract a benefit from Medicare and may also attract a health insurance contribution. The patient is often left seeking these reimbursements months after their discharge.

While the hospital and the admitting specialists are required to provide the patient with informed financial consent prior to admission, the contribution for pathology, radiology, pharmacy and the anaesthetist are often not apparent at the time of admission and can result in quite significant out-of-pocket surprises.

14.2.8 Hospital Payments

Each health fund determines how it will pay private hospitals. While Medibank has adopted a DRG-based funding framework, Bupa pays for surgical procedures on an adjacent DRG basis (no A, B, or C modifiers) and medical admissions on a per-diem basis. Other funds pay for surgical services on a "Banding" basis and medical services on a per-diem basis. Day procedures are paid based on the procedure banding.

The Independent Hospital Pricing Authority (IHPA) determines the private hospital cost weights for each DRG and DRG version. Medibank and Bupa have relied on DRG versions which are generally 10 or more years old. There is a significant cost in migrating between DRG versions, and in most cases, neither the insurer nor the private hospital has the experience or skills to predict the fiscal impact of a change in the DRG version.

Private DRG weights exclude pathology, radiology and medical services costs. They generally exclude ICU costs which are billed to the health insurer on a per hour or per day basis. Health Insurers do not generally recognise the cost of High Dependency or Coronary Care Units.

A National Banding Committee that includes representatives from both the insurers and private hospitals, determines a theatre and accommodation "band" for each MBS defined procedure. These theatre and accommodation bands are then used by the industry to determine a reasonable price. The bands generally take into consideration the cost of the consumables and disposables associated with the procedure. Recent significant updates to many of the MBS procedure codes has resulted in substantial changes for the National Banding Committee to consider.

Mental health and rehabilitation beds are funded on a per-diem basis.

Most health funds preclude the hospital from charging the member a copayment, though some arrangements include hospitals having the ability to charge a daily copayment up to a set maximum amount per admission.

14.2.9 Pre-approval

Prior to admission, the hospital is required to contact the relevant health fund to ensure the member is financial and that their product covers the intended intervention. This process is facilitated through and on-line system called Eclipse.

14.2.10 Prosthesis

Health Insurers are required to pay for surgically implanted prostheses that are inserted as part of a hospital admission where the procedure is listed on the Medicare Benefits Schedule (MBS).

In most cases the prosthesis is billed separately from the hospital accommodation costs.

The price paid for a prosthesis is set out in the Procedure List which is maintained by the Department of Health. The list identifies over 10,000 products and is updated regularly as new prostheses are added and any that have been found to be unsafe by Therapeutic Goods Administration (TGA) are withdrawn.

Once a prosthesis is approved by the Therapeutic Goods Administration (TGA) as being safe for use in Australia, the manufacturer or importer will apply to have the prosthesis listed on the Prosthesis List. The manufacturer will also indicate the price that they believe they should be paid. The Minister for Health establishes whether a prosthesis should be listed and at what price. The Minister receives advice from the Prostheses List Advisory Committee (PLAC) and considers advice from Clinical Advisory Groups, the Panel of Clinical Experts and the Pricing Oversight Committee.

Once the prosthesis is listed on the Prosthesis List, the price seldom changes. The list price is independent of the price the prosthesis supplier may agree with the private hospital and is often substantially higher than the price charged to public hospitals. Revisions of what is on the Prosthesis list and the price at which it is listed is the subject to considerable current political effort.

14.2.11 High-Cost Medications

While usual pharmaceuticals are included in the DRG weight or banding framework, high-cost medications are excluded. Each health fund has different arrangements for the payment of high-cost medication. Some funds require the hospital to cover a minimum threshold and will then consider an ex-gratia contribution, while other funds do not make a contribution.

14.2.12 Pathology and Radiology Investigations

Pathology and radiology services are billed separately from the hospital accommodation costs. While some private hospitals own and operate the laboratory or radiology service, others enter a joint venture or contract the service out. Both pathology and radiology services provided in-hospital attract a Medicare payment and so are usually billed directly to the patient. Health insurers have various arrangements to make an additional contribution to the cost of pathology and radiology services.

14.2.13 Medical Services

Each specialist involved in the care of a patient will raise an invoice for their services independent of the hospital, so a surgical patient will likely receive an account from the surgeon, assistant surgeon, anaesthetist, perfusionist and any medical specialist called in to provide perioperative services.

There is no requirement for timely invoicing, so the patient may receive an unexpected account from a specialist they were only vaguely aware of some months after discharge.

A specialist can charge the patient what they believe is a fair market rate for their skills and training. The Commonwealth publishes the Medicare Benefit Schedule (MBS) which lists over 6000 procedures, attendances, and investigations that a registered health practitioner can bill Medicare for. The MBS schedule includes an MBS fee for each item. The Australian Medical Association (AMA) also publishes a fee schedule that they believe more accurately reflects a reasonable rate for each service. The AMA fee is around double the MBS fee.

Specialists bill the private health insurer using the relevant MBS item number to describe the service they have provided. Most insurers restrict specialists to only billing for procedures that have an MBS item number.

Insurers commonly require Medicare to first assess and pay the Medicare component of the

account. Medicare reimburses the specialist 75% of the MBS fee for procedures that are performed on an admitted patient in hospital. The fund is required to then pay the specialist at least the gap between what Medicare pays and 100% of the MBS fee.

Insurers offer specialists a range of schemes to assist in meeting the remaining "gap" between the specialist's charge and the MBS fee. Under a "No Gap" scheme the insurer pays a substantially higher benefit to the specialist if they agree to not charge the patient any out-of-pocket costs. Specialists receiving "No Gap" funding are usually required to interact electronically with the health fund.

As there are no regulations constraining what a private specialist can charge for their services, the Department of Health has established the Medical Cost Finder website[3] to try to provide patients with what is a reasonable fee for a range of common procedures. Although the site indicates that 15% of patients undergoing a tonsillectomy in Melbourne paid no out-of-pocket costs, 85% paid a median price of $460. The range of fees is, however, very wide, without-of-pocket costs ranging from $140 to $1700, and the website does not reveal what the patient's specific specialist usually charges.

14.2.14 Emergency Department Presentations

Emergency department presentations are not considered "hospital treatment" under the legislation. Any medical attendance is therefore considered an outpatient event and covered by Medicare and so private health insurers cannot contribute to the cost of ED attendance. Medical staff in the private ED can claim Medicare benefits which are then reimbursed to the patient.

Private hospitals often charge a substantial fee for attending a private ED. The fee can range from $125 to $485 per visit. When the patient arrives by ambulance, some hospitals waive the attendance fee.

14.2.15 Second-Tier and Default Rates

Hospitals that do not have a contract with a health insurer are able to bill the insurer at the "Second Tier" rate, which is set at 85% of the average contracted rate for hospitals in that State.

Where the hospital has a contract, but a particular service is not included in the contract, the hospital can bill the insurer at the "Default" rate which is set by the Commonwealth each year. The default rate is set at about a quarter to a third of the normal contracted bed rate.

Where an insurer has a contract with a hospital, the hospital is paid the contracted rate.

When there is no agreement between the hospital and the insurer, or when such an agreement does not cover a particular type of treatment, then the minimum benefit that applies for a "second tier" hospital is worked out according to a formula that equates (approximately) to 85% of the average negotiated contract price for that treatment paid by the insurer to comparable hospitals in that State. To qualify for the second-tier rate, hospitals must be recognised as having "second tier" status, accorded them by the Department based on certain standards in quality and safety and other criteria.

Public hospitals are generally paid at the Default benefit rate, on a per-diem basis. The Default rate is set by the Commonwealth and is generally considerably lower than the Second-Tier rate.

14.2.16 Certificates

Each MBS item is classified according to the type of location that procedure or service would normally be delivered in. A Type C classification is a procedure that would normally be performed as an outpatient in a doctor's rooms. Type B is a procedure that would normally only require a day stay admission.

[3] https://www.health.gov.au/resources/apps-and-tools/medical-costs-findercan.

Where a patient is admitted as a day patient to undergo a Type C procedure a Type C certificate must be completed by the admitting specialist. The certificate is required to provide a diagnosis and the reason why the patient was admitted. Similarly, for a Type B patient who stays overnight.

Health funds usually require the hospital to produce the certificate before the claim is paid.

When a patient stays in an acute hospital bed for more than 35 days, the hospital must complete a long stay certificate before the health fund will pay for the additional days. These certificates must be renewed every 30 days.

14.2.17 Audit

Health funds engage in a range of audits of private hospital financial and quality outcomes. Common audits include the appropriateness and duration of ICU admissions, necessity and duration of rehabilitation services, mental health admissions, DRG coding, complication rates and readmissions. These audits may involve on-site review of selected patient records or requests to the hospital to clarify clinical services or justify an admission.

14.2.17.1 Data Reporting

Each private hospital is required to provide the Federal and State health departments and the health funds with regular report on their activity. This core private hospital data set is known as the Hospital Casemix Protocol (HCP) and contains core admission, intervention, and outcome data.

To comply with the HCP data specifications, each hospital is required to code their hospital activity using ICD10 codes which are converted into the appropriate DRG codes.

The HCP data set excludes any information on the specialist who admitted the patient or the surgeon who performed the surgery.

While private hospitals report activity and case mix based on the patient's DRG, determined after discharge, surgeons admit patients based on the procedure that they intend to undertake. These procedures are described using MBS codes. This can lead to significant confusion for the patient and the health fund, particularly when the hospital and specialist's accounts arrive weeks apart and indicate quite different procedures.

14.2.18 Benchmarking

Private hospitals have been very reticent to share performance or outcome data with the public. While most private hospitals contribute their hand hygiene and Staph Aureus Bacteraemia (SAB) rates to the national "My Hospital" web site, this data is not peer matched and so it is very difficult to determine comparative performance. Most private hospitals engage in peer comparison benchmarking through the Australian Council on Health Standards (ACHS) Clinical Indicator reporting programme, and many are involved in intra or inter-group comparisons. However, this information is not available to the public. Several State health departments have begun releasing confidential reports to private hospitals on comparative performance, particularly comparing hospital-acquired complication (HAC) rates.

Private health insurers are increasingly holding both the hospitals and the specialists who work there to account for the appropriateness and outcomes of the clinical interventions that they undertake.

14.2.18.1 Medical Staffing and Clinical Governance

Most specialists working in the private sector are visiting medical officers (VMOs) or attending medical officers (AMOs). Their engagement is as independent contractors who are bound by the hospital by-laws for visiting medical staff.

It is the responsibility of the medical executive to ensure appropriate clinical governance systems are in place at the hospital. The credentialling of the medical staff is a core component of clinical governance. The medical executive is usually delegated the authority to advice the Board on the granting of admitting rights and determining appropriate action for misconduct or inappropriate clinical practice.

Most hospitals give sovereignty to the individual specialist's clinical opinion, however there is an increasing expectation that the various craft groups will assume responsibility for quality assurance and monitor the clinical performance of their colleagues. Each craft group usually designates a respected senior clinician who is accountable for the clinical engagement of the group members and represents the needs of the group to management.

The craft group leaders usually constitute the hospital Medical Advisory Committee which is empowered to advise the medical executive on credentialling, represent medical staff interests and set clinical standards. In many private hospitals, the chair of the Medical Advisory Committee is invited to sit on the Board.

The engagement of a Chief Medical Officer or medical executive by private hospitals is variable. While many of the larger not-for-profit hospitals employ a senior medical executive who has oversight of the medical staff and clinical governance, the employment of medical executives outside corporate office by the for-profit groups is patchy.

14.3 Billing Health Funds

In order to be paid, hospitals must submit a claim to the health insurer. This claim can be submitted manually, or by using the industry electronic claiming portal known as Eclipse. Eclipse is operated by Medicare on behalf of all participating insurers. Eclipse also provides the hospital with the ability to verify a member's cover, product type and eligibility for a particular procedure.

Members can also be given the account by the hospital and subsequently expected to seek reimbursement from their insurer.

14.3.1 Public Hospitals

Public hospitals in Australia are able to bill private health insurers when a member is admitted and elects to be treated as a private patient. The patient who elects to be treated as a private patient declares their health insurance status and signs a declaration agreeing to the public hospital billing the insurer.

State governments have encouraged public hospitals to actively pursue opportunities to increase their private health insurance revenue, particularly as the funding from the State has been constrained.

The proportion of patients with private health insurance who are identified by public hospitals is unclear. In terms of costs to the health funds, public hospitals now make up one of the larger hospital groups.

Public hospitals generally bill for only the accommodation component of the hospital stay and charge the health fund on a per-diem basis at the default rate set out for that State.

As public hospitals bill on a per-diem basis, there is little incentive for them to supply health funds with the coding detail required to validate a DRG payment. This has resulted in health insurers having little insight into the nature of the services provided in public hospitals.

14.3.2 Comparing Public and Private Hospitals

	Public	Private
Focus	Meeting state and federal targets	Attracting surgeons and patients Maximising revenue
Financial expectations	Financial break even	Return on investment (for profit)
Targets	Set by government (state/federal)	Internal. Set by the board or shareholders
Constraints	Volume avoidance (demand exceeds capacity) Acute/emergency admissions have priority. Elective surgery as capacity allows	Economic deployment of staff Access to capital for expansion

	Public	Private
Health insurance focus	Secondary funding source (often less than 5% of total revenue)	Primary source of revenue
Patient "ownership"	Hospital as "owner" of the patient	Surgeon admits their patient and retains ownership
Admission process	Hospital determines day and time of admission, time of surgery and composition of theatre list	Surgeon determines day of admission and composition of theatre list
Care coordination	Team based approach to patient care	Admitting surgeon has responsibility for coordinating patient care. Others engaged at surgeon's discretion
Medical staff engagement	Salaried (superannuation, CME, private practice allowance, mal-practice insurance) Funded to attend quality, education and "non-clinical" activities Many full timers (particularly medicine)	Independent contractors No funding for "non-clinical" activities Medical indemnity insurance is personal responsibility Many will have very limited sessions
Hours of operation	24/7 operation	Typically M-F, 8–5. High labour cost outside working hours. Limited access to specialists after hours
Occupancy	Tends to be constant throughout the week. Occupancy is driven by ED attendance	Tends to peak mid week and be low over the weekend and public holidays
Capacity mitigation	Ramping, bypass, admission delay, cancelled elective lists, early discharge, HITH	Expansion, limits on surgeon numbers
Clinical governance	Well established formal governance processes Scopes of practice Formalised committees Peer review Mortality and major morbidity review Clinical incident review Salaried clinicians engaged in clinical governance	Medical advisory committee Clinician involvement and engagement in clinical governance is variable Surgeons largely determine their own scope of practice within general parameters
Service mandate	Accept all cases	Ability to select high revenue or high margin procedures
Case mix	Medical dominance (frail elderly and children) High degree of sub-specialisation Tend to develop super-specialties (State/National centre of excellence)	Elective surgery dominance Limited sub-specialisation Little super-specialisation
Research	Focused investment in research. Tied to teaching and training. Alignment with medical schools	Research as a separate initiative Limited to major hospitals with a university alignment
Teaching	Integral to service provision. Junior staff support 24/7 operation	Patchy. Junior staff may be seen as interfering in specialist—patient relationship
Facility efficiency	Maximised for catastrophic event and high risk patients	Maximised for throughput and patient experience
Capital access	Allocation by state. Election sensitive. Retrospective—to address capacity crisis	Proactive investment Funded from reserves or loans
Funding	Activity based funding. Fixed annual allocation	Volume dependent revenue. No revenue limits

14.3.3 Challenges Faced by Private Hospitals

14.3.3.1 Value Proposition

The value proposition for private hospitals has been diluted with the significant recent investment in public hospital capital development, development of national quality standards covering both public and private hospitals, the increasing promotion of public hospital research capability, and the political focus on waiting times,

14.3.3.2 Clinical Governance

Private hospitals have traditionally been the servant of the specialist who brings their patient to the hospital. The surgeon exercises their discretion as to which patients to admit to which private hospital.

As the private hospital is materially dependent on the good will of the specialist, many private hospitals have been reticent to hold their surgeons to account.

Health insurers are increasingly focusing on outcomes and asking hospitals to meet the cost of preventable hospital-acquired complications (HACs) and avoidable readmissions.

These trends have created direct incentives for private hospitals to reduce their complication rates. This requires active engagement and accountability with medical staff.

14.3.3.3 Falling PHI Participation

During times of economic turmoil, Australians tend to downgrade their private health insurance or reduce their private healthcare utilisation, often out of a fear of the unknown out-of-pocket expenditure.

As private health insurance participation falls, member utilisation of private hospitals reduces, thus reducing private hospital revenue.

While COVID-19 appears to have increased private health insurance participation, the overall rate has fallen from nearly 80% in the 1970s to 44.9% in 2022.

14.3.3.4 Integration with Medical Staff

With falling health insurance penetration, falling private hospital utilisation, increasing medical graduates and moves by health insurers to hold hospitals to account for complications, there is increasing incentives for private hospital and specialists to work more closely together. Medical staff are becoming increasingly organised and engaging more collaboratively with private hospital administration. There are some early moves towards exploring bundled payments with reduction in the number of accounts a patient is required to pay and reduced total out-of-pocket costs. Some private hospitals are increasingly employing medical officers to cover their Emergency Departments, ICU and after hours services.

14.3.3.5 Maximising Revenue

As mental health and rehabilitation services are funded on a per-diem basis there is a significant opportunity for private hospitals to maximise revenue by specialising in per-diem funded services. This revenue optimisation has seen significant growth in rehabilitation and mental health beds in Australia over the past decade.

14.3.3.6 Public Patients in Private Hospitals

Following health service crises such as COVID-19, State Health Departments have entered into arrangements with private hospitals to assist with demand management. As public hospitals have struggled to meet elective surgery demand, private hospital providers have been asked to assist. Under these contracts, private hospitals usually engage the medical staff, though many public hospitals require that the surgeon be dual credentialled at both facilities to enable smooth transfer of care and continuity of care after surgery.

14.3.3.7 Transparency

In the national focus on enhancing quality and reducing patient harm, there is an increasing

focus on making comparable patient outcomes available to the public. Several State Departments of Health have begun producing identified comparative private hospital performance reports. Though these reports are confidential to the private hospitals at this stage, it is expected that the results will eventually be available to a wider audience.

Health insurers such as Medibank have also developed comparative reports on private hospital patient satisfaction scores.

14.3.3.8 Impact of COVID-19

COVID-19 lockdowns and the accompanying restrictions on private surgery had a material impact on private hospital profitability. Ramsay Healthcare reported that their quarterly profit for March 2022 had fallen by 59%.[4]

Several States offered private hospitals an agreement that underwrote operating cost on the condition that the hospitals would cooperate in treating public patients.

While there has been an expectation that surgical volumes will quickly bounce back with increased demand to clear the private and public waiting lists, this has been slow to materialise. Private hospitals have been struggling with both nursing and medical staff sick leave due to COVID, staff resignations, reduced productivity from staff burn-out and high cancellation rates from ongoing COVID-positive patients.

14.4 Private Health Insurance

14.4.1 Overview

Private Health Insurance presents a value proposition based on members having:

- greater flexibility in the choice of hospital,
- a dedicated specialist and,
- flexibility around the date of admission.

Private Health Insurance also provides cover for health services that the public system does not cover such as dental, physiotherapy, psychology and, in some states, ambulance services.

There are 37 recognised private health insurers in Australia. These health funds market two types of products—Hospital cover and General cover (also called Extras or Ancillary).

Private Health Insurance (PHI) in Australia is heavily regulated and operates under the Private Health Insurance Act (2007). The Australian Prudential Regulation Authority (APRA) provides prudential supervision over health insurers, monitoring their financial viability.

The Private Health Insurance Ombudsman (PHIO) protects the interests of people with private health insurance. Amongst other things PHIO manages complaints about health insurers from members and other funds.

Each fund markets a set of highly commoditised products that have very comparable features and similar pricing. Even so, it can be very challenging for a potential member to identify the various benefits offered and compare the cost of various insurance products.

Private health insurers sell 5.7 million hospital treatment policies that cover 11.6 million people. These members claim 4.7 million hospital episodes and 93 million ancillary episodes at a total benefit outlay of $21.6 billion dollars.

Private health insurance gross margin was 18.8% in the March 2022 quarter with a net profit after tax of $2.0 billion (up from $0.95 billion in the March 2021 quarter).

Forty-five percent of Australians have Hospital cover.[5]

The Government provides several mechanisms to encourage people to take out and hold Private Health Insurance, particularly Hospital cover. These include the Government Rebate, Lifetime Health Cover and the Medicare Levy Surcharge.

[4] https://www.afr.com/companies/healthcare-and-fitness/ramsay-q3-profits-slide-as-elective-surgery-ban-bites-20220429-p5ah3k.

[5] PHIAC—Quarterly Statistics—March 2022.

Private Health Insurance premiums have consistently risen at well above the rate of inflation. Cost growth is driven by a combination of an ageing population (and subsequent increased utilisation) and private health cost pressures.

The Government approves the annual premium rate rise that each insurer can charge after the submission of an application by the insurers.

With constraints on the price an insurer can charge a member, insurers must control claim costs and management expenses if they wish to return a profit or ensure a suitable result (if the insurer is a not-for-profit entity). Until the emergency of COVID-19, the majority of health insurers saw falling margins.

14.4.2 Private Health Insurers

There are 37 health funds operating in Australia. Two are publicly listed (Medibank and NIB), eight are for profit and 12 are restricted access funds. Restricted access funds have specific target markets or are limited to members of a particular organisation or vocational group. The largest five health funds (Medibank Private, BUPA, HCF, NIB, and HBF) account for 80% of all members.[6]

There has been industry consolidation over the years. In 2008 Medibank purchased Australian Health Management (ahm), the same year BUPA acquired MBF, HCF acquired Manchester Unity and GMHBA acquired Druids.

Insurers such as NIB also while label products that are marketed by companies such as Qantas.

Most funds offer more than just health insurance and are becoming increasingly diversified as they attempt to spread their organisational risk and expand their revenue base.

As well as its private health insurance arm, Medibank Private Limited, which was publicly listed in 2014, also offers access to travel, pet and life insurance. It is Australia's largest telehealth provider. It has invested in chronic disease management—both, in collaboration with primary care and in joint ventures with several State health departments. More recently Medibank has taken an investment stake in several private hospitals.

For a time, Medibank operated Garrison Health—procuring health services for the armed forces and provided the Disability Medical Assessment service for the Department of Human Services. Both services are now provided by BUPA.

BUPA is a wholly foreign owned company with its parent body in the UK. It offers private health insurance and access to general and travel insurance. BUPA has a significant investment in aged care in both Australia and New Zealand. It operates its own branded optical outlets and offers both workplace and corporate health services. BUPA operates the Immigration Medical service, coordinating the health assessments for people requiring a medical examination for immigration purposes.

Australian Unity is a mutual organisation—owned by the members. In addition to its health insurance offering, it also offers access to general and travel insurance. It has a retail investment business covering all major asset classes and provides financial advice. Australian Unity also offers retirement living. It operates dental clinics and Remedy Healthcare, which provides allied health services, health coaching, workplace health and home base rehabilitation.

NIB has invested in New Zealand by acquiring Tower Medical Insurance Ltd. in 2012. It also offers travel insurance.

14.4.3 Products

Health Insurance products are built around two types of treatment: Hospital Treatment or General Treatment.

[6] *Operation of Private Health Insurance Annual Report 2020–21*, APRA 27 October 2021.

14.5 Hospital Treatment

Hospital treatment must manage a disease, injury or condition.[7] Hospital treatment must be provided at or with the direct involvement of a hospital.

Hospital treatment contributes to the hospital associated costs of accommodation, nursing, theatre, prosthesis, consumables, disposable items, and pharmaceuticals. It may also contribute toward the professional services such as medical, surgical, diagnostic, and pathology items provided while the person is in hospital, although these services will first be paid by Medicare.

Because treatment must "manage a disease, injury or condition", insurers are precluded from paying benefits for "cosmetic" treatments, or treatments that do not have an underlying medical need. Without a "medical need" for the treatment, the intervention lacks the necessary element of insurable risk and so the treatment does not qualify as insurance.

All products must cover rehabilitation, hospital psychiatric services and palliative care.

The definition of what constitutes "cosmetic" treatment has been debated for many years and each insurer has a slightly different definition.

14.5.1 Gold, Silver, Bronze and Basic

Under changes introduced in 2019, all health insurance products are required to be classified as Gold, Silver, Bronze or Basic. Each product level is required to include cover for certain procedures or body systems.

Basic products cover the three core requirements plus a limited range of services from higher level products such as hernia, tonsils or accidents. Basic products are marketed as low-cost products that qualify the member to avoid the Medicare surcharge.

Bronze products must include the three core requirements as well as cover for brain, eye (other than cataracts), ENT, bladder and kidney, digestive, hernia, endoscopy, gynaecology, chemotherapy and breast surgery.

Silver products must include all Bronze services as well as heart and vascular, lungs, back/neck/spine, plastic surgery and dental surgery.

Gold products must include all Silver services as well as cataracts, joint replacement, pregnancy, assisted reproduction, weight loss surgery and insulin pumps.

Insurers may offer "Plus" products that add part services from higher level cover. So, an insurer could offer cataracts on a Silver+ product; however, it is likely that the utilisation of the product would mean that the product would be priced similar to a Gold product. Several insurers market Basic+ products with cover for hernia, tonsils or accidents to make their lower-priced products of interest to younger adults or families with young children.

14.6 General Treatment (Ancillary)

General treatment must manage or prevent a disease, injury or condition.[8] General treatment cannot contribute towards the cost of services that are funded by Medicare. If a treatment can be classified as hospital treatment, then it cannot be considered general treatment.

Insurers sell general treatment products under a range of names including "extras" and "ancillary" products.

General treatment includes services such as:

- Dental.
- Optometry (frames and prescription lenses).
- Physiotherapy, Chiropractic and Osteopathy.
- Alternative therapies—including natural, complimentary and/or alternate therapies and remedial massage.
- Ambulance transport and attendance.

Optometry covers prescription lenses & frames but typically excludes items such as sunglasses as they are not considered medically nec-

[7] s121-5.

[8] s.121-10.

essary. GP visits, specialist visits and optometry examinations are precluded because they are eligible for a Medicare rebate.

Remedial massage is often included in general treatment as it meets a clinical need (it is remedial); however, mere "relaxation" massage should not be covered.

14.6.1 Designing an Insurance Product

In designing a hospital product, the health insurer attempts to identify their target market and the components of a product that are likely to be attractive to a new member. Some members may be seeking peace of mind, and so will be attracted to a product that covers every imaginable disease or condition. The inherent risk associated with such a broad cover means this sort of product will carry a high price. On the other hand, many people are looking for the cheapest hospital product that allows them to avoid the Medicare Levy Surcharge or preserve their Lifetime Health Cover status. Such a product might only pay the minimum default benefits for the mandatory requirements for admitted patients (psychiatry, rehabilitation and palliative care), might restrict cover to treatment required as the result of an accident or only cover admission as a private patient in a public hospital. Young families may only be looking for obstetric cover and cover for childhood conditions such as tonsils and grommets.

For each potential product, the insurer's actuaries assess the likely utilisation pattern and the cost of the treatment. They then add a margin to cover the insurer's management expenses and an expected rate of return to arrive at a price point that is sustainable over the longer term.

Most insurers offer a range of products from Basic with minimal benefits to extremely comprehensive products sold under names such as Gold Plus.

Products will often also include an option for the member to make a contribution to the costs of treatment and so reduce the premium. This may be in the form of an annual deductable, an excess[9] or a copayment for each episode of care. For a product to be capable of exempting a person from the Medicare Levy Surcharge liability, the maximum excess is $750 for a Single scale policy (and $1500 for any other scale).

Insurers attempt to reduce their risk by engaging a preferred network of providers with whom the insurer contracts at a preferential rate.

For General Treatment, the insurer attempts to limit the rebate that they pay through mechanisms such as setting:

- an annual limit by service type ($300 per year for optical),
- a maximum rebate per service ($60 per visit),
- a set percentage rebate (60% of provider's bill).

14.6.2 Government Mechanisms to Increase Uptake of Private Health Insurance

Since the early 1970's the Australian Government has implemented a range of incentives to encourage the uptake of private health insurance. The argument for this incentive programme is that each additional person who takes up private health insurance reduces the demand on public hospitals. Private health insurance also increases the potential revenue that public hospitals can attract through billing privately insured patients who are admitted to public hospitals.

Current mechanisms directed at increasing PHI uptake include the:

- Medicare Levy Surcharge.
- Australian Government Rebate, and.
- Lifetime Health Cover.
- Age-Based Discounts.

14.6.2.1 Medicare Levy Surcharge

Introduced in July 1997, the Medicare Levy Surcharge (MLS) requires those earning a higher

[9] In a technical sense, each different excess constitutes a separate product.

income to have "an appropriate level" of private patient hospital cover or pay a levy. The surcharge is levied by the Australian Taxation Office (ATO). In the 2022 financial year, the levy ranged from 0% for those earning less than $90,000 to 1.5% for those earning over $140,000 ($280,000 for a family—including single-parent families).[10]

14.6.2.2 Australian Government Rebate

The Government introduced the Australian Government Rebate (AGR) on 1 January 1999. The rebate offsets the premium a person pays for their health insurance.

The rebate applies to all Complying Health Insurance Policies (CHIP) compliant products including General/Ancillary products. To receive the rebate a person must be eligible for Medicare, so it does not apply to non-residents.

The AGR is a tiered entitlement based on a person's age and income. The income thresholds are the same as for the Medicare Levy Surcharge. In the 2021 financial year, a single person over the age of 70 and earning less than $90,000 received a rebate of 32.812%, while those aged under 65 and earning over $140,000 are not eligible for any rebate.

The rebate can be taken as either a reduced premium up-front or as a tax rebate.

14.6.2.3 Lifetime Health Cover

The third mechanism—Lifetime Health Cover (LHC), aims to encourage people to take out Hospital Cover early in life and to maintain their health insurance cover without a break. Once again this incentive only applies to Hospital Cover and not to General (Extras or Ancillary) products.

Lifetime Health Cover imposes a 2% loading for each year that a person delays taking out Hospital cover after the age of 30. The maximum loading is 70%. So if a person who resides in Australia decides not to buy health insurance till they turn 50, they will pay 40% more in premium than someone who joined at the age of 30. Once you have held private health insurance for 10 years, the loading is suspended.

To avoid the LHC penalty, a person who moves to Australia must take out health insurance within 12 months of becoming eligible for full Medicare cover.

To minimise a person's liability under Lifetime Health Cover loading, they need to ensure that the cumulative period for which they do not have the required Hospital Cover does not exceed 1094 days (known as the Permitted Days Without Hospital Cover). Going overseas may not count as part of this gap, though the rules for overseas exemption are complex.

The insurer must charge the member the Lifetime Health Cover loading, and the insurer keeps the funds collected.

Where a couple take out joint health insurance and only one partner has taken out private health insurance by their 30th birthday, the loading is applied to 50% of the hospital portion of the joint premium.

14.6.2.4 Age-Based Discounts

In order to encourage younger people to take out private health insurance, in 2019, the Government allowed health insurers to offer people aged 18–29 years a discount of up to 10 per cent on their private health insurance premiums. People who access this discount when taking out health insurance can retain the discount till they turn 41, after which it is gradually phased out.

14.6.3 Regulation of Private Health Insurance

Private health insurance in Australia is heavily regulated. The *Private Health Insurance Act 2007* is the key piece of legislation governing the operation of health funds. The legislation sets out such things as the minimum benefits that must be included in a health insurance product covering hospital treatment, the communication a fund must have with its members, the allowable waiting periods, rules for the transfer of membership

[10]Thresholds are increased for a second and any subsequent dependent child. The thresholds refer to "income for surcharge purposes", rather than ordinary measures of assessable income.

between funds, the community rating rules and quality assurance requirements.

The Department of Health administers the *Private Health Insurance Act 2007* and many associated rules and regulations. It regularly releases PHI circulars to provide information and guidance to the industry.

14.7 CHIP Requirements

Products that health insurers offer to Australian residents must meet the Complying Health Insurance Policies (CHIPs) requirement.

To be CHIP compliant,[11] the product must meet the:

- Community rating requirements (Div. 66).
- Coverage requirements (Div. 69).
- Benefit requirements (for hospital treatment coverage) (Div. 72).
- Waiting period requirements (Div. 75).
- Portability requirements (Div. 78).
- Quality assurance requirements (Div. 81).

14.7.1 Community Rating

Community rating[12] prohibits an insurer from selling products that improperly discriminate against any person buying that product. The Act quite specifically precludes insurers from discriminating on the grounds of age, gender, state of health and propensity to claim benefits. It also precludes discrimination on the basis of the place where the person lives, although premiums and benefits can vary between States and Territories as these are seen to comprise separate economic markets.

The community rating provisions require an insurer to offer the same premium to every person who wishes to take out cover under that product. Premiums can however differ due to "scale", so a single person, couple or family can pay different premiums. An insurer can offer a product that would likely attract a certain age group, family group or health risk category, but anyone who wants to purchase that product must be able to access it at the same price. So if an insurer offers a product that includes obstetrics, it must be available to any person who wants to purchase that product, at the same price, irrespective of their past obstetric history, their age or where they live.

Insurers are also limited in how they apply discounts and offer promotional incentives. Discounts are typically allowed for actions that reduce the administrative cost of offering health insurance such as: premium payment in advance, premiums paid via payroll deductions or automatic payment and electronic claiming.

Insurers are not allowed to discount their products by more than 12% for any group. Nor are they allowed to offer "No-claims" bonuses.

14.7.2 Coverage Requirements

To meet the coverage requirements an insurer must offer policies in one of two broad categories: Hospital Treatment and General Treatment.

14.7.3 Benefit Requirements

All hospital treatment products are required to include inpatient psychiatric, rehabilitation and palliative care. The benefit requirements sections of the Act also set out a mechanism for determining the default or minimum rate that insurers must pay for hospital treatment and for surgically implanted prostheses.

A prostheses list is created and regularly updated by the Minister. The list sets out the prostheses that must be funded by the insurer and the minimum (and sometimes the maximum) rate that the insurer is required to pay.

14.7.4 Waiting Period

Insurers are allowed to impose a waiting period on members who join a fund or upgrade their

[11] *Private Health Insurance Act 2007* s.63-10.

[12] Div 55.

cover. The maximum waiting period is 12 months for pre-existing conditions and obstetrics. For all other hospital treatment, including mandatory treatment (psychiatry, rehabilitation and palliative care), the maximum waiting period is 2 months.

There is no maximum waiting period that an insurer may impose for General Treatment.

People who require urgent hospital admission for mental health conditions can upgrade their policy without facing a waiting period, provided they have held their health insurance cover for a minimum of 2 months. A person can only exercise this upgrade for mental health admissions once in their lifetime.

An insurer may decline to fund hospital treatment on the basis of the pre-existing condition waiting period where the signs or symptoms of the condition were apparent in the 6 months before the person joined or upgraded their cover. The criteria are that the member has experienced the symptoms of the condition or that the signs of the condition were apparent. The person does not require to have been given a diagnosis for the pre-existing condition.

A Medical Advisor appointed by the insurer must make the determination that the condition is pre-existing.

Common contentious Pre-Existing Conditions (PECs) include conditions such as wisdom teeth removal, treatment of infertility, positive results from screening tests (Fecal Occult Blood Test (FOBT), pap smears or mammography), hernia and tonsillitis (particularly in young children).

14.7.5 Portability Requirements

The portability provisions of the Act help ensure a person can easily transfer between insurance funds without losing benefits.

Where a person has had hospital cover with one insurer and takes out cover with another insurer, the second insurer is obliged to recognise the person's previous duration of cover. The second insurer cannot apply a waiting period under the new cover that is longer than the unexpired waiting period on the original cover.

When a person wishes to transfer from one fund to another, they request a "Clearance Certificate" from their current fund. This certificate outlines the nature and level of their cover, join date, cancellation date, Lifetime Health Cover information and any history of recent claims.

14.7.6 Prudential Requirements

Each fund is required to maintain sufficient liquidity and capital reserves. These reserves are held in the insurer's Health Benefits Fund. This fund operates somewhat like a trust and holds all premiums received by the insurer. Insurers can withdraw money from the fund to meet the cost of benefits paid for their insured members. The insurer is also able to use the moneys in the Health Benefits Fund to meet certain other expenses of the business.

14.7.6.1 Australian Prudential Regulation Authority

The Australian Prudential Regulatory Authority (APRA) provides prudential oversight of the industry. APRA's role includes collecting and disseminating financial and statistical information about health funds and private health insurance. It also sets and requires compliance with capital adequacy and solvency standards.

14.7.6.2 Private Health Insurance Ombudsman

The Private Health Insurance Ombudsman (PHIO) operates out of the Office of Commonwealth Ombudsman.

The role of the Private Health Insurance Ombudsman (PHIO) is to protect the interests of people covered by private health insurance. PHIO operates an independent complaint handling service, provides education and advice services for consumers and advises the industry and government on issues of concern to consumers.

The Ombudsman can deal with complaints from health fund members, health funds, private hospitals, or medical practitioners. Complaints must be about a health insurance arrangement.

14.7.6.3 RISK Equalisation

One of the key challenges in the operation of Private Health Insurance is managing the risk of adverse selection and catastrophic claims, particularly in the context of community rating, where everyone pays the same price for a particular product.

Adverse risk selection comes about through an insurer attracting older, sicker or more risky members. Generally, the older an insured person is, the higher their health costs and, consequently, the higher the benefits claimed. Catastrophic claims are those where members have a major complication or require very complex or extended surgery that results in extra-ordinary and unanticipated costs.

Smaller funds are particularly vulnerable to catastrophic claims, as they do not have a sufficiently large pool of members across which to spread the risk.

In Australia, these risks are managed through "risk equalisation". Risk Equalisation aims to bring all insurers' experiences of claiming closer to the average.

Each insurer pays a proportion of their premiums into the Risk Equalisation Fund. There are two pools—the Age-Based pool and the High-Cost Claims Pool.

Contributions to the Age-Based pool is based on the member's age and range from 0% of member premium for those under age 55 to 82% for those aged 85 and over.

The High-Cost Claimants Pool is made up of 82% of the benefits in excess of $50,000 that have been paid in the preceding 12 months. These payments are discounted by the amount that may have been paid under the Age-Based pool.

The funds are redistributed to the various insurers based on the assessed risk of the members for whom they provided cover during the year.

Risk equalisation does not apply to General treatment.

While risk equalisation enables smaller health funds with limited numbers of members to operate in Australia, it reduces the insurer's incentive to manage the health risk of its members. Older members and those with chronic disease are the most amenable to chronic disease management and preventative interventions; however, because the risk is calculated after the event, the risk equalisation process results in only a proportion of the savings reverting to the member's insurer with the majority of savings accruing to all participating insurers.

14.7.6.4 Rate Rises

Each year health funds submit a request to increase the average premium across their Resident Cover product portfolio. These requests must be made at least 60 days before the premium increase is to take effect and are considered by the Department and require approval by the Minister for Health.

14.7.6.5 Mandatory Communications

Every year each insurer is required to send each adult member a copy of the Standard Information Statement that relates to his or her particular product. Standard Information Statements must be prepared in a standard format to make comparison between products from different insurers easier.

Insurers are also required to send members a statement on their Lifetime Health Cover and their annual tax statement.

All Resident Cover policy holders must be notified in advance about any change to the insurer's rules that are or could be detrimental to the interests of the policyholder. This would likely include such things as the removal of cover for certain treatments, a reduction in the amount the insurer pays for a treatment or a change in the financial limits for a type of treatment.

14.7.6.6 Fund Rules

Every insurer has a set of Fund Rules that state the membership entitlements and obligations.

While the main rules of the health fund are publicly available from the individual insurer, the specific product schedules frequently have restricted availability.

14.7.6.7 Informed Financial Consent

Before a person with private health insurance is admitted to hospital, they are entitled to be

informed about any out-of-pocket expenses that they are likely to face during their hospital stay. This includes any charges that the hospital may raise, the treating specialist may charge, the cost of investigations or the excess the insurer may require them to pay. For major treatment, the information should be provided in writing.

Once the member has agreed to the out-of-pocket expenses they can lodge a complaint with the Ombudsman if the final bill varies from what was consented to.

14.7.6.8 Private in Public

Public hospitals are also major beneficiaries of private health insurance funding. Patients with private health insurance who are admitted to a public hospital are encouraged to declare their status and elect to be treated as private patients in public hospitals. This election by the patient enables the public hospital to bill the insurance fund for the accommodation component of the patient's stay. Public hospitals may also bill for the medical costs on behalf of those specialists who have assigned the hospital their rights to private practice.

While the rates that insurers pay the public hospitals are significantly lower than contracted private hospitals, it is unclear what advantage there is to the member or the insurer when a member declares their private health insurance status when being admitted to a public hospital. While the practice contributes to the revenue of public hospitals, it also puts significant pressure on the affordability of private health insurance.

14.7.6.9 Overseas Student Health Cover (OSHC)

A person from overseas, coming to study in Australia, requires an overseas student visa. With a few exceptions, before a student, their partner and any dependents arrive to study in Australia they must provide evidence that they have purchased an Overseas Student Health Cover (OSHC) policy.

The Federal Government articulates a deed that covers the conditions under which an insurer can offer Overseas Student Health Cover. Only a private health insurer can enter into such a Deed.

The OSHC deed requires the insurer to offer a product that provides (as a minimum) benefits "equivalent" to that which are available to Australian residents under Medicare and public health systems.

Services that cannot be covered under OSHC include: assisted reproduction, treatment provided outside Australia, treatment arranged in advance of the student's arrival, treatment of secondary conditions or disabilities from pre-existing conditions, repatriation and elective cosmetic surgery.

14.7.6.10 Reciprocal Health Care Agreements (RHCA)

Countries with reciprocal health agreements include: New Zealand, the United Kingdom, the Republic of Ireland, Sweden, the Netherlands, Finland, Italy, Belgium, Malta, Slovenia and Norway. These agreements mean residents of these countries can get some essential medical treatments while visiting Australia.

The nature and extent of the RHCAs vary from country to country and, in some cases, may not apply after a person has been in Australia for 6 months or more.

14.7.7 Challenges and Issues

Private health insurers face a range of challenging issues. With increasing costs, rising demand and increasing supply of both hospital beds and specialist capacity, the industry is experiencing tighter margins and slowing growth. Rate rises are constrained, resulting in a narrowing gap between premium income and expenses.

Australia is also experiencing an ageing population with a higher awareness of the value of healthcare and relatively high population growth. Australia is one of the richest countries by Gross Domestic Product (GDP) per capita, and healthcare expenditure continues to expand as a proportion of GDP.

14.7.7.1 Compounding Cost and Demand Growth

Prior to COVID-19, benefit claim costs were growing at 7% or more each year while revenue

growth for private health insurers is constrained by regulation and has been held to below 4% per annum over the 4 years from 2017 to 2021.

Apparently unnecessary or inappropriate care drives up utilisation. This increases premium rates, which in turn makes health insurance less affordable and so reduces the participation rate.

When fewer people take out health insurance, or more people downgrade their cover, there are fewer insured patients for surgeons and hospitals to operate on. This places additional pressure on prices as hospitals and surgeons attempt to maintain their income.

To counter the trend in rising costs, insurers are becoming more aggressive in their contracting with hospitals, selecting hospitals that meet quality or price criteria to become part of the insurer's preferred provider network.

Insurers are also focusing on "leakage" in an attempt to ensure members only receive benefits for which they are covered, increasing audits to ensure claims match services provided and reducing opportunities for providers to game the system in order to maximise their income.

14.7.7.2 Ageing Population

Australia has an ageing population. Older people consume more health services. With community rating, the insurer is required to cross-subsidise between younger, healthier members and the older population. As the relative pool of younger members shrinks, the capacity to cost shift is reduced. Risk Equalisation does not fully account for the higher risk associated with age.

14.7.7.3 Impact of COVID-19

During lockdown, the government restricted access to elective surgery in both public and private hospitals. This saw a dramatic reduction in members claiming for hospital costs, with hospital benefit outlay falling 5.3% in 2020 compared with 2019. During the same period, premiums went up 1.4% and membership grew by 0.9%. These changes significantly enhanced health fund profitability with Gross margin increasing from 11.8% in 2020 to 18.8% in 2021. Some insurers have returned a portion of the savings in reduced premiums or delayed premium increases.

Even after lockdowns were lifted, there has been a residual burden on hospitals as staff are furloughed with COVID or required to isolate after family members test positive to COVID.

The ongoing community COVID rate has resulted in patients being admitted to hospitals, reducing hospital's capacity to provide elective surgery.

The number of patients taking out private health insurance has increased slightly during and after COVID. The strain on personal income, which leads to people downgrading or dropping health insurance, appears to have been offset by concern about access to public hospitals.

14.7.7.4 Appropriate, Efficient and Effective Care

As part of the drive towards quality, health funds are increasingly looking for evidence of effective outcomes from treatment and insisting on medical certification to justify the type of facility and duration of care. This includes developing profiles of hospital and specialist practices and engaging in dialogue with providers around practice variation and outlier status.

14.7.7.5 Uneven Risk Distribution

A small proportion of insured members drive the bulk of cost growth and utilisation. Just 2.2% of Medibank members consume 35% of the insurer's hospital and medical expenditure, with 70% of this group having an underlying chronic disease.

Insurers are increasingly providing services that assist in keeping their members out-of-hospital. These investments include remote monitoring, telehealth solutions, primary care coordination, hospital-in-the-home, and care navigation programmes. Several insurers deliver chronic disease management programmes, often delivered as joint public-private initiatives in collaboration with State Health Departments.

14.7.7.6 Preclusion from Providing Integrated Services

The preclusion of health insurers from funding community-based services that are eligible for Medicare benefits limits the extent to which

private health insurers can offer a coordinated approach to reducing hospital admissions.

By being unable to fund GP and primary care services, the health fund is unable to invest in preventative care, or to coordinate care between hospital episodes.

14.7.7.7 Disparate Funding Streams

The various funding streams and purchasing frameworks encourage hospitals to focus on income maximisation. Funding for the acute surgical episode is primarily via activity-based funding through DRG payments. Rehabilitation is commonly funded on a per-diem basis. This provides an incentive for hospitals to facilitate early discharge (maximising their DRG-based income) and commence early and prolonged rehabilitation. Transfers to rehabilitation following hip or knee replacement run as high as 85% in some private surgical hospitals. There is no incentive to minimise rehabilitation inpatient stay, with some rehabilitation providers averaging 14 or more days' stay following a total hip replacement.

The barriers to an insurer funding medical services outside the hospital setting encourage patients to stay in the hospital for their rehabilitation and often prolongs their acute stay.

Services that can be provided in a doctor's room (such as excision of skin lesions) are often performed in a hospital, as the insurer is able to meet the hospital costs and contribute to the specialist's fee. When the same procedure is performed in the doctor's rooms, the only funding available is Medicare's contribution, often leaving the patient with a substantial out-of-pocket cost.

14.7.7.8 Risk Equalisation and Reduced Incentive for Prevention

A small proportion of members account for the majority of an insurer's benefit outlays. The current risk equalisation formula relies on calculations undertaken after an insurer has incurred the cost of treatment. This results in any savings an insurer may achieve in preventing a hospital admission from being shared across all insurers. This reduces the insurer's incentive to engage in health maintenance programmes.

Some European insurers take an alternate approach to risk equalisation. They calculate the health risk of each member at the beginning of the year and distribute the risk pool according to the insurer's assessed member health risk. That way, any reduction in the predicted risk reverts directly to the insurer who has been able to reduce their member's health expenditure.

14.7.7.9 Shift from Passive Payer to Active Funder

Health insurers have traditionally been focused on maximising their margin by creating barriers to utilisation, negotiating contracts with minimised price indexation and reducing management expenses.

Insurers are increasingly focused on quality and value-based purchasing. This focus on quality has been augmented by the work of the Australian Commission on Safety and Quality in Healthcare, particularly in the promotion of National Standards and, more recently, their work on defining Hospital Acquired Complications.

Quality initiatives that various health insurers have invested in, with varying success, include:

- requiring contracted providers to comply with the National Standards,
- having contracted hospitals report any Sentinel Events to the insurer,
- requiring hospitals to carry the costs associated with Hospital Acquired Complications,
- declining to fund the cost of 28 day readmissions to hospital, or funding the two admissions as a single hospital episode,
- benchmarking hospital performance against national performance and that of their peers,
- encouraging standardised reporting of patient experience,
- collecting Patient Reported Outcome Measurement,
- requiring surgeons to certify the medical basis for potential cosmetic surgery.

Health insurance funds are increasingly advocating on behalf of their members, particularly in areas such as specialist fees and hospital billing

practices. Using their extensive industry knowledge created from claim related data, funds are able to engage with hospitals, specialists and industry bodies to highlight abnormal practices and increase accountability.

14.7.7.10 Lapse Rates

An insurer's most profitable members are those who maintain their membership for many years without raising a claim. Surgery is an intermittent event, so in pricing a product, the actuaries build in assumptions about the proportion of members who will make a claim each year. Members who repeatedly change funds (known as churn) increase an insurer's acquisition costs and erode profitability. The insurer ends up paying out on claims without a prior period of non-claiming membership.

An example of the impact of churn or lapse is obstetrics, where a family may increase their cover to a product that covers obstetrics for 12 months. Then, once the baby is born, they drop their cover back to a basic product, change funds or cancel their insurance. It takes an insurer around 6 years premium to recoup the cost of an obstetric episode.

14.7.7.11 Aggregators

The recent introduction of aggregators into the Australian private health insurance market appears to be encouraging increased churn amongst members. Aggregators provide a single platform where people can compare various products, and the aggregator will promote the product that they believe best meets the person's needs. Health insurers will place selective products with the aggregator in an attempt to gain market share.

Aggregators are funded based on policies sold, retaining a percentage of sales. This funding model creates an incentive for the aggregator to encourage recurrent movement between health funds.

14.7.7.12 Financial Pressures and Downgrading

In tight economic times, people tend to purchase low-cost hospital products to avoid the Medicare Levy Surcharge and avoid the Lifetime Health Cover loading. These products come with a range of exclusions or restrictions and so may not meet the member's health needs. These members tend to upgrade to a more inclusive product for a specific procedure and then downgrade to a cheaper product. This movement between products again significantly erodes the insurer's margins.

14.7.7.13 MBS Item List

There are considerable delays in new procedures being added to the MBS list and even longer delays in having older, less effective procedures removed from the schedule. While an item is listed on the MBS schedule, the insurer has limited practical ability to exclude or restrict that procedure from a particular hospital product.

Most MBS item numbers do not have restrictions or indications. This causes contention between surgeons, insurers, and the MBS scheme, particularly for items that are potentially cosmetic in nature. Many of these items lack a descriptor that defines when the item would be indicated for medical reasons.

Over recent years the Department of Health has led a review of the MBS list. This has resulted in many changes with new items, deleted items and changed definitions. These changes have created a level of confusion amongst specialists, hospitals and insurers as the utilisation patterns of the new and altered items are re-established.

14.7.7.14 Prosthesis Pricing

Because the insurer is required to pay the minimum benefit listed in the Prosthesis List, the insurer is unable to negotiate discounts with the prosthesis supplier. This often leaves the private health insurer paying a significant premium over the prices a hospital may be able to negotiate with the supplier. It also encourages prosthesis suppliers to offer hospitals significant discounts, allowing the hospital to retain the gap between the price of the prosthesis and the amount the insurer is required to pay the hospital.

14.7.7.15 Public Hospitals

Public hospitals have significantly increased their identification and claiming rates of patient

who have private health insurance. Some estimates suggest that public hospitals may still only be identifying half of all potential private patients. This creates a significant potential liability for the health insurer, particularly when the public hospitals have up to 2 years to lodge a claim.

14.7.7.16 Ready Reckoner

Private hospitals now account for a third of all acute beds in Australia.

Private hospital discharges are under-represented in medical conditions, cancer treatment and obstetrics and over-represented in elective surgery and dental procedures.

Groups are increasing their share of the private hospital market. The two largest groups have recently delisted from being publicly held companies.

Private hospitals are expanding in anticipation of increased demand from an ageing population and increasing number of private surgeons.

Private health insurance is highly regulated, with control on both product design and pricing frameworks.

There are a range of incentives in place which encourage Australian residents to take out private health insurance.

These incentives have maintained hospital participation rates at around 45%.

Insurance products focus on hospital treatment and general (or ancillary) treatment.

Resident private health insurance products are precluded from contributing to out-of-hospital services that are funded by Medicare. This creates a discontinuity in health service delivery.

Private health insurance is challenged by increasing costs and rising demand in the context of restrained price increases and constrained ability to encourage substitution of care.

Insurers are responding to these challenges by selective contracting, focusing on quality and constraining demand through alignment with evidence-based practice.

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Digital Health and Its Evolution in Australian Hospitals

15

Monica Trujillo

Learning Objectives
By the end of this chapter, the learner should be able to:

- Understand basic health information technology definitions and context.
- Understand an approach to developing the project vision and engaging key stakeholders.
- Develop a high-level framework for medical workforce engagement in the planning stages of an EMR implementation through to vendor selection.
- Understand key elements of the vendor selection and procurement process where medical workforce input is required.
- Understanding the importance of benefits and outcomes through the project.
- Understand the phases of an EMR project, key challenges and some lessons learned.
- Establishing clinical governance frameworks and medical workgroups to support the project.
- Understand the role of the medical administrator as a leader in digital health.
- Appreciate new and emerging information technologies and how they are being applied in healthcare.

15.1 Introduction

Information technology has become entrenched in our daily lives, and the COVID-19 pandemic provided a platform for the urgent, rapid adoption of digital technologies and new models of care across the sector. Yet, although many digital information systems exist in healthcare, the full digital transformation of the Australian hospital health services sector is still underway. The World Health Organisation (WHO) states, "*Digital technologies are now integral to daily life, and the world's population has never been more interconnected. Innovation, particularly in the digital sphere, is happening at unprecedented scale. Even so, its application to improve the health of populations remains largely untapped, and there is immense scope for use of digital health solutions*." [1] Furthermore, The WHO Global Strategy on Digital Health, adopted in 2020 by the World Health Assembly, presents a roadmap to link the latest developments in innovation and digital health and put these tools into action in order to improve health outcomes [2]. This sets the backdrop for the implementation

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and adoption of digital solutions as a key enabler of better health outcomes now and for the future across the globe.

A large number of Australian hospitals still rely on a mix of digital and paper-based processes, yet the acceleration of digital technologies across Australian hospitals enabled the rapid deployment of alternative models of care such as virtual care. This chapter focusses on the implementation of an EMR, as it is still one of the most significant transformation programmes that a hospital health system will undertake, as well as touching on some of the key current concepts useful to specialist medical administrators in digital health. The principles and approaches described are equally applicable to implementation of any digital technology, whether a new virtual care system or a departmental clinical system such as Intensive Care Unit (ICU). It is recognised that there are many other health information technologies that are important in a hospital and healthcare services such as productivity and collaboration solutions, diagnostic solutions, unified communications, patient engagement platforms, business intelligence, the coverage of which would take much more than a chapter in a book. The content is designed to arm a medical administrator that has had little experience in health information technology with key concepts for planning and implementing an EMR in their organisation. This is supplemented with a case study of St Stephen's Hospital Hervey Bay (St Stephen's) and how Uniting Care Health went about engaging its medical stakeholders and subsequently recognised as Australia's first fully integrated digital hospital.

The last section is a look forward at emerging health information and related technologies to provide perspectives on how these are being leveraged, their impact on the way we are now delivering health care and generate thought about preparing the healthcare and technology workforce to take advantage of these to support the delivery of healthcare into the future.

Definitions

E-health entered into the health information technology lexicon in the late 1990s [3] along with other more mainstream "e-" neologisms such as email, e-commerce, reflecting the emergence and disruption enabled by the internet. Despite lacking a standard definition, it would be fair to say "e-health" is taken by many to mean healthcare practice supported by electronic processes and communication [4]

Digital health is defined as "health and healthcare in the context of digital societies (the people, organisations and things engaged in persistent digital interactions by The Australasian Institute of Digital Health (AIDH)" [5]

The terms *EMR* & *EHR* are often used interchangeably and refer to an electronic record of care. However, EMR has been in existence longer and has traditionally been used to encompass an electronic record of care within the four walls of a healthcare delivery organisation. EHR implies a longitudinal record of care that aggregates patient care information across multiple organisations, a good example being the national My Health Record initiative in Australia.

Interoperability is defined by Institute of Electrical and Electronics Engineers (IEEE) Standard Computer Dictionary as "the ability of two or more systems or components to exchange information and to use the information that has been exchanged" [6]. As we continue to rely on technology, it anchors us on the interoperability of systems to ensure continuity of care.

15.2 A Brief Walk Through the Archives of Health Information Technology

In 1971, Dr Lawrence Weed began to promote the concept of a structured problem-oriented medical record. Around the same time, computational sciences matured in parallel with a renaissance of health information standard development. These have all been necessary foundational elements in pioneering health information systems and have enabled the beginnings of information exchange of clinical information between different EMRs that we have in use today. Two of the most important of these standard initiatives are HL7 and SNOMED. In essence, HL7 group create and curate standards to support interoperability between health infor-

Table 15.1 Examples of health informatics standards developed in the 1970s and still in use today

Standard/ Organisation	Description	Founder
HL7	HL7 (Health Level 7) is a standards organisation and name given to several communication standards between clinical system. Messaging standards remain the current mainstay of health information messaging interoperability (e.g., between a 3rd party pathology system to an EMR for electronic diagnostic requests and results)	Dr Donald Simborg, the University of California at San Francisco in the 1970s co-founded HL7
	HL7 Clinical Document Architecture (CDA) is a way of exchanging clinical documents between different EMRs	
	HL7's FHIR (Fast Healthcare Interoperability Resources) is the most recent standard to provide a framework of interoperability using standard application programming interfaces (APIs)	Grahame Grieve is the creator and Product Director of FHIR for HL7. Originally from New Zealand, he now lives in Melbourne
SNOMED CT	SNOMED CT (Systematized Nomenclature of Medicine—Clinical Terms) is the most widely used clinical terminology	Dr Roger Cote led the development of SNOMED in the mid-1970s
	SNOMED CT has been adapted to different countries, and in Australia, it is labelled as SNOMED CT-AU. It is the preferred clinical terminology in Australia	

mation systems, whereas SNOMED CT is a clinical terminology that supports the electronic exchange of health data (see Table 15.1).

- Standards are agreed-upon methods for connecting systems together, they may pertain to security, data transport, data format or structure, or the meanings of codes or terms.
- Standards are developed by a variety of Standards Development Organizations (SDOs) across the globe. In Australia, Standards Australia runs the Committee IT-014 Health Informatics, and Australia contributes to the development of international standards by ISO TC 215 Health Informatics.

15.3 So, Where Are We at Today?

Healthcare is by its nature very complex and as an industry it has lagged in adopting technology; overlay this with a complex regulatory environment, relative underinvestment in health information technology and robust, implementable health technology standards being developed relatively late, and it is understandable why progress has been slow until recently.

There are some exceptions, one of the most notable being the adoption of practice management systems in General Practice. As early as 2006, a large survey of General Practitioners (GP) in Australia found that more than 90% used an electronic health record [7]. They reported that electronic prescribing alone had contributed to improved efficiency, quality of care, and reduced medication errors. In hospital environments, clinical information systems and EMR implementations are progressing in parts of Australia, and funding for this is being increasingly viewed as a strategic investment. Clinician attitudes have evolved, being driven in part by the place of technology in our daily lives, and increasing confidence in clinical information systems and EMRs, adding value to the jobs they and their health services do. The global pandemic was a catalyst for rapid innovation and adoption, fostering the reliance on technology to deliver new models of care as well as capture mass information at scale such as vaccinations. In early 2021, with COVID-19 vaccinations becoming available, NSW Health was tasked with rolling out vaccinations to frontline workers and subsequently the general public. They developed an end-to-end solution to enable hospital staff to make and manage bookings, record vaccinations at a state-level and upload those vaccination records to AIR, the national database used to record people's vaccination status, making it the first state to achieve inter-jurisdictional system integrations [8]

As different sectors from the health service continuum continue to digitise and integrate through Health Information Exchanges or similar, the large amount of data that is generated has triggered the need to focus on review and analysis, moving to management of aggregated population health data to effect change at large scale.

Related digital health technologies continue to improve apace, with the ability to stream and analyse data from medical devices, such as bedside monitors. Smart pumps and automated dispensing cabinets can be connected to EMRs to enable closed-loop medication processes. As the amount of clinical data dramatically increases, other technologies such as cloud services are increasingly being leveraged. These platforms offer scalable and high performing computers that can help with aggregating data from multiple sources, handle complex analytics such as developing risk models for unplanned readmission risk and early warning of clinical deterioration as well as the ability to connect this information back to clinical systems and mobile applications.

From the consumer perspective, as more digital tools enter our daily lives, data generated from consumer devices such as wearables are an increasing source of data to consider and manage in your digital strategy.

More hospitals globally are becoming digital and have wanted to benchmark their EMR maturity. Across the world there are different models utilised to assess and rank the digital maturity of hospitals and healthcare systems. HIMSS is the Healthcare Information and Management Systems Society—a not for profit organisation focused on optimising better health through the use of information technology. The benchmark model they have developed is "EMRAM" (Electronic Medical Record Adoption Model), which was the industry default [9] In recent years, other maturity assessment models have been developed such as the NHS Digital Maturity Self-Assessment which aims to help providers by providing a framework to identify opportunities for improvement and further development. and encouraging knowledge sharing initiatives with similar organisations [10]. In Australia, the Victorian Department of Health developed Victoria's digital health maturity model, comprising of nine pillars [11]. A review of digital health maturity frameworks described a consolidated maturity model framework of seven dimensions: strategy; information technology capability; interoperability; governance and management; patient-centred care; people, skills, and behaviour; and data analytics. These seven dimensions can be evaluated based on 24 respective indicators [12]. Recently, HIMSS and WHO Europe [13] have made an announcement of a partnership focused on transforming health systems in the Region through data and technology and increasing the digital competencies of health professionals in the Region.

As we continue to see digitisation across the health sector, the opportunities afforded by the interconnectedness of data call for a systematic approach to populations and health system planning. System level population data, care pathways at population scale and the ability to reach consumers directly about their care and active management, offer health system leaders to plan for better outcomes at individual level as well as at communities and population level delivering on value-based care. Measuring interventions of care at scale via digital systems provides real-time data to assess effectiveness of those, tailoring different approaches to separate cohorts based on a risk-assessment matrix. Australia has a few examples of large population health projects at scale enabled by digital health like the National Cancer Screening Register project. Following its the introduction in 1991, there was a steady fall in the incidence of cervical cancer. In 30 years, Australia's cervical cancer incidence and mortality rates have decreased by 50 per cent and are among the lowest in the world [14].

15.4 Drivers for Health Information Technology-Enabled Change and Consumer Focus

It is worth beginning this section looking back at the road taken by health in adopting technologies and the significant impact the COVID-19 pan-

demic had on the rapid deployment and adoption of technology in health care delivery.

It was 1973 when Motorola demonstrated the first commercially available mobile phone, with 30-minute talk time and weighing in at 1.1 kg). The subsequent arrival of digital cellular networks in the 1990s captured the mass consumer market globally with over 6 billion active mobile phones in service in 2014 and a projected 2.3 billion active smartphones in 2017. Tim Berners-Lee proposed a networked information system using hypertext pointers to locations across an internet in 1989, which later became what we now know as the World Wide Web. It was April 2010 when the first tablet, the iPad, was released by Apple for pre-order purchase, for which there was rampant adoption by the medical community. This was followed by the debut of the Apple Watch in April 2015, evolving from a wrist-worn extension of the iPhone to a device that can tell you a lot about your health and wellbeing.

The rapid adoption of disruptive technologies continues and shows no sign of slowing. The recent proliferation of health and medical wearable devices, the looming emergence of 5th generation wireless broadband (5G) mobile connectivity enabling potential speeds of more than 100 Mbps in metropolitan areas, and the need for comprehensive technology-enabled care during the pandemic, have shaped our interactions, consumption and use of health data into the future.

These enabling and ubiquitous technologies with ever increasing presence in our lives, have changed many aspects of the way we conduct our everyday. New online booking engines for health care appointments, vaccinations, ePrescribing, and remote patient monitors amongst others; coupled with power, speed, connectivity and convenient physical form factors, are continuously opening the door with new possibilities to interact with consumers, carers and services. Consumers are experiencing technology powered interactions across multiple industry sectors, including health. These digital experiences, as designed, would provide a level of self-service that empowers the individual with information not only about their journeys through the healthcare system but also their own personal journey in striving for better health.

At the core of most health IT-enabled programmes of change, whether it be at a national, regional or local health organisation level, is the drive to improve the quality and efficiency of care to patients and populations. The Australian Safety and Quality Framework for Health Care [15] describes a vision for safe and high-quality care for all Australians. It specifies three core principles for safe and high-quality care. The first one is that it must be consumer centred, driven by information, and organised for safety. The tenets of the Quadruple Aim, which overlays the importance of care for providers on top of the Triple Aim, can all be positively impacted using information technologies. In 2018, the Australian Commission on Safety and Quality in Healthcare (ACSQH) published the report on the "Impact of Digital Health on the Safety and Quality of Health Care" with findings described as "*Improvements to quality, safety and efficiency of patient care are achievable via digital interventions. The literature indicates that a combination of digital interventions may yield greater benefit. However, the successes of these interventions are dependent on ensuring a rigorous implementation proces*" [15].

There is an accumulating corpus of literature on outcomes enabled by implementations of health information technology including EMR. A paper from the Australian Healthcare and Hospitals Association assesses much of the recent literature on outcomes resulting from many types of health IT initiatives [16] As most would agree, there is still work to be done in evaluating outcomes. It is, however, a complex analysis given the diversity of technology, scope and health services undergoing an implementation programme. It is also a focus that is often deprioritised as so much of an organisation's energy goes into "going live" rather than the impact analysis after. One of the most active researchers in this space in Australia is Professor Johanna Westbrook, from the Centre for Health Systems and Safety Research, Macquarie University, Sydney. Professor Westbrook's Centre researches the impacts of digital health technology on health

service delivery. The Centre has looked at electronic medication management system-related outcomes such as reduction in medication errors, cost-effectiveness, and the impacts on clinician time and patient flow using electronic laboratory orders and results, to name a few.

Outside academia, a number of healthcare organisations have also measured and publicised outcomes relating to health IT implementations, some of which have been recognised with state and national awards.

Developments such as these are key in highlighting areas of impact and supporting the case for subsequent health IT investment. There are numerous digital health and related events in the Australian calendar, which are a fantastic source for health service and industry presentations on real-world outcomes achieved. A few examples of Australian healthcare organisation outcomes are provided below.

15.4.1 EMR-Enabled Outcome Examples in Australia

15.4.1.1 Academic Research

1. Medication prescribing errors were reduced from 6.25 to 2.12/admission ($p < 0.0001$) in a New South Wales metropolitan hospital following the implementation of an e-prescribing system. Serious errors decreased by 44% ($p = 0.0002$) [17].
2. Implementation of an electronic medication management system in a NSW hospital cardiology ward was associated with an annual reduction of around 80 adverse drug events and related savings of $97,740–$102,000 savings over the year. Extrapolated over the hospital with 39,000 annual admissions, this would equate to savings of $2.5 million/year in health costs [18].
3. A big bang implementation of an integrated EMR at Australia's first digital tertiary hospital, the Princess Alexandra Hospital, Queensland, which has over 6500 staff, at the end of 2015 noted an initial drop in emergency department (ED) productivity by 25% that returned to pre-implementation by 6 months [19].
4. An analysis of real-world data across five hospital sites in a single health service in QLD found a significant reduction in HACs observed in the post-EMR implementation period (mean [standard deviation [SD]] ¼12.1 [4.4]/month vs. mean [SD]¼7.8[3.5]/month; p¼0.01) [20].
5. In QLD, from data collected at three private hospital sites, turnaround times at the electronic medications management (EMM) site were less compared to the paper-based sites (median, IQR: 35 min, 8–57 min versus 120 min, 30–180 min, $P < 0.001$). For time-critical medications, 77% were administered within 60 min of scheduled time at the EMMS site versus 38% for the paper-based sites. Similar difference was observed for non-critical medications, 80% were administered within 60 min of their scheduled time at the EMMS site versus 41% at the paper-based facilities [21].

15.4.1.2 Health Service Published Outcomes

1. Austin Health and Peninsula Health implemented EMRs with diagnostic orders and results, medication management, electronic discharge summaries. They were the winning recipients of the Clinical Excellence and Patient Safety award from The Australian Council on Healthcare Standards in 2013, for their work on showing:
   (a) a reduction in medication error of 55% across their sub-acute areas,
   (b) better allergy compliance—99.9% completion of allergy status (93.2% within 24 h) and 99.9% accuracy of allergy status compared with 95% completion and 68% accuracy pre-implementation surveyed were satisfied with the EMM implementation.
   (c) timely discharge summaries to GPs—overall electronic discharge summary compliance increased from a median of 68–83% completed within 48 h from 2011 to 2013 [22].
2. Liverpool Hospital, Sydney, improved compliance of surveillance for pressure injury

with Waterlow documentation and consolidated electronic ordering of pressure surfaces, resulting in reduced hospital acquired point prevalence for pressure injury from 13% to 9% in 12 months (2009 to 2010), with a further reduction to 8% a year later. Also reduced severity of pressure ulcer grades, 73% superficial ulceration in 2009 compared to 97% superficial ulceration in 2010 (i.e. non-superficial tissue ulceration reduced from 27% to 3%) [23].

3. The study of a patient-centred implementation of an electronic medication management system at a tertiary hospital in Western Sydney 230 issues were logged, none critical, of which 22 were escalated. Of the 51,063 medications administered, there were 13 EMM-related clinical incidents including three double dosing errors, none of which led to an adverse event or death [24].
4. A 37% decrease in infections, 83% decrease in forms costs including printing, and a 93% increase in the endorsement of radiology tests (Queensland Audit Office Report) [25].

For clinicians and others delivering healthcare in frontline services, there are many who now view an EMR as a strategic priority providing timely access to clinical information across a plethora of traditionally disparate and incomplete systems. These digital foundations are critical if we are ever to achieve a comprehensive and harmonised view of the patient across the care continuum as well as population health data to further clinical research and support clinical service delivery.

Clinicians who have gone through their clinical training and junior years using an EMR are placing increasing value on having an EMR as a core tool. Making the transition back to organisations that have limited health IT systems can be challenging as many manual processes are no longer imprinted in their memories, such as the ability to write a physical inpatient medication chart if a clinician has used electronic medication entry with drug interaction clinical decision support for example.

15.5 Challenges for Digital Health and Health Information Technology – Enabled Change

Healthcare environments are incredibly complex. Layering technology over the top of this complexity in itself will not fix divergent and poor processes. EMR implementations are challenging endeavours due to the breadth and depth of impact on many different stakeholders. The technology and functionality required to meet these demands across the entire hospital system are accordingly complex and one of the reasons why the hospital vendor market has globally consolidated to a smaller number of players.

Globally, investment in IT in healthcare had been low compared to other industries with IT spend per employee being the 3rd. lowest of all industries surveyed in a 2012 Gartner IT Key Metrics Data Summary Report [26]. This has now changed significantly across the globe, Gartner reports CEOs have been increasing investments in business digitalisation and information technologies since at least 2018 [27]. In the USA at least, this has been driven by the Meaningful Use programme.

End users experience and expectations of an EMR's interface, and assessment of its simplicity and mobility have been shaped by the interactions they have with everyday technology such as smartphones. Naturally, this is a challenging comparison given an EMR is an enterprise application handling huge complexity and diversity of processes across a health system. Whilst most EMR and clinical software vendors recognise this and are progressing improvements in user interfaces, there is still some way to go to meet these expectations.

In Australia, the fiscal demands on our health services and tremendous recent investment in new hospitals have created a challenging environment for health services to make the case for investment in digital health technology amongst competing priorities. Some states have committed to strategic long-term eHealth programmes, whereas others have made more piecemeal

investments, often driven by funding constraints, priorities and the desire to prove success and value before rolling out tested solutions. Although there is an increasing number of proof points of successful outcomes in Australia as discussed previously, comprehensive analyses demonstrating a clear Return On Investments (ROI) is a challenging endeavour given the complexity and heterogeneity of an EMR implementation. The front and centre objective of implementing an EMR should be to improve quality, safety and efficiencies of healthcare delivery, with secondary value in financial gains where these are able to be reliably measured. Where cost savings to an organisation and health system are demonstrable this can drive further investment in other health IT-enabled change projects.

In the past, due to challenges in programme implementation of state and federal health IT systems, there are many detractors who like to focus on the weaknesses, challenges, or incomplete delivery of the programmes being critiqued, and often a disproportionate lack of focus on programme successes.

15.6 The EMR Journey: Preparation

During the interval between the green light to procure an EMR to selection and contracting with vendors, there is a golden opportunity for an organisation to establish vital programme building blocks that positions the programme well for success. It is also very necessary to consider other change programmes that might be occurring across the organisation around the same time. These may include other health information technology system implementations, upgrades, non-IT related transformation programmes, or even new capital works programmes. These may need to be coordinated at an organisation programme level to ensure interdependencies, risks and the overall level and tolerance of change are well understood.

Given the complex nature of EMR implementations, risk needs to be carefully managed along the entire journey. Failures of EMR programmes are both well-documented and well-publicised. "Learn from those that have gone before us" should be one of the doctrines emblazoned on the project room door. Incorporating lessons learned from local, national, and international experience will go a long way to help mitigate these risks. With published digital maturity models now available in Australia as mentioned earlier in this chapter, it is worthwhile undertaking an assessment of readiness across the seven pillars: strategy, information technology capability, interoperability, governance and management, patient-centred care; people, skills, and behaviour; and data analytics.

Key critical success factors of EMR implementation programmes are provided below and while by no means exhaustive, many of can be mitigated well before a contract with an EMR vendor is signed.

- Strong and committed senior executive support with the CEO being a champion or sponsor of the programme.
- Clinical engagement and ownership of any clinical system implementation—a targeted clinical engagement and governance strategy needs to be specifically designed and resourced (including backfill of staff where needed).
- A clear, concise, and well-articulated vision that has meaning and can be communicated across the organisation.
- Clear goals of the programme that are potent and resonate with staff across the organisation.
- Strong medical and clinical leadership and governance throughout the course of the programme.

15.7 The Call for Change, Creating a Vision and a Strategic Approach

John P Kotter's book Leading Change describes a series of eight steps to effect change. The first three encapsulate the need to create a sense of urgency, assemble the right team to drive that change and achieve consensus on the vision. In

healthcare organisations in Australia, it has typically been a senior member of the executive team or a particularly motivated clinician or group of clinicians, which start those intrepid early discussions as to why the organisation should embark on an EMR implementation journey. For publicly funded health delivery organisations, this may be triggered by an opportunity to secure available funds, or to implement clinical systems as part of a state-wide implementation programme. eHealth New South Wales, Queensland Health and the very recent Australian Capital Territory (ACT) CT Health DHR Implementation are examples of such initiatives.

Being clear on the vision for implementing an EMR is essential in the early days of a project, to align those championing its cause, and to develop a strategic approach to the programme as it evolves. The vision should be more than a marketing sound bite. It needs to be honest, concise, believable and achievable, and perhaps most importantly, able to address the health IT mantra of "what is the problem we are trying to solve?" Making a vision patient-centred will no doubt resonate across the organisation and should be established as a principle throughout the project. Having senior executives (including the Chief Executive Officer) and key stakeholders contribute to the vision from the start drives sponsorship and endorsement of the importance of the programme to succeed.

Facilitated sessions of stakeholders from across the organisation help in determining the goals that support the vision. It is worthwhile establishing an early stakeholder engagement exercise. Meeting with representatives from the executive and impacted clinical services, ensuring there is balanced representation from medical, nursing, allied health, administrative, operational will help the project team to really understand:

- Challenges with current information systems.
- Competing priorities or projects of their clinical service.
- Priorities and expectations of a future clinical information system at go-live, in 3 years, in 5 years.
- Improvement opportunities post-implementation, such as service quality, safety, cost reduction, and efficiency.
- The goals of the EMR programme must be evaluated against the organisations own planning and strategic goals and aligned where able.

15.8 Establishing Critical Roles: The CMIO or CCIO

The rollout of digital health and EMR projects requires a substantial investment. Strong leadership is needed from the executive and strong clinical leads are critical to delivering success. New posts such as Chief Medical Information Officers (CMIO), Chief Clinical Information Officers (CCIO), Chief Nursing Information Officer (CNIO) and more Chief X Information Officers (CXIOs) have emerged. One of the core responsibilities is to design and deliver clinical engagement and governance. Both of which are fundamental to the success of these programmes. This section focuses on medical leadership positions, acknowledging the vital role that is played by other professional group colleagues. Success relies on a leader that is respected by peers, comfortable with change, tenacious and has a conviction in health information technology being an agent to positively impact care delivery. The skill mix for a CMIO is a unique one. They require knowledge of the contemporary healthcare environment, demonstrated ability to effect change, knowledge of current and emerging healthcare information technology drivers and capabilities.

The CMIO has the unique role of being a translator between the clinical world and the IT world—two worlds with different languages and cultures, whilst also representing the needs, and objectives of the organisation. A programme of this size is clearly a team sport and one of the key functions of the role is to empower colleagues in designing key elements of the system (defining new workflows, configuration of clinical content etc.) and ensuring appropriate accountability along the way.

In a 2006 research paper written by Leviss et al studying the role of the CMIO in the US, Leviss reports that *"individuals indicate that executive leadership skills are more valuable to a CMIO than formally trained informatics expertise—for all but one CMIO, leadership experience and training strongly outweighed formal informatics trainin*g" [28]. Adding further that "*The CMIOs surveyed have leveraged their leadership and informatics expertise to effect broad health system change and to accomplish health system goals, rather than relying solely on technical backgrounds to build information systems. Recruiting and empowering effective CMIOs will enable a health system to best meet the challenging tasks of technology-enabled transformation"*. This should be no different in the current Australian environment where the complex task of leading healthcare transformation by eHealth requires an expert in healthcare change management versus an expert in information technology.

Governance and reporting lines vary across the world; the majority reporting to Chief Information Officers or Chief Medical Officers, fewer reporting to CEOs and Chief Operating Officers (COO). Success relies on the CMIO sitting at the Executive table and leading the development of the digital health strategy. The CMIO needs to work as part of a multidisciplinary team with a group of technical experts and clinical informatics experts and programme management experts.

This group is relatively new in Australia, with a few formal roles now in post within health organisations, states and territories and nationally. This chapter's author was the first CMIO appointed in Australia in August 2012. The CMIO was an integral part of the project team for St Stephens Hospital Hervey Bay, Australia's first fully integrated digital hospital and the first to obtain HIMSS EMRAM level 6. These new roles are vital and should be supported beyond the implementations of an EMR. Post-implementation there will be ongoing medical expertise required to ensure systems are optimised, contribute to digital health strategies and ensure the clinical related goals of the project are met. It is often quoted that "an EMR is never done" and with the rise in modern technology, that is even truer today and lends more weight to the importance of clinicians persisting in these important roles.

15.9 Establishing Early Clinical Governance

The United Nations has a particularly concise and useful definition of governance as the process of decision-making and the process by which decisions are implemented. Clinical governace is covered in more detail in another chapter. For IT, it is important to design an engagement and governance strategy early in project planning, even during procurement.

If there is already a clinical governance structure in place that has responsibility for clinical information system implementation, it makes sense to consider leaving this intact provided it has adequate representation, support and clear accountabilities in line with the EMR programme.

If existing clinical governance arrangements are inadequate, new governance entities can be created. It is worth establishing of Clinical Advisory Group (CAG) focused on the EMR procurement, which represents the clinical community most affected by the project with medical, nursing and allied health professional representation and chaired by the CMIO or CCIO or another clinical sponsor.

The governance arrangements for the CAG must be clear as to the responsibilities, accountability, membership and escalation process if decisions are unable to be made by this group, as well as escalated decisions requiring resolution by this group.

The responsibilities of the CAG should include support and decision-making on scope, phasing, and opportunities for value and outcomes and benefits, as well as input and review of business cases. Participation of the CAG members in vendor selection is vital to engender a sense of ownership and buy-in from this key clinical stakeholder group. Consideration should be

given to the Clinical Advisory Group evolving to form the nucleus of a Clinical Steering Committee when the project kicks off.

Clinical risk management is an essential component of all phases of the project via an integrated process, this can be managed through the creation of a clinical safety case. Although no agreed standard exists currently in Australia, NHS Digital's DCB0160 is considered gold-standard in clinical risk management and application in the deployment and use of Health IT Systems [29].

15.10 Determining Initial Scope and Phasing

Scoping a project is a challenging but important function for the project team responsible for the EMR journey. This is necessary in order to message across the organisation the types of capabilities the EMR project is likely to deliver and not deliver. It serves to clarify what is out of scope, what are the agreed priorities, and it is an input into early planning such as indicative project costs and resourcing need estimates. Inputs into an initial scope for an organisation can be from:

- Organisational strategic priorities.
- Organisation digital health strategies.
- Discussion with other similar organisations that have implemented an EMR.
- Priorities from the early stakeholder engagement exercise discussed above.
- Dependencies on other legacy systems, such as a 3rd party pathology system and a patient administration system.
- Indicative infrastructure requirements, for example, a wireless upgrade.
- Indicative hardware requirements, for example, new PC workstations, mobile devices.
- Defined consumer digital strategy, for example, a patient portal.

At this stage, it should not be expected that the scope of a project will be completely locked down, given the procurement and contracting discussions that will follow with the selected vendors. Outputs from the above can be considered against a capability framework, a sample of which is provided in Table 15.2.

There will also be a host of technical requirements such as hosting, cybersecurity, identity management, implementation requirements such as project methodologies, training, and service requirements for support post-implementation. Although EMR programmes in themselves are significant undertakings, there may well be other health IT and technology projects to consider:

- Bring Your Own Device (BYOD) policy.
- Unified communications solutions and services.
- Integration with legacy in-organisation systems, state systems, and national systems.

In addition to scope, a view on the phasing of the programme of work should be formulated. The debate of a "big bang" approach versus a phased approach has not yet been resolved. "Big bang" refers to a significant amount of a complete EMR implemented in one go-live. A phased approach implements in tranches to particular clinical services, for example, an Emergency Department or perioperative service, or phases core EMR functions such as diagnostic orders and result reporting first, medication management second and full clinical documentation last. What is clear is that whether it is a big bang or phased approach, the best approach will be the one that best fits the organisational needs at the time. Big bang approaches have been used across large and complex healthcare organisations in the USA. For example, Banner Healthcare, a not-for-profit 28 hospital system across seven states, with 39,000 employees, and now HIMSS stage 7, initially implemented an EMR in one facility and then rolled it out to the remaining 27 over 4–5 years.

Historically, phased approaches have been used in Australia, often due to the level of programme funding and, therefore, resource constraints with the separate phases. However, the big bang implementations at the three hospitals that have obtained HIMSS stage 6 (Royal Children's Hospital in Mel, Princess Alexandra

Table 15.2 Electronic Medical Record high-level capability framework example

Capability group	Function/process requiring support
EMR/clinical system	
Core clinical capabilities—patient lists, dashboards	Patient lists
	Clinical dashboards/journeys
Core clinical capabilities—EMR	Documentation • Assessments & structured documentation • Patient observations • Narrative in-care setting notes (e.g. admission, progress) • Continuity of care (transfer, discharge letters) Orders • Diagnostic (laboratory, imaging, other), nursing & patient care • Order sets & care plans Results • Results access & display • Results acknowledgement medication management • Allergies & adverse drug events • Prescribing, verifying & administering clinical decision support rules
Core clinical process	Managing & storing patient consents supporting clinical handover Blood product management Managing internal consults/referrals
Clinical service-specific capabilities (additional or specific capabilities not covered in core)	ED (e.g. ED tracking board, pre-arrival) Perioperative (e. g. theatres tracking board, anaesthesia documentation) ICU (e.g. electronic observation chart, bedside monitor interfaces) Women's health (e.g. integrated CTG) Paediatrics (e.g. paediatric medication order sentences) NICU (e.g. bilirubin nomogram) Cardiology (e.g. integrated electrocardiograms (ECGs), cath lab documentation) Renal (e.g. dialysis machine integration, CKD management) Oncology (oncology trials, oncology protocols) Etc
Other	
Clinical trials & research	Trial enrolment & management
Reporting& analytics	Real-time dashboards Operational reporting (standards reports) Enterprise reporting (ad hoc etc.)
Core administrative services	Master patient index Referral & waitlist management Enterprise scheduling
Patient engagement	Patient portal Patient education & wellness virtual health
Medical device integration	Anaesthetic machines bedside & portable monitors Automated dispensing cabinets, syringe drivers, IV pumps Dialysis machines etc.

Hospital and St Stephen's Hospital Hervey Bay) have all had very successful go-lives. The most recent ACT Health Go-Live was a whole of region approach, and outcomes are yet to be published.

Making a concrete recommendation on which approach to take must take into consideration numerous variables. Advice can and should be sought from other health services who have implemented an EMR. Potential vendor partners

Table 15.3 Considerations of big bang versus phased approach to implementation

Approach	Advantages	Disadvantages
Big bang	Speed to value	Increased resource requirements initially
	Compressed timelines (for comparable capabilities)	Increased training requirements
	Resource efficiencies (e.g. training mostly in one hit, no recurrent implementation project teams)	Greater level of change at once and potential for greater productivity loss initially
	Workflow more streamlined (e.g. no need to manage transitions between EMR-enabled clinical services vs paper-based ones as all electronic)	Greater testing effort required at once
Phased	Greater tolerance of smaller projects	Delay in realising value and outcomes from implementation
	Less testing effort and more capacity to address testing issues	Change fatigue from end users
		Process fragmentation due to incomplete workflows
		Potentially more expensive over the long term (e.g. recurrent project costs)

are great sources of information and can offer recommendations on resourcing, interdependencies with different EMR capabilities and how to phase different clinical services during the go-live. Table 15.3 lists some of the key pros and cons of each approach.

15.11 Preparing a Successful Business Case

Key ingredients of a robust business case are value and outcomes or benefits expected as a result of the implementation. Examples of EMR outcomes from health services in Australia and abroad, some of which are described previously in this chapter, can be used to model target outcomes as part of the EMR programme. Some vendors and many advisory companies will offer support by providing evidence and supporting documentation for this. Outcomes can be summarised and grouped under headings such as:

- Bankable Savings, for example, a reduction in scanning and stationery costs.
- Quality and safety, for example, a reduction in pressure injury, reduction in sepsis mortality.
- Efficiency, for example, the number of bed days saved from decreased Length of Stay (LOS).

Outcome targets can be used to tailor communication messages to the various stakeholder audiences, such as clinical, financial, executive. Each target should be appropriately assigned to a key sponsor. Progress against these targets during the EMR project and after go-live is important to ensure the success is measurable.

15.12 Procurement Approaches

The procurement processes for healthcare information technology vary significantly across different organisations in line with policy. Government organisations need to follow the procurement policy whilst other organisations will have a local policy. The formal process that public organisations generally use is a Request for Tender (RFT) or Proposal (RFP) process which is sometimes preceded by an Expression of Interest (EOI) or Request for Information (RFI). The intent of the EOI or RFI process is to canvass vendor interest, horizon scan and to inform a subsequent RFT or RFP process.

For health services that wish to evaluate the impacts, opportunities and risks of a project more fully before they commit to proceeding, an Implementation Planning Study (IPS) is increasingly being used for business assurance. This is usually done by the organisation or by the preferred vendor. This process itself can be costly both financially and in time, however.

EMR implementations are inherently complex. Consequently, RFT/RFP and EOI documents are usually complex. There are significant challenges in the process, namely the duration, effort and cost for all parties involved. Many RFT or RFP include hundreds to thousands of functional and technical requirements, the value of which must be considered versus the effort and reliability of the requirements. Considerations of a requirements heavy tender process are provided below.

- The requirements themselves are often subjective, may not reflect true end-user requirements and are open to interpretation.
- The vendor's interpretation and response may be completely.
- Different, resulting in obvious potential consequences for both.
- There will always be temptation for vendors to inflate compliance against the requirements in order to get through to the next round.
- It becomes a very onerous process to evaluate the raft of multiple vendor responses for the health organisation.
- Elaborate requirements-based documents tend to have minimal value during the implementation phase.

Organisations should look to leverage and share tender development work done by similar organisations and for similar programmes. Alternative and agiler contracting approaches should also be considered. Issuing an EOI followed by a detailed engagement with a select number of vendors through a closed process helps manage responses from the entire market. Vendor selection will usually follow multiple steps in this process, for example:

- Vendor response to tender schedules describing functional requirements and system infrastructure.
- Health service evaluation of vendor responses and other required evaluations, such as reference site calls to other health services that have implemented the vendor's solutions.
- Short listing of Vendors for demonstration and evaluation.
- Demonstration and tender clarification rounds.
- Pricing and best and final offers.
- Final selection of Vendor.
- Board endorsement or approval of Vendor.
- Contracting.
- Board endorsement or final approval of programme.

15.13 Vendor Evaluation and Selection

The analogy of a marriage between the EMR provider and the health service has been used by many that work in the industry. This metaphor embraces the concept of partnership which is at the core of successful EMR projects. Partnership implies a way of working together, problem-solving and jointly celebrating success. Formalised partnership models can include risk sharing of the benefits and outcomes realisation, implementation collaboration models for example where vendor staff are co-located within the health services or vice versa, and sharing of intellectual property for new software innovation, or content development agreed as part of the programme.

An evaluation framework needs to be established in readiness for the tendering process. There are multiple dimensions against which vendors need to be assessed and a sample of these are provided in Table 15.5.

Evaluation of the vendor clinical solution capabilities needs to be led primarily by clinicians, given the obvious clinical impact of an EMR, and to ensure a sense of ownership when the project kicks off. Any visits to reference sites, attendance at demonstrations and other related activities must have appropriate levels of clinical involvement to ensure clinicians buy-in and to leverage their expertise in the vendor selection (Table 15.4).

Table 15.4 Vendor evaluation framework

Evaluation topic	Evaluation details
References	Evaluation of local and international reference sites provided by the vendor (for similar health services, exemplars of the solutions being scoped)
Implementation capability	Evaluation of implementations to local and international health services:
	• for similar health services
	• for similar solution scope
	Evaluation of vendor client health services on a particular HIMSS level
Solution capability	Evaluation of functional responses, demonstration, solution gallery
Technical capability	Evaluation of technical responses (e.g. technical architecture, system reliability, hosting models, interface capabilities, device integration)
Local capability	Evaluation of company presence (duration, office locations, EFTs etc), details of implementations (with utilisation)
Product strategy and innovation	Evaluation of product development (e.g. strategic roadmaps, industry partnerships), research and development (R&D budgets, first to market innovations), industry awards
Implementation approach	Evaluation of implementation methodology (e.g. project management framework, project tools, risk management, training, go-live support)
Support models	Evaluation of the options for support post-implementation of the solution (e.g. help desk, application managed services)
Pricing	Evaluation of pricing with clear guidance on inclusions and exclusions

15.14 Best of Breed Versus Integrated Solution Vs Modular Ecosystem Considerations

Often a clinical service will push for a particular best of breed system for their service. This approach is understandable as these systems are tailored for that particular clinical service and do not carry the costs and complexity of an integrated EMR programme. Newest approached consider the "eco-system" approach, where an integrated infrastructure is considered the "spine" of the system and modules are built upon it. This approach utilises a centralised integrated system like a clinical data repository and a provider directory and builds modules upon it. The modular approach caters for the specialised systems as well as the integrated approach almost providing the best of both worlds. There are some very important considerations to make in this approach, some examples of which are listed in Table 15.5:

Table 15.5 Integrated vs best of breed solutions considerations

Area	An integrated solution:
Usability	May not always be as finely tuned to the needs of a particular clinical service as some best of breed systems
Workflow	Is much more likely to support workflows across clinical services due to patient-centred record (rather than clinical service centred record) so information will flow across clinical services. This is particularly true when electronic medications management (EMM) are implemented. For example, managing medication allergies in multiple systems is challenging and risky, as is managing patient transitions between parts of the hospital that are using EMM and those that are not
Documentation n	Can re-use data held at the patient level so the need to double document between different clinical services is reduced
Clinical decision support	Provides a more cohesive strategy to rules-based clinical decision support with one rules engine running on the same data
Reporting & analytics	Is much less likely to require data extraction from multiple sources
Interfaces	Requires significantly fewer interfaces (which are costly to develop and maintain)
Support	Potential for more efficient support model (e.g. tools, code sets are common across the platform
Development	Maybe less responsive to product change requests. Best of breed suppliers are smaller, less complex and may be in a better position to turn changes around faster

15.15 Vendor Contracting

Once the decision to proceed with a particular vendor is given, contracting processes will begin, involving legal counsel and contract. There are a number of law firms that have built up considerable expertise in this area. Contracting is often viewed by the respective parties as a combative process with each party naturally seeking the optimal contractual outcome for themselves. This can lead to adversarial approaches that reduce the opportunity to partner.

A far more effective contacting process starts with the premise that in order for the project to succeed, both parties must support each other's mutual success as much as their own. Only when this occurs does a truly aligned approach and aligned success prevail. If the contract can capture the nature of a true partnership and the term is not just a platitude, the opportunities for mutual success dramatically increase.

15.16 The EMR Journey: Before Go-Live

The interval between contract completion and go-live encompasses the major share of the work. The duration of this phase is based on many variables such as scope and resourcing, but most healthcare organisations will allow between 12 months to 24 months to design, build, test and go-live with the system. Some of the critical success factors during this phase are:

- Clinical ownership of any clinical system implementation.
- A thorough and well thought out implementation plan.
- Realistic & communicated limitations on scope and priorities.
- Strong stakeholder and communications strategies.
- Robust clinical governance.
- Strong programme management expertise.
- Sufficient numbers of skilled resources including backfill for organisational subject matter experts (SME).

The importance of communication to all of those impacted by the project cannot be understated and are key to creating awareness, interest and excitement. Some organisations invest significantly in their communications and have used creative strategies such as covering all the lift doors with content promoting the project.

15.17 Implementation Governance Considerations

Designing good governance for an organisation EMR project is a skill and there is no one size fits all. It is critical that this is as robust, inclusive and productive as possible.

The typical four interdependent components of governance related to an EMR project are:

- Executive Steering.
- Project Steering.
- Clinical Steering.
- Technical Steering.

Clinical governance as a part of Project Governance can be planned well ahead of the project commencing as discussed earlier in the chapter. The Clinical Steering Group (CSG) may in part or whole rollover from a Clinical Advisory Group (CAG) or its equivalent, established during the vendor selection phase. This will usually sit above a number of subcommittees and working groups and will be tasked with expediting escalated decisions. The composition of a typical EMR Clinical Steering Group is (Table 15.6):

Table 15.6 Clinical Steering Group membership and responsibilities example

Membership	Sample responsibilities
• CMIO/CCIO/CNIO • Key medical, nursing, AHP, pharmacy stakeholders • ICT representation • Vendor representation • Patient advocacy as required • GP/other health service representation as required	• Review or set organisational procedures& policies that need to be modified or introduced • Escalation of design decisions with workflow or clinical impact • Provision of clinical SMEs from across the organisation • Endorsement of key clinical design decisions and processes • Shared ownership of expected clinical related outcomes

15.18 Establishing Clinical Workgroups

Adequate resourcing of clinical subject matter experts in work groups is essential if the project is to have a critical level of clinical engagement and decision-making. It also represents a significant challenge in medical workforce rostering, significant costs of backfill and may necessitate appointing supplementary staff. The vendor and other health services that have undergone implementation will be able to guide resourcing estimates through different phases of the project.

For larger projects involving multiple clinical services, it is important to address the following questions in ensuring balanced workgroup composition.

- Is there adequate representation from the clinical services impacted?
- Is there adequate representation from each of the facilities impacted if multiple facilities are involved?
- Is there enough focus on hospital-wide capabilities being implemented that have a significant impact on all clinical users, for example, medication management?

15.19 Chartering the Course of Design, Build and Test

The approach to information technology-enabled change is often broken into the well-known triad of "people, process, and technology". It is widely recognised that "people & process" are by far the more complex and challenging pieces of the triad. Understanding culture, people's requirements, expectations and keeping stakeholders motivated to implement change are critical to success. Understanding workflows and processes are also critical and support the delivery of:

- Current state workflows, for example, discharge to home from inpatient.
- Clinical content, for example, care pathway or medical protocol content.
- Design decisions, for example, escalation triggers for deteriorating patients.
- Future state workflows, for example, electronic clinical handover.
- Unit testing, for example, clinical user scenarios, queries from testing team.
- Clinical champion development.
- Clinical process improvement as part of the outcomes and value framework.
- Clinical safety case development with clinical risks well understood and mitigated.
- Training and go-live support, for example of superusers that are more highly trained users of the system that can support inexperienced users at go-live and beyond.

So what tactics can be applied to get people involved and stay motivated in these long complex projects? The answers vary widely and often depend on the drivers of individuals. Some clinicians may be self-selecting with a natural bent towards health IT, or desire to have a key role in a large transformation programme or seek an opportunity to develop new skills. Others may expect financial reimbursement for their time. It is important to evaluate these factors up front and

plan for any additional activity or costs that might be incurred.

A project charter is a document that describes important high-level aspects of the project. It should be agreed and signed by all of the workgroup members to mark an understanding, agreement and commitment to the project. The type of information that would be included are:

- purpose of the project,
- workgroup objective,
- decision-making processes such escalations or conflict resolution,
- guiding principles,
- membership,
- success measures of the workgroup.

15.20 The EMR Journey: Go-Live

The effort invested during the system design, build and test phases culminates in final preparations for the go-live and then the go-live itself. Critical success factors for this phase are:

- Thorough testing of the system.
- Robust conversion and cutover planning, which describe the project steps to bring the EMR into real use, such as converting a paper-based medication chart to an electronic one if medications management is being implemented.
- Sufficient coverage and completeness of end-user training.
- Training and preparation of superusers.
- Adequate support for go-live.
- Clinical Safety case review and sign-off.

One of the main go-live planning activities is the decision on how to go about go-live.

- Which clinical services or locations will "go-live" first?
- How will subsequent clinical services, locations, workflows/functions phased into go-live subsequently?
- What day and time is best to go-live? For example, when is the activity lull in ED for an ED implementation?
- When can downtime be best tolerated if using an existing system?

The EMR training teams should have delivered the majority of their training by the time the EMR goes live. The timing of the training is very important and ideally should not be too far out from launch. If it is too far out, staff forget, too recent and it becomes challenging to deliver such copious amounts of training to a big workforce in a brief time. Training needs vary across professional groups and need to be tailored based on preferences and the level of impact of the systems being implemented. For medical staff, it is often challenging getting people along to formalised training, and this group often prefer online training rather than formal classroom training. Some organisation have developed Sim based training, testing the ability to perform EMR tasks under a simulation environment more akin to real life for a clinician. Super-user "elbow-to-elbow" support over the time of go-live and the initial support period works very well, particularly if attendance and compliance are not great in any classroom-based programmes.

EMR training and passing competency-based assessments are becoming a requirement at some healthcare organisations in Australia. In some case, being mandated before temporary staff can fill casual or locum shifts at EMR-enabled organisations.

The quality of super-user training is very important as is the super-user to other end-user ratio. This ratio will depend on the level of scope, impact on the various clinical groups and how the go-live is phased. If the go-live conversion impacts multiple wards at once for example, a greater number of superusers is required than phasing 2–3 wards day by day.

On the day of go-live, it is very important to have clinical champions, clinical service leads and senior executives visibly involved and showing support for the project and to keep morale high. The go-live support team plays a vital role

in getting the users over the line in the first 24–72 h. The level of support should be thoughtfully ramped down over the following weeks and months, allowing for the transition of staff teams and visiting medical staff working for the first time after the initial go-live.

15.21 The EMR Journey: Post Go-Live

It would be simple to think that once the go-live has occurred and the go-live support team has handed over to the business as a usual team that the job is complete. However, another health IT mantra is that an EMR is never really done.

There will be code upgrades, new technologies to evaluate and enable, new clinical services to deploy to and so on. But this should not detract from the need to get behind and celebrate the success of the project going live. These are not trivial projects and they involve a significant investment and commitment from all those involved. Celebrating success and public recognition of the staff's efforts is important to keep people motivated for the next rollout phase or project down the track.

15.21.1 Fostering an Ongoing Team

Expertise in health information technology is becoming a valuable commodity and there are recognised shortages of skilled resources in many areas. Pockets of expertise are accumulating, but the demand will only increase as hospitals and other health segments utilise more health information technology over the coming years.

There should be a good representation of clinical stakeholders within the government that supports the organisation's ongoing health IT strategy and delivery. The need for clinical leadership from the CMIO, CCIO or the CXIO has to be viewed as an ongoing committed role if care delivery and transformation supported by information technology are key to an organisation's operations.

As digital foundations are rolled out across the healthcare continuum, increasing value will be placed on a broader health IT team. Organisations will need access to a workforce with skills and knowledge in application development, data analytics computer science, and solution architecture (expertise that cobbles together the most appropriate applications and technology platform) in order to take advantage of emerging technologies such as advanced analytics and artificial intelligence.

15.21.2 Evaluating Success

As part of an outcomes and benefits framework, it is vital to ensure sufficient resourcing and project support to evaluate if the programme's expected outcomes were realised. This is also an opportunity to identify gaps in cases where they have not. This effort is often left, due to cost and resource contention on other projects. It is however strongly encouraged for organisations to preserve this effort as the results can reinforce the success of the project and be a catalyst to learn for subsequent projects and serve as a valuable input into future business cases.

In general, most outcomes should be evaluated at around 6 months post go-live. By this time, users should be well versed in the system and teething issues should be resolved. Evaluation approaches depend on what is being measured. Some approaches are:

- System reports, for example, looking at drug interaction alert details).
- Satisfaction surveys, for example, looking at patient or consumer and clinician satisfaction.
- Observational analysis, for example, looking at clinician time and motion impacts.

15.21.3 Optimisation and Continuous Improvement of the EMR

Inevitably there will be changes and enhancements that will arise after go-live. Setting aside budget and resources for an optimisation phase (where sub-optimal process, training and system configuration is reviewed) is strongly recommended so that necessary changes can be introduced into the live environment.

Many vendors will conduct a post-implementation review in collaboration with the healthcare organisation EMR team. These usually result in a series of post-implementation and optimisation recommendations such as configuration changes, new code upgrades, implementing additional capabilities. It also serves as a valuable input into informing a strategic digital health roadmap etc.

The optimisation period is not one that has a final point. The EMR is a live environment and requires continuous improvement to deliver value to patients, clinicians, and the healthcare system. Ensuring a clear "business-as-usual" plan for continuous improvement is developed will, no doubt, maximise the continuous use of the EMR and its benefits.

15.22 Case Study: Medical Leadership in Rollout of Australia's First Fully Integrated Digital Hospital

15.22.1 Background

In 2011, the Australian Federal Government, via the Hospital and Health Fund (HHF), granted UnitingCare Health (UCH)

$47 million of a total of $96 million towards the cost of a brand-new hospital. This particular initiative was targeting the development of the first fully integrated digital hospital in Australia. A reference to a full case study by Harmsen and Royle on St Stephen's Hospital can be found in the additional reading section, as well as a more recent case study referring to the Digital Transformation of the Princess Alexandra Hospital by Eden et al published 2022.

The new 96-bed hospital, St Stephen's Hospital (St Stephen's) in Hervey Bay, opened the 13th of October 2014. The hospital opened with a full suite of integrated eHealth tools. This included 29 clinical software applications, full device connectivity, five clinical interfaces, and 13 business interfaces. The vendor delivering the applications was Cerner Corporation, a large American healthcare software company.

As a key starting point for the project, UnitingCare Health's Executive Director, with vision and a strong commitment to the delivery of a fully integrated digital hospital, took himself to study digital hospitals across the world that were successful and not quite so successful in their implementation. The key lessons he brought back to Australia were the catalysts for the recruitment of an experienced eHealth Programme Director and the appointment of Australia's first CMIO. The combination of a highly committed leader, an experienced programme director and engaged medical leadership, set the scene to the start of a successful project.

The large clinical transformational change in this project was achieved through the creation and integration of Work Redesign Teams (WRTs). A total of eight WRTs were created, three of them medical teams which will be discussed further (Fig 15.1).

Each team worked independently, however, in close synch with each other during seven intense months. Items that were considered to have an effect on the other teams were referred for discussion and decision by the other WRTs (Fig 15.2). Several Medication Management meetings required medical presence and vice versa.

15.22.2 Project Clinical Governance

A robust clinical governance process was established based on the well-established governance groups already in place. The UCH

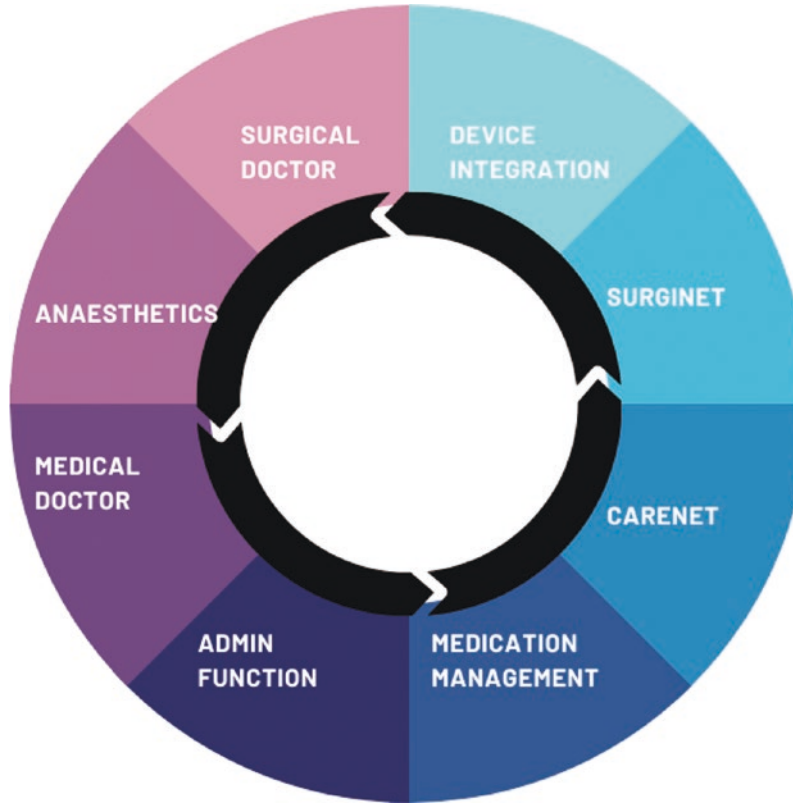

Fig. 15.1 Clinical transformation and work redesign teams

Fig. 15.2 Doctor redesign teams and key stakeholder teams for St Stephen's Hospital project (courtesy of Uniting Church Health and St Stephen's Hospital)

Clinical Governance Committee chaired by the Chief Medical Officer and local Medical Advisory Committees, were some of the key groups that were already established but joined the project governance, as well as the development of new governance groups. Guiding principles, developed and agreed by the WRTs, provided the fundamental pillars for decision and escalation.

A new eHealth clinical governance group was established as a subcommittee of the existing UCH Clinical Governance Committee composed of clinical leaders from across the group and was chaired by the CMIO. This group, named SAGE (Strategic Advisory Group for eHealth), reviewed and decided any issues that could have a major impact across the group, were considered high risk and/or were escalated by the WRTs.

The governance for the non-clinical areas was established via a robust structure with a peak governing body chaired by the Executive Director. His commitment, guidance and leadership provided direct oversight and positive stewardship.

15.22.3 Medical Engagement

A key to the successful opening of the new hospital was strong medical engagement throughout the project. It is important to note the appointment of the Chief Medical Information Officer for UCH was a combined role with Director of Medical Services for SSH.

The medical engagement model utilised at SSH can be divided into three phases: Pre-implementation, Implementation (Go-Live) and Post-implementation (Fig. 15.3). The two drivers in the medical engagement strategy were a close partnership with all our medical colleagues whilst providing them with a tailored approach that covered the doctor's individual needs.

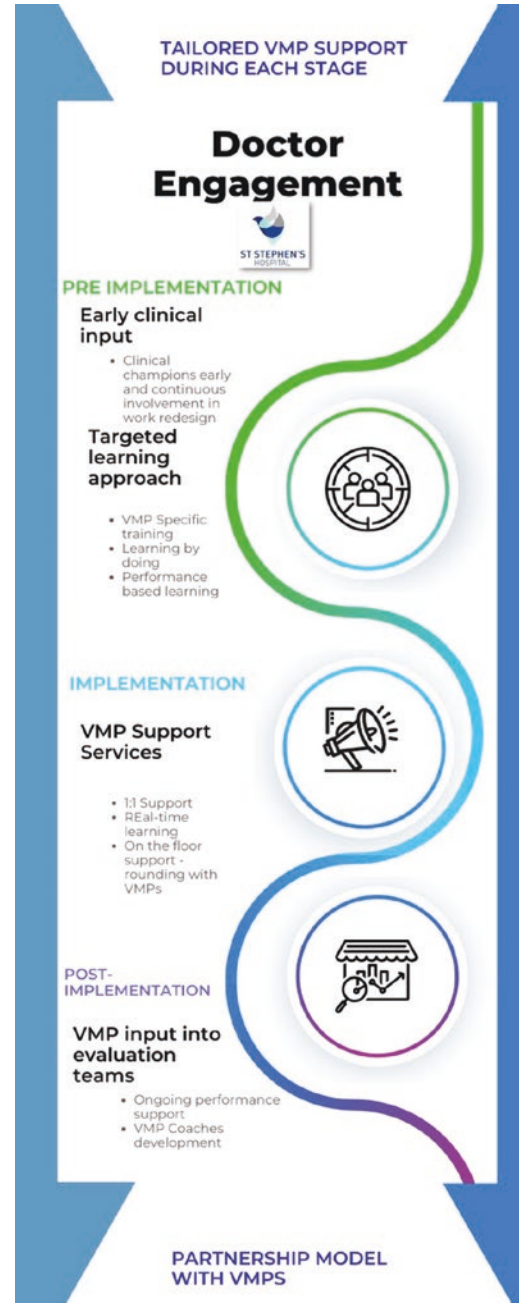

Fig. 15.3 Medical engagement phases for St Stephen's Hospital (courtesy of Uniting Church Health and St Stephen's Hospital)

15.22.4 Pre-implementation: Phase 1

Early in 2013, invitations outlining the vision and scope of the project were sent to all Visiting Medical Practitioners (VMPs) working for UCH between Hervey Bay and Brisbane. A high number of doctors from across medical and surgical specialities, as well as different levels of seniority, expressed interest in working in the project.

Medical Work Redesign Teams (WRTs) were established with a total of 27 doctors. Initially divided into Medical and Surgical teams, it became clear that a third team for Anaesthetics would be required. Each Medical WRT was chaired by an elected VMP and facilitated by the CMIO.

The focus of the WRTs was to provide guidance in the design of the EMR based on Evidence-Based Medicine and National Guidelines. This incorporated clinical protocols in 43 Diagnostics Related Groups, patients were more frequently admitted to SSH and those which were considered higher risk, for example, Sepsis and Warfarin management. The Medical WRT doctors acted as the clinical leads and representatives of their speciality. A panel of experts was selected to form an Advisory Board. Specialties which were not present at SSH, such as cardiology, general practice, emergency medicine, were also consulted.

The core team of eHealth Programme Director, Cerner representatives, including their Physician Executive, eHealth Learning and Change Manager, Clinical applications Project Manager, Assistant CMIO and the CMIO spent a lot of time preparing for the WRT meetings.

After 10 weeks of intense effort, the initial design of the EMR was completed. The meetings across three different locations across Queensland proved to be a logistical challenge, which was overcome by video-conferencing and a shared web-based meeting application. It was not easy, as both the Vendor and the WRTs Doctors were doing this for the first time in Australia and at times the views of both parties clashed. This is where the role of the CMIO was critical as it was important to make sure that the clinician concerns were addressed appropriately and in a timely fashion.

Designing a greenfield system with no previous experience and without the support of peers with any experience was an extremely challenging exercise. The majority of VMPs utilised practice management software with an element of digitisation in their offices, and therefore the comparison to their practice clinical information system was inevitable and posed a significant challenge. The project arranged a visit by members of the WRT to sites in the US with a fully integrated EMR.

Clinical champions emerging during the design phase later became the subject matter experts who assisted their peers on the floor (Super Users). The Super Users performed a key role in driving adoption amongst their clinical peers.

There was a Super User identified in each Medical, Anaesthetic and Surgical WRT. All three were passionate about driving safety and quality improvements to patient care. These individuals became experts in the EMR and clinical leads in the day-to-day operations of the system.

A Doctor's Workshop was organised in February 2014 following the US visit, were their findings, as well as the WRT's efforts, were shared with their colleagues. This kicked off the learning and change phase, one which saw the development and agreement of individual learning plans leading to tailored training sessions. All VMPs were provided with individual training, an average of 6 h per doctor. Although the CMIO provided most of the training to those VMPs with a high volume of admissions, essential additional support was provided by doctor Super Users (Chief Medical Officer UCH, Chair of Medical WRT, Chair of Anaesthetics WRT and Assistant CMIO).

It cannot be emphasised enough how important the 1:1 Doctor Training is for the senior Consultant group. If considering training for a larger organisation, alternative methods such as web-based learning and group training are recommended for the junior medical staff, as they are comfortable and used to that type of training. A train-the-trainer model can be used for the senior medical staff, where a peer will always be the one providing the training. The advantages of the 1:1 training are extensive as senior staff are the leaders of the multidisciplinary teams, and it is imperative that they have a full understanding of how to use the system to ensure adequate patient care. During this individual 1:1 session, they can load their templates and preferences to ensure that the day of go-live as much as can be done beforehand is accomplished, increasing the use and adoption of the system.

Alongside the development of the learning guides and plans, the Doctor Super Users joined

the eHealth team in the testing phase, including two Mock Go-Live exercises and proved to be critical members of the team with invaluable feedback and camaraderie.

15.22.5 Implementation or Go-Live: Phase 2

In preparation for the Go-live phase, a Medical Support Roster was developed with full Doctor coverage 24 h seven days a week by the CMIO and Dr Super Users. It is important to note that the Chief Medical Officer (CMO) for UCH was part of the doctor Super User group. The support of the CMO was indispensable during design and, more importantly during go-live. Having an extremely experienced clinician with a high level of authority allowed for clinical governance matters to be identified, escalated and addressed at an incredibly fast pace. His leadership, support and dedication to the medical support team enhanced the high importance given to the medical engagement strategy by the Project.

A progressively increasing theatre schedule was agreed by the surgical group, with a full operating theatre schedule to be running by the third week after opening. Doctor support was assigned between the operating theatre and inpatient wards, providing 1:1 elbow-to-elbow assistance. The presence of Cerner's Adoption coaches and Cerner's Learning Architect on-site during Go-live proved to be invaluable—with hands-on assistance when required, working alongside the eHealth team's Clinical Applications Manager and Learning and Change Manager. This highly enthusiastic and committed group, backed by a large structure designed around a Command and Coordination Model, provided quick turnaround in changes required by the clinicians on the floor. The Command Centre was staffed mainly by the eHealth Programme Director, a highly experienced CEO with an uncanny ability to identify and manage risks early who was also extremely charismatic and passionate and the CIO—who had only newly joined UCH yet also had previous experience in EMR deployment overseas and proved a valuable resource. The governance structure devised to deal with changes or enhancements and issues identified was a rapid Change Advisory Board—"CAB Lite". Daily or sometimes twice daily meetings were undertaken to deal with the requests in a timely manner.

Extraordinary meetings of the Specialty Groups were held to discuss the progress of the changes requested and obtain agreement for their advancement.

The 1:1 Doctor support model was rostered for 6 weeks, with gradual reduction of its intensity. Resources were directed to those who requested additional support and areas that required the greatest number of changes.

The time of go-live was a gruelling time. Long days up to 20 hours of support and CMIO presence on-site were required. This level of support was required continuously for 6 weeks post go-live, posing a significant challenge for this period on top of the sheer physical exhaustion from team members.

The Program Director identified this early on and provided relief and support but in the end, it was her ability to keep everyone engaged that alleviated the challenges.

15.22.6 Post-implementation: Phase 3

The go-live phase morphed into the post-implementation phase; 6 weeks after go-live resources weaned down, and plans were put into place to transition the eHealth team and technical support from the eHealth Program Director leadership to the Chief Information Officer.

Several ad hoc meetings were held with the speciality groups at SSH to work collaboratively and quickly on issues identified and changes required. Communication of changes was done in a variety of ways: by email, noticeboards, meetings and face-to-face.

An analysis that was undertaken internally by the team two weeks after go-live revealed that there was a 92% adoption rate amongst the Doctors. The vendor leadership team members noted anecdotally that this high adoption percentage was rare and unique in their experience such

a brief time frame after opening a new hospital. The 1st of December 2014, SSH was awarded HIMSS EMRAM Stage 6, the first hospital in Australia to achieve this accomplishment.

Originally thought to require 3 months of local support by the Clinical Informatics team (previously EHealth project team), 6 months post go-live support is required on a weekly basis.

Key Lessons Learnt

- Top leadership engagement is essential for the project to succeed. The dedication and commitment from the Executive Director, the Program Director and the CMO was invaluable. Their ability to understand the problems, trust their teams and support their vision, provided us with the leverage to achieve what had not previously been achieved in Australia.
- Early engagement of clinicians, in particular, the medical practitioners, fosters a platform for true collaboration and high adoption of the EMR ensuring the end product is safe and usable.
- Pharmacists engaged early, focussing on medicines management and medication safety, will ensure you have a strong platform for safe use of the EMR. They are a key resource to support clinical safety and your medical workforce on the floor during and after go-live.
- The role of the CMIO is an absolutely essential position for any kind of EMR project.
- The learning phase needs to be planned carefully and practically to accommodate everyone's learning needs and favourite tools prior to go-live.
- The Go-Live period can be very gruelling and taxing on your team; make sure you have a planned roster with breaks to allow everyone to be at their best when rostered on.
- The Go-live period requires a quick and responsive governance team due to the considerable number of changes requested that need to be evaluated, tested and implemented within a very short time frame.
- The patient perspective: During the go-live period it is important to note that there is a large number of people in each patient's room as they are supporting the clinicians on the floor. At times there could be up to more than five people providing support to different members of the clinical team; this can be very daunting to a patient. Make sure you allocate a separate role to a patient navigator whose key role is to ensure that the **patients** are being kept up to date with what is happening.

The key message from this case study is that this is not a technology project. It is, at the very core, a people project and as such needs to be managed as a transformation of the way healthcare is delivered rather than the design of an EMR.

Last but not least, our success was not one that can be attributed to one factor. The confluence of the right people, at the right time, with the right leadership was what made it happen. But technology is only as good as those that use it, in SSH we found a group of doctors, nurses, pharmacists and a whole range of clinical and non-clinical staff who understood and shared the vision of delivering something truly unique. In the end, the success belongs to them: those clinicians at the coal face who deliver care on a day-to-day basis in a hospital which has now created Australian history and paved the way for the future of healthcare.

I would like to acknowledge Richard Royle, ED UCH, Connie Harmsen, eHealth Program Director, Dr Yogesh Mistry (Assistant CMIO), Dr Luis Prado (Chief Medical Officer UCH), Dr Surendra Bhutra (Chair of Anaesthetic WRT and Director of Anaesthesia & Perioperative services, SSH) and Dr Ranald Pascoe (Director Intensive Care, Wesley Hospital and Chair of Medical WRT) Connie Cross (Clinical applications Project Manager), Vicki Ibrahim (Chief Pharmacist UCH), Patricia Liebke (Learning and Change Manager) David Kempson (CIO UCH) and the fantastic Cerner team that worked with us.

15.23 Why Is Digital Health Important to Medical Administrators?

This chapter has outlined the pivotal role that digital health plays in modern health service planning and delivery—from strategic leadership

and planning, clinical governance, operations and financial outcomes, research programmes and clinical outcomes. The current Medical Administrator will be faced with these challenges on a daily basis and will encounter the need to understand, at a minimum, and on some occasions lead, digital health programs and implementation requirements.

In 2020, RACMA published a position statement in recognition of the need for all medical specialists in Medical Administration to embrace the "profound societal changes are possible as a result of the digital revolution and the innovation that it brings". The call to action that followed was the "inclusion of the role of the medical leader in clinical governance and change management regarding digital health is reflected in the College curriculum" [30].

The significant investment in digital health, heightened during the recent COVID19 pandemic, sets the stage for Medical Administrators to consider what implications this may have in health service delivery and what workforce is required to support it. Failure to do so will result in a lack of understanding of new services designed, clinical risks that may arise and ultimately, segregation from key infrastructure, operations and planning decisions.

The emergence of a specialist medical informatics workforce may offer Medical Administrators a pathway to a career in medical informatics as seen in recent years across the rest of the globe. Further medical informatics capacity building needs to be anchored on the basic tenets of leadership of a specialist Medical Administrator—the Communicator, Scholar, Medical Expert, Manager, Professional and Collaborator- and enhanced with further technical skills and experience.

The modern Medical Administrator must, at a minimum, understand what is required to deliver safe and efficient health services enabled by technology and, in addition, can seek to further their knowledge and skills in the digital health area allowing them to set the vision and the future for their organisations.

Like most countries, Australia is facing an inflexion point in health with a collision of demands, such as ageing and an abundant burden of chronic disease, outpacing our ability to resource and manage them if we continue with the status quo. Governments have the unenviable task of curtailing costs and inevitably, these forces will more than likely lead to rationing of services and push new types of healthcare and payment models. Consumers and patients will have to support their own care more than they might today and all within an increasingly complex health information landscape.

All these changes drive a need for digital health technology. It is not the technology alone that will drive change in healthcare systems, but it is well recognised that technology has already changed many aspects of our lives, and this is likely to be true in healthcare in the future. The success of information technology and its utilisation in healthcare will be in its ongoing ability to evolve, adapt to new standards and technology and to ensure healthy doses of participation in its design and use from clinicians and patients.

15.24 The Future of Digital Health

We started this chapter with a look at the evolution of digital health with a focus on implementing clinical systems and EMRs into hospitals and health services. Although a significant amount has been achieved, there is more to be done and large programs of EMR implementation are well underway, yet there is more work remaining to have these foundational systems of record in place across the whole health eco-system.

As we emerge from the effects of the COVID19 pandemic on health services, the financial, service demand and other pressures continue to mount on health services, and there is increasing focus to pivot from systems of record to systems of insight and intelligence. Health services want to use EMR and other real-time data to gain clinical and operational insights previously impossible with paper records. A number of health services are using this data to develop predictive models, such as the risk of a subsequent unplanned readmission or Emergency Departments patient flow. Natural language processing technologies are able to

interpret different sources of textual information to pull out key information. An example is flagging significant abnormal findings in radiology reports for patients that have been discharged from the hospital. Data generated by EMRs and other sources close to real-time create an immense opportunity for research, there is now the emergence of "data-marts" which offer large de-identified aggregated data sets which can be utilised for many different purposes.

The intersection of healthcare provision, information and medical technologies is creating new possibilities and marks an exciting future and one that can make a real impact in supporting quality care. Below are some of the emerging themes and trends in technology that are most likely to impact healthcare in the near future.

15.24.1 EMR Trends

- Patient-generated health data (PGHD) into EMRs and for EMR data to be available in patient and consumer applications, supporting new value-based-care models of health care.
- Transition from a person's medical record to an emphasis on a person's plan for health and from a focus on supporting clinical transaction to a focus on delivering information to the provider and the patient [31].
- Real-time predictive analytics based on data in the EMR for example sepsis alerts and estimated length of stay built into care plans and pathways.
- Interoperability from and between EMRs and patient and consumer applications using emerging interoperability and application standards, namely Substitutable Medical Apps, Reusable Technology on Fast Healthcare Interoperability Resources (FHIR) (otherwise known as SMART on FHIR). This allows third-party applications to be used within compliant EMRs.
- Decision support tools that can support clinical and personalised decision-making, examples ranging from pharmacogenomic decision support to precision dosing platforms for medications with a narrow therapeutic index.
- EMR data increasingly used to identify potential candidates of patients for clinical trials real-time and data sets from EMRs being used to conduct research without any need for additional cases.
- Improved user interface and user experience design.
- Connections between EMRs and medical devices, such as infusion pumps, monitors and other devices.
- Virtual care delivered as one of many options available for the consumer, clinicians, and health service.

15.24.2 Digital Health and Technology Trends

- Faster mobile connectivity with emerging 5G will enable higher bandwidth mobile health uses across different geographies at a faster pace than any other time.
- Hyperscale cloud service providers are lowering the cost of computing infrastructure and commoditising access to high-performance computing that is needed for processing of genomic data for example. Cloud platforms also enable agile application development tools, as well as connectivity and management of medical devices through the internet of things.
- Development of artificial intelligence and other cognitive service platforms for language translation, image machine learning computer visualisation, chatbots.
- Artificial intelligence being used across many areas of health service delivery, from appointment and reminder system and self-health monitoring to large scale population health programmes like registers.
- Secure messaging and eReferral capabilities across the health system are becoming increasingly standardised to support better interoperability and a norm in health service planning.
- Payment model trials from fee for service to capitated or value-based payments driving needs for risk stratification, care management, case coordination, population analytics.

- Video consultation and teleconsultation platforms have emerged to give patients alternative consultation mechanisms with their providers.
- Innovations in diagnostics are enabling more point of care pathology testing. Smartphones and smaller imaging tools such as handheld ultrasound scanners are increasingly being considered in aggregating clinical information around a patient.

Increasing consideration is being given to cybersecurity practices in healthcare, including appointments of CISOs (Chief Information Security Officers) and in parallel, given the large amounts of data generated, Chief Data Officers or CDOs

The demands of the healthcare system created by the COVID19 pandemic, paired with emerging new models of payment, and the increasing need for a large health workforce, sets the burning platform for transformational change across the whole health eco-system. Like most countries, Australia is facing an inflexion point in health with a collision of demands, such as ageing and an abundant burden of chronic disease, outpacing our ability to resource and manage them if we continue with the status quo. Consumers expect more transparency and access to their data to ensure they remain stewards of their own health journey.

These forces set governments with the unenviable task of curtailing costs and inevitably, these forces will more than likely lead to rationing of services and push new types of healthcare and payment models. Consumers and patients will have to support their own care more than they might today and all within an increasingly complex health information landscape.

All of these changes drive a need for digital health technology as we have seen recently in new virtual care models. It is not the technology alone that will drive change in healthcare systems, but it is well recognised that technology has already changed many aspects of our lives, and this is likely to be true in healthcare now and in the future.

15.25 Ready Reckoner

The key points covered in this chapter are:

- Digital Health and medical informatics is a relatively recent specialist area within technology and healthcare which has been later in mass digitisation of information than other industries.
- Business cases built around improving information efficiencies, quality and safety can be supported by achievements from healthcare organisations that have invested in these technologies.
- In embarking on an implementation of an EMR, it is crucial for an organisation to have a cohesive vision, reason for change and objectives.
- Implementation programmes must be centred around the patient and improving safety and quality, with particular attention given to ensuring a clinical safety case is developed to manage clinical risk.
- Critical success factors include strong executive support and sponsorship of the project (made even more potent if the key sponsor is the CEO) and appointment of CMIO/CCIO/CNIO/CXIO roles.
- The success of these programmes is much more about getting right the process and change management rather than the technology. A well-thought-out governance structure is integral to achieving this.
- When considering the scope of an EMR implementation, keep in mind what will give the greatest value in a reasonable timeframe—EMRs will continue to evolve, and there will be an ongoing need to enable more services, optimise an existing implementation and add new technologies (such as mobility).
- As much as possible, leverage the experience of organisations globally and locally that have undergone implementation of an EMR, as well as the experience of the selected vendor.
- The case study of St Stephen's Hospital provides a very useful real-world example of how

medical stakeholders were engaged in this beacon project.

- Health information technology will play more of a part as a strategic and essential tool in how we deliver care. Already we are seeing EMR systems provide more intelligence to clinical care with predictive analytics and consumers engaging with medical information with their own mobile devices and platforms. Bringing this information together to effect good outcomes for the patient and population across the continuum of care is the future direction.
- The future of health information technology will also be driven in part by the emergence and development of large cloud services and capabilities, as they can provide a scale that was not there previously.

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Population and Public Health

16

Andrew Robertson

Learning Objectives
Readers of this chapter will:

- Develop a brief understanding of population and public health.
- Consider why it is important for medical managers to have an understanding of the field of public health.
- Appreciate that a medical manager's work may require consideration of its public health impact.
- Recognise a range of traditional and more recent public health initiatives in Australia, including targeting of communicable diseases, as well as tobacco, alcohol and drugs.
- Gain an understanding of particular population health issues, including chronic disease health prevention, environmental health, regional and rural health, and Indigenous health.

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16.1 Introduction

There has been a renewal of interest in public health, particularly in disease prevention, communicable diseases, health protection and health promotion, since the turn of the century. This is partly due to the realisation that continued investment in acute care brings diminishing returns and is simply not sustainable, and an increased focus on upstream interventions is required to keep the population healthier. It is also due to recognition that problems in the last century tackled by public health actions have provided ongoing benefits.

The most recently published *Public health expenditure in Australia* report from the Australian Institute of Health and Welfare in 2011 suggested that Australia spends 2.1% of the total health expenditure on public health [1]. This percentage has been slowly increasing, rising to 3.6% in 2020/2021 in the early part of the COVID-19 pandemic [2]. The percentage is expected to fall as COVID-19 becomes endemic, although some States, such as Western Australia, have made commitments to increase the spending to 5% by 2029. Questions will arise as to whether this is sufficient in the longer term.

The role of public health is to contribute to the health of the public through assessment of health and health needs, policy formulation, assurance of the availability of services and regulation of

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public health services. Public health practitioners are constantly required to relearn old ways of tackling newer patterns of diseases, in order to face traditional and newer challenges that threaten the public's health.

While they are not trained as public health physicians in the strictest sense, medical managers will often find that their work overlaps with public health practitioners. Medical managers make their largest contributions through the development of health systems, which include personal health care, hospital services, and other inter-sectoral initiatives. It is important that medical managers take a balanced approach in developing a health system, which contributes to a fair and healthy society.

A broad range of skills is required to practice successfully as a medical manager who is involved in public and population health. In the same way as performing a root cause analysis, the process starts off with understanding and analysing the actual issues, questions and challenges, before too much effort is spent on solving the wrong problem. There are often conflicting priorities for improving the health of populations, and it is ever more important that solutions are not only viable, but cost effective too.

In the end, decisions always need to be made, and these are usually difficult, but important, choices. By using evidence and quality data, decisions may eventually become more apparent. The subsequent implementation of any policies that arise from these decisions will require other interpersonal and organisational skills, such as influencing, communicating and collaborating, which are key skills of a competent medical manager.

It is impossible to describe all facets of public health in one textbook, let alone a chapter. This chapter seeks to identify the challenges a medical manager would commonly come across in their daily practice, and aims to be a reminder that it is important to consider what is happening beyond the four walls of one's immediate organisation; that to be a good health service manager, one often needs to be a competent population health manager.

16.2 Definition of Public Health

A widely adopted definition is that Public Health "*is the science and art of preventing disease, prolonging life, and promoting health through the organised efforts of society*" [3].

Detels (2003) defines the goals of public health as: *The biologic, physical, and mental well-being of all members of society regardless of gender, wealth, ethnicity, sexual orientation, country, or political views* [4].

This is very similar to the World Health Organization's definition of Health as: *"a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity"* [5].

What is immediately obvious is that public health involves achieving health goals from not just an individual but also the collective efforts of society, and this is more than merely the elimination of disease.

Conceptually, public health can take a population health approach, in order to identify, measure and monitor community health needs through surveillance of disease, and risk factors. In other words, it is concerned with threats to the overall health of a community based on population analysis. Public health interventions are then aimed at prevention of diseases, or improving the overall health of society.

16.3 Definition of Population Health

In the last decade or so, there has been significant debate about the definition of Population Health. Population health has been variously defined, including "the study of health and disease in a population as specified by geographical, cultural or political guidelines [6]", or "the health outcomes of a group of individuals, *including the distribution of such outcomes within the group* [7]" *(concept of health, informed by the study of its determinants and including subsequent interventions)*. While it is difficult to determine which is normatively right or wrong, in this chapter, the latter definition is used.

Examples of populations include regional and rural populations, sufferers of chronic disease, Indigenous populations, or refugees.

16.3.1 Demographics

To understand public health and population health, it is important to understand some key demographics in Australia. These demographics provide the basis for identifying health issues, developing health policies, as well as providing an insight into limitations of interventions.

Australia is a country with a population of approximately 26 million. The land size of the country is large, however, and at 7.7million square kilometres of land, it represents about 5% of the world's total land area. Australia is subsequently one of the least densely populated countries on Earth.

With 89% of the population living in urban areas, Australia is one of the most urbanised countries. Most of the population is congregated in the eastern coastal capital cities, with the exception of Perth on the west coast and Adelaide on the south coast. Migration policies are such that there has been a net influx of migrants, with the most significant reported countries of birth being the United Kingdom, New Zealand, China and India according to the Australian Bureau of Statistics [8] (ABS).

Australia has an Indigenous population of over 890,000, located mainly in regional and rural areas of New South Wales, Queensland, Western Australia and the Northern Territory. While the Northern Territory has an Indigenous population of approximately 79,000, this represents about 32% of its total population. This Indigenous population unfortunately suffers from significantly poorer health outcomes, and will be covered later in the chapter.

16.3.2 Ageing Population

According to the Australian Institute of Health and Welfare (AIHW), average life expectancy of Australians at birth in 2018–2020 is 83.3 years, with boys born in 2011–2013 being 81.2 years and 85.3 years for girls [9]. This puts Australia's life expectancy at one of the highest levels in the world, which also has health policy and management implications as the population ages (Fig. 16.1).

16.3.3 Population Structure

The structure of Australia's population has changed significantly over the past few decades and will continue to do so over the next 40 years. The relative portion of the population aged 65 and over is growing, indicating a decrease in the proportion that signifies the traditional working age, between 15 and 64 years.

Previous depictions of the population pyramid with the younger population forming a large base and narrowing towards the top, representing the elderly, are thus changing, with the structure looking more cylindrical than before (Fig. 16.2).

This is significant for the health workforce, as it means that there will likely be a growing demand for diseases of the elderly, with relatively less workforce to support it.

16.3.4 Socioeconomic Disadvantage

The social gradient of health is a phenomenon that suggests that, in general, the higher the person's income and education, the healthier they are. Daily smoking rates are a clear example, as the higher the socioeconomic status (SES) group, the less likely it is for the person to be a daily smoker. In the lowest SES group, the rate in 2017–2018 was 18% as compared with 5% in the highest.

Difference in harmful levels of alcohol consumption is also evident, with 17% in the lowest SES groups compared to 15% in high SES groups, with similar overall lifetime risks. Other examples include insufficient physical activity (63% to 48%), and obesity (38% and 24% in the lowest and highest SES groups respectively) [10].

There are other health measures and risk factors with known social gradients, which include

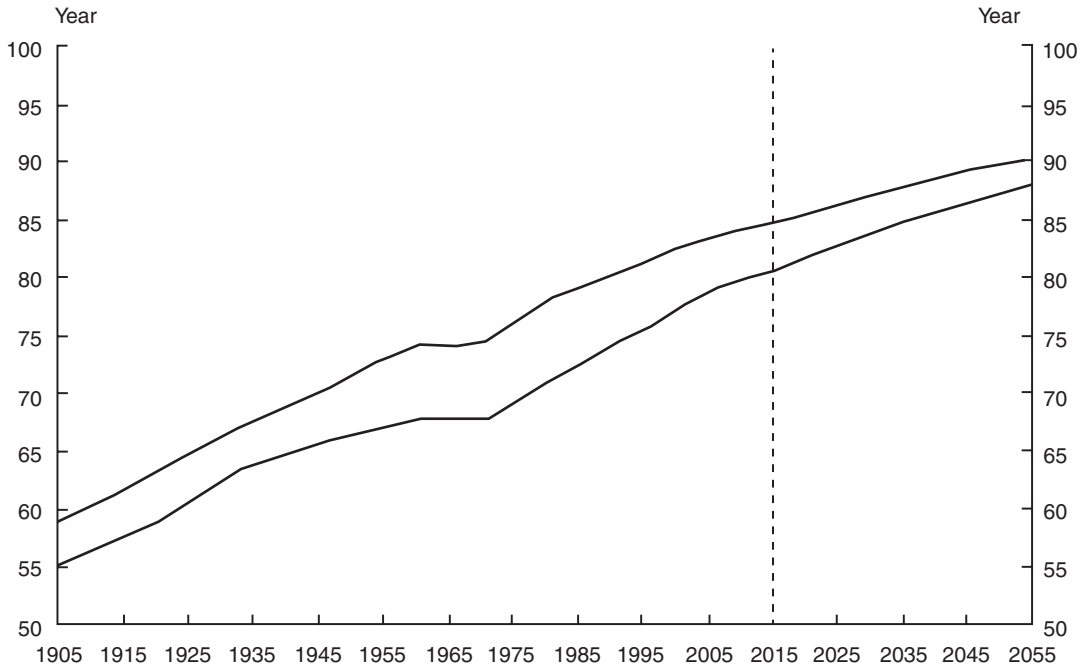

Fig. 16.1 Male and female life expectancy, 1905 to 2055 (Source: 2015 Intergenerational Report, Australia in 2055)

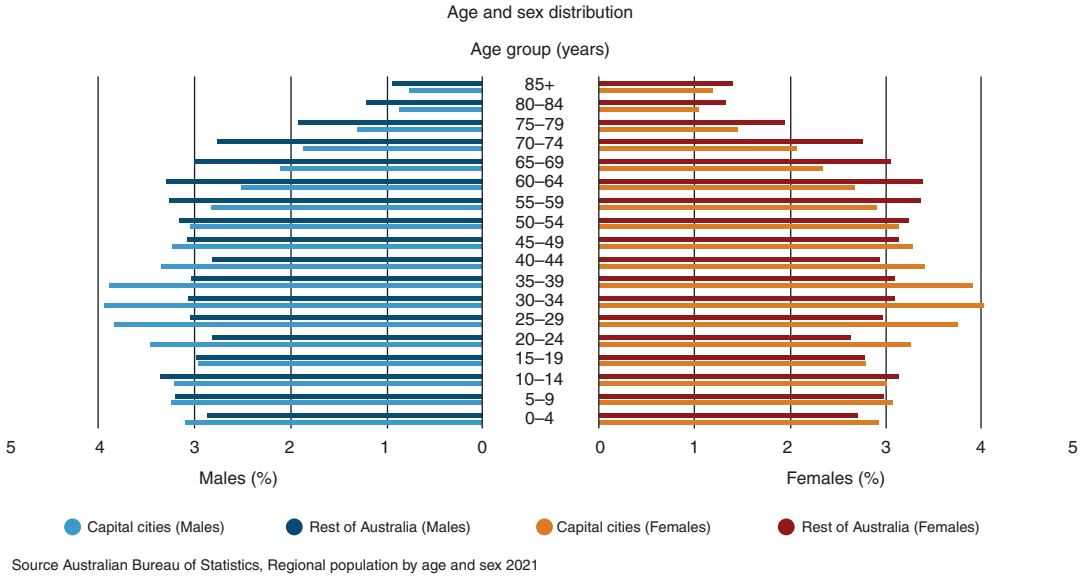

Fig. 16.2 Age and sex distribution (%), Greater capital cities and rest of Australia—2021 (Source: ABS)

life expectancy, self-assessed health status, oral health, end-stage kidney disease, and mortality and 5-year relative survival from all cancers.

16.3.5 Why Is Public Health Important for Medical Managers?

Infrastructure for public health is provided by state and local government departments and agencies and is closely aligned to housing and environments policy and services also provided by government.

Public health provision is also supported by other agencies such as health service providers and academic health science institutions, where medical managers are often employed. Having an understanding of the overall picture and issues across these sectors is important to provide context to the management of the individual person or individual organisation.

One might ask why are the housing and environmental sectors involved in healthcare? This is because the concept of health is much more far-reaching than the usual health services that medical managers are accustomed to.

It is not difficult to conceptualise that clean water, good sanitation, education or even employment, contribute to better health for an individual. These are the social determinants of health, and it is important to understand that public health is intricately linked to them.

The scenario below is an example of social factors affecting the daily management of a health service.

A 42 year old man with a mental health history is brought to the emergency department with suspected drug overdose and acute psychosis. He had recently been evicted from his home for repeated violent behaviour towards his neighbours and damaging the rented property. He has no known family and is unemployed.

You can imagine that while the doctors and nurses can potentially treat the patient back to pre-event health status, it is clear that the social issues such as his accommodation and social supports need to be considered early on in the admission, because they impact on the longer terms outcomes for the patient. Otherwise one might come across the familiar situation where the patient is medically fit for discharge, but the care team will flag post-discharge concerns that should have been addressed earlier in the treatment process.

Failing to identify these issues may potentially lead to suboptimal utilisation of acute beds while they are being addressed, or discharging a patient who is at high risk of being readmitted. A health service manager may need to consider working closely with the community or housing sector in the situation above, to prevent downstream issues adversely impacting on the health service's operations.

16.4 Public Health

From a historically restrictive mandate of ensuring public sanitation, clean water and food supply, public health has evolved to include services for personal protection, such as immunisation or contraception, health protection (including environmental health) or health promotion (mainly health education such as physical activity or nutrition). Legislation and social policies have been influenced by public health interventions, and this is evidenced in areas such as tobacco legislation, liquor licensing or the need for seatbelts.

It is thus noticeable the mandate of public health has expanded from providing the essential hygienic services, to disease prevention and personal protection, and now to a range of social engineering efforts. This clearly cannot be achieved by health service organisations alone, and requires the coordination of a range of different sectors.

Taking a trip down memory lane, it is easy to identify various public health interventions that have made significant impacts on populations over the years, and then discuss some of the recent efforts by governments.

The oldest form of public health would likely be the provision of clean water and sanitation. The development of the smallpox vaccine also holds an important place in public health history. By the mid twentieth century, the automotive industry has begun to provide seatbelts, and by 1970, Victoria was the first place in the world that passed compulsory seat belt laws, lowering the incidence of injury or death for drivers and front seat passengers.

More recently, efforts in public health can be witnessed in the following areas, which have received significant media attention.

- Fluoridation of drinking water.
- Child immunisations.
- Anti-smoking legislation, including e-cigarettes.
- Encouraging physical activity and obesity prevention.

Each area has received its fair share of publicity as different interest groups lobby for different outcomes. Any intervention, in particular legislative or policy changes, is usually perceived to negatively impact on certain groups, often industry.

To understand the challenges that public health interventions face, one only has to look at the significant amounts of resources tobacco companies invested in fighting the legislation in Australia requiring cigarettes to have plain packaging and unsightly health warnings on them [11].

As a medical manager, you may be required to work with your colleagues to advocate for and champion important public and population health issues, possibly support the clinical case with an equally potent business or economic position.

16.5 Communicable Diseases

A medical manager is often confronted with challenges associated with communicable diseases. These range from routine in-hospital practices of infection prevention and control, to the involvement in planning and response to epidemic outbreaks at the health service level.

In the last two decades, prominent emerging infectious diseases that spring to mind are the outbreaks of the Coronavirus Disease 2019 (COVID-19) pandemic, Severe Acute Respiratory Syndrome (SARS), Influenza A virus subtype H5N1 “avian influenza”, or the Influenza A virus subtype H1N1 “swine flu” pandemic.

COVID-19 originated in China in December 2019 and rapidly spread around the world. Various variants and subvariants have led to new waves of disease, which have been mitigated by public health measures and effective vaccines. COVID-19 has caused at least 660 million cases and 6.7 million death worldwide, as of December 2022, both of which are likely to be serious underestimates of the true morbidity and mortality.

The influenza outbreaks mentioned above originated from Asia, were highly contagious and claimed many lives, especially in the at-risk populations such as the elderly or pregnant women. Australia was not significantly affected by SARS and H5N1 as compared to the rest of the world; however, the swine flu pandemic in 2009 saw over 37,000 reported cases in Australia, claiming 191 lives. It was fortunate that, comparatively, the fatality rates in Australia were low.

More recently, the 2014 outbreak of Ebola Virus Disease (EVD) from West Africa also caused significant consternation, as the disease reported very high mortality rates of between 30 and 70% amongst those infected. The personal protective equipment required for healthcare workers was significantly more comprehensive than normally required, including full-body suits.

In these situations, the medical manager often plays a significant leadership role in coordinating the responses within their health service, as well as being involved with emergency planning and preparation work such as training exercises. Working parties are convened with representation from relevant parts of the organisation, usually including infection control and infectious disease specialists, intensive care and emergency

physicians, nursing, occupational health and safety staff, and media and communication representatives.

Escalation procedures will need to be in place to support staff on the ground, with considerations for separate triaging and treatment areas including negative pressure rooms, vaccinations for staff, and dogged use of personal protective equipment. It is important to have good communication channels with the State Health Department to ensure appropriate notification, escalation and mobilisation of resources. It is also pertinent to have a clear media strategy with the community as well, in order to ensure that fear is managed and simple prevention messages communicated.

It should be noted that, during pandemics, public health powers may be enacted under public health and emergency management legislation to manage various aspects of the pandemic, including border closures, quarantine, public health and social measures, and vaccination requirements. This has been demonstrated in the recent COVID-19 pandemic.

16.6 Infection Prevention and Management

A simple way of preventing infections is through good hygiene practices, and in health services, the most effective and simple way is to have good hand hygiene practices. Policies, procedures and guidelines should be developed and in place to ensure staff are aware of what is expected of them, both for the protection of the patients, as well as themselves.

With *Preventing and Controlling Infections* being one of the National Safety and Quality Health Service Standards (Standard 3), control measures applied in the hospital setting include establishing hospital infection control committees, surveillance, providing isolation areas, use of personal protective equipment, regular cleaning and sterilising requirements, or restriction of activities, such as working while infectious. Hand hygiene compliance requirements are more in the spotlight, and medical managers should be leading the charge for it by mobilising support and driving the agenda.

Related is the all-important function of antimicrobial stewardship. Increasingly bacteria are developing resistance to antibiotics, and multiresistant organisms such as Methicillin-resistant Staphylococcus Aureus (MRSA), Vancomycin-Resistant Enterococci (VRE), or the deadly Carbapenem-resistant Enterobacteriaceae (CRE) are increasingly found in the community. While this has been attributed to overuse of antibiotics in the community, hospitals are often found lacking in adherence to antibiotic best practices. Leading health services are now actively tackling this issue with antimicrobial stewardship programmes.

Although such programmes are usually managed by infectious diseases teams, it is important that the medical manager provides visible support for this. Many doctors see the approval process of antibiotics as cumbersome, but compliance has been shown to be beneficial for the community in the longer term. Standard 3 makes mention of the need for an antimicrobial stewardship programme, and in a similar way to mandatory hand hygiene compliance key performance indicators, medical managers could use this argument to facilitate adherence to the antimicrobial stewardship programme within their health service.

Staff vaccinations are also an important way to prevent the spread of infections to health care workers and in between patients. The vaccination process not only provides an active immunisation benefit to the individual, but also may create passive herd immunity benefits to the community, which provides relative protection of the population group by reducing or breaking the chains of transmission of an infectious agent because most of the population is resistant to the infection.

Often being in key leadership positions, medical managers play an important role in promoting the importance of immunisations.

16.7 One Health

The concept of One Health is worth noting, and that the movement to link physicians, veterinarians, and other scientific-health and environmentally related disciplines is gaining momentum. One Health is particularly important when we consider communicable diseases, as there are more connections between human health, animal health and the environment than was initially perceived.

Examples of these include transmission of zoonotic diseases from animal to human beings like Japanese Encephalitis, or the indirect ingestion of antibiotics through animals that have been injected with antibiotics to increase growth and subsequent development of antibiotic resistance. With increasing globalisation, it is worth acknowledging that an environmental issue affecting livestock in Central and South America, Europe or Asia could affect Australians who have unwittingly consumed it.

16.8 Tobacco, Alcohol and Illicit Drugs

In medical school, students would have been taught the physiological harm that tobacco, alcohol and drugs cause to the individual, such as lung cancer, liver cirrhosis or brain damage. In fact, these substances can cause harm beyond the individual, as they often affect the relatives and friends around them, as well as causing a unique set of challenges for health care professionals.

For decades now, governments have spent significant efforts trying to reduce smoking rates. This has led to the rates of daily smokers in adults decreasing by 54% between 1991 and 2019, from 24% to 11% [12], largely because younger populations have not commenced smoking.

Tobacco is not only hazardous to the smokers but also to those around them through the inhalation of second-hand smoke. Smoke-free environments are popular and legislatively required, including restaurants, bars and all indoor areas. These policies are important from more than one perspective because they protect non-smokers from exposure to tobacco smoke, reduce smoker's consumption of cigarettes, and even induce some smokers to quit [13].

Australia's low smoking rate is the result of sustained, concerted and comprehensive public health policy efforts from all levels of government and action from public health organisations. Since 1973, when health warnings were first mandated on all cigarette packs, a combination of further restrictions and bans on advertising, smoking in restaurants and work settings, and increases in taxes have been progressively introduced.

It is important that this effort is sustained, as each year, smoking kills an estimated 15,000 Australians, and although over 75% of the cost of tobacco for the consumer is in taxes, the cost in social and economic costs of $31.5 billion for Australia outstrips tobacco sales of $3.4 billion by ninefold.

There have been significant public health efforts to reduce the harm caused by alcohol, particularly associated with binge drinking, driving under the influence, and alcohol-related violence.

Alcohol as a public health issue is challenging, not least because drinking is largely seen as a social activity, and the rates of alcohol-related problems tend to rise and fall with changes in the level of consumption of the population. Thus controls on the availability of alcohol, including taxes, affect the level of consumption and subsequently rates of alcohol-related problems [14].

The National Alcohol Strategy 2019–2028 is currently being implemented, and it is common to see police conducting random breath testing at weekends and public holidays in all States and Territories. Advertising campaigns aimed at both educating the general public as well as highlighting policing efforts are common. Recently alcohol-related violence has also received significant media attention, as there have been a number of high-profile deaths caused by unprovoked single acts of violence.

At the same time, sporting clubs are encouraged to promote a culture of safe drinking and to reduce their affiliations with alcoholic beverage

sponsors in an effort to change behaviour and attitudes around alcohol consumption [15].

Most would have read of the recent challenges posed by crystalloid methamphetamines, colloquially termed by the media as the "ice epidemic". While the total rate of methamphetamine use has remained steady recently, the use of its crystalloid form, known as ice, has developed into a significant health issue. Users of the drug are prone to experiencing hallucinations and can be particularly agitated and violent.

Communities in regional Australia are twice as likely to use methamphetamine than those in major cities, along with smoking daily and drinking excessively [16].

This is particularly challenging for healthcare professionals in emergency departments who treat them following an overdose, as they not only have to treat the physiological sequelae but also the violence and aggression that often accompany them. Within 3 years from 2010, ice had grown to be the illicit drug thought to be of most concern for the general community, and in 2013 became the second highest cause of death from illicit drugs [17]. However, it still lags behind heroin as the single largest cause of illicit drug deaths.

The significant problems associated with the use of ice or other illicit drugs is not an issue that law enforcement agencies can police or arrest its way out of. It requires a coordinated effort from multiple sectors including health care, education, as well as law enforcement, in order to be able to stem its growing abuse and harm.

16.9 Environmental Health

The physical, chemical and biological environment we live in affects our well-being. Clean drinking water, safe food, good hygiene, effective pest and disease control, and good housing is important to our overall *health***.** Environmental health includes the effects of chemicals, radiation and some biological agents on the population, and the effects (often indirect) on health and well-being of the physical, psychological, social and cultural environment, which includes housing, urban development, land use and transport.

As medical managers, we are usually subject to the same legislative requirements as other workplaces, including ensuring safe drinking water, safe food, and management of physical, chemical and radiation hazards for both staff and the general public. Legionella in hospital air-conditioning or food poisoning in a hospital food outlet can rapidly become critical issues for managing a hospital.

16.10 Occupational Health

Occupational health deals with the interaction between health and work. It encompasses:

- The prevention of occupationally-related illness or injury resulting from exposure to workplace hazards.
- Ensuring workers with pre-existing illnesses or disability are able to continue working without undue risk to their health or third parties' health.
- Promoting general health and safe working practices in the workplace.

When one considers the total proportion of people who go to work, it is clear that even a small percentage of this large number can be an important public health consideration, and maintenance of their health is important to the well-being of their colleagues, family, employer and consumers.

The medical manager's approach should include identifying hazards in the work setting, determining at risk populations and assessing the risks associated with exposure to the risk, and then taking appropriate preventive actions such as elimination, substitution or containment of the hazard, and limiting exposure. It is also important to periodically evaluate the effectiveness of the preventive measures.

Promoting general health in the workplace include advice and information on alcohol intake, smoking, diet, physical activity or safe driving. Health promotion activities in the workplace can

include measures such as serving healthy food products in cafeterias, having a no-smoking policy, or providing subsidies to join sports and exercise facilities.

16.11 Chronic Diseases

Chronic diseases have become the most common cause of death in high-income countries such as Australia, overtaking communicable diseases, which are still the leading causes of death in low-income countries [18]. Indeed, 74% of global deaths were caused by non-communicable diseases (NCD) in 2019, an increase from 60% in 2000. In high-income countries, the proportion of deaths caused by NCD is even higher.

In Australia, four out of the five National Health Priority Areas, which are diseases and conditions that Australian governments have chosen for focused attention, are chronic in nature. These include:

1. Cardiovascular health.
2. Cancer control.
3. Mental health.
4. Diabetes mellitus.

The other priority area is injury prevention and control.

Chronic diseases impose an increasing burden to health care systems, and health services have needed to focus on the management of patients who suffer from chronic diseases through intense care coordination programmes such as the Hospital Admission Risk Program in Victoria. Important components of chronic disease management programmes are the proactive upstream care that improves quality of life, as well as reducing the risk of the patient's condition deteriorating to the extent where they require an acute admission.

There are many variations of how this is provided to the patient, and innovative health services have incorporated approaches such as using mobile technology, graded escalation protocols, and intensive self-care education into their programmes. Because the aim is to keep the patient well in the community, often the patients' GPs play highly important roles in managing their conditions.

A well-designed and executed chronic disease management programme achieves the following outcomes:

1. A net financial benefit to the health care system through fewer acute admissions.
2. Improvement in the patient's quality of life.
3. Better management of disease markers.
4. Co-decision, improved buy-in and adherence to agreed therapies.

Chronic disease management requires a population management approach. The segmentation of population groups by many health systems are variations of the well-known Kaiser Permanente Pyramid images of which is widely available on the internet.

Level 1 are those patients who make up 70–80%. Intervention seeks to encourage patients to be activated. Active participants in their own care learn to live with their conditions and manage it. This aims to help them prevent complications and slow down deterioration.

Level 2 are patients who are considered to be high risk, and their condition has progressed to a stage where active care management is required. This usually involves a multidisciplinary team that provides high quality evidence-based care to the individuals through following agreed protocols and pathways.

The highly complex patients are designated Level 3, where they have developed multiple comorbidities, and their care becomes disproportionately complex for them as well as the health system. A case worker is often required to actively manage the patient's health and help navigate through multiple health, social and community systems.

There are many who would argue that another level should be added to the Kaiser Pyramid, and this is at the level of health promotion for the general public, to prevent the whole of population even getting to Level 1. These sort of pri-

mary preventions include aiming to increase physical activity, reduce smoking rates, having a healthy diet, or increasing uptake of immunisations.

The components of disease management include:

- Population identification processes, including the increasing use of predictive modelling and pattern recognition.
- Evidence-based practice guidelines.
- Collaborative practice models that include physicians and support service providers.
- Patient self-management education.
- Process and outcomes measurement, evaluation and management.

It is important to ensure that disease management programmes are put in place not just to manage costs considerations, but just as importantly quality of care, otherwise they will have a high risk of failing.

16.12 Regional and Rural Health

Australia, with its vast land and low population density, creates some interesting challenges that are quite unique to health care. There are often challenges that medical managers face, which are different from those encountered while working in metropolitan areas.

It is recognised that the overall health status of populations in regional and rural Australia is poorer than their metropolitan city counterparts. Health outcomes, as seen with higher death rates, tend to be poorer outside major cities [19]. This is most likely due to a multitude of reasons, including higher concentration of the socio-economically disadvantaged, lack of infrastructure, challenges with access to timely or comprehensive medical care, and the difficulty of attracting high quality health care staff to the region.

According to AIHW, compared to major city dwellers, people in outer regional and remote areas are more likely to:

- Be a daily smoker (19% compared with 10%).
- Be overweight or obese (70% compared with 65%).
- Be sufficiently active (54% compared with 55%).
- Drink alcohol at levels that place them at risk of harm over their lifetime (24% compared with 15%).
- Have high blood pressure (24% compared with 22%).

There are clear differences that exist in health service usage between areas, for example, lower rates of some hospital surgical procedures or GP consultations but higher rates of hospital admissions. There are differences in risk factors, such as the population in regional and remote areas being more likely to engage in harmful activities, such as smoking or drinking alcohol in harmful or hazardous quantities. Environmental risks also play a part, such as having more physically dangerous occupations or factors associated with driving long distances or at speed.

Being in regional and rural areas means that health services are unlikely to be able to provide high complexity services, such as neurosurgery or cardiac surgery, due to a lack of scale. The decision for health services to provide these services is not taken lightly even if they could physically and financially afford to do so, as the low number of procedures means that the risk of poorer outcomes for patients is much higher. This invariably creates access difficulties for the communities, but could be mitigated to a certain degree by establishing strong partnerships with referral hospitals to facilitate access when required.

A significant challenge medical managers face in regional and rural areas is the difficulty of recruiting specialist medical staff. Often this can be costly, both in terms of one-off recruitment costs, as well as remuneration. Many health services still offer fee-for-service remuneration models, and medical managers need to be aware of the risks associated with such models, such as over-servicing and performing unnecessary procedures, or trading safety for perceived efficiency.

Doctors who move to the regions will also need to be supported in a variety of ways. Initially, this may be in the form of relocation assistance, but it will also include ensuring that there is sufficient peer support, opportunities for ongoing professional development and the ability to participate in clinical reviews and audits.

While residents of more inaccessible areas of Australia are generally disadvantaged in their access to goods and services, educational and employment opportunities and income, a unique characteristic of regional and rural populations is that they often have a very strong sense of belonging within the community, and if this community spirit can be harnessed, it can often contribute to the betterment of the region's health services.

16.13 Indigenous Health

While historically, it has been challenging to get accurate data to identify the extent of the problem, there has been significant progress in the availability and quality of statistical information on Aboriginal and Torres Strait Islander (ATSI) peoples over the last decade in Australia through the Census. Specific surveys of ATSI people have been conducted regularly to address gaps in health and welfare information to allow for monitoring changes over time.

What is clear, however, is that health and social outcomes for the Indigenous population are much poorer than the rest of Australia's population.

An Indigenous boy born between 2015 and 2017 can expect to live more than 8 years less than a non-Indigenous boy (71.6 years compared with 81.2 years) and an Indigenous girl about 7.8 years less (75.6 years compared to 85.3). Across all age groups, the Indigenous population has higher death rates than non-Indigenous Australians.

In addition to poorer life expectancy, there are other measures of health in which Indigenous Australians fare much worse when compared to the non-Indigenous population. This is referred to as the health gap. Some examples are listed below, where Indigenous Australians, after adjusting for differences in age structure [10]:

- Had incidence rates of end-stage kidney disease 7 times that of non-Indigenous Australians in 2007–2010.
- Had 3.3 times the rate of diabetes/high sugar levels of non-Indigenous Australians.
- Had 3 times the hospitalisations for respiratory conditions and more than twice as many hospitalisations for mental and behavioural disorders as non-Indigenous Australians.
- Had an obesity rate 1.5 times that of non-Indigenous Australians.
- Were 1.5 times as likely to die from cancer in 2007–2011 as non-Indigenous Australians.
- Had higher youth suicide rates than non-Indigenous Australians.
- Death rate in the 35–44 age groups is 5 times that of non-Indigenous Australians, and within the 0–4 aged groups death rate is more than double.

It is important to acknowledge that social determinants such as unemployment, lack of education, or increased behavioural risk factors contribute to this health gap, and there are also complex interactions between social determinants and risk factors. Of the social determinants, household income, highest level of schooling completed, and employment status have the largest estimated impact on the gap.

Australian governments have acknowledged this issue, through the Close the Gap Statement of Intent signed by the Prime Minister in 2008, and at the December 2007 COAG meeting at which the Australian governments committed to:

- Closing the life expectancy gap within a generation.
- Halving the mortality gap between ATSI and non-Indigenous children under 5 years of age.
- Halving the gap in reading, writing and numeracy within a decade.

In July 2020, a new National Agreement on Closing the Gap was endorsed by the Australian government and the Coalition of Aboriginal and

Torres Strait Islander Peak Organisations. This agreement provides a framework to address the entrenched inequality faced by Aboriginal and Torres Strait Islander people so that their life outcomes are equal to all Australians.

While progress has been slow [20], it is important to remember that the Closing the Gap Strategy was only operationalised in July 2009 [21]. The magnitude of the goals will require time, and a larger focus on access to appropriate primary health care services to detect, treat and manage treatable and preventable chronic conditions.

16.14 Gaps in Health

While health is the final common outcome desired, its achievement is contingent on the good functioning of many other processes and sectors. Historically, there has been an implicit assumption that through the implementation of narrow disease-specific interventions, broader health systems will be strengthened more generally. However, evidence of benefit for these selective health system interventions have been mixed [22]. Systems that are weak and fragmented may be further compromised by the over-concentration of resources in specific vertical programmes, leaving other areas under-resourced.

In Australia, the fragmentation of the health system with different governments funding different health programmes can lead to duplication of work processes, service disruptions in existing programmes, and distraction from core work activities.

It is also important to recognise the importance of sound governance, leadership and political will in order to improve the health of communities, whether from a national, state, or organisational perspective. Governments and organisations need to bridge the gaps between policies and their implementation, and address deeper sources of policy failure that can undermine health development.

Enlightened policy-making brings coherence to the delivery of health services and outcomes. It is important that the health of populations features as the principal concern of all health managers. Through inter-sectoral engagement, a platform must be created for coordination and consensus building across mutually reliant sectors. Such engagement will need to address multi-sectoral issues such as social determinants of health, macroeconomic policy, or health-related human rights.

16.15 Reflection

Many medical managers may not consciously realise that they work in public health, directly or indirectly. However, irrespective of whether one works in the public health unit of their local health department, or a private hospital, the work they are involved in often has a direct impact on public and population health. While governments have spent considerable efforts improving public health, legislation will always have a significant lag time behind accepted knowledge and quality initiatives, and it is essential that medical managers have an understanding of the challenges of contemporary public health issues, so that the solutions to problems that they implement take a more systemic approach, and benefits not only their health service but also the wider community.

16.16 Ready Reckoner

- Public and population health concerns itself with preventing disease, prolonging life, and protecting and promoting health through the organised efforts of society. Vulnerable populations often require a more specific focus.
- Medical managers need to be aware of what challenges the general public is at risk of, and the public and population health policies and legislation implemented in response to them. These policies affect health services and healthcare systems, and medical managers often play a significant role in moulding these requirements and implementing them effectively.

- Australia has an ageing population, with associated increases in chronic diseases. It also has an ageing health workforce with implications for the supply of care in the future.
- Historical public health interventions include public sanitation, clean water and food supplies, and immunisation programmes. Recent efforts can be seen through tobacco and seatbelt legislation.
- The spread of communicable diseases can overwhelm health services quickly, and the management requires a structured approach with good command procedures and clear communication channels in place. Medical managers also play a critical role in ensuring best practice infection control processes developed in health services including antimicrobial stewardship programmes, increasing hand hygiene compliance rates, and encouraging staff vaccinations.
- There has been significant effort by governments to reduce smoking rates, mainly through taxation and legislation, and improvements are being seen. Attempts to promote a safe drinking culture are still ongoing, but one of the largest challenges the health system is facing is the abuse of illicit drugs, in particular, methamphetamines recently. It will require a coordinated approach from relevant sectors to change this tide.
- Chronic diseases pose a significant burden to Australia and other developed countries. It requires novel ways of managing these patients, including use of risk stratification, predictive analytics, encouraging self-care and case management.
- Regional and rural populations have a different set of challenges compared to metropolitan populations due health conditions associated with lower socioeconomic status and access to general and specialist care.
- The Indigenous population in Australia have much poorer health outcomes than their non-Indigenous counterparts. This has much to do with social determinants of health, and lack of access to early identification and interventions.

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Politics, Policies and Media

17

Bennie Ng

Learning Objectives
By the end of this chapter, the learner should be able to:

- Understand the role and responsibilities of governments in the Australian healthcare system.
- Recognise that the Government is organised and supported by key people in the office and the Department.
- Learn about the process of policy development and linkage with annual and election cycles.
- Understand the roles and news cycles across different media outlets.

17.1 Introduction

17.1.1 Australian Political System [1–3]

Australia's system and style of government reflect British heritage and North American influence combined in a way that is uniquely Australian.

Australia is a federation whereby power and authority is shared between Commonwealth (federal) and State parliaments, governments and the courts. Australia is a federation of six States and two Territories which, together with self-governing Territories, have their own constitutions, parliaments, governments and laws. At the heart of the democracy is the Australian Constitution. It is a written document that provides the basic rules for the operation of the nation laid out under three separate titles: the Legislature (the Parliament), the Executive (Governor-General and the Ministers) and the Judiciary (the High Court and other courts).

Australia is a representative democracy. In this political system, eligible people vote for candidates to carry out the business of governing on their behalf. All eligible voters are expected to vote in general elections.

At a general election, the political party, or coalition of parties, with the majority of members, commonly known as Members of Parliament or MPs, in the House of Representatives becomes the Government and its leader becomes the Prime Minister. Since federation, the major governing political parties are the Coalition of Liberal Party of Australia and The National Party of Australia, and the Australian Labor Party.

The Australian Constitution gives the legislative power to the Commonwealth Parliament. The Commonwealth Parliament consists of the King or Queen, represented by the Governor-General, and two Houses – the House of Representatives, or the Lower House, and the

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Senate, known as the Upper House. The Parliament passes legislation. Proposed laws, or commonly known as Bills, have to be passed by both Houses of Parliament to become law.

The Commonwealth Parliament also authorises the Executive branch of the Government to spend public money by agreeing to government proposals for expenditure and taxation, scrutinises the administrative actions of the government and serves as a forum for the debate of public policy. Under this system, the Government provides members to the Executive branch of the Government led by the Cabinet and Ministry, and in turn led by the Prime Minister. Its role is to carry out the day-to-day government and administration of the country and to execute the laws. This is the central feature of a Westminster-style government following the United Kingdom model – in contrast to other systems of government, such as the United States of America, where the Executive is separate and not directly answerable to the Legislature.

Australia is a constitutional monarchy. A monarchy is a country where the position of head of state is inherited. A constitutional monarchy is one where the powers of the monarch or sovereign, the King or Queen, are limited by law or convention, and generally exercised only according to the advice of an elected government. In Australia, the powers of the King or Queen have been delegated by the Australian Constitution to his or her representative in Australia, the Governor-General. Instead, the Governor-General acts on the advice of the Prime Minister and the Executive Council. The Executive Council consists of ministers in the government.

When bills are passed by a parliament, they have to be assented to before they can become acts of Parliament or law. The Governor-General has a role in the legislative process by assenting bills to Acts.

The composition of the House of Representatives also determines who will form the official Opposition. The party, or a coalition of parties, which has the most non-government members in the House of Representatives becomes the opposition party and its leader becomes the Leader of the Opposition. The Opposition has the function, established by convention, of opposing the Government. The Opposition is an essential part of Australia's democratic system of government.

17.1.2 Government and Public Service

17.1.2.1 Prime Minister

The Prime Minister is the head of the Commonwealth Government. He or she achieves this position by being the elected leader of the party in government.

17.1.2.2 Premiers and Chief Ministers

The Premier or the Chief Minister is the respective head of the State or Territory Government. He or she achieves this position by being the elected leader of the party in government.

17.1.2.3 Ministers and Assistant Ministers

Ministers are answerable to the parliament for its action. Every Minister carries a specific portfolio of works and responsibilities determined and appointed by the Prime Minister, Premier and Chief Minister. For example, Treasurer is responsible for the budget, and the Health Minister is responsible for Health. Ministers are appointed from both Houses of Parliament. Assistant Ministers are appointed to assist or represent Ministers in their portfolio and administrative responsibilities.

17.1.2.4 Cabinet

The Cabinet, consisting of senior Ministers presided over by the Prime Minister, Premiers and Chief Ministers, is the Government's pre-eminent policy-making body. Policy is a course or principle of action adopted or proposed by an organisation. Major government policies and legislative proposals are decided by the Cabinet unless the Minister has the delegated authority.

17.1.2.5 National Cabinet

The National Cabinet was established on 13 March 2020 and comprises the Prime Minister

and state and territory First Ministers. The first priority of the National Cabinet was to respond to the urgent health and economic impacts of the COVID-19 pandemic. Prior to the establishment of the National Cabinet, the Council of Australian Governments (COAG) was the primary intergovernmental forum where the Prime Minister, state and territory First Ministers and the Australian Local Government Association (ALGA) worked together on policy reforms of national significance. While health continues to be a priority, First Ministers now utilise National Cabinet to collaboratively address a wide range of issues of national significance.

17.1.2.6 Public Service

The public service is the administrative arm of the Executive Government, accountable to the relevant ministers and the Parliament. Government departments and authorities, agencies, are charged with the responsibility of advising the government of the day and implementing government and parliamentary decisions. The public service is also known as the bureaucracy. Senior ministers administer the major departments and are expected to accept full responsibility for decisions made by their department. Other Ministers are responsible for particular areas of administration within a major department, or may be in charge of a smaller department. According to the Australian Bureau of Statistics, the public service employs over 2.6 million people across all three levels of government (254,000 in Commonwealth, 1.71 million in states and 192,000 in local governments) in June 2022.

17.2 Health Politics

17.2.1 Health System: Roles and responsibilities [4–8]

Australia has a well-recognised healthcare system that is ranked third in the world (behind Norway and The Netherlands) according to an independent assessment by The Commonwealth Fund in 2021. The system is a complex and interlinked network of healthcare structures including health professionals, payers, service providers, stakeholders and patients. All levels of government share responsibilities for the health of the population. They have roles as funders, policy developers, regulators and service deliverers and in many cases those roles are shared. The landscape was developed historically and reflects government and policy decisions made since the federation. Having a clear understanding of roles and responsibilities across different governments is the essential first step to navigate the health system.

Prior to World War II, health care was the responsibility of the States, with the Commonwealth's involvement in health limited to quarantine. The Second World War fundamentally changed the relationship between citizens and the state, with changes in taxation arrangement and the public perceptions beginning to shift about what governments should do. The Pharmaceutical Benefits Scheme (PBS) was introduced in 1948. With the support of the medical profession, Australia's first national health scheme was introduced by the Government in 1950 where individuals were free to choose whether they were covered by insurance. Since the early 1970s, the Commonwealth increased its involvement in health care. Universal health insurance was introduced with the creation of Medibank in 1975. The creation of Medicare in 1984 saw the Commonwealth and the States and Territories agreeing to provide free health care for all Australians in public hospitals. Since the 1990s, the Commonwealth's focus has expanded its areas of interest from primary care, mental health, medical research to workforce and private healthcare policies. Some of these have traditionally been the responsibilities of State's and Territory's Governments. Since 2020, COVID-19 has shifted the balance between Commonwealth and state and territories governments in how they interact and handle emergency response and health resources.

17.2.2 Healthcare Funding

Australia spends around 10.2 per cent of its GDP on health care, which is close to the Organisation for Economic Cooperation and Development (OECD) average of 9.7 per cent.

Australia spent an estimated $202.5 billion on health good and service in 2019–20. The Commonwealth and the States and Territories provide the majority of funding for health care. The governments provided $142.6 billion for health care, or 70.4 per cent of total health expenditure.

The Commonwealth Government will spend $105.7 billion in the Health portfolio, or about 16.8% of all federal government expenses in 2022–23. This compares to $227.5 billion spent on welfare and social security, $48.6 billion on defence, $36 billion on education and $24 billion on NDIS.

The Commonwealth has a distinct role in funding medical and pharmaceutical benefits through the Medicare Benefit Schedule (MBS) and the Pharmaceutical Benefit Schedule (PBS). The Commonwealth also provides Private Health Insurance rebates to encourage people to take out and maintain private health insurance. People on high incomes without private health insurance pay a Medicare levy surcharge.

The States and Territories are the majority funders of emergency care, ambulance and retrieval services, and follow-up community care services. The State and Territory Governments are responsible for delivering local, regional or specialised health services and have responsibilities to allocate and distribute monies accordingly. Local government plays a small role in funding health care..

The private sector contributes considerably to funding health care in Australia. This includes patient contributions, primarily through out-of-pocket costs and private health insurance premiums. Individuals accounted for almost $30 billion and private health funds for $16.7 billion, with a combined total of 23 per cent of total health expenditure in 2019–20 (Fig. 17.1).

17.2.3 Commonwealth and State responsibilities [8–10]

The Commonwealth is predominantly responsible for funding activities in medical services of general practitioners and medical specialists as well as significant subsidies in prescription medicines in the community. On the other hand, the States and Territories are responsible for the day-to-day running of public hospitals, ambulances, community and mental health services, and health infrastructure. Many policy roles in health are also shared between the Commonwealth and the States and Territories Shared policy areas include indigenous health, mental health, preventive health and health workforce. In addition, the not-for-profit and private sectors play significant roles in health care service delivery.

Policy decisions taken by a level of government can affect other levels of government. The following diagram summarise the responsibilities of the three levels of governments. Respective governments work within their remit of roles and responsibilities from funding, policy development to regulation, compliance and service delivery.

17.2.3.1 COVID-19

Prior to the pandemic, there were a significant number of intergovernmental agreements, plans and frameworks in place to deal with emergencies, including a pandemic. These were intended to ensure appropriate levels of coordination and cooperation between governments. For example, the *National Security Health Agreement 2008* deals with Commonwealth and State responsibilities concerning health emergencies and establishes a national coordination framework. There is also an *'Australian Health Management Plan for Pandemic Influenza'* that was prepared in 2014.

At the Commonwealth level, the *Biosecurity Act 2015 (Cth)* gives powers to the Minister for Health to make orders during a biosecurity emergency to prevent or control the entry or spread of the disease in the country. During the COVID-19

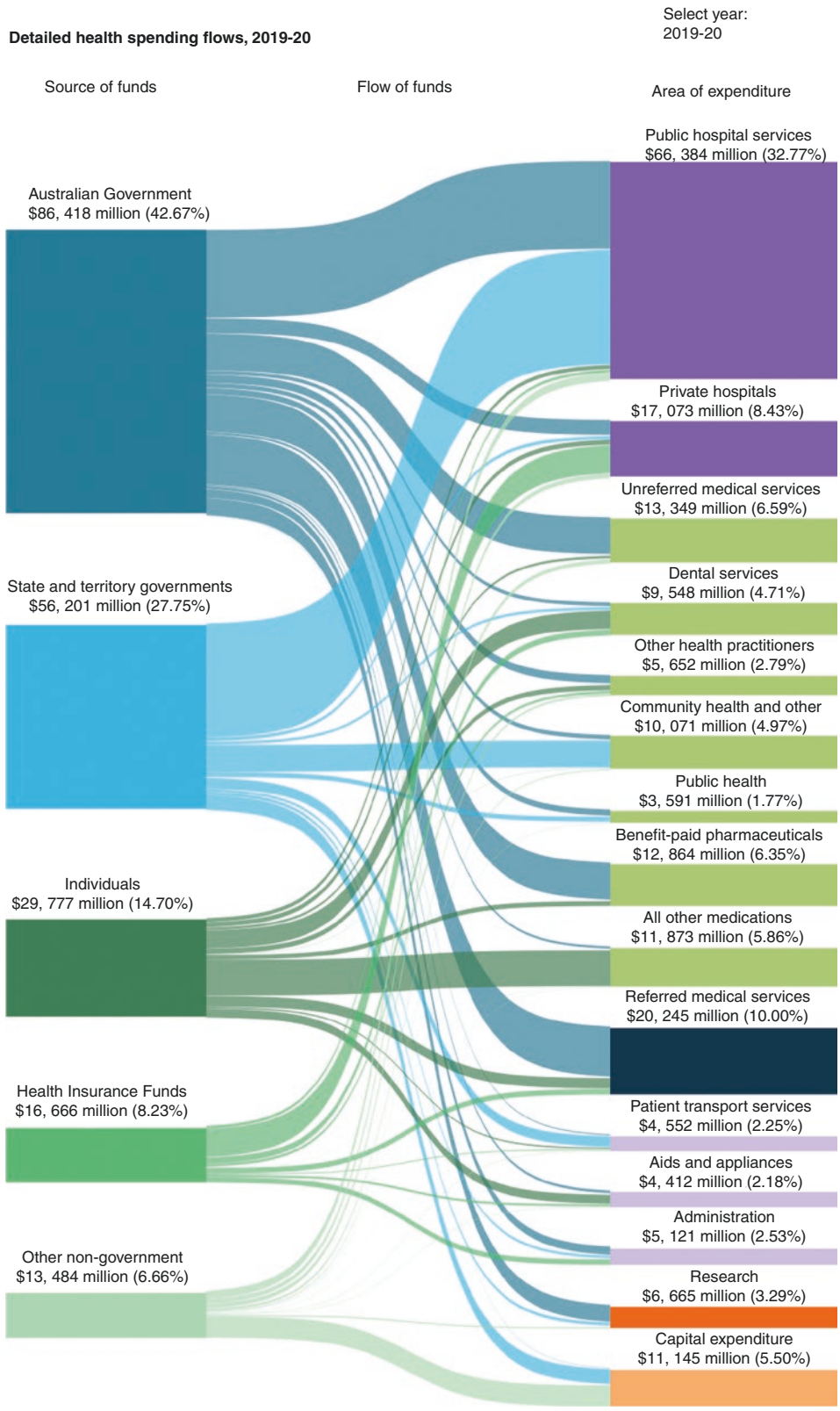


Fig. 17.1 Funding flows in Australian Healthcare arrangements 2019. (https://www.aihw.gov.au/reports/health-welfare-expenditure/health-expenditure-australia-2019-20/contents/main-visualisations/detailed-flows)

pandemic, this included limiting entry into and exit from the country, limiting access to certain remote communities and establishing an app for tracking and tracing persons who may have been exposed to COVID-19. The Commonwealth Parliament also approved various economic stimulus measures to support the unemployed and businesses to keep their employees employed.

At the State and Territories level, each has its own public health legislation and emergency legislation to deal with emergencies and pandemic. They exercised their powers to impose lockdowns, prohibit mass gatherings, limit the movement of people, close down non-essential businesses, schools, libraries and public facilities. They also instituted public health measures, such as providing COVID-19 testing facilities, quarantining those afflicted with COVID-19, instituting tracing and tracking procedures, issuing public health instructions regarding hygiene and safety, and requiring the use of masks in public.

Hon Mark Butler	From 2022	Labor
Hon Greg Hunt	2017–2022	Coalition (Liberals and Nationals)
Hon Sussan Ley	2014–2017	Coalition (Liberals and Nationals)
Hon Peter Dutton	2013–2014	Coalition (Liberals and Nationals)
Hon Tanya Plibersek	2011–2013	Labor
Hon Nicola Roxon	2007–2011	Labor
Hon Tony Abbott	2004–2007	Coalition (Liberals and Nationals)
Hon Kay Patterson	2001–2004	Coalition (Liberals and Nationals)
Hon Dr. Michael Wooldridge	1996–2001	Coalition (Liberals and Nationals)
Hon Dr. Carmen Lawrence	1994–1996	Labor
Hon Graham Richardson	1993–1994	Labor
Hon Brian Howe	1990–1993	Labor
Hon Dr. Neal Blewett	1983–1990	Labor

17.3 Key People [11–16]

People make up organisations. Identifying the right people who have policy decision responsibilities will enable productive interaction with the government.

17.3.1 The Health Minister

The Minister for Health (and Assistant Minister) as an elected official has ultimate accountability in healthcare. Ministers have complex and challenging roles with parliamentary, public and policy and internal demands from policy and strategy formulation to meeting and addressing stakeholders. In order to optimise the effectiveness of interaction with the Minister, it is critical to understand the minister's priorities, the organisation of his or her office, the relationship with his or her colleagues in the Cabinet or the portfolio and the public service.

Since 1983, the Australian Commonwealth Government has appointed 12 Health Ministers:

Health-care policies interact with other portfolios within the Government. For example, the Minister for Human Services (Services Australia) has responsibility for the administration of Medicare and other social service payments to consumers. The Minister for Veteran Affairs primarily looks after the health and welfare of returned personnel.

17.3.2 The Cabinet

Ministers of a large portfolio matters are answerable to the Cabinet on policy, financial and political perspectives. Ministers are expected to work in their policy areas and within the allocated budget. New ideas that have policy, regulatory or financial impacts for the Government will require approval by the Cabinet or its delegated authority. Prime Minister, Premier or Chief Ministers of every Government have overarching policy oversight. The Treasurers are responsible for budget policies, whilst Finance Ministers have oversight of the Government's expenses.

17.3.3 Members of Parliament (MPs)

In 2022, there are 151 elected members of the House of Representatives of the Commonwealth Parliament, each representing one geographic area of Australia. Members are elected for a 3-year term and, when in parliament, take part in debate on proposed laws and public policy, representing the views of the people in their electorate. In addition, there are 76 senators, 12 from each state and two each from the Australian Capital Territory and the Northern Territory, elected on a 6-year term. A Senator is a member of the Australian Senate, elected to represent a state or territory. Each member, whether in the House of Representative or the Senate, has an important voice within their party across any issue. For locally specific issues, the local member is the official representative for their constituents.

17.3.4 Parliamentary Committees

Parliamentary committees investigate specific matters of policy or government administration or performance. The Commonwealth Government Standing Committee on Health, Aged Care and Sport consists of government members and non-government members. It may inquire into and report on any matter referred to it by either the House of Representatives or a Minister, including any pre-legislation proposal, bill, motion, petition, vote or expenditure, other financial matter, report or document.

They also provide an opportunity for organisations and individuals to participate in policy-making and to have their views placed on the public record and considered as part of the decision-making process.

17.3.5 Ministerial Office and Advisers

A team of ministerial office staff and advisers provides support for their respective ministers. They provide support in policy, media, parliamentary and administrative matters from provision of advice, prioritising invitation to events and meetings, drafting speeches and correspondences, to liaison with other ministerial offices, departments and the public.

The lead of the ministerial office is the Chief-of-staff. Responsibilities are further divided into advisors and senior advisors. For example, different advisers share responsibilities across major policies area from acute care, primary care, Medicare, pharmaceutical benefits and medical research in health. Ministerial staff have grown in importance and play active roles in ensuring their ministers extend their capacity to advance the government's agendas.

17.3.6 Public Service

Under the Australian Constitution, Commonwealth ministers are appointed under *Section 64* to administer departments. From the health policy and administration perspective, the Department of Health provides administrative support for the Health Minister.

Public servants serve the elected government. The role of the public service is to advise the government of the day on policy matters and to implement government decisions and parliamentary legislation. The public service has traditionally operated under a system designed to ensure its independence and impartiality. It is openly accountable for its actions, within the framework of ministerial responsibility to the Government, the parliament and the Australian public.

The Commonwealth public service responsible for health is the Department of Health. Established in 1921, it has since undergone a number of changes in its name, function and structure. In broad terms, it has a diverse set of responsibilities but with a vision aligned with those of the health professionals and the population: Better health and wellbeing for all Australians, now and for future generations. Its key role is to provide evidence-based policy advice, deliver program management, research, regulation and in partnerships with other government agencies, consumers and stakeholders.

Under the *Public Service Act*, departmental secretaries are appointed to manage the depart-

ment 'under the minister'. The Secretary is the head of the Department and has overall responsibility for the management and oversight of his or her portfolio.

The Australian Commonwealth Government has appointed ten secretaries for the Department of Health since 1984:

Prof Brendan Murphy	From 2020
Glenys Beauchamp	2017–2020
Martin Bowles	2014–2017
Jane Halton	2002–2014
Andrew Podger	1996–2002
Stephen Duckett	1994–1996
Anthony Cole	1993–1994
Stuart Hamilton	1988–1993
Anthony Ayers	1987–1988
Bernard McKay	1984–1987

The head or the 'CEO' of the Department is called the Secretary or Director-General. They are the key links to the Government and the Health Minister and their ministerial office. Departmental officials are accountable for the advice to the Minister, the Government and the public through questioning by, for example, the Senate Estimates Committees.

The leadership group of the Department consists of senior executives called Deputy Secretaries, First Assistant Secretaries and Assistant Secretaries. The Health Department is organised according to policies and functions. In addition to their delegated authorities from the executives, they have prime responsibilities in determining resource allocation, engaging with stakeholders and ensuring objectives and compliance of policies are met. The senior executives are, in turn, supported by executive-level officers and administrative officers who deliver implementation, administration and evaluation of government programmes (Fig. 17.2).

17.3.7 Chief Medical Officers and Chief Health Officers

In the midst of the COVID-19 pandemic, Chief Medical Officers and Chief Health Officers have become central actors and occupy a critical leadership role in the global crisis of a greater scale, scope and duration than what their predecessors have encountered. Many have regularly appeared at press conferences and issued statements together with ministers.

The Chief Medical Officer (CMO) is the most senior medical personnel providing advice to the Health Minister, the Commonwealth Department of Health and the Commonwealth Government. The position is a medical appointment, reporting to the Departmental Secretary for the Department of Health. Within this department, there are many medical professionals who also provide policy and administration expertise.

Legislation in each state and territory jurisdiction gives the Chief Health Officer (CHO) varying degrees of institutional power. This not only affects their role, but how outbreaks are defined and managed.

In New South Wales, Queensland, Tasmania, Western Australia, the CHOs have the power as public health emergency 'controllers' for pandemic management. Queensland's CHO has the most power as he/she is also the final decision-maker on public health restrictions (most notably borders) 'in consultation' with the Premier. NSW's CHO also holds the deputy director-general position, but the premier is the final decision-maker. In comparison, Victoria's CHO has neither the deputy director-general role nor 'controller' oversight of emergency procedures.

The Australian Health Protection Principal Committee (AHPPC) is the key decision-making committee for health emergencies. It comprises all state and territory Chief Health Officers and is chaired by the Australian Chief Medical Officer. It has an ongoing role in advising the Health Ministers' Meeting (HMM) on health protection matters and national priorities. The AHPPC oversees 5 standing committees and one advisory group:

- Blood Borne Viruses & Sexually Transmitted Infections Standing Committee.
- Communicable Diseases Network Australia.

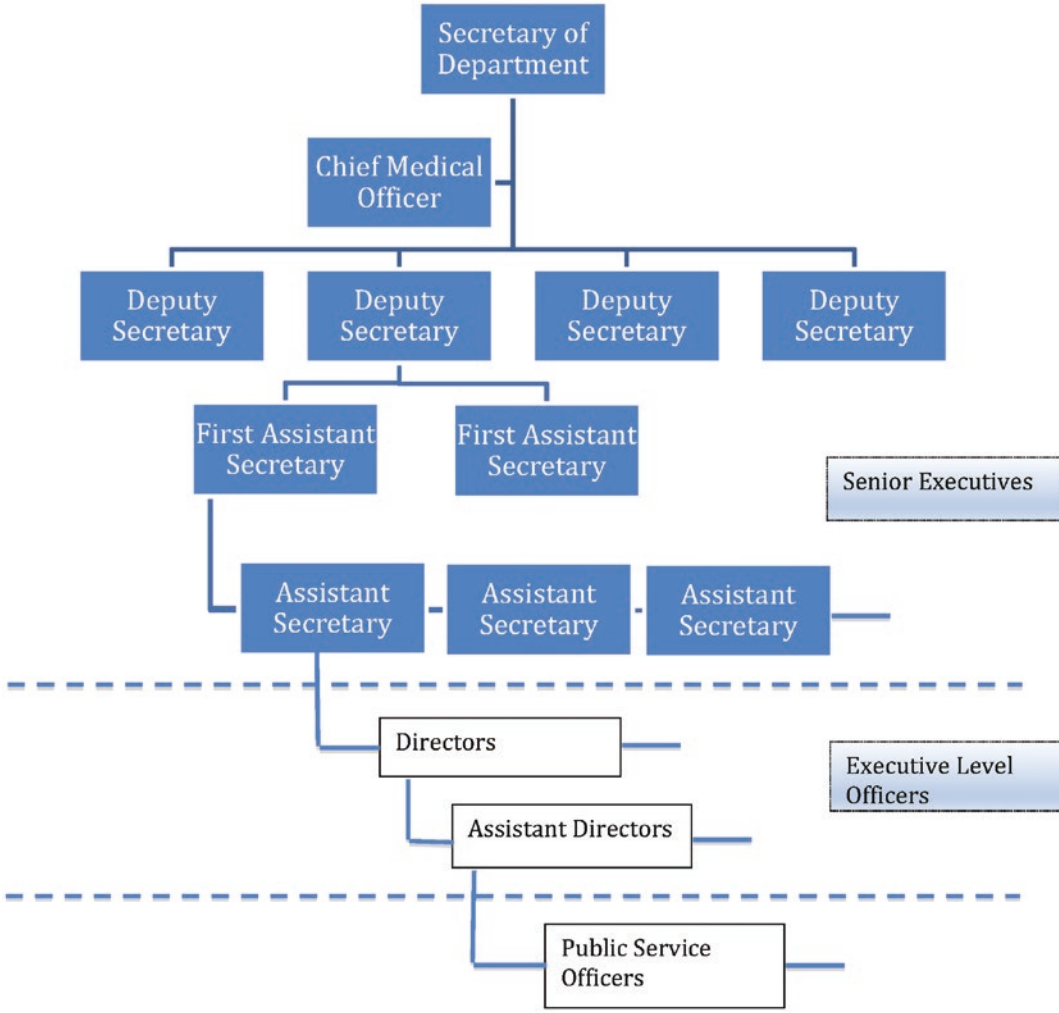


Fig. 17.2 Typical organisation structure of a Commonwealth Department of Health

- Environmental Health Standing Committee.
- National Health Emergency Standing Committee.
- Public Health Laboratory Network of Australia.
- Aged Care Advisory Group.

17.3.8 Government Agencies

The Health and Aged Care portfolio includes many agencies and statutory office holders to deliver the Australian Government's health policies and programmes.

All portfolio agencies are directly financially accountable to Ministers, Parliament and/or the Australian Securities and Investment Commission under the Public Governance, Performance and Accountability Act 2013 (PGPA Act).

For example, the regulators are

- Australian Radiation Protection and Nuclear Safety Agency.
- Office of Gene Technology Regulator.
- Australian Industrial Chemicals Introduction Scheme.
- Therapeutic Goods Administration.
- Office of Drug Control.

17.3.9 The States and Territories

As the system manager, states and territories health departments are central co-ordinator for public health, crisis management and hospital service delivery. More importantly, they formulate objectives, deliverables and the budget for local health services. Structures of state health departments are also hierarchical. However, not all department structures, functions and links with health services are the same. For example, the New South Wales Ministry of Health has a central head office linking with local health districts and specialty health networks such as children's and justice, plus health organisations including ambulance, infrastructure and statewide agencies for innovation, information, clinical excellence and education and training.

To facilitate better local decision-making, many states and territories have established separate local or regional health governance structures to organise and co-ordinate service delivery via a cluster of hospitals and health services as a network. These bodies, which are governed by their own boards, have different names and are known as Local Health Districts or Networks or Service Providers.

Separately, the Commonwealth Government has also created thirty-one Primary Health Networks (PHN) across Australia, which are designed to align with Local Health Districts, with the broad objective of better identifying population needs and procure services that bridge primary and acute care services closer to the patients.

17.3.10 Private Healthcare

Over 11.76 million (or over 45.2% of the population) Australians are covered by private health insurance, with private hospital coverage in September 2022. The private health sector plays an important role in taking the strain off the public hospital system. It delivers over two-thirds of elective surgery in Australia.

It gives the option to patients to be treated by his or her own doctor and allows more control over when and where to be treated. The private healthcare system has a range of key health professionals and hospital service providers, insurers and medical device manufacturers.

Private healthcare is highly regulated by the Commonwealth Government. The *Private Health Insurance Act 2007* governs the incentives, operations and premium regulation of the sector. Insurers must apply to the Australian Government Minister for Health for approval to increase private health insurance premiums. This is called the annual premium round.

The Commonwealth Government also has responsibilities in setting prostheses pricing through the independent Prostheses Listing Advisory Committee (PLAC) for all private patients. The Prostheses List is the list of surgically implanted prostheses, human tissue items and other medical devices that private health insurers must pay benefits for when they are provided to a patient with appropriate health insurance cover as part of hospital treatment or hospital substitute treatment, and there is a Medicare benefit payable for the professional service.

You can read much more about the private health sector in Chap. 14.

17.3.11 Professional, Consumers and Patient Groups

Professional, consumer and patient groups play a key role in advocacy, consultation and communication of policies between government and the community. Most of these organisations are not-for-profit or membership based and have a specific remit to represent specific causes and agendas. These third parties are of particular interest to government as they have the ability to amplify or attenuate its policies and messages. They can provide direct support and act as an informal sounding board to channel ideas or resolve issues. But because of the large number of professionals and community organisations, they compete to gain support and attention. Some are more influential than others.

Examples of significant groups included are the established and traditional peak bodies such as the Australian Medical Association, the Australian Nursing and Midwifery Federation, the Pharmacy Guild, medical colleges and societies, nursing and allied health professionals peak bodies; consumer, organ or disease-based groups such as Consumer Health Forum, the Heart Foundation and Diabetes Australia; and industry peak bodies such as Private Healthcare Australia, Medicines Australia, Australian Private Hospitals Association and Medical Technology Association of Australia.

17.3.12 External Consultants

Many organisations, especially advocacy groups and larger corporation, choose to employ their own specialist staff with knowledge of the system to handle government-related issues. However, there are government relations firms and lobbyists, which provide services for stakeholders in navigating the parliament, government, ministers, ministerial offices and public service. Specialised knowledge of government and public service has encouraged the growth of government-relations consultants who are professional specialists in advocacy and issues management. Some states and territories require these lobbyists to be registered and follow a code of conduct.

17.4 Health Policy [7, 11, 17]

Health policy-making is a complex process led by the government with significant interaction with the public service and health stakeholders.

17.4.1 Policy Cycles

Policy development is closely linked to political and public service operation cycles.

The Australian democratic system allows voters to vote for their preferred local representative at elections. Election cycles vary between different governments. The Federal Government is conducted over a three-year cycle with states and territories offering fixed and variable terms over 3–4 years. Ministers are appointed and sworn in after the government declared. Once this is commenced, the government and its departments will deliver and operationalise new policies and continue to conduct other businesses as usual.

Governments, like large corporations, operate in an annual budget operation cycle. In addition, governments operate in a natural political cycle between elections. Every government has its own style and culture, but they also have prescribed processes, protocols and timelines to follow as determined internally and stipulated by laws. Understanding the timing of government processes will assist policy formulation and decision-making within your own organisation.

The most important process of governments is the budget. Like any business, revenue and expenses forecast is critical to the running of an organisation. The budget reflects the government's resource allocation against its priorities for the country. The Treasurer of the Commonwealth Government usually delivers the budget on the second Tuesday in May every year. New policy initiatives and budget allocations will still require legislative approval in the Parliament before they become law and funds can be made available (Fig. 17.3).

The other significant time for policy formulation is the election. The political party which wins the election has the intention to fulfil their promises by prioritising the allocation of resources to these policies. Prior to the election, major parties formulate and announce their policies with the aim to capture the attention of the public about their vision and their plans. The process leading up to the election is varied depending on the political party, but internal approval steps are more flexible and adaptable as the public service is not involved. For example, prior to the 2016 election, the Government promised to provide the Health Minister with more authority to list medicines recommended by the Pharmaceuticals Benefits Advisory Committee (PBAC) by lifting the threshold so that approval of medicines that do not cost more than $20 million in any of the first 4 years of its listing can be

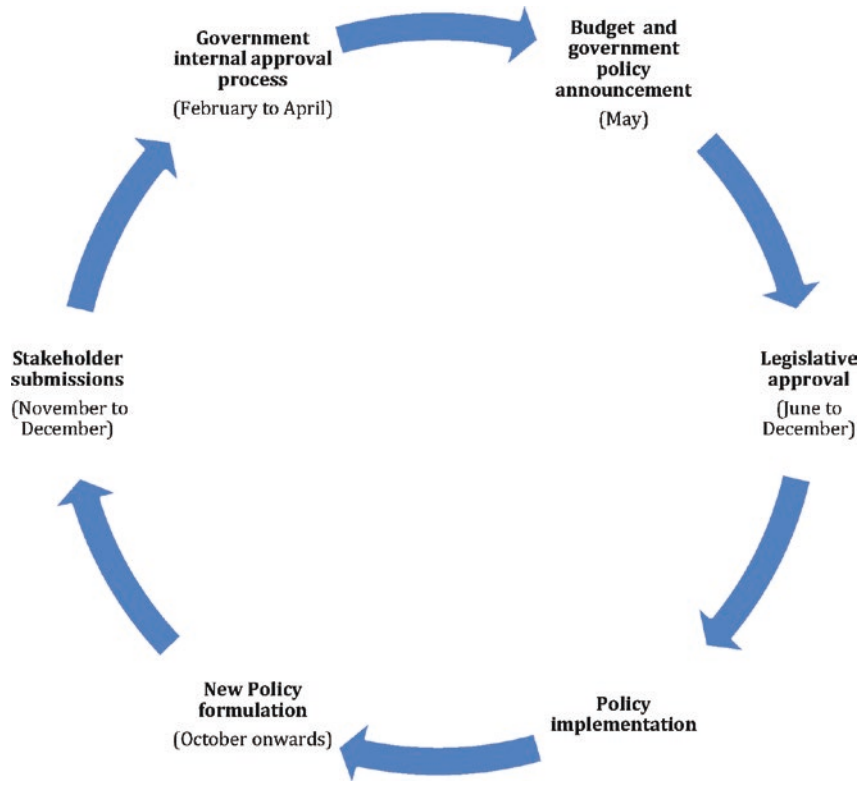


Fig. 17.3 Budget cycle

expedited. This promise was subsequently enacted after they were re-elected to government.

17.4.2 Policy Design and Process

Governments use both a top-down and a bottom-up approach in policy formulation. Some policies and details are solely driven by the Government of the day. Others policies are reactive and developed as a result of external events. In practice, most policies are developed with input from bureaucracy, stakeholders and the community. Every government is responsible for policy development from decision, formulation to implementation. A rigorous process is essential so policies are balanced, appropriate resources are allocated and risks are appropriately addressed. This would allow new ideas to be prioritised, evaluated and reviewed prior to it becoming an official policy. Individuals, businesses and community groups have opportunities to submit their views regarding their priorities about 6 months before the budget every year (Fig. 17.4).

Once submitted, the Minister and the Department assess proposals against each other and priorities of the Government. Once assessed and triaged, the responsible Minister has the carriage to propose fully costed proposals for the Cabinet or its delegated authority for consideration. Since the 1983 Government, the Expenditure Review Committee (ERC) consisting of a panel of selected Ministers and MPs has the critical role of considering all new policy proposals. This is a highly intensive process, and, depending on the number and quality of proposals, many will not pass this test. The Government and central agencies of the public service, such as the Department of Prime Minister and Cabinet or Premier and Cabinet, the Treasury and Department of Finance, also have to ensure that policy intents are strategic and co-ordinated across portfolios.

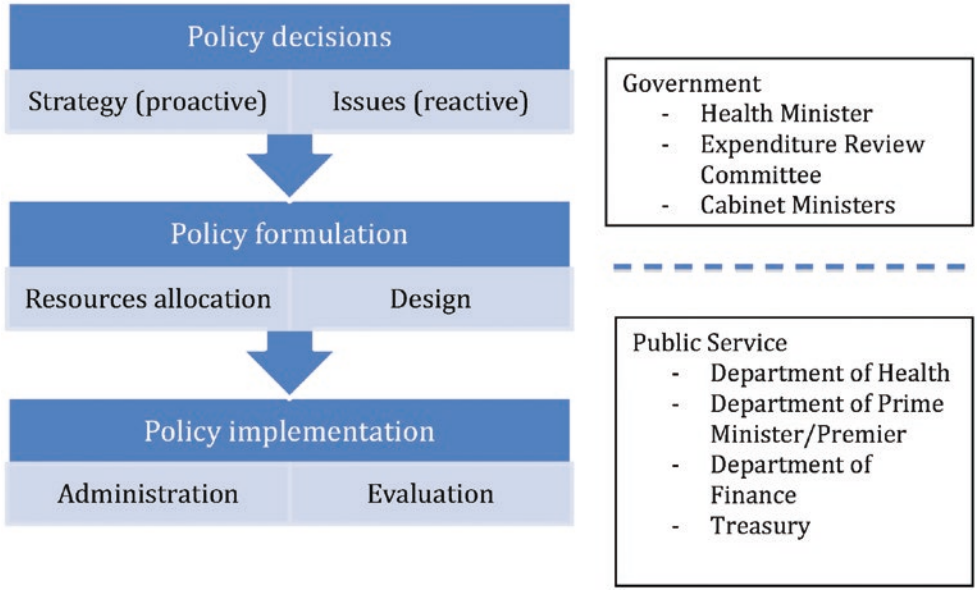


Fig. 17.4 Policy roles: Government and public service

Any organisation or individual can approach the Government, ministers or any members of parliament to advocate and debate ideas at any time. However, the level of engagement will be variable depending on government strategies and priorities, budgetary constraints and opportunity costs and competition against other worthy policies. Every portfolio has its own short, medium, long term vision, goals and deliverables as outlined in their strategic plans. New, unsolicited proposals, which require a robust business case, often take time to refine and gain support but also threaten to disrupt existing plans. Successful prosecution of policy proposals which are advocated in isolation, out of sync with budgetary cycles and not congruent with the portfolio strategy is difficult.

One exception to the 'cycle' was observed during the pandemic. Telehealth has been a solution to the problem of the need for remote access to health care but has not been supported by Medicare except for isolated items in rural and remote areas prior to the pandemic. With the increased spread of infection from COVID-19 and the need for political imperative being higher, telehealth became an important policy solution to solve the problem of access to healthcare and COVID transmission.

Good execution and implementation of policy is integral to policy development. The public service has the vital role of ensuring tax-payers' monies are used appropriately through good procurement and contract management. They also have the responsibility of ensuring program objectives are delivered, and government resources are accounted for through evaluation, audits and public reporting.

17.4.3 Working Together: Commonwealth and the States and Territories

All levels of governments are sovereign in their respective jurisdiction. Elected officials and their respective public service are expected them to deliver against their responsibilities. However, opportunities exist for collaboration to improve the system so there is less waste and better outcomes.

In June 1968, a Conference of Commonwealth, state and territory health ministers agreed to form the Australian Health Ministers Council to meet at least twice yearly to discuss major health

policies. The Council was renamed the Health Minister's Meeting (HMM) in 2020.

The HMM enables health ministers to progress collaborative decisions and actions on issues of national importance. The HMM forum focuses on issues outside the Health National Cabinet Reform Committee (HNCRC) remit.

The HNCRC is a National Cabinet committee that undertakes specific, time-limited tasks assigned directly by the National Cabinet. It manages matters of national significance that need all governments to work together. The HMM works with the HNCRC to align national priorities and achieve complementary work programmes.

Through the HMM, health ministers:

- consider legal and regulatory health matters covered under national law and provide governance on issues agreed to in national agreements;
- oversee work administered by ministerial authorities on behalf of government;
- deliver national health improvement strategies outlined in annual work plans;
- progress matters as delegated by the National Cabinet, outside the HNCRC remit.

In 2021–22, the HMM's priorities are:

- actively managing the COVID-19 pandemic response and vaccination rollout;
- implementing the National Health Reform Agreement (NHRA);
- health and medical workforce, with a focus on rural and regional areas;
- aged care and National Disability Insurance Scheme (NDIS) Interface;
- long-term dental strategy.

Ministers can also delegate some functions to the Health Chief Executives Forum (HCEF), formerly known as the Australian Health Ministers' Advisory Council (AHMAC). HCEF comprises the secretaries and directors-general of every government health department. The HCEF supports the Health Ministers' Meeting (HMM) to deliver national work priorities, and its governance and processes align with the HMM and National Cabinet. The HCEF has established 3 specialist working groups to advise on and help deliver specific areas of the work program for these priorities within the Health and Aged Care portfolio:

- Health data and digital transformation.
- Health practitioner workforce.
- Aboriginal and Torres Strait Islander Health.

The following ministerial authorities, statutory bodies contribute to the national health system and report to the HMM and HCEF when required:

- Australian Health Practitioner Regulation Agency (AHPRA),
- Australian Commission on Safety and Quality in Health Care (ACSQHC),
- Australian Institute of Health and Welfare (AIHW),
- Australian Digital Health Agency (ADHA),
- Healthdirect Australia,
- Independent Health and Aged Care Pricing Authority (IHACPA),
- National Health Funding Body (NHFB),
- National Blood Authority (NBA).

17.5 Communication with the Minister

Workload of a minister is large with heavy commitments in the respective portfolio, the parliament, the political party and the electorate. In addition to officiating functions and duties, a big part of the minister's job is to deal with multiple official and personal correspondences they have to attend every day. This includes office, departmental or stakeholder notes and briefs, as well as texts, emails or voicemails.

Communication occurs both ways. Ministers can request departmental briefings for issues and meetings from the public service. On the other hand, they receive a significant volume of incoming correspondence from other governments, ministers, departments, stakeholders and the general public.

The ministerial office and the public service provide critical support for the Minister in triaging, managing and responding to these correspondences.

17.6 Media [18–22]

Effective public communication is a critical element of a health system. Maintaining a dialogue with the public demonstrates ongoing commitment and relationship. This enhances trust, which is a crucial ingredient to the society's effective response to a crisis or emergency. While the government, public service and organisations can quickly disseminate information directly to consumers and citizens due to advances in electronic communication, the most important channel is still through the media. Knowing how the media and public relations work will help in understanding an issue with public interest and dealing with external questions and campaigns. On the other hand, working with media can help to educate patients and those in the community and may facilitate the promotion and positioning of the branding of an organisation.

17.6.1 Print and Broadcast Media

Controls over media ownership in Australia are laid down in *the Broadcasting Services Act 1992*, administered by the Australian Communication and Media Authority.

Ownership of newspapers nationally and across each capital city is dominated by News Corporation and Fairfax Holdings. News Corporation titles account for nearly two-thirds of metropolitan circulation and Fairfax-owned papers account for a further quarter. *The Australian* and *The Australian Financial Review* are the only daily national newspapers. There are 10 state/territory daily newspapers, at least 30 major regional daily newspapers and hundreds of other regional and suburban newspapers. All printed state and territory newspapers are important content generators including *The Daily Telegraph, Sydney Morning Herald, The Herald Sun, The Age, The Courier Mail, The West Australian* and *The Adelaide Advertiser*. Television is still a powerful medium that engages with a large Australian audience. There are three major commercial television networks: the Seven Network, the Nine Network and Network Ten and two public television broadcasters, the Australian Broadcasting Corporation and Special Broadcasting Service. In addition, there are over 250 operational commercial radio stations and over 300 community or publicly funded radio stations. The reach of both television and radio is still large with news programmes attracting very large audience.

17.6.2 News

About 20.6 million Australians over the age of 14 engage with news every month in 2022. News readership is largely digitally driven, with 19.6 of the 20.6 million readers engaging with news in digital channels each month. About 13 million people read a printed newspaper in Australia. Less than 5 per cent of Australians read news solely in printed format. According to Roy Morgan's research, the Sydney Morning Herald and The Age are the top-ranking newspapers with a 4 week average 8.4 million and 5.8 million readers, respectively. The Australian Financial Review averages 3.7 million.

17.6.3 Digital News

More than 93% of Australians aged 18 years and over (18.67 million people) can be reached online on any digital devices. About 80% (16 million) on a computer device an 89% (17.8 million) on a mobile device. 70% of adult online time spent is on a digital device, whereas 29% is spent on a computer. On average, an Australian adult spends about 81 h 28 min per person on any device per month.

The category where Australians spend the most time online is on current events and global news. On average, 17.8 million people spend

about 2 h 30 min per week consuming news content. ABC News website holds the top position with a unique audience of 11.4 million. Nine.com.au is in the second place with a unique audience of 10.6 million, and News.com.au is in the third spot (10.4 million) according to the Neilsen survey in December 2020.

17.6.4 Social Media

Participation in social media by the general public has increased sharply over the past decade. In December 2021, the most popular platforms by unique visitors in Australia are Facebook (17 million), YouTube (16.5 million), WhatsApp (12 million), Instagram (10 million) and LinkedIn (6.5 million).

Social media provide healthcare professionals and providers with tools to share information, to debate and advocate health-care policy and practice issues, to promote health behaviours, to engage with the public, and to educate and communicate with patients, and colleagues.

17.6.5 News Cycle

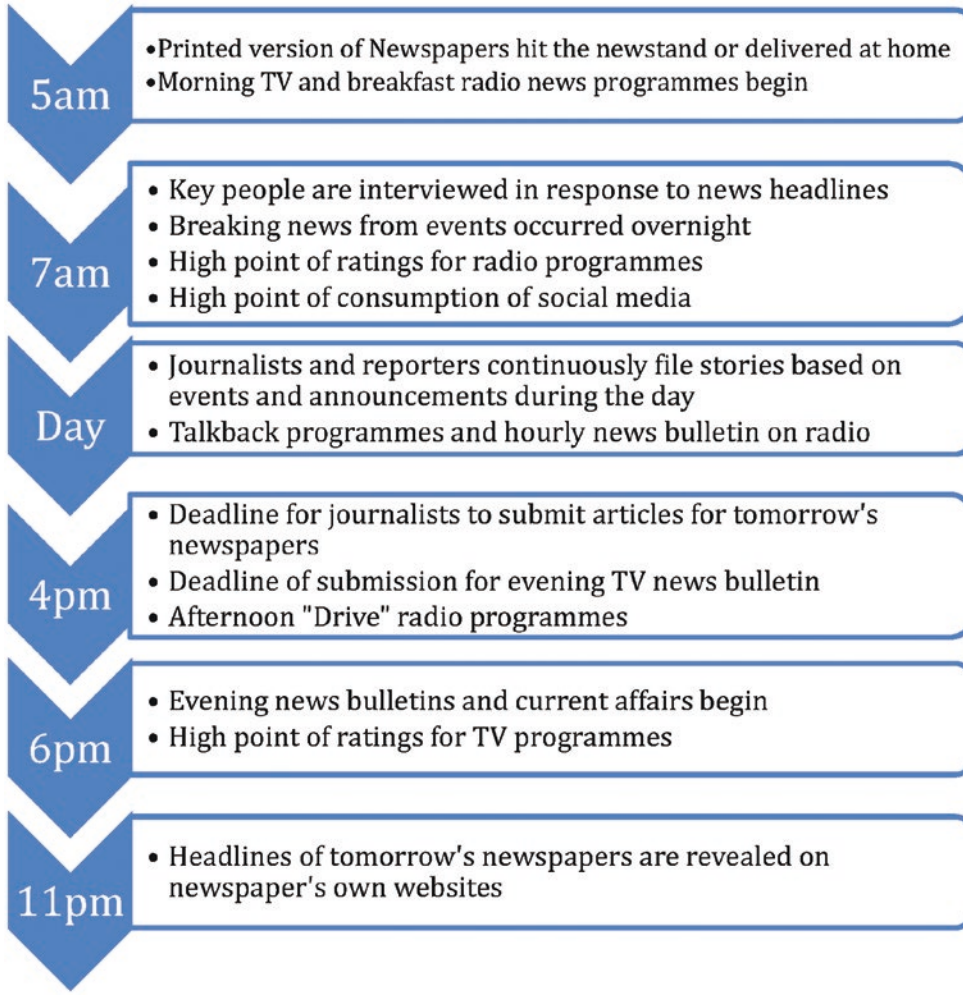
Newspapers, TV stations, radio and digital operations all operate on different news cycles that are inextricably interlinked. A perfect event promoted at the wrong time will receive little coverage. On the other hand, a bad event at the right time in the news cycle often gets promoted. Medical leaders must be cognisant of media deadlines. Failing to meet your commitment decreases personal and organisational credibility and opportunities for future engagement.

Newspapers are still one of the most respected sources of journalism and content generation. They are printed once a day and are most influential in the morning by providing lead articles for other media outlets including TV and radio. Increasingly, newspapers have adopted electronic communication in a more interactive 24-hour news cycle approach.

Television news is most authoritative in the evening when the audience is high. Main news bulletins between 5 and 7.30 pm across all television networks provide a summary of key events of the day and attract audience in the millions.

Radio news is the most prolific with hourly headlines during the day. Talkback programmes are popular with some segments of the community and rate very well. Radio still remains a powerful medium in Australia, especially at breakfast and evening programmes.

17.6.6 The Daily Media Cycle



17.6.7 Health Media

In Australia, there are limited specialised daily news services dedicated solely to report in the health and medical sector.

In General Practice, the *Australian Doctor and The Medical Republic* publishes digital and print editions containing primary care policy or political news mixed with stories of clinical and professional interests.

From a clinical perspective, colleges and advocacy bodies publish scientific articles, opinions and stories embedded in their own professional newsletters, journals and publications. The Australian Medical Association publishes the *Medical Journal of Australia* monthly, which often generates interest in mainstream media. MJA Insights is a newsletter for medical professionals produced by the Medical Journal of Australia (MJA). Articles are written primarily by doctors. An overview is provided each week by its medical editor, Dr. Ruth Armstrong. It has the largest medical-newsletter subscription membership in Australia.

17.6.7.1 Health and Electronic Media

Healthcare providers can use social media to improve health outcomes, develop a professional network, conduct education and professional development, increase personal awareness of news and discoveries, motivate patients, and provide health information to the community.

Through different publications and online communities, they can read news articles, listen to experts, research medical developments, consult colleagues regarding patient issues, and network. Some share cases, discuss challenges, make referrals, disseminate research and engage in health advocacy. A growing minority of physicians also uses social media to communicate directly with patients to augment clinical care.

As social networking evolved, medically focused professional communities have been established on WhatsApp and Facebook. While some groups are formed by established organisations, many networks are developed organically and are often private and protected from non-members, such as the lay public and even members of other health professions. They provide participants with special interests to ask questions (usually non-clinical), share information and provide informal advice and opinion. Popular groups in Australia include *Creative Careers in Medicine, GP Down Under* and *Frequent Flying Doctors*.

17.6.8 Engaging with Media

One of the conventional ways to engage with journalists is by providing a media release. Its purpose is to gain the interest of traditional media outlets and journalists and provide the organisation's preferred position of the story and a single point of organisation's contact for follow-up. The advantage of using media release is that words can be directly used and later referenced without the fear of being misquoted.

Organisations usually have a person designated, such as a public relations or media officer, to handle media enquiries so the communication can be planned and prepared well in advance. Promoting and publicising work through broadcast and print media is competitive. Stories should have broad appeal with the intention of attracting a large audience.

Emails and social media enable quick and easy distribution of information but also allow people and organisations to engage with a large audience. However, there are inherent risks that should be weighed against the benefits, primarily due to the permanency of electronic information. Special attention should be made in situations where patients are identifiable and advertising or endorsement is involved. An innocuous post or tweet can have an unforeseen impact as once the information is posted, it is virtually impossible to remove. Once posted, it can be copied and forwarded onto others and potentially presented in a different context. Health professionals need to be aware that information circulated on social media may end up in the public domain and remain there, irrespective of the intent at the time of posting. Even writing emails could also have potential medico-legal implications. In social media, the lines of personal and professional use are often blurred. There is a high personal and professional reputation at stake.

Organisations including employers, professional bodies and medico-legal firms have developed protocols and guidelines in regard to electronic communication and, in particular, social media. Many provide guidance on best etiquette and appropriate use in an evolving space. For health professionals in Australia, there is a national policy that applies to all registered health practitioners. The Australian Health Practitioner Regulation Agency (AHPRA), in consultation with all professional boards, has developed a national policy designed to help practitioners understand their obligations when using social media. In summary, health practitioners should remember that the National Law, their National Board's code of ethics and professional conduct (the Code of conduct) and the Guidelines for advertising regulated health services (the Advertising guidelines) apply when using social media.

Registered health practitioners should only post information that is not in breach of these obligations by:

- complying with professional obligations;
- complying with confidentiality and privacy obligations (such as by not discussing patients or posting pictures of procedures, case studies, patients, or sensitive material which may enable patients to be identified without having obtained consent in appropriate situations);
- presenting information in an unbiased, evidence-based context; and
- not making unsubstantiated claims.

17.6.9 Communication During a Crisis

Media management is an essential part of a communication plan during a health crisis, a scare or a disaster. The public has heightened awareness during this period. Information obtained by individual, family and community at this time allow and empower citizens to make choices as it relates to personal safety and perceived risks.

Whether it is during a pandemic or a disaster, media events are critical to enable and mobilise a population responsively. Effective interaction with the media can reduce losses as timely dissemination of information should act as warnings before the event. The media can be used to convey instructions to the public, reinforce efforts to gain broad public support, reduce the number of enquiries and stimulate donation and funding campaigns.

Nowadays, electronic media allows instant updates during a crisis. Organisation should have a designated spokesperson for media appearances early so as to own the issue. This person must have honesty and integrity to ensure expectation is met across the community and enable any information vacuum to be filled. Most importantly, he or she is able to communicate to the audience that something is being done and the situation is under control. If the acute episode is well handled, it will engender trust and improve community reaction in the event of any future crisis.

You can read Chap. 10 for more information on crisis management.

17.6.10 Ready Reckoner/Reflections

- Governments play dominant roles in formulating and shaping health policies in Australia.
- Australia is a federation whereby power and authority is shared between Commonwealth and State parliaments, governments and courts. Statutory agencies and inter-government committees also have specific roles.
- The private health system, professional, consumer and patient groups are important players in our health landscape.
- Health policy development is closely linked to political and public service operation cycles.
- Identifying the right people who have policy decision responsibilities will facilitate and accelerate any interaction with the government. The Minister for Health has the ultimate responsibility for the health policies of the government.
- Workload of a government minister is large with heavy commitments in the policy portfolio, the parliament, the political party and the electorate.
- Effective and strategic communication in both oral and written means is essential. The Prime Minister or Premier, Cabinet ministers and their advisers are in critical positions to advice and shape policy development.
- The role of the public service is to support the government and policy matters, implement government decisions and parliamentary legislation and administrate government programmes.
- Knowing how the media works will improve your ability to deal with an issue with public interest and can help to educate your patients and those in the community.
- Newspapers is still one of the most respected sources of journalism content and provides the lead stories for other media outlets. The reach of both television and radio is large, with news programmes attracting large audience.
- The use of electronic, digital and social media has become essential operations in any organisation. However, professionals should be aware of the risks and benefits involved.

- Media management is an essential part of a communication plan during a health crisis, a pandemic or a disaster.

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Mental Health

18

Anand Choudhary

Learning Objectives
In this chapter, the reader will learn about:

- Burden of mental illnesses.
- Brief history of mental health in Australia.
- Policy context for mental health in Australia.
- Structure of mental health services.
- Pertinent issues within mental health services for the medical administrator.
- Mental health workforce issues.
- Activity-based funding for mental health services.
- Mental health legislation.

18.1 Introduction

The World Health Organisation views health as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity [1]. In recent years, there has been increasing recognition of the important role mental health plays in achieving overall happiness [2]. It is now acknowledged that poor mental health contributes to poor health outcomes, premature death, human rights violations, and global and national economic loss [3]. The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), published in 2021 has defined mental illness as a syndrome characterised by clinically significant disturbance in an individual's cognition, emotion regulation, or behaviour that reflects a dysfunction in the psychological, biological, or development processes underlying mental functioning [4]. A person, however, does not need to suffer from a mental illness to be adversely impacted by their mental health [5].

A health administrator who is responsible for the decision-making of mental health service provision ought to have an explicit understanding of mental illnesses, mental health services delivery and the issues around providing mental health care, as mental health services are now an integral part of an integrated continuum of health service care. The current chapter aims to discuss current structures and strategies of mental health service delivery in Australia, as well as legislations and common issues, to assist medical administrators in dealing with everyday situations.

18.2 Magnitude of the Issue

The impact of mental illnesses on society is widely known. A study was published in early 2022 [6] which attempted to understand the prevalence and burden of mental disorders across 204 countries and territories between 1990 and 2019. The study noted that the global number of Disability Adjusted Life Years (DALYs) due to

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mental disorders increased from 80·8 million to 125·3 million between 1990 and 2019, suggesting that mental disorders remained among the top ten leading causes of burden worldwide, with no evidence of any global reduction in the burden.

The 1997 National Survey of Mental Health and Wellbeing (NSMHWB) was the first nationally representative survey of mental disorders carried out in Australia and represented a landmark study in the epidemiology of mental disorders in Australia [7]. This same survey was repeated in 2007 and recently between 2021 and 2023. These surveys revealed important information about the mental health status of Australians. We know that the proportion of people between 18 and 65, accessing any mental health care service within the previous 12 months increased significantly from 1997 to 2007, from 12.4% to 21.4%. This percentage dropped to 17.5% in 2021, possibly due to lockdowns and restrictions. In 1997 and 2007 surveys, over 90% of participants aged 60 years or over with self-assessed mental health problems reported obtaining no help for their mental health problem [8]. According to the NSMHWB 2007 survey, the prevalence of any lifetime mental disorder was 45.5%. In 2021, this prevalence was relatively unchanged at 43.7%. In other words, over two in five Australians aged 16–85 years (8.6 million people) had experienced a mental disorder at some time in their life. The prevalence of any 12-month mental disorder was 18% in 1997, 20.0% in 2007 and 21.4% in 2021 (Fig. 18.1). There were other 4.4 million people who had a mental illness in their lifetime but not in the last 12 months (Fig. 18.2). In terms of the individual psychiatric disorders among people who experienced a mental disorder within the last 12 months (21.4%), anxiety disorders (16.8%) were the most common class of mental disorder, followed by affective disorders (7.5%), and substance use disorders (3.3%) [9].

Mental illness affects all of us, directly or indirectly. One in five Australians experience mental illness at any given 12 months. Mental

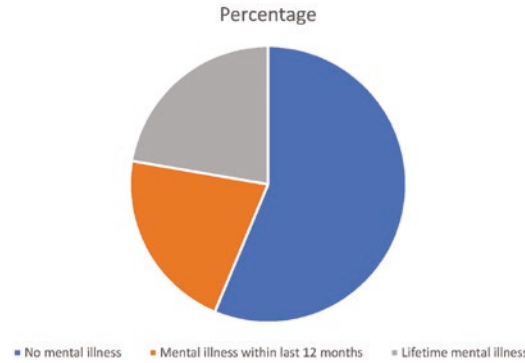

Fig. 18.2 Prevalence of mental illness in Australian population between age 18 and 65 (NSMHWB 2021)

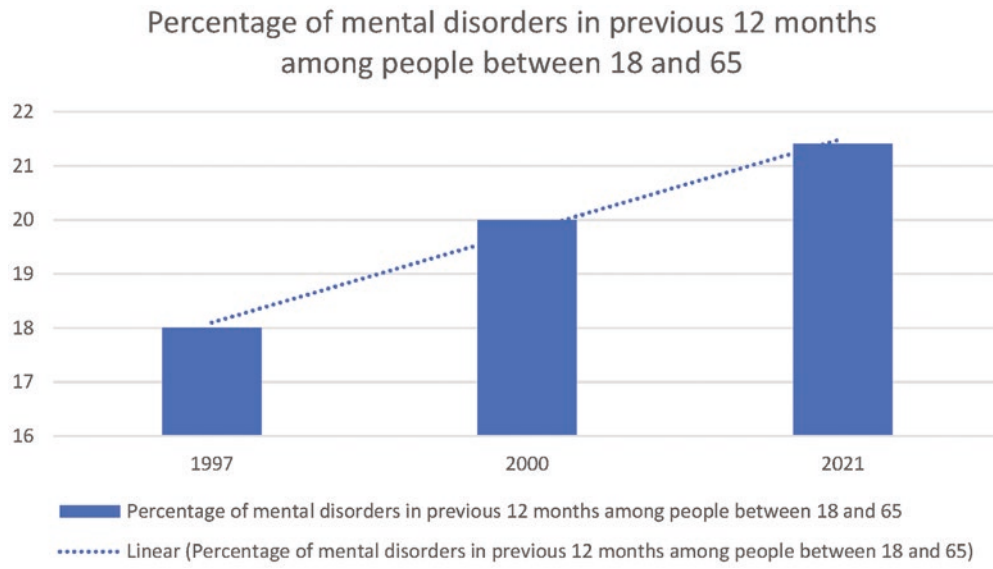

Fig. 18.1 12 Months Prevalence of mental disorders in age 18–65 (NSMHWB 1997, 2000, 2021)

and substance use disorders are important causes of disability and morbidity. The Australian Burden of Disease Study 2015 [10] examined the health loss due to various diseases and injuries that is not improved by current treatment. For Australia, Mental and substance use disorders were estimated to be responsible for 12% of the total burden of disease in 2015, placing it fourth as a broad disease group after cancer (18%), cardiovascular diseases (14%) and musculoskeletal conditions (13%) (Fig. 18.3).

Furthermore, three among six disease groups causing non-fatal burden of disease were mental illnesses [11] (Fig. 18.4). Non-fatal burden of disease is a measure of the number of years of 'healthy' life lost due to living with a disability.

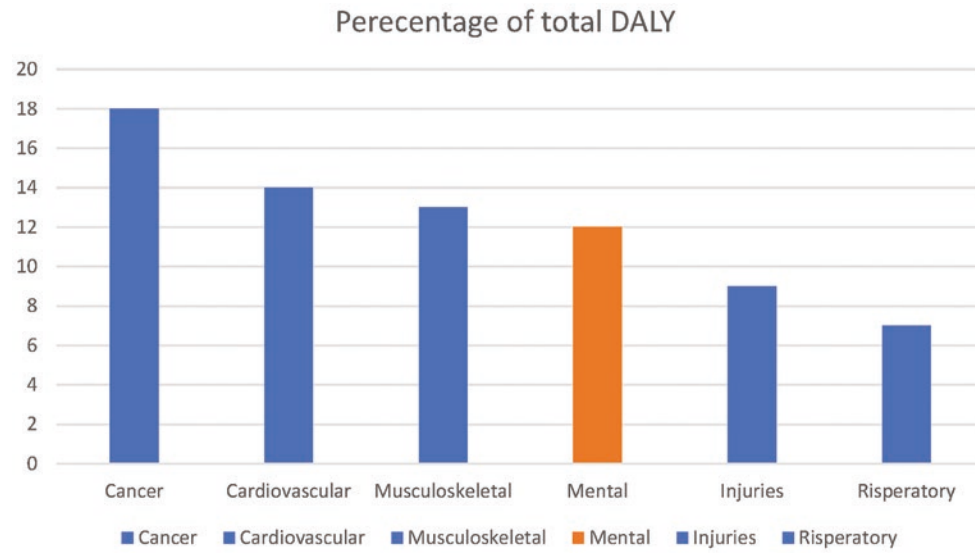

Fig. 18.3 Top 6 by the proportion (%) of total burden (DALY), by disease group in Australia in 2015 (The Australian Burden of Disease Study 2015)

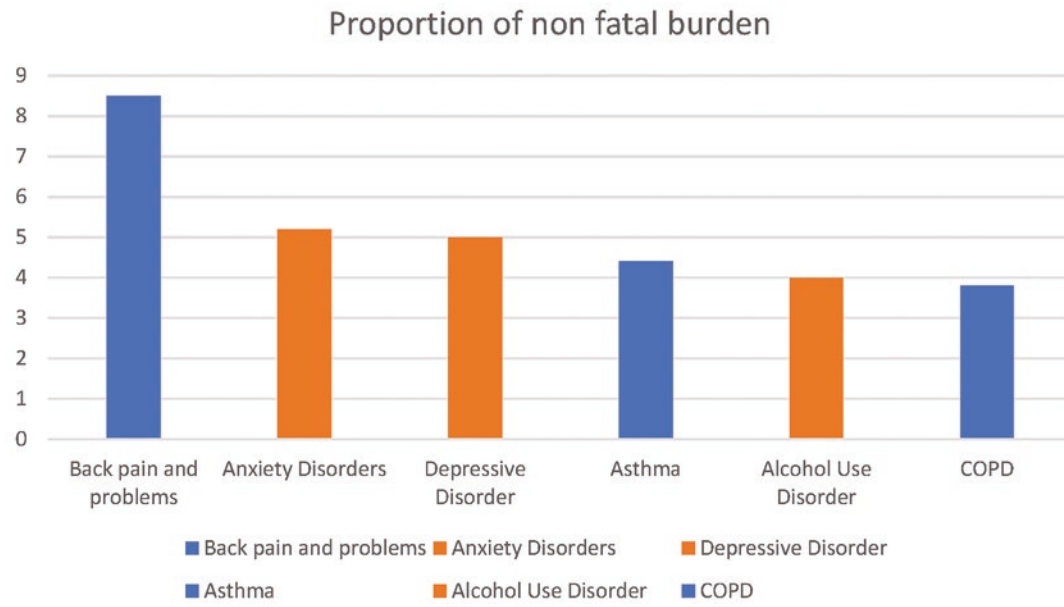

Fig. 18.4 Leading six causes of non-fatal burden in Australia in 2015

18.3 History of Mental Health and Services

Mental disorders have been of concern since ancient times. Interestingly, ancient theories about mental illness across different cultures often included beliefs that supernatural causes, such as demonic possession, curses, sorcery, or a vengeful god, are causing the unexplained symptoms of mental illness [12]. The treatments ranged from trephining (making holes in the skull to let the evil spirit out) to prayers, atonement, exorcisms or incantations [12, 13]. The first psychiatric hospital was established in Valencia, Spain, in 1410 CE [14] (Fig. 18.5), and moral treatments for mental illness were introduced in the late 1700s. It was Pinel who developed a hypothesis that mentally unhealthy patients needed care and kindness in order for their conditions to improve, and this humane approach was regarded as 'moral treatment' [15].

Sigmund Freud, an Austrian neurologist and psychiatrist, has been deemed by some as the father of modern psychiatry. He developed his theory of psychoanalysis, which gave rise to the practice of psychotherapy, which continues to be an important part of modern-day treatment [16]. The importance of Freud's works lies in the recognition of mental illness as similar to other illnesses. Freud's work opened doors for other mental health treatments, such as psychosurgery, electroconvulsive therapy (ECT), and psychopharmacology. These treatments are based on the biological model of mental illness, which considers mental health problems as being caused by biochemical imbalances in the body that can be treated like physical diseases. With its increasing use of medications along with other treatment

Fig. 18.5 A scene from an asylum

approaches such as psychotherapy and social interventions, modern-day psychiatry looks very different from how it was practiced a century ago. The effective use of pharmacotherapy has led to early and substantial improvements in mental illness minimising the need for in-patient care. This has led to the increased integration of the mentally ill population with the general population.

In Australia, criminals, the intellectually impaired and the mentally ill were clustered together in the Town Gaol at Parramatta due to them being seen as a nuisance to the community soon after the settlement. By 1811, a mental asylum was established at Castle Hill, New South Wales and an attempt was made to separate those who were criminal from those who were mentally ill [17]. Later, in 1838, a purpose-built psychiatric facility, Tarban Creek Asylum (later Gladesville Hospital) was established in Sydney. It wasn't until early 1980s, when the deinstitutionalisation process commenced following a landmark report by DT Richmond titled 'The Richmond Report'. This report uncovered the various abuses perpetrated against those individuals being held in institutions and argued for the deinstitutionalisation of people with mental illness [18]. Another seminal work was completed by the Human Rights Commissioner in 1992 titled Burdekin Report, which brought the human rights issues of overt abuse within institutions, and covert neglect in the wider community, to the attention of the general public [19]. For the next decade, Australian government implemented national mental health plans with the aim to improve genuine participation of consumers and carers, develop high-quality community-based mental health services and a broader population-based health promotion and disease prevention approach [20].

Deinstitutionalisation in Australia was certainly not in isolation. Europe had experienced a societal movement of deinstitutionalisation of the mentally ill population since the 1960s. This process commenced in Italy and expanded to other parts of Europe including the United Kingdom [21]. The United States of America also witnessed a significant reduction of admitted patients since the advent of pharmacotherapy, although the significant investment into community mental health did not occur until the end of the twentieth Century [22]. Research [23–26] within Australia and internationally has demonstrated beneficial effects of deinstitutionalisation for the mentally ill population. There have been positive changes in adaptive behaviours, perceived quality of life, improved choice making and reduction of maladaptive coping mechanisms.

18.4 Policy Initiatives and Frameworks

Following the Human Rights and Equal Opportunity Commission (HREOC) inquiry into human rights and mental illness (the Burdekin Report) in the early 1990s finding serious problems in the area of mental health, Federal, State and Territory Governments collaborated to produce the National Mental Health Strategy 1992 [27]. The strategy aimed to

- Promote the mental health of the Australian community;
- Where possible, prevent the development of mental disorder;
- Reduce the impact of mental disorders on individuals, families and the community; and.
- Assure the rights of people with mental disorder.

The1997 report, 'Evaluation of the first National Mental Health Strategy', [28] indicated that the state of mental health services improved from 'being in a poor state' in 1992 to 'raising the awareness of the previously hidden problem areas'. The report emphasised the need for many more improvements. The Australian Government has adopted a series of National Mental Health Plans since, including the last published National Mental Health Plan for 2017 and 2022 (The Fifth National Mental Health Plan). The national direction of mental health reform has been prescribed by this National Mental Health Strategy, which included the National Mental Health Policy, the Mental Health Statement of Rights and

Responsibilities [29] and five National Mental Health Plans. The first National Mental Health Care Plan was introduced in 1992. There have been five national mental health care plans in total. The Fifth National Mental Health and Suicide Prevention Plan (Fifth Plan) was endorsed by the Coalition of Australian Governments (COAG) Health Council in August 2017.

The National Mental Health Policy 2008 [30] provided a strategic vision for further whole-of-government mental health reform in Australia, with the following four objectives -

- Promote the mental health and well-being of the Australian community and, where possible, prevent the development of mental health problems and mental illness.
- Reduce the impact of mental health problems and mental illness, including the effects of stigma on individuals, families and the community.
- Promote recovery from mental health problems and mental illness.
- Assure the rights of people with mental health problems and mental illness, and enable them to participate meaningfully in society.

18.5 Current and Future Policy Framework

A number of inquiries and strategic documents are likely to shape mental health services of future. The following are some of the key documents.

18.5.1 The Fifth National Mental Health and Suicide Prevention Plan

The Fifth National Mental Health and Suicide Prevention Plan (Fifth Plan) [31] was endorsed by the Council of Australian Governments (COAG) Health Council in August 2017. The Fifth Plan sets out to achieve outcomes in eight priority areas that align with specific aims and policy directions in the National Mental Health Policy. The eight priority areas of the Fifth Plan are:

1. achieving integrated regional planning and service delivery,
2. effective suicide prevention,
3. coordinating treatment and supports for people with severe and complex mental illness,
4. improving Aboriginal and Torres Strait Islander mental health and suicide prevention,
5. improving the physical health of people living with mental illness and reducing early mortality,
6. reducing stigma and discrimination,
7. making safety and quality central to mental health service delivery,
8. ensuring that the enablers of effective system performance and system improvement are in place.

The National Mental Health Commission (NMHC) is responsible for monitoring and reporting on the implementation of the Fifth National Mental Health and Suicide Prevention Plan. To that effect, the Commission releases annual reports which provide an account of the activities undertaken during the preceding financial year [32]. In 2019, the commission surveyed consumers and carers of mental health services and released a report based on the survey findings [33]. Several key issues were identified by consumers and carers during this survey including the availability and adequacy of services as barriers impacting consumer experiences, as well as issues with access to appropriate support services and the lack of available services during times of need. Issues of availability and cultural appropriateness of services were also reported as barriers by Aboriginal and Torres Strait Islander respondents.

18.5.2 Productivity Commission Inquiry into Mental Health

The Productivity Commission is the Australian Government's independent research and advisory body on a range of economic, social and environ-

mental issues affecting the welfare of Australians. The Commission's role is to help governments make better policies to help the Australian community. Its inquiry into mental health has been described as a 'once in a lifetime' opportunity to reform the mental health system [34]. The scope of the inquiry was broad, covering Australia as a whole, and the roles and responsibilities of different levels of governments. It considered the effect of supporting mental health on economic and social participation, productivity and the Australian economy; how sectors beyond health can contribute to improving mental health; the effectiveness of current programs and initiatives; and whether current investment in mental health is delivering the best outcomes.

The final report was released on 16 November 2020. The package of reforms presented in the Inquiry report cover five broad areas. These are prevention and early intervention, mental healthcare, services beyond the health system, mentally healthy workplaces, and reforms to the overarching system architecture. It reflects many of the recommendations made by the Commission including those for a cross-portfolio and whole-of-government approach to mental health and suicide prevention, priority investment in early intervention and recovery, and clarification of funding arrangements for mental health services.

18.5.3 National Suicide Prevention Adviser Final Advice

In July 2019, then Prime Minister Scott Morrison announced the commitment of the Australian Government to working 'towards zero suicides' and the appointment of the First National Suicide Prevention Adviser, Christine Morgan. Initially an interim advice and more recently a final advice has been released [35]. During the process, consultation included different levels of government and portfolios, organisations working in suicide prevention, researchers, leaders in Aboriginal and Torres Strait Islander suicide prevention, community members and, most importantly, many people who have lived experience of suicide.

Similar to the Productivity Commission's inquiry, the advice calls for a national whole-of-government approach to suicide prevention. Its eight recommendations provide a path for implementing this approach. The advice emphasises that while suicide prevention is generally the responsibility of health departments, the evidence shows that a broader focus is required to ensure that we can address the social and economic drivers of distress, and assist people as early as possible, building social connection and support.

The final advice highlights that suicide prevention would benefit from the involvement of the Prime Minister and premiers to provide this whole-of-government focus. It calls improved data and evidence to inform decision-making. It also emphasises the importance of targeted and coordinated approaches that meet the needs of priority populations.

18.5.4 Vision 2030: Blueprint for Mental Health and Suicide Prevention

Vision 2030 is an aspiration by the National Mental Health Commission of a successful, connected and well-functioning mental health and suicide prevention system that meets the needs of the whole community [36]. It provides a strategic framework through which current recommendations and future strategies and plans can be viewed. It outlines a set of principles including

- Recognition of lived experience knowledge is central to policy, planning and practice and participation.
- Partnership and collaboration across health, other sectors and communities.
- A social and emotional well-being approach.
- A community-based approach.
- Best practice care (education, interventions and supports).
- Equity and equality through a rights-based approach to mental ill-health,
- A recovery-oriented approach.

- Recognition of the importance of intersectionality in the development of mental health policy.
- Flexible solutions.
- Trauma-informed approaches.
- Innovation.

18.5.5 Royal Commission into Victoria's Mental Health System

In February 2019, Premier Daniel Andrews requested the Governor of the State of Victoria to formally establish the Royal Commission into Victoria's Mental Health System as he along with countless people living with mental illness, families, carers and supporters felt that the system was failing to meet their needs and was in fact 'broken'. The Royal Commission has set out an ambitious reform agenda to redesign Victoria's mental health and well-being system [37].

The Royal Commission's report outlines 65 recommendations to transform Victoria's mental health system. Some of the recommendations are foundational and focus on creating new structures to support a sustainable mental health and well-being system. Some concentrate on ensuring that treatment, care and support are available and accessible. Others focus on redesigning services to move from a crisis-driven model to a community-based one that delivers beneficial outcomes for people. Collectively, these reforms go beyond making isolated improvements to the existing system – they represent a complete transformation in the way mental health and well-being treatment, care and support that will be provided in state of Victoria.

18.5.6 Royal Commission into Aged Care Quality and Safety

The Royal Commission into Aged Care Quality and Safety was established on 8 October 2018 to investigate the quality of aged care services currently being delivered to older Australians in the community and in residential aged care facilities [38]. The commission has released its final report titled 'Care, Dignity and Respect'.

The Royal Commissioners has made 148 wide-ranging recommendations and calls for fundamental and systemic aged care reform. One area highlighted was the lack of access to appropriate mental health care for residents in residential aged care facilities. The report recommended the need for strong linkages between aged care service providers and more specialised services to assist older people who need additional services, such as specialist mental health services. The Commission recommends an approach based on the Contributing Life Framework, which provides a whole-of-person, whole-of-system, whole-of-life framework to mental health and well-being.

18.5.7 National Mental Health and Suicide Prevention Plan

In 2021, the Australian Government announced a historic investment of $2.3 billion in the National Mental Health and Suicide Prevention Plan [39]. This was in response to the Productivity Commission's Inquiry into Mental Health and Suicide Prevention Adviser's Final Report. The Budget commitment included creating a landmark national network including up to 57 additional mental health treatment sites as well as more centres for youth and children through the Head to Health and headspace programs. The Plan brings the government's total estimated mental health spend to $6.3 billion in 2021–22. The Plan is based on five key pillars:

1. prevention and early intervention,
2. suicide prevention,
3. treatment,
4. supporting the vulnerable,
5. workforce and governance.

The Plan aspires to transform mental health care in Australia by

- building a digital gateway for Australian dealing with mental health issues;

- ensuring our mental health and suicide prevention system reaches Australians where they work, learn and live;
- enhancing mental health in primary care;
- establishing a network of mental health centres for adults, young people and children through the Head to Health and headspace programs;
- building a system that is efficient, joined up, easy to navigate and people-focused;
- providing appropriate, ongoing follow-up care to every Australian discharged from the hospital after a suicide attempt.

18.6 Structure of Mental Health Service

The Australian Institute of Health and Welfare (AIHW) estimates that spending on mental health-related services in Australia from all sources (government and non-government) was around $9.0 billion, or $373 per person, in 2015–16 and is around 11 billion in 2019–20, which is roughly $431 per person [40]. This equates to 7.6% of government health expenditure. $6.7 billion was spent on state/territory mental health services in 2019–20; $2.9b on public hospital services and $2.6b on community services. $1.4 billion, was spent by the Federal Australian Government on benefits for Medicare-subsidised mental health-specific services and another $566 million was spent on subsidised mental health-related prescriptions under the PBS/RPBS during 2019–20 (Fig. 18.6).

Responsibility for funding and regulating mental health services in Australia is shared between the Australian and state and territory governments [41]. Below is a broad outline of government responsibility for mental health services in Australia.

18.6.1 Federal Australian Government

- Medicare-subsidised mental health services provided by general practitioners (GPs), psychiatrists, and allied health professionals through the Better Access initiative.

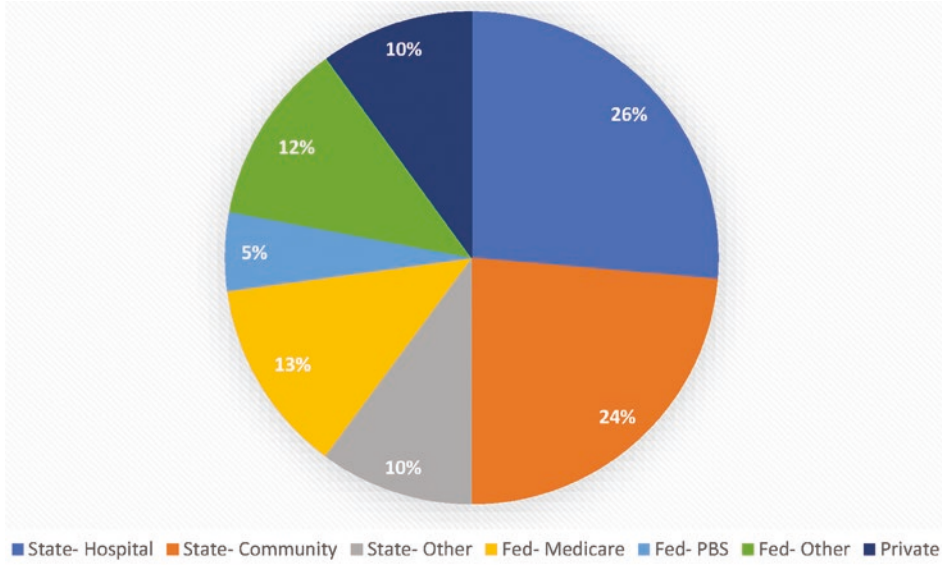

Fig. 18.6 Mental Health Expenditure (AIHW, 2019–20)

- Subsidised mental health prescription medications under the PBS and Repatriation Pharmaceutical Benefits Scheme (RPBS).
- Veterans' mental health services through the Department of Veterans' Affairs.
- Primary care through Primary Health Networks (PHNS).
- Social security payments such as the Disability Support Pension.

18.6.2 State and Territory Governments

- Public hospitals including specialised psychiatric units and Emergency Departments.
- Funding and management of community mental health services including residential units.

18.6.3 Shared Responsibility

- Funding of public hospital services based on an agreed national activity-based funding (ABF) formula as outlined in the National Health Reform Agreement.
- Registration and accreditation of mental health professionals through the Australian Health Practitioner Regulation Agency (AHPRA).
- The National Disability Insurance Scheme.
- Homelessness.
- Suicide prevention.

In addition to these, there are a range of crisis, support and information services. These services are funded by both levels of governments. The following are some of the major crisis services available.

- Head to Health – An online and hotline service to assist individuals struggling with mental health issues.
- At Ease – This organisation helps veterans and families of veterans.
- Beyond Blue – This organisation supports individuals struggling with a wide range of mental health issues.
- Headspace – Headspace targets adolescents and young adults between 12 and 25 years of age with issues surrounding mental health. Headspace focusses on early intervention.
- KidsMatter – This organisation focuses on preventing problems and supporting children's mental health.
- LifeLine Australia – They run a suicide prevention hotline and are a registered charity.
- Health Direct – This is an online portal providing information about Australia's health services and general information about illnesses.
- OzHelp Foundation – It is an organisation that supports industry and workplaces focussing on supporting employees to prevent the development of mental illness.

18.6.4 Private Sector

Private sector services include admitted patient care in a private psychiatric hospital and private services provided by psychiatrists, psychologists and other allied health professionals. In 2019–20, there were 161 public hospitals and 68 private hospitals [40]. Private practice psychiatry is considerably different from public practice psychiatry in many ways. Private psychiatrists rely only on income from seeing patients. In Australia, there is a subsidy from the government through Medicare, but it is usual to charge a co-payment (gap) on top of this. Sometimes patients are seen where a third party assumes responsibility for payment, such as the Department of Veteran Affairs (DVA) or WorkCover.

The types of patients seen in private psychiatry differ considerably in Private Psychiatry. One tends to see high prevalence disorders such as Major Depression, Persistent Depressive Disorder and all the anxiety disorders more than low prevalence, severe disorder such as severe depression, mania, schizophrenia and severe drug dependence [42].

Private health insurers fund treatment costs in private hospitals and sometimes in public hospitals. Despite this, the patients are expected to pick up costs for the initial excess (out-of-pocket)

as well as doctors fees, procedural fees and medication costs, if any. The case mix within private hospitals in different, because of the voluntary nature of the patient population. While a typical public hospital is likely to be full of patients with Schizophrenia, mania, severe depression or severe personality disorders, the main diagnoses within private in-patients are major affective and other mood disorders (49%), and alcohol and other substance abuse disorders (21%) [43].

18.7 Pertinent Issues for Medical Administrators

Mental illnesses are chronic and debilitating. There are a number of issues that impact people with mental illness, which in turn makes their recovery difficult.

18.7.1 Psychological Distress

Psychological distress is unpleasant feelings or emotions that affect a person's level of functioning and interfere with activities of daily living. The presence of psychological distress or impact on socio-occupational functioning is one of the criteria for diagnosing mental illness. The Australian Bureau of Statistics (ABS) measures psychological distress using the Kessler 10 (K10) psychological distress scale measuring non-specific psychological distress based on questions about negative emotional states experienced in the past 30 days. This distress has been increasing over time. In 2017–18, 13% or 2.4 million Australians aged 18 and over experienced high or very high levels of psychological distress, which is higher compared to 2014–15 (12% or 2.1 million Australians). In 2020–21 the Australian Bureau of Statistics conducted the first cohort of the National Study of Mental Health and Wellbeing (NSMHW), a component of the wider Intergenerational Health and Mental Health Study. First insights from the study [44] were published late 2021, which reveals that 15% of Australians are experiencing moderate or severe personal distress (Fig. 18.7).

18.7.2 Co-morbidity

Co-morbidity refers to the occurrence of more than one condition/disorder at the same time [45]. Such co-morbidity is common among those with mental illness and causes more disability.

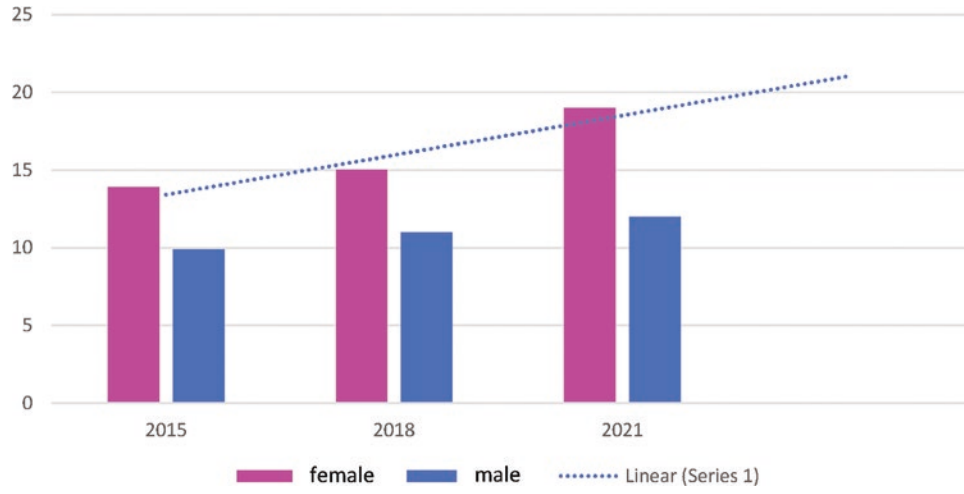

Fig. 18.7 Personal Distress between sex (NSMHW, 2015, 18 and, 2021)

Such individuals are more likely to consume resources than those with one disorder. The co-morbidity can involve the presence of two or more mental disorders or a physical disorder along with a mental disorder.

Psychiatric co-morbidity refers to the presence of two or more psychiatric disorders. Differentiating psychiatric disorders is not always easy. For example, a person with depression who also meets the criteria for alcohol abuse could be seen as self-medicating instead of suffering from two disorders. In the Early Developmental Stages of Psychopathology Study, 48.6% of patients with a diagnosis of major depression also had at least one anxiety disorder. Just over one-third (34.8%) had no other mental disorder [46].

AIHW released a report on co-morbidity between mental disorders and physical conditions based on the National Survey of Mental Health and Wellbeing 2007 [47]. The 2007 survey reported that people with anxiety have the highest level of physical co-morbidity. According to the survey, nearly 1.4 million Australians have anxiety and a physical health condition. The survey also found that people with mental illness and physical co-morbidity had a higher rate of hospitalisation, healthcare needs and are more likely from low socio-economic status. The co-morbidity also affected their quality of life. These people rated their personal distress ten times higher than those without the co-morbidities. People with a mental disorder and physical health conditions were also more likely to be out of work.

High mortality among people with mental illness is also related to physical health conditions [48]. Nearly 80% of people with serious mental illness who die before the average life expectancy of 79.5 years for men and 84 years for women do so due to physical health conditions, losing anywhere between 10 and 36 years of expected life. The Royal Australian and New Zealand College of Psychiatrists (RANZCP) and Australian Health Policy Collaboration at Victoria University commissioned a report to determine the cost to the economy due to co-morbidity [49]. This report estimates that the annual cost of premature death from comorbid mental and physical health conditions in people with serious mental illness is $15 billion (AUD) in Australia and $3.1 billion (NZD) in New Zealand. When the burden of substance abuse is included, these costs increase sharply to $45.4 billion and $6.2 billion, respectively.

18.7.3 Mentally Ill in General Hospital

Mental illnesses are much more common in general hospitals than in the general community, with the prevalence of patients with mental health symptoms making up between 60% and 70% of the total hospitalised population [50]. Length of stay is longer, and mortality is worse for patients with mental health problems than those without. Most of such patients would typically receive their mental health care through Consultation-Liaison (CL) Psychiatry services. These services offer ‘consultation’ and ‘liaison’. The consultation component is a process whereby attending physicians, surgeons, other staff, patients themselves or family members may request mental health services, and a clinical team member responds to this request by conducting an initial assessment, arriving at a clinical diagnostic impression, facilitating interventions as needed and making appropriate referrals if warranted. The liaison component refers to collaborative working with non-psychiatric clinicians and requires a certain degree of integration at not only the service level (i.e., multidisciplinary teams) but at the organisational level as well [51].

Mentally ill patients constitute about four percent of general medical and surgical wards but often require more resources in terms of staffing hours and medications. Caring for mentally ill patients with physical ailments can also have an emotional impact on the caring nurses and other staff [52]. A qualitative analysis was completed by Foye, Simpson and Reynolds [53] during a service evaluation of general medical hospitals in the UK, identified a significant care gap between medical and mental health patients, identifying a

number of systemic factors surrounding the institutional culture, ward cultures and collaborative working, and individuals sensemaking of mental health and personal well-being.

Thus, it is important for medical administrators and the rest of the hospital management to provide clear leadership around pathways for mental health needs so staff know the best way to provide care and encourage collaborative working. Furthermore, staff support is also needed to assist them personally manage their own well-being and mental health, including supervision to improve understanding from the patient's perspective and to provide emotional support to manage difficulties.

18.7.4 Emergency Departments and Mentally Ill

Hospital emergency departments (EDs) play an important role often as an initial point of contact or for after-hours care. A report by the Australian Institute of Health and Welfare released in 2020 [54] confirms that 3.8 percent of all presentations are for mental health reasons, with drug-related presentations being the most common (28%). Other three common mental health presentations included stress related (27%), Schizophrenia (12%) and mood disorders (9.7%). Despite low numbers, mentally ill population often have very long ED lengths of stay. For all ED presentations, 90 per cent of people left the ED within seven hours, while for people presenting with acute mental health crises, this figure was 11.5 h [55]. The Australian College of Emergency Medicine (ACEM) had an Australian Summit on Mental Health Care in the Emergency Department in October 2018 which was attended by over 170 delegates. Following the summit, ACEM commissioned the Mitchell Institute for Education and Health Policy to conduct an analysis from an emergency department perspective of why Australia's health system is failing to meet the urgent needs of people presenting to emergency departments for mental health care. The report is titled 'Nowhere Else to Go Report' [56]. The report identifies a lack of alternate and more appropriate mental healthcare options, particularly out-of-hours. It advocates for wider system responses including additional community support to avoid the types of crises that precipitate a visit to the emergency department, as well as more timely treatment options to minimise the time that people seeking mental health care wait in the emergency department.

The issue of long wait times within ED requires a multi-prong approach focussing on different strategies including, but not restricted to [57]

- Telepsychiatry Services – to improve access to psychiatric services.
- Psychiatric Observation Units and Treatment Protocols – Specific psychiatric emergency department, and/or observation units are utilized to pull psychiatric patients out of the general ED once they are stabilized.
- Patient Navigation–Community organisations or paramedics can assist patients in navigating the often-cumbersome health-care environment and take them directly to psychiatric hospitals.
- Mobile Crisis Units – Teams of multidisciplinary mental health professionals that respond to individuals in the community requiring assistance with a psychiatric crisis. The team can provide a range of services that can include assessment, crisis intervention, information, referrals, and supportive counselling.
- Regional Health Registries – A streamlined state or regional dashboard showing bed availability coupled with available transfer mechanisms are helpful in reducing the time and effort it takes to get patients to definitive care.
- Protocols for Safe Discharge – Evidence-based decision tools can be helpful in allowing an emergency physician to safely discharge a patient with a mental health disorder.
- Ambulance and mental health clinician co-responder models – where mental health clini-

cians are co-located with ambulance officers and see people in mental health crisis in their home for assessment to manage the crisis safely if it is safe to do so.
- Safe space hubs – located near emergency departments as an alternative for emergency department presentation either prior or after for people in psychological distress as a peer-led service.

18.7.5 Common Terms Used in Mental Health Services

In contemporary, recovery-oriented mental health services, the term 'patient' is no longer used. Many people prefer the term 'consumer', which implies the centrality of the consumer within the services. Social and emotional well-being is also used to outline mental health [58]. The term reflects the fact that people accessing health care services may experience mental health issues in the absence of a diagnosed mental illness.

'Recovery' is understood to be more than simply reduction in clinical symptoms, and as 'being able to create and live a meaningful and contributing life in a community of choice with or without the presence of mental health issues' [59]. Recovery-oriented mental health practice refers to the application of sets of capabilities that support people to recognise and take responsibility for their own recovery and well-being and to define their goals, wishes and aspirations [58]. Such a practice will offer evidence-informed treatment, work in partnership with consumer organisations and ensure the development of new models of peer-run programs and services.

Trauma-informed care is another commonly used term within mental health services. Trauma informed care refers to an organisational and practice approach to delivering health services directed by a thorough understanding of the neurological, biological, psychological and social effects of trauma and its prevalence in society. It is a strengths-based framework that emphasises physical, psychological and emotional safety for people who have experienced trauma, their families and carers, and service providers [60].

18.7.6 Mental Health Issues Within Aboriginal Population

Mental health issues within Aboriginal population are often referred to as 'social and emotional wellbeing', which has been defined as 'a multidimensional concept of health that includes mental health, but which also encompasses domains of health and well-being such as connection to land or 'country', culture, spirituality, ancestry, family and community' [61]. A 2020 report into indigenous health [62] found that Aboriginal people experience depression (52%) and anxiety (59%) at much higher levels than non-Aboriginal Australians (32% and 47%). In 2018–19, 31% of Aboriginal people and 23% of Torres Strait Islanders over 18 years reported high or very high levels of psychological distress.

A report titled 'Working Together: Aboriginal and Torres Strait Islander Mental Health and Wellbeing Principles and Practice' [58] outlines the historical, social, cultural, and policy contexts that have shaped Aboriginal mental health and well-being. This context includes, but is not restricted to

- Stolen generations – The impact of the past Stolen Generations and ongoing removal of children puts a lot of mental pressure on people.
- Underlying, unresolved trauma – Trauma is a significant factor in aboriginal health and if unresolved can lead to several psychiatric conditions.
- Perceived loss of identity and culture – Separation from their culture and identity gives rise to feelings of incompleteness.
- *Grief and loss* – **A**bout the loss of culture, land, connection, and many more areas, often connected to the history of invasion.
- *Discrimination and racism*. Discrimination based on race or culture, as well as racism, can have a significant impact on any person's mental health.
- *Socio- economic disadvantaged status*.
- *Poor physical health* – Physical health problems contribute to the feeling of inadequacy and exclusion.

- *Incarceration* – Being imprisoned has a profound effect on people's mental health.
- *Culturally inappropriate treatment* – Especially the health area is prone to assess Aboriginal people with non-Aboriginal criteria, or expose them to culturally insensitive environments.
- *Violence* – Domestic violence, as well as violence in prisons, for example, contributes to poor mental health.
- *Substance abuse* – Use of substances to deal with unresolved psychological issues can lead to other mental health issues.

The Australian Government has launched an Aboriginal and Torres Strait Islander mental health program [63], which funds Primary Health Networks to engage culturally appropriate mental health services for Aboriginal and Torres Strait Islander people. Such localised services can include psychological therapies, complex mental health support, case management or clinical care coordination.

Dedicated services specifically to support Aboriginal and Torres Strait Islander people include [64]:

- Eheadspace – which provides free online and telephone support and counselling to young people 12–25 and their families and friends, including fortnightly yarn circles.
- The National Aboriginal Community Controlled Health Organisation – is the national leadership body for Aboriginal and Torres Strait Islander health in Australia.
- WellMob – This organisation brings together online resources made by and for our mob.
- The Centre of Best Practice in Aboriginal and Torres Strait Islander Suicide Prevention (CBPATSISP) – is Australia's leading authority on Indigenous suicide. The Centre promotes evidence-based suicide prevention practice that empowers individuals, families, and communities and respects their culture.
- 13Yarn – is a free support line with free, confidential crisis support 24/7 run by Aboriginal and Torres Strait Islander people.

18.7.7 Homelessness and Mental Health

In Australia, the 2014 General Social Survey (GSS) examined the relationship between mental health and homelessness [65]. The survey showed that 2.5 million Australians (13%) aged 15 years and over reported experiencing homelessness at some point in their lives. People who reported having a mental health condition were more than twice as likely to have experienced homelessness in their lifetime compared with people who did not (25% compared with 10%). People who reported a mental health condition were also more than twice as likely to have experienced homelessness in the last 10 years compared with people who did not (15% compared with 6.1%). People with mental disorders who are homeless also experience wide-ranging and compounded disadvantage issues such as poor education, poor general health, extremely low income and experience high imprisonment rates and social exclusion [66].

Given the fundamental nature of safety, stability and security of home for optimal mental health, National Mental Health Commission has been working towards the issue of housing, homelessness and Mental Health. In 2017, a national consultation on housing issues in relation to mental health was undertaken. This resulted in a comprehensive report by the Australian Housing and Urban Research Institute (AHURI), which was published in 2019 titled Housing, homelessness and mental health: towards systems change [67]. This report identifies housing, homelessness and mental health as being interlinked but receiving fragmented care. It also identified lack of affordable, safe and appropriate housing or discharge planning for people with lived experience of mental ill health. The report produced sixteen options to scale up successful models of consumer and recovery-oriented housing, stabilise existing tenancies, reshape state and federal policies to more effectively address housing insecurity for people with lived experience of mental illness and prevent failed discharge planning.

In 2020–21, the Australian Federal Government decided to spend $8.4 billion in housing support and homelessness services as part of the National Housing and Homelessness Agreement [68]. This included $5.5 billion in Commonwealth Rent Assistance and $1.6 billion through the National Housing and Homelessness Agreement (NHHA). The Australian Government has also committed up to $118 million over 5 years to 30 June 2023 for the Reconnect program, which assists young people who are homeless, or at risk of homelessness and another $78 million to ensure there are additional safe places for women and children. Specialist Homelessness Services are agencies that receive funding to provide specialist homelessness services under the National Housing and Homelessness Agreement (NHHA) [69]. Australian populations known to be at particular risk of homelessness include those who have experienced family and domestic violence, young people, children on care and protection orders, Indigenous Australians, people leaving health or social care arrangements, and Australians aged 55 or older.

18.7.8 Mental Health and Suicide

During 2020, 3139 people died by suicide and suicide was the 15th leading cause of death [70]. Young and middle-aged people, particularly males, are more likely to die by suicide than those in older age cohorts. In 2020, suicide was the leading cause of death for 15–44-year-olds and was the leading cause of premature mortality due to high likelihood in younger population.

Suicide is often seen as related to mental illnesses, while the causes of suicide are multiple and complex. It includes stressful life events, trauma, mental illness, physical illness, drug or alcohol abuse and poor living circumstances [71]. In some countries, such as Switzerland, assisted suicide is allowed in severe medical illness.

As mentioned above, the Australian Government announced the National Mental Health and Suicide Prevention Plan in 2021, which focusses on reducing suicides across the country. Under this plan, National Suicide Prevention Strategy [72] has been adopted. This strategy focusses on adopting a whole-of-community approach to suicide prevention in order to extend and enhance public understanding of suicide and its causes. It also aims to increasing support and care to people, families and communities affected by suicide or suicidal behaviour by funding and evaluating initiatives that enhance or inform the establishment of better support systems. National Aboriginal and Torres Strait Islander suicide prevention strategy [73] addresses the high rates of suicide among Aboriginal and Torres Strait Islander people. This strategy outlines six action areas including improving resilience within communities and individuals, targeted suicide prevention strategies as well as co-ordinated, evidence-based approach to suicide prevention.

As part of the ongoing efforts to address suicide, Australian Government commissioned a Suicide Prevention Trial, which occurred between 2017 and 2020 and was conducted by the University of Melbourne. During this trial, twelve Primary Health Networks (PHNs) were funded to develop and implement a systems-based approach to suicide prevention at a local level for at-risk populations. A final evaluation report of this trial [74] has been released in 2021, which contains several recommendations. The report advocates for using systems-based suicide prevention frameworks, adopting a broader system-wide approach beyond health and mental health, community involvement and promoting coordination and integration at the service level and system level as critical to the success of some of the projects.

18.7.9 Impact of COVID-19 on Mental Health

During the initial 2 years of the COVID-19 Pandemic, there were significant impacts on mental health in Australia. Widespread restrictions of movement, social distancing measures and physical isolation, or ‘lockdowns’, were implemented from March 2020. This along with the sudden loss of employment and social inter-

action, the added stressors of moving to remote work or schooling, and sudden, localised 'lockdowns' to prevent further outbreaks, impacted the mental health of many Australians [75]. Therefore, during most of 2020 and 2021 we witnessed heightened psychological distress during the pandemic.

Australians used an increased number of mental health services during this period. A wide range of additions to the Medicare Benefits Schedule (MBS) to support the provision of health care via telehealth (telephone and videoconference) were introduced. In August 2020, the Better Access initiative was expanded to provide 10 additional MBS individual psychology sessions for people affected by the pandemic. In the 4 weeks to 19 September 2021, 1,215,475 MBS mental health-related services were processed, 7.1% and 21.8% higher than the same periods in 2020 and 2019, respectively [76]. Crisis services also received historically high number of calls. In the 4 weeks to 19 September 2021, Lifeline saw several historical record high daily call volumes, and 96,273 calls were offered in total, up 14.1% and 33.1% from the same periods in 2020 and 2019, respectively; Kids Helpline received 32,572 answerable contact attempts, up 4.6% and 16.7% from the same periods in 2020 and 2019 respectively and Beyond Blue received 27,099 contacts, down 2.7% and up 20.9% from the same periods in 2020 and 2019 respectively.

In addition to the expansion of Medicare and better access scheme, Head to Health Pop-Up services have been established to provide free mental health support to people of all ages living in New South Wales, Victoria and the Australian Capital Territory who are experiencing mental health issues because of the COVID-19 pandemic [77]. In December 2020, the Melbourne Institute released the report 'Coping with COVID-19: rethinking Australia' [78], which found that rates of mental distress had a similar pattern to financial stress over the course of the pandemic. The rate of mental distress in November 2020 (24%) was slightly higher than in April 2020 (22%), and over double the rate of mental distress in the Australian community prior to the pandemic (10%). It is envisaged that with the life returning to 'normal' the specific impacts of COVID-19 on mental health will also return to its previous levels.

18.8 Mental Health Workforce

The mental health workforce and its challenges are noteworthy. On the ground experience shows significant workforce shortage across all disciplines and sectors within Mental Health Services. When compared with other countries, Australia's mental health workforce superficially seems satisfactory. Data published by the World Health Organisation in 2019 about the number of psychiatrists and mental health nurses per 100,000 population between 2014 and 2016 [79] shows that Australia employs 13.5 psychiatrists and 90.6 nurses. There are countries such as Switzerland, who employs 44 psychiatrists for the same population and Turkey, which employs 150 nurses for the same population.

The mental health workforce consists of psychiatrists, psychiatrists in training (also known as psychiatry registrars) or junior medical officers, nurses, social workers, occupational therapists, psychologists, vocationally trained mental health workers (such as community support workers and recovery support workers) and consumer and carer workers. While working with people from a range of professional backgrounds is a positive aspect of employment in mental health, providing care, support and treatment to people who may sometimes have severe behavioural disturbance and related safety issues can be challenging. The work can be stressful and can test the capabilities, resources or needs of workers [80].

The University of Queensland conducted a literature review of existing national and jurisdictional workforce strategies relevant to the mental health workforce and recent findings of mental health reviews and inquiries commissioned by the Australian Government [81]. The literature review identified six key workforce challenges for mental health services: (1) Defining the mental health workforce; (2) Responding to diverse and changing population needs; (3) Mental health workforce shortages; (4) Rural and remote ser-

vice provision; (5) Developing responsive and flexible mental health workforce and (6) Measuring progress.

The need for a sustainable, skilled and appropriate workforce as being fundamental to the success of the mental health strategy has been long recognised. The Fourth National Mental Health Plan, which was developed in 2009 contained a specific action to support the development of a national mental health workforce strategy. The National Mental Health Workforce Strategy developed in 2011 [82] outlines five priority areas which include –

1. Developing, supporting and securing the current workforce,
2. Building capacity for workforce innovation and reform,
3. Building the supply of the mental health workforce,
4. Building the capacity of the general health and well-being workforce, and.
5. Data and monitoring and evaluation.

Among the recent developments, it is important to note that both The Productivity Commission [34] and National Suicide Prevention Adviser [35] recommended addressing workforce shortages, development and capability to enable the delivery of compassionate care. The National Mental Health and Suicide Prevention Plan 2021 [39] has outlined 'workforce and governance' as an important pillar for mental health and suicide prevention in the country. Accordingly, Australian Government is committed to investing $202 million dollars towards addressing workforce and governance issues. Key workforce areas targeted in this plan include: growing and upskilling the mental health and suicide prevention workforce, supporting the mental health of our critical health workers, putting the needs of people at the centre of design and delivery of mental health services in Australia and stronger governance and accountability.

A National Mental Health Workforce Strategy Taskforce [83] was established in 2020 to oversee the development of a ten-year National Mental Health Workforce Strategy. The taskforce developed a National Mental Health Workforce Strategy – Consultation Draft [84], which was available for public consultation late 2021. This draft aspired to 'develop an appropriately skilled mental health workforce of sufficient size that is suitably deployed to help Australians be mentally well by meeting their support and treatment requirements at the time and in the way that best meets their needs'. This paper outlined six objective area including ensuring that the careers in mental health are, and are recognised as, attractive and that data underpins workforce planning. Other objectives include ensuring that the entire mental health workforce is utilised, that the mental health workforce is appropriately skilled, the mental health workforce is retained in the sector and the mental health workforce is distributed to deliver support and treatment when and where consumers need it.

Consultation was provided by important organisations such as RANZCP [85], Beyond Blue [86] and National Aboriginal Community Controlled Health Organisation [86], which emphasised on a holistic approach centred around social and emotional well-being combining the clinical, non-clinical, and cultural aspects of health to treat the individual, not just the diagnosed health condition. Other feedback included Australian Nursing and Midwifery Federation [87], Mental Health Co-ordinating Council [88] and Volunteering Australia [89].

While the mental health workforce strategy is being developed, A National medical Workforce Strategy 2021–31 [90] was released in late 2021. The strategy aims to address medical workforce issues by exploring actions that fall under the 5 key priorities:

- collaborating on medical workforce planning and design,
- rebalancing the supply and distribution of doctors across specialties and locations,
- reforming medical training pathways,
- building the generalist capability of the medical workforce,
- building a flexible and responsive medical workforce.

18.9 Activity-Based Funding (ABF) for Mental Health Services

The National Health Reform Agreement 2011 [91] led to increased partnership between federal and state governments via the Council of Australian Governments to improve health outcomes for all Australians by establishing an increasing federal proportion of reimbursement to local health districts or local hospital networks by casemix or activity-based funding. The Independent Hospital Pricing Authority's (IHPA) is a body that was established in 2011 to enable activity-based funding for Australian public hospital services [92]. IHPA does this by delivering an annual national efficient price and national efficient cost. These measures determine the level of Commonwealth Government funding for public hospital services and provide a price benchmark for the efficient cost of providing public hospital services. To put it simply, activity-based funding (ABF) is a way of funding hospitals or services whereby they get paid for the number and mix of patients they treat. IHPA updates the pricing framework annually to ensure that the national efficient price and national efficient cost is up to date and current. To achieve this, IHPA classifies patients using classification systems. Classification systems aim to provide the healthcare sector with a nationally consistent method of classifying all types of patients, their treatment and associated costs in order to provide better management, measurement and funding of high-quality and efficient health-care services [93].

For mental health services, IHPA developed a classification system called 'Australian Mental Health Care Classification (AMHCC)' [94]. It covers admitted and community patients and uses six major splitting variables as outlined below.

1. Setting – Inpatient or community.
2. Mental health phase of care – This is the goal of the care and decided clinically. There are five phases of care: assessment only, acute, functional gain, intensive extended and consolidating gain. The classification also provides for 'unknown phase'.
3. Age group – child and adolescents (0–17 years), adults (18–64 years), and older persons (65+ years).
4. Mental health legal status – voluntary or involuntary. Only applies to admitted setting with acute phase for 18–64 years age group.
5. HoNOS complexity – The HoNOS (Health of the Nation Outcome Scales) is a clinical outcome measure that captures the symptoms and functioning of the consumer.
6. LSP-16 complexity – The Life Skills Profile (LSP-16) is a clinical outcome measure that assesses the level of functioning of mental health consumers living in the community.

The Activity-Based Funding Mental Health Care National Best Endeavours Data Set (ABF MHC NBEDS) defines information about consumers receiving mental health care within the activity-based funding scope [95]. The ABF MHC NBEDS 2020–21 contains data elements that are required to be reported for all settings of mental health care and all age groups. These data elements include:

- Organisation/service identifiers.
- Person identifiers.
- Date of birth.
- Sex.
- Marital status.
- Indigenous status.
- Country of birth.
- Area of usual residence.
- Episode start and end date.
- Episode start and end mode.
- Mental health phase of care – start and end date.
- Mental health phase of care.
- Mental health phase of care leave days.
- Service provider setting origin.
- Principal diagnosis.
- Additional diagnoses.

The data elements which describe consumer functioning and symptom severity include:

- Health of the Nation Outcome Scales for Children and Adolescents (HoNOSCA).

- Health of the Nation Outcome Scales (HoNOS).
- Health of the Nation Outcome Scales for Older Persons (HoNOS 65+).
- Children's Global Assessment Score (CGAS).
- Factors Influencing Health Status (FIHS).
- Abbreviated Life Skills Profile (LSP-16).
- Resource Utilisation Groups – Activities of Daily Living (RUG-ADL).

The ABF model for Mental Health Care has received varying perception. Mental Health Commission, New South Wales undertook a review of transparency and accountability of mental health funding to health services in 2017 [96]. The commission expressed concerns over challenges with data quality in mental health, especially for non-admitted and other community-based services and paucity of mental health KPIs in the Ministry's Service Agreements with health services. There are ongoing issues around funding of consultation-liaison services and data collection.

18.10 Mental Health Legislation

Mental Health Acts (MHAs) enable the involuntary commitment and treatment of people suffering acute psychiatric illness. There are different Mental Health Legislations in force across all the jurisdictions within Australia and New Zealand (Table 18.1).

Table 18.1 Mental Health Legislations across Australia and New Zealand

Location	Legislation
New South Wales	Mental Health Act 2007 (NSW) [97]
Victoria	Mental Health Act 2014 (Vic) [98]
Queensland	Mental Health Act 2016 (Qld) [99]
Western Australia	Mental Health Act 2014 (WA) [100]
Tasmania	Mental Health Act 2013 (Tas) [101]
South Australia	Mental Health Act 2009 (SA) [102]
ACT	Mental Health Act 2015 (ACT) [103]
Northern Territory	Mental Health and Related Services Act 1998 (NT) [104]
New Zealand	Mental Health (Compulsory Assessment and Treatment) Act 1992 (NZ) [105]

18.10.1 Involuntary Treatment

Each act is slightly different in terms of the criteria that must be apparent before involuntary commitment and treatment can be authorised. The following table is a simplified attempt to compare the acts, while ensuring that the essential criteria are mentioned (Table 18.2).

18.10.2 Capacity to Consent

All mental health acts require that clinicians presume that a person has capacity to give or withhold informed consent to treatment. A clinician must seek the informed consent of the person before administering treatment for a mental illness. A person is presumed to have capacity to consent to be treated they are capable to understand [106]:

- that they have a mental illness which is affecting their mental health and well-being,
- the nature and purpose of the proposed treatment for the illness,
- the benefits and risks of the treatment and alternatives,
- the consequences of not receiving treatment, and,
- the person is capable of making a decision and communicating it in some way.

The clinician should provide support to the individual towards decision-making and should be aware that capacity can fluctuate over time. This means that a cross-sectional assessment of capacity is not always reflective of the person's capacity to consent. The clinician should also be aware that a lack of capacity cannot be concluded based on the person's refusal to consent, despite possessing the capacity to consent.

18.10.3 Less Restrictive Ways

All of the mental health acts do prescribe a requirement to exclude all possible less restrictive forms of treatments prior to administering

Table 18.2 Comparison of Mental Health Legislations across Australia and New Zealand

Criteria	NSW	Vic	QLD	Tas	SA	WA	ACT	NT	NZ
Legislation	MHA 07	MHA 14	MHA 16	MHA 13	MHA 09	MHA 14	MHA 15	MHRSA 98	MHA 92
Mental illness Person is suffering from mental illness	✓	✓	✓	✓	✓	✓	✓	✓	✓
Risk As a result of the illness, there is serious risks to health and/or personal or public safety.	✓	✓	✓	✓	✓	✓	✓	✓	✓
Risk of further deterioration (physical or mental)	×	✓	✓	✓	✓	✓	✓	✓	✓
Treatment The provision of treatment for that illness	×	✓	×	✓	×	✓	✓	✓	✓
No less restrictive option of providing that treatment available	✓	✓	✓	✓	✓	✓	✓	✓	✓
Additional criteria	Continuing mental condition and likely deterioration should be considered.	×	No capacity to consent.	The treatment will alleviate symptoms and person lacks capacity	Consideration be given to voluntary treatment option	Person lacks capacity and the decisions are made according to guidelines by chief psychiatrist	The person should be lacking capacity and refusing treatment	The person lack capacity or has unreasonably refused care	×

involuntary treatment. Such less restrictive ways include [106]:

- Voluntary treatment.
- In case of a minor consent can be obtained from their parents.
- If the person has made an advance health directive – under the advance health directive,
- If a personal guardian or an attorney has been appointed for the person – with the consent of the personal guardian or the attorney.
- The person's statutory health attorney can also provide consent.

18.10.4 Electroconvulsive Treatment (ECT)

ECT can be seen as one of the most invasive procedures in psychiatry and involves application of modified electric current to specific areas of the head to produce a generalised tonic-clonic seizures under general anaesthesia, in conjunction with the administration of a muscle relaxing agent, for the treatment of a mental illness.

It is always desirable to administer ECT with the patient's informed consent. However, if such a consent cannot be obtained, ECT can also be administered under the provisions of a Mental Health Act. The requirements are fairly similar across the states and territories [107]. In order to administer ECT under the Mental Health Act, initial application is ought to be completed by a psychiatrist, preferably with input from another psychiatrist. In some states (e.g. NSW), two psychiatrists are required to make the application. In Western Australia and in New Zealand, the applicant not need to be a psychiatrist. The psychiatrist must be satisfied that the person meets all the essential criteria, which includes

- The person has a mental illness.
- ECT is the most clinically appropriate treatment.
- Other alternative for the treatment been considered.
- Patient/family preferences been considered.
- Given the degree of suffering there is a need for rapid response.

With the exception of Australian Capital Territory (where ACT Civil and Administrative Appeal Tribunal), a Mental Health Review Tribunal makes a decision about the feasibility of ECT.

The tribunal considers the following factors before giving approval [108]:

- the performance of the therapy is in the person's best interests,
- evidence supports the effectiveness of the therapy for the person's particular mental illness,
- if the therapy has previously been performed on the person – the effectiveness of the therapy for the person,
- if the person is a minor, evidence supports the effectiveness of the therapy for persons of the minor's age.

18.10.5 Emergency ECT

A medical administrator is required to be aware of this provision. Under certain circumstances, Emergency ECT can be administered, if there is a need to save the patient's life or prevent the patient from suffering irreparable harm [109]. A psychiatrist makes the application to the Medical Administrator of the hospital. The medical administrator should ensure that a simultaneous application to Mental Health Review Tribunal has also been made and the patient meets criteria outlined in their own jurisdiction (Table 18.3).

18.10.6 Seclusion

The Queensland Mental Health Act (2016) [110] defines seclusion as 'the confinement of a person, at any time of the day or night, alone in a room or area from which free exit is prevented'. Seclusion significantly affects patient rights and liberty and therefore can only be authorised as a last resort to prevent imminent and serious risk of harm to

Table 18.3 Emergency ECT provisions across Australia and New Zealand

Jurisdiction	Emergency ECT criteria
New South Wales	No specific criteria mentioned
Victoria	ECT is needed to save the life of the patient or prevent serious damage to health or prevent the patient suffering or continuing to suffer significant pain or distress
Queensland	• Need to save the patient's life or prevent the patient from suffering irreparable harm • A second opinion should be sought from another psychiatrist
Western Australia	• ECT needed to save life or because there is an imminent risk of the patient behaving in a way that is likely to result in serious physical injury to the patient or another person • Approved premises (to administer ECT) required
South Australia	ECT urgently needed for the patient's wellbeing, and in the circumstances, it is not practicable to obtain that consent Notify the chief Psychiatrist within one business day afterwards
Tasmania	No specific criteria mentioned
Australian Capital Territory	• The person has a mental illness • ECT is necessary to save the person's life, or to prevent the likely onset of a risk to the person's life within 3 days • ECT is the most appropriate treatment, reasonably available or all other • Treatments reasonably available have failed
Northern Territory	• ECT immediately necessary to save life, prevent serious mental or physical deterioration, or to relieve severe distress • Report ECT to MHRT as soon as practicable afterwards
New Zealand	No specific criteria mentioned

patients and staff, where less restrictive interventions have been unsuccessful or are not feasible. A doctor trained in Mental Health Act (authorised doctor, usually a psychiatry registrar) is required to commence a period of seclusion. However, under emergency circumstances, a health practitioner in charge of a unit (usually the in-charge nurse) can initiate an emergency authorisation of seclusion of a patient for a short period of time, if the authorised doctor is not immediately available and there is no other reasonably practicable way to protect the patient or others from physical harm.

The Australian Institute of Health and Welfare [111] reports 8.1 seclusion events per 1000 bed days for acute specialised mental health hospital services in 2019–20, down from 13.9 in 2009–10. The average duration of seclusion in 2019–20 was 4.9 hours. Seclusion is generally used with the aim of preventing injury and reducing agitation, but evidence shows that their use can also have negative physical and psychological effects on both the individual and staff [112]. It is important to minimise, and where possible eliminate, the use of seclusion, which requires leadership, commitment and motivation, and a change in culture underpinned by the recovery model with a focus on workforce and training, prevention and early intervention, good clinical care, and supporting practice change. RANZCP recommends [113]:

- Appropriate policies, resources and frameworks aimed at minimising seclusion and a culture that uses seclusion and as a last resort.
- Making sure that people with lived experience of mental health conditions are involved in designing policies and frameworks.
- Consistency of definitions and data across jurisdictions to allow for more accurate data collection.
- Long-term research programs into resources, models and strategies.
- Strengthen cultural approaches for Aboriginal, Torres Strait Islander and Maori peoples.
- Appropriate trauma-informed post-incident debriefing for staff and individuals using a lesson learned approach.

18.10.7 Restraint

Restraint is the restriction of individual's freedom of movements [114]. Restraint can be of different types: Physical restraint refers to physically

stopping the person from moving; mechanical restraint involves the use of mechanical devices; restraint by threat involves the threat of using restraint; while chemical restraint is a pharmacological method used solely to restrict movement of an individual. As this is the most restrictive form of intervention, most of the Mental Health Acts do prescribe its use only when there is no other less restrictive way to protect the patient or others from physical harm, absconding or persistent destruction of the property. Clinicians are required to use it for the least amount of time possible and use interventions to minimise its need in future.

Similarly, mechanical restraint is to be used as a last resort to prevent imminent and serious risk of harm to patients and staff, where less restrictive interventions have been unsuccessful or are not feasible. Chief Psychiatrist's Policy in Queensland [115] prescribes the following principles:

- maintaining the safety, well-being and dignity of the patient,
- protecting the safety and well-being of staff,
- mechanical restraint should only be used for the minimum period of time necessary,
- all staff actions should be justifiable and in proportion to the patient's behaviour and broader clinical context.

Mental Health Services are attempting to reduce seclusion and restraint and consequently, there have been increasing restrictions towards use of these restrictive interventions. Australian Health Ministers' Advisory Council have outlined national principles to support the goal of eliminating mechanical and physical restraint in mental health services [116]. Routinely collecting data around seclusion and restraint will allow services to analyse information around restrictive practices. Secondly, for restrictive restraints to decrease, training for all staff needs to be built on personal relationships around values and a person-centred approach, consistent and replicable.

18.11 Reflections

In this chapter, you have learned:

- Complexities of Mental Illnesses, burden and impact of mental illnesses on patients, families and the communities.
- Policy context of Mental Health services.
- Relevant issues that a medical administrator should be aware of, within Mental Health Services.
- Relevant and specific workforce issues for Mental Health Services.
- Activity-Based Funding for Mental Health Services.
- Mental Health Legislation within different jurisdictions, their similarities and differences.

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Medical Education

19

Ingy Shafei

Learning Objectives
By the end of this chapter, the learner should be able to:

- Gain an understanding of the continuity of medical education across a medical career, including vocational education.
- Understand the principles of medical student selection and its role in medical education.
- Have an awareness of the important aspects in regard to curriculum, teaching, assessment and evaluation of medical students.
- Accept the need for continuing medical education and be aware of the positive roles doctors can, and should, take in medical education.

19.1 Introduction

The rapid advances in medical knowledge and technology, plus the alterations in societal attitudes to medical knowledge, can be seen as both a challenge and an opportunity for those involved in medical education at all levels. Those outside the profession may regard medical education as solely the province of university courses from which students graduate to staff hospitals and clinics. Insiders understand that medical education is a continuum albeit one with several distinct phases: preparation for practice courses conducted by Universities licenced by a Government approved body enrolling either or both school leavers and graduates into their courses; the prevocational education frameworks and experience of new graduates; vocational education and experience designed to meet the requirements of the postgraduate colleges and the accrediting bodies of the colleges and continuing medical education for vocationally registered practitioners to ensure they continue to meet the requirements of registration Boards.

This chapter will provide some insights into the current state of play in these various fields, the issues of concern for educators and the important roles that doctors can and should play in medical education.

Education has been an integral part of medicine stretching back to Hippocrates, though for him, the teaching role was limited to the sons of *he who taught me* [1]. The increased number of women in the medical workforce and the widening access programs, which encourage students from underrepresented populations, such as lower socio-economic status (SES) and refugee backgrounds, provide a more diverse range of

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medical graduates. This chapter will not provide a historical overview of medical education; however, it is important to mention the contributions of two men whose work is still influential. William Osler, a Canadian physician, was a professor of Medicine at several Canadian and American medical schools finishing as Regius Professor at Oxford from 1905 till his death in 1919. His advocacy of the role of understanding disease, the importance of bedside teaching and the need to listen to patients remain pertinent in current medical teaching programs [2].

Abraham Flexner's influence on the models of North American medical education was even greater than that of Osler, although he was not a doctor. His report on the state of United States of America's (USA) medical education for the Carnegie Foundation in 1910 identified schools where graduates had gained degrees with almost no scientific or clinical teaching. The American Medical Association accepted his recommendations that all medical schools should be connected to a university, include basic sciences teaching and offer clinical apprenticeships in their courses [3].

Although Flexner's work was reviewed in the United Kingdom (UK) and Europe, he had less obvious influence there because university-linked teaching hospitals and medical schools with an apprenticeship model had been in place from the late nineteenth century, or earlier in some instances. Following Flexner's report, North American medical schools developed a model of graduate entry after a basic degree with a science loading, while British and European medical schools primarily continued their intake of students direct from the school.

19.1.1 Australasian Differences

The Australasian, encompassing Australia, New Zealand and Papua New Guinea, model of medical education is based on the British model more than the USA one primarily because the initial universities developed from British models, often employing UK professors until the mid twentieth century. Prevocational education and experience and vocational education through colleges remain closer to the UK model though changes are occurring. The move, in more than half of the Australian medical schools, to graduate entry means that these education programs have similarities with US schools, especially when the candidates are expected to have science prerequisites in their initial degree.

There are several aspects of medical education in Australasia which are somewhat different from that in other regions: the effect of distance, both from other parts of the world and within the country, the imperative to develop and deliver health programs for Indigenous members of the population, the importance of providing health care for people of different cultural and linguistic backgrounds, the number of international medical graduates providing service roles, geographical inequities in access, shortages in some specialisations and the recent more than doubling of graduate numbers from Australian medical schools. The enhanced role of the Australian Medical Council (AMC) as the accrediting agent for all phases of medical education across Australian university medical schools, prevocational training programs and colleges and along with the Medical Council of New Zealand, most phases in New Zealand medical schools and colleges is likely to stimulate further changes in Australasian medical education.

Of the twenty-one Australian universities that operate primary medical programs, there are thirteen that provide graduate entry pathways, a large change in the last 20 years. As well as the increase in graduate entry programs, there has been an increase in medical student enrolments by 7.6% from 2012 to 2021, partly due to increased numbers of students in existing schools and opening of new schools. New Zealand currently has two medical schools with predominantly school leaver entry, and Papua New Guinea has two medical schools with a school leaver intake [4].

19.2 Medical Student Education

19.2.1 Selection

Selection is considered the most important task in medical student education in many countries where there are low attrition rates for medical students. When those admitted are likely to graduate, getting selection right is seen as a major task. While studies demonstrate that candidates' prior school or degree results best predict their results as medical students, not only to graduation but also through their postgraduate career, most medical schools use multiple selection methods in an attempt to chose well-rounded candidates who will make good doctors [5]. These include aptitude tests; personal statements; references; situational judgement tests (SJTs); personality and emotional intelligence assessments; interviews and multiple mini-interviews (MMIs) and selection centres (SCs) using work samples in addition to candidates' academic results [6].

These tools are employed to gain an understanding of the candidates' personal qualities and responses to situations using the human resources perspective that past behaviour is the best predictor of future behaviour. These instruments are sometimes called non-cognitive; however, they are better called measures of personal qualities, as it is obvious that cognitive skills are required when responding to a series of decision-making scenarios.

The currently used aptitude tests include sections on critical thinking in the sciences and humanities, ethical and empathetic responses to triggers, the ability to write essays and pattern matching. The evidence for their benefit in selection is limited as the correlation studies between the test results and subsequent assessment results all have the same problem of range restriction in that only the very brightest applicants are accepted [7]. The aptitude tests used in Australasia are the University Clinical Aptitude Test (UCAT) and the Graduate Medical School Admission Test (GAMSAT), while North America uses the Medical College Admission Test (MCAT) and the UK uses the UCAT, GAMSAT and the Biomedical Admissions Test (BMAT).

Interviews are commonly used in addition to academic results and aptitude tests, particularly in medical schools wishing to match students to specific programs and those wishing to broaden their intake demographic. Interviews in many schools across the world have moved from the structured or semi-structured panel interview to multiple mini interviews (MMI).

MMI setups involve up to ten separate stations where a single interviewer per station asks all candidates the same questions or poses the same dilemma. Eva and Reiter developed the MMI from the Observed Structured Clinical Examination (OSCE) used in many medical schools and postgraduate training programs [8]. The benefits of the MMI are the number of different interviewers interacting with candidates and the several different scenarios and questions that can be asked at the same time that panel interviews take. There is evidence of MMI acceptability to applicants and interviewers, with applicants preferring MMIs to traditional interviews and a perception of fairer selection tools amongst interviewers over panel interviews [9]. Evidence is emerging that candidates who do well in an MMI not only do better than their peers in OSCEs but also in the communication tasks of clinical clerkships [10].

Communications technology such as videoconferencing can be employed to conduct interviews, including MMIs, for candidates who would otherwise need to travel overseas or across countries to attend face-to-face interviews. As well as using computer-aided systems for scoring their definitive interviews, medical schools are developing models of computer-based scenarios as a preliminary interview used to narrow the applicant pool for face-to-face MMIs [11].

While many UK and some Australian medical schools incorporate an applicant portfolio or candidate statement in their selection processes, there is no good evidence for this practice. The reliability of portfolios and applicant statements

is poor, as applicants can gain assistance from many sources. These instruments also disadvantage applicants from lower SES backgrounds who may need to work in their non-study time and are neither able to gain the required volunteer experience nor have the contacts to get appropriate volunteer situations or assistance in the development of polished statements.

The issue of widening participation in medical education is gaining more traction in recent years. The World Health Organization regards medical schools as having an obligation to direct their education towards the health needs of the populations they serve so medical schools across the world have developed a range of widening access programs for candidates from underrepresented populations, such as Indigenous, refugee, rural background and low SES to encourage them to apply [12]. In Australia, although the number of Aboriginal and Torres Strait Islander medical graduates has been growing, the numbers are still relatively small, where in 2019, there were 46 graduates from medical programs in Australia, accounting for only 1.3% of domestic medical graduates. In addition, with about 29% of the Australian population living rural and remote, one of the complex medical workforce problems is geographic maldistribution with a clear preference for metropolitan-based practice. There are targeted programs in regional high schools to encourage applicants from backgrounds not traditionally seen in Medicine as well as assistance once students gain a place in the course. In addition, the Australian National Medical Workforce Strategy (2021–2031) seeks to address such issues through better planning for the future medical workforce and how the organisations that fund, educate, train, employ, regulate and support doctors will collaborate to produce a high-quality workforce in the locations and specialties needed [13].

There are several possible roles for doctors in the medical student selection process. Primarily as interviewers in either standard interviews or MMIs and as developers and providers of clinical placements for candidates from widening access programs to enable these potential doctors to gain relevant experience to enable to discern whether they could successfully apply for medical school. When candidates are interviewed by doctors, this gives a message to the candidates of the value that doctors place on this activity.

In summary, the issue of selection is extremely important in medical student education due to the very low attrition rate in most UK, North American and Australasian schools. In addition, selection is very competitive with many worthy applicants who meet the criteria but do not succeed in the selection process. While current selection instruments include measures of previous academic attainment, the requirement for prerequisite subjects, candidate statements and a variety of other measurements of personal qualities including interviews, the processes vary greatly in the weighting placed on the components. Those seeking admission to medical school need to be very aware of the particular instruments and the combinations being used by the schools to which they are applying.

19.2.2 Curriculum-Teaching

Most medical students' courses are based on the Flexnerian models of basic sciences in the early years, physiology, biochemistry, anatomy, pathology and pharmacology, followed by clinical placements in hospitals and other health services in the later years. Changes in the last 40 years include the developments in curriculum design and teaching practice, which aim to connect the students' scientific and clinical learning plus adding other elements to encourage students to think outside the box.

The lecture and practical session model of past years has, in some instances, been totally replaced by Problem, Case or team Based Learning tutorials, while in other curricula, these are supplemented by lectures, practical sessions and anatomy dissection. The aim of problem, case and team-based learning is to encourage students to integrate their science-based teaching when considering common clinical problems. Students are encouraged to develop hypotheses in relation to the problem being represented using their existing and new scientific knowledge,

including the mechanisms of action of the pathological processes under consideration. These programs encourage students to apply their knowledge and develop clinical reasoning skills, which become even more important as they move into the clinical rotations of their course.

Many schools include early clinical exposure through visits to hospitals and community practices as well as tutorials with simulated patients in the pre-clinical years to assist the students to consider the effect of disease, particularly chronic disease, on patients. Furthermore, with the use of simulated learning environments and clinical skills laboratories, students are provided with early hands-on clinical focussed learning. As well as these early clinical experiences, there are also longitudinal programs where the whole, or part of each student cohort, spends time in suburban, regional or rural community practice settings in their clinical training years. In some programs, students see the same patients over many months and are encouraged to develop a patient-centred approach to practice [14]. For other students, this approach is encouraged through patient partner programs where students follow one patient for a period of time, focusing on the patient's interactions with the health system as well as their illness experiences.

For these student–patient interactions to succeed, there is a need for good communication and such skills are now a key part of all medical school curricula. Examples of best practices in this area include experiential learning sessions where students interact with simulated or real patients, and the conversation is filmed to allow playback with feedback from the patient and the student colleagues as well as the facilitator. The decreasing cost and size of cameras have encouraged more instances of this practice across hospitals and clinics. One problem with communication skills teaching is the pre-loading in the early years before students have had much patient experience. Schools that provide integrated clinical and communications skills programs throughout the clinical years allow students to develop and practise appropriate skills across the student's learning trajectory [15].

Other uses of technology in medical education include projecting teaching sessions to another campus, or in simple procedural skills acquisition using part-task trainers, for example, learning to insert intravenous lines into a dummy arm, to more complex life support training sessions with high fidelity models. Most students will work with both high- and low-fidelity models and specially trained simulated patients in their acquisition of clinical skills, including intimate examinations [16]. The model of deliberate practice is used in the acquisition of clinical skills, where students improve their capability by the continued practice of skills coupled with constructive feedback and reflection as they move from simulation sessions to interacting with patients [17].

Virtual reality, augmented reality and mixed reality through head-mounted devices are other technology now utilised in medical education for immersive experiences that enable scalability and repeat practice without adverse effects, such as in the fields of anatomy and surgery. With many studies demonstrating that such interventions are engaging and enjoyable tools for learning, such technologies also contribute towards alleviating financial, ethical and supervisory requirements of traditional settings in skills labs and utilising cadavers as well as preparing medical learners on disruptive technologies they will inevitably encounter in the workplace [18].

As well as developing specific clinical skills, students are provided with many other educational experiences. For example, the role of the humanities in medicine may be included as elective or routine parts of the curriculum, involving visits to art galleries or writing workshops, often with a focus on the important role that understanding ethics, emotions and empathy play in medical practice [19].

Other educational activities include interprofessional learning, which may take place in student-led clinics or wards with other health professional students. In many schools, there are also electives, selectives, pre internships and student conferences that provide opportunities for students to gain educational experiences in other health settings and to specialise to some extent.

With digital health technologies becoming an integral part of medical practice, including, among others, electronic health records, telehealth, mobile health, wearable technologies and artificial intelligence uses and applications to improve delivery and care access, its inclusion in medical curricula is commencing heterogeneously, albeit not routinely done. The general consensus is the necessity for curriculum establishment for systematic integration, with concerns about an already packed medical curriculum. Given the rapid development of digital tools in health, curriculum changes need to keep pace and identifying and removing outdated topics would contribute to developing optimal medical curriculum [20].

An important component of medical curricula is the emphasis on the demonstration by the students of professional behaviour in their patient, staff and colleague interactions linking to expectations in practice. This is now both taught and assessed in most medical schools, with Fitness to Practice committees making decisions on students' behaviours [21].

Some educators consider that there are now too many short-term activities in medical curricula so that students have difficulty developing a proper framework for learning and the suggestion has been made that apprenticeship, central to Osler and Flexner's educational visions, needs to be revitalised [2]. Also, while most medical educators consider that the benefits of assisting students to learn how to learn rather than rote learn outweigh the somewhat black-and-white view of clinical medicine that the students may receive from problem-based learning, others remain to be convinced.

With practice-based learning being the backbone of medical education, there has been a shift in recent years to online pedagogy in many components of medical education in response to the global novel coronavirus (SARS-CoV-2) pandemic across the globe. With restrictions on traditional models, many innovations, including remotely delivered didactics, simulation and telehealth consultations, were implemented to ensure continuity of learning [22]. Medical educators transitioned traditional face-to-face teaching to online and utilised synchronous and asynchronous learning, supporting both virtual engagement as well as self-directed learning. With research demonstrating that online and blended learning having better outcomes than traditional modalities and offline learning for undergraduate medical students, medical educators are utilising some aspects of online learning for didactics and prioritising clinical, procedural and laboratory skills for face-to-face instruction [23–25].

Another component of medical curricula emphasises developing work-ready graduates that can confidently react to new environments and will require a plethora of new skills in the workplace that they may not have been exposed to during their medical studies. Work readiness is both a state of mind as well as the graduates' skills, knowledge and workplace resilience, with resilience reflecting both confidence as well as capability. The role of mentorship and support is crucial for fostering work readiness to maximise the capacity and reflexivity of graduates in adaptation to their roles and responsibilities as new junior doctors. Work readiness maximises individuals' reflexivity and capacity to adapt to the clinical environment and the roles and responsibilities of work as a junior doctor. To avoid junior doctors struggling with the transition to the workplace, supervisors and stakeholders in the workplace have a role and responsibility to create those authentic learning experiences and support structures to ensure students take on graded clinical responsibilities and transition successfully into their roles [26].

Developing a medical education and training continuum contributing to an adaptable and capable medical workforce that is providing services in sufficient numbers to needed locations would best serve population needs in Australia and New Zealand. Having well-supported clinical experiences in non-hospital environments as well as community-based settings such as general practice aged care, disability, non-emergency psychiatry, Aboriginal and Torres Strait Islander community-controlled sector, Māori services and hospice care would contribute to further developing new skills in a variety of settings with a diverse patient mix in areas of need [27].

There are many possible roles for doctors in the areas of curriculum development and teaching of medical students beginning with curriculum development and maintenance. Here the role of doctors in emphasising the importance of integrating and translating research findings into teaching is vital, including the importance of demonstrating evidence-based physical examination practices [28]. The role of doctors as teachers of all clinical subjects cannot be understated, particularly the importance of doctors as teachers of communication, medical ethics and professional behaviour. The face validity of having doctors as teachers and mentors in these subjects demonstrates to students that they are seen as important by the profession. And perhaps the most important role that doctors have in teaching medical students is that of role model, someone whose inclusive and supportive behaviour towards patients, families and other staff while demonstrating evidence-based practice is such that the students will want to base their practice on it.

19.2.3 Assessment

Assessment remains the issue that most concern students and, to some extent, their lecturers and teachers. Across the world, the entry to practice assessment at the end of the course varies between national examinations, which may also be undertaken by students from other countries for experience or in the hope of gaining work, and final exams set by individual universities.

The overall framework for assessment in most medical schools is based on a time model with added components of a competency model, which means that most courses expect students to have achieved the necessary skills over their period of studies with the requirement that some specific capabilities must be demonstrated before the student can graduate. Critics of the competency model are concerned that demonstration on a particular day does not always translate into continued capability in that task. The concept of Entrustable Professional Activities has been developed recently to describe those "units of professional practice, defined as tasks or responsibilities to be entrusted to the unsupervised execution by a trainee once he or she has attained sufficient specific competence" [29]. Such a model allows the teacher to assess the trainee's ability to safely perform a clinical task in an ongoing manner and once the actual assessment frameworks are consolidated this should allow for more robust assessment of clinical tasks.

The actual structures of assessment within courses vary greatly; some courses have almost continuous assessments, and others have major exams only twice in the whole course. We know that assessment drives learning, so it is vital that the assessment will drive the learning in an appropriate manner, towards the development of clinical reasoning and away from rote learning of facts that may no longer be correct by the time the student graduates and which can be looked up easily in most instances. Most schools use a model of assessment based on educational research demonstrating that matching the content and style of the assessment to that of the learning assists both the learner in demonstrating their learning and the educator in discovering whether the students have understood the teaching. Miller's Prism of Clinical Competence is often used to describe the hierarchical levels of demonstrating capability, from knowing about something to being able to perform a task safely assists medical educators in developing appropriate assessment tasks for the task and level they wish to measure.

Most units and subjects have formative assessment, where students get feedback as they progress through the subject so they can improve, and summative where they gain final marks. All of the following assessment types are used in medical schools and can be used for formative or summative purposes: multiple choice questions (MCQs), extended matching questions (EMQs), short answer questions (SAQs), case-based discussions (CBDs), situational judgment tests (SJTs), essays, reports, OSCEs, long cases (both observed and not), mini clinical examinations (miniCEXs) and direct observation of procedures (DOPs).

While MCQs are sometimes regarded as only measuring rote learning, well-written ones with appropriate clinical scenarios require students to use clinical judgement to get the correct answers and can indeed be written for topics such as ethics and professional behaviour, although SJTs are more commonly and successfully used for these. SJTs use a scenario describing a situation with both clinical and personal issues where the candidate is given a set of possible answers to either rank in order of best fit or to give the two or three best answers. They are particularly used in end-of-course assessments where the teachers wish to assess the students' readiness for clinical practice with its ambiguities. EMQs are a variety of MCQs where a list of possible diseases, symptoms, investigations, or examination findings is provided along with several clinical scenarios, and the candidate matches the scenario to an entry on the list above. One benefit of EMQs is that the same scenarios can be recycled using a different list of questions for later exams. The primary benefit of MCQs, EMQs and SJTs is that they can all be machine-marked, allowing rapid results and individualised feedback.

The other types of written exams, SAQs and essays, require individual marking though with the development of an appropriate marking guide for the question this task becomes both less onerous and less subjective. Common instances of written exams include a mixture of MCQ, EMQ, SJT, SAQ and more traditional essay questions.

Regarding clinical exams OSCE, miniCEX, CBD and DOP as well as long cases are the usual types of summative clinical examinations. OSCEs are structured clinical examinations where each candidate has the same experience because the simulated patients in the cases have the same scripts. The tasks include taking histories, performing targeted examinations and providing explanations and may include procedural tasks where a part-task trainer is used for the student to manipulate while conversing with the patient, for example, repairing a wound on a pad strapped onto the simulated patient's arm while explaining their actions to the patient. The benefits are that the students all get the same set of experiences, and when well written, the students can be questioned on their clinical reasoning as well as having their communication and examination skills observed. The downside is that the students become adept at the moves expected by the examiners and may pass even though they do not have very good clinical or communication skills in the wards.

For this reason, the miniCEX and CBD were developed. MiniCEXs are targeted brief examinations observed by the assessor involving real patients and done in a clinical setting where the student does not know the patient. This type of assessment is preferred to the long case because the assessor observes the student's interaction with the patient, which rarely happens in the long case where the student spends up to an hour with a patient before summarising the case to the examiner. Tasks might include a targeted history of one or two presenting problems, a targeted examination of one body system, or the communication of investigation results or discharge plans. They can be used for medical students and by increasing the degree of difficulty for trainees in specialty practice. Although they are often used for summative purposes, they are best used in formative situations when the assessor can give real-time feedback to the candidate and have the opportunity to observe the candidate again doing a similar task. Unless students are in clinical situations where they have the same supervisor for a long period, it is unlikely that they will have the opportunity to be observed performing a clinical task to get feedback, so observation and feedback are important. While miniCEXs are less likely to be gamed than OSCEs, there are problems when they are used for summative exams as students will not attempt them until the end of a rotation, by which time they pass easily and often do not listen to and thus benefit from any feedback. Case-based discussions (CBD) are an examination of the notes the student or doctor has made in the care of the patient where the examiner discusses the decisions made and documented and the clarity of the notes as a handover tool. Although they can be used for medical students, they may be artificial unless the student is on a student-run ward.

They are very valuable as formative assessments for newly graduated doctors where the doctor's clinical thinking as well as their documentation practices can be reviewed.

Newer types of assessment include progress testing where all the students of one or more medical schools undertake the same MCQ examination each year, providing information for the students and the medical school on where each student is in relation to their previous performance and the cohort [30]. For these examinations, it is usual to provide feedback to students on their progress relative to their previous grades and/or to their cohort. It is possible to do this for other types of assessment though this is made more feasible when the examinations are undertaken on, or marked on, computers or tablets. Collaborations between universities and assessing bodies have led to banks of MCQs and SJTs which can be accessed by those who have bought into the scheme or provided sufficient examples to the pool [31].

Doctors play important roles in assessing medical students, both in developing the assessment tasks to match the taught curriculum and especially as examiners in the formative and summative clinical assessment tasks, OSCEs, miniCEXs and CBDs. The provision of appropriate feedback, which assists the student to focus their learning, is a skill well worth acquiring for all doctors who teach medical students or supervise trainees.

19.2.4 Evaluation

One of the major changes to medical education since the late twentieth century is the extent to which courses are evaluated and the information gathered used to modify the courses in a true quality improvement cycle. Academic staff organise the regular evaluation of all aspects of the courses, including exams, by students, teachers and the simulated patients used in teaching and OSCEs. There is an evaluation requirement for accreditation by both universities and the accrediting body for medical schools. The benefits of thorough and regular evaluation processes enable medical educators to discover which components of the course students value and which may no longer meet the needs of the cohort. Gaining robust and useful feedback from students can be an issue when the university uses electronic feedback systems. Such systems suffer from a low response rate which devalues the data. Several schools continue to use paper forms at times when students are captive to ensure the best data capture. Tutors and examiners value gaining feedback when they respect the data, for example, providing information on where an examiner's marking was in relation to the mark range of all examiners for an OSCE. With additional online and blended teaching modalities becoming more common in medical education, evaluation of improved study methodologies and outcomes is essential.

The role of doctors in the evaluation of the medical courses includes providing realistic and structured feedback on the value of the teaching sessions and assessment activities that they have been involved in. They play a vital role in assessing the preparedness of prevocational doctors and objectively feeding that back to the relevant medical course. The broadcasting of negative unstructured comments to the students or other teachers is not the most appropriate way to effect change in the curriculum or its assessment.

19.2.5 Student Involvement

Another recent change in the governance of medical schools is the involvement of students in curriculum and other committees in medical schools, which assists in the provision of informal feedback and also in the connection of the educators with the student body. Utilising the principles of codesign with students, care and education professionals expands and adds value to the medical curriculum [32]. These activities encourage students to gain an understanding of how the curriculum, assessment and evaluation are developed and implemented and to be aware of the teachers' efforts to maximise the learning of all students.

19.2.6 Student Support

As well as student input into the medical school, there are often formal support services provided for medical students over and above the general counselling and health services provided by the University. Given the evidence that medical students suffer anxiety and depression disproportionately higher than their fellow students, with female and Indigenous students even higher than male and non-indigenous counterparts, it is appropriate to support these students who, as well as dealing with the financial and exam stress issues of other students, are also interacting with very ill and dying patients and attempting to develop suitable professional behaviours, sometimes in the face of unprofessional behaviour from the clinicians who teach them [33]. Combined with the general support for all students, there may be specific support provided for students with impairments which limit their performance in assessment tasks. Medical school staff usually negotiate such individual modifications with the assistance of the disability or occupational medicine unit of the university. In relation to the abilities of entrants to a medical course, many schools have a core participation requirement that sets out the abilities and behaviours expected by medical students in the course.

Another development in relation to managing student problems is the belated recognition of the support needs of the staff, who are primarily involved with students in distress. An Australian intervention of workshops for academic and professional or administrative staff, developed from the issues brought up in staff interviews, is proving helpful for these staff to understand the issues that students raise and how to provide appropriate assistance [34].

The role of doctors in student support may be as employees of student health and support services; for most, it will be a more general role of encouraging students to have their own family doctor and to seek professional help when they have any issues which are impeding their learning. It is important that doctors in educational relationships with students do not provide medical support for these students, as this is a boundary violation which is likely to mean that the student neither gets a good educational nor an appropriate personal clinical outcome.

19.2.7 Funding and Scholarships

The ways that medical schools are funded vary widely across nations and include mixes of totally government-funded schools where all tuition is free to those which are totally privately funded, requiring the students to pay for everything. Students at medical schools in the UK, North America and Australasia currently pay either as they study or after they graduate. In most countries, higher fees are charged for students from other countries. Scholarships may be provided for students from disadvantaged or Indigenous backgrounds and those who have gained high grades in the entrance requirements. In Australasia, these programs are particularly developed for Indigenous candidates. To help in meeting the health needs of rural Australia, currently 26.7% of the total domestic commencements of the students in medical school intake are bonded to work in an area of need, usually rural or regional, for a period after graduation [35].

19.2.8 Medical Education Research

Medical educators and policy directors in universities and health departments are involved in research on the effects of medical education on students and graduates. Early and continuing work involves looking for correlations between selection policies, practices and results in search of the perfect selection tools, even though such research will always have major limitations, as previously mentioned. Researchers considering assessment context and content continue searching for the assessment practices which best meet the needs of both educators and students. Curricular changes are more difficult to research as the effects take some time to observe, and the socialisation of hospital practice tends to decrease the effects of specific teaching [36]. In Australasia, the Medical Schools Outcome Database (MSOD)

coordinated through the Medical Deans of Australia and New Zealand, collects data from all medical students about intention to, and actual, practice after graduation. The data can also be used to see if the selection, curricula and assessment policies of particular medical schools have an effect on the students' intentions and actual practice. Furthermore, the data produces valuable research outputs and information useful for policy development and workforce planning [37].

19.2.9 Educating the Teachers

The education and training of the medical education workforce, both pre-clinical and clinical, is essential to ensure that student education continues to meet the needs of the students while expanding their learning. Programs such as Teaching on the Run can be provided in departmental meetings or at other targeted times [38]. Furthermore, a range of specifically medical or clinical postgraduate education qualifications has been available for over 30 years for those wishing to gain more knowledge and skills or for those assuming leadership roles in medical education [39]. The recent widening availability of these courses has been coupled with an increasing expectation that clinicians with a substantial teaching load will undertake such courses. To enable maximum attendance, these courses are often predominantly online with short intensive face-to-face sessions during non-teaching periods.

19.3 Prevocational Education

Once medical students graduate, their path into practice varies greatly across the world. In the UK and Australasia, new graduates undertake a period of 1 or 2 years, under supervision, in predominantly hospital practice in a series of general and special rotations where they are assessed against expected performance for that rotation and level of expertise. The gateways to these positions are commonly the students' marks at medical school and an interview process, which may be MMIs, SJTs or online assessment tasks based on MMIs and SJTs. Once the period of prevocational experience is completed successfully, the trainee doctor is given general registration by the accrediting medical board and can undertake further training or in some cases move to independent practice. The education provided in these programs is predominantly clinical and needs to start with a robust and practical orientation program so that the new graduates can understand and work well in the hospital system [40]. There will also be regular teaching and sometimes debriefing sessions. In some jurisdictions, assessments of these provisionally registered doctors are mandated and include miniCEXs and 360-degree reviews, while in other systems, the assessment is limited to a form completed by a supervisor at the end of the rotation.

The practice in North America is that medical graduates enter a specialty training program as soon as they graduate and remain in that program until they successfully complete their board certification exams, after which they go into solo and hospital practice, so there is no real period of prevocational education. In areas of Asia and the Middle East, new graduates might have a period of general hospital internship but may also be expected to work in relatively unsupervised community settings or provide medical services for military organisations.

The role of the senior doctor in prevocational education is often that of role modelling best clinical practice, career advice and mentorship, as well as supporting the new graduate to translate their academic knowledge into good clinical practice. Obviously, there are assessment requirements for the trainee, and it is important that these are undertaken in a way that allows the new graduate to learn from their assessment in a fair and non-discriminatory way.

19.4 Vocational Education

In most countries, medical graduates seeking registration as specialists need to meet the assessment requirements of a profession-led college, faculty or board. Entry into these positions may

be by formal interview, MMIs, SJTs or a group of assessment tasks at an assessment centre. For sought-after training positions, a period of formal research leading to a Master's or Doctorate qualification may be required. Discipline specialists in the colleges, faculties and boards set the entry criteria, the training curriculum, the length and types of positions suitable for training, and the assessment tasks required to fulfil each specialty program. The assessment tasks often include written and clinical examinations as well as periods in required training positions so that at completion the successful doctor is seen to be competent in both the theoretical knowledge and practical application of the chosen field. The clinical assessment tasks include those mentioned above in the medical student education section, particularly OSCEs, miniCEXs, long cases and CBDs. The direct observation of practice, which in the medical student situation is usually a technical skill such as inserting an intravenous line, may be replaced by a more relevant task such as correctly anaesthetising a simulation manikin.

In the UK, North America and Australasia, this model pertains, while in other countries Universities or government bodies undertake these functions of accrediting doctors for sole practice in a specialty. However, the most established of these vocational training organisations can be considered gatekeepers to the desired vocational practice rather than education providers.

More recently, colleges have developed and begun to implement curricula and teaching for candidates to match the assessment tasks partly in response to the accreditation requirements of their particular nations. In Australasia, the Colleges' training programs are accredited by the Australian Medical Council against their provision, or organisation, of education and assessment to match their curricula. Many of the educational frameworks of these organisations around the world are based on the work done by the Royal College of Physicians and Surgeons of Canada in their development of CanMEDS [41]. This framework used to consider the development and performance of the best possible medical practice is intuitively attractive with its flower and petal structure where the centre is the medical expertise of the specialty, and the petals are the same for all specialties. These common domains that all specialties need to consider in their development of curricula, training programs, assessment and continuing education are medical expert, communicator, collaborator, leader, health advocate, scholar and professional.

From the work done on the implementation of CanMEDS and other research, there is an increasing emphasis on the need for communication skills training of candidates. Depending on the college or board, this will range from an annual short session on specific communication issues for that specialty to week-long communication skills teaching programs with actors. Other possibilities include seminars backed by workbooks for particular skills development, e.g. communication with people who have type 1 diabetes [42].

Given that the vocational training of doctors is predominantly delivered by medical staff in hospitals and clinics and community settings, there are many roles for doctors in this arena of medical education. It is important that those assessing candidates do so in an educationally rigorous manner, giving fair and constructive feedback to allow candidates to improve their performance. It is also best practice that candidates have the opportunity to be assessed by more than one or two supervisors in each rotation. For those accepting the supervisor role for college or board trainees, there are requirements that they will undertake training on supervision and assessment of trainees, which are now mandatory for many organisations.

19.5 Continuing Medical Education

There are now requirements, in most jurisdictions, for doctors who have passed the required hurdles demonstrating their capability for solo practice in a speciality to provide evidence of active participation in continuing medical education. These rules have developed from several

directions of medical education thought: firstly, the evidence that proving continuing competence in medical practice may lead to less referrals of doctors to the registration authorities because of poor practice; secondly, from the perspective that it is vital that practitioners remain up to date with changes in medical knowledge and thirdly; from the educational understanding that deliberate practice with feedback is required to maintain as well as develop a skill.

In many countries, the continuing education programs are mediated, if not directly provided, by specialist Colleges or Boards and require the practitioner to provide evidence of satisfactory compliance with the mandated programs to both the relevant college or board as well as to the medical licensing authority. In some instances, the practitioner can gain credit for undertaking medical education courses within the college or at a university and thus improve their knowledge of the student and trainee requirements for their courses. There may also be financial imperatives connected to continuing education programs if government funding of patient care episodes is linked to compliance with continuing medical education.

19.6 Summary

In conclusion, medical education is a continuum from entry to medical school to retirement, with many of the same teaching methods and assessment tools being applied at most steps of the journey. The importance of matching both the content and context of the assessment to the curriculum needs highlighting. There are specific roles for doctors in all stages of medical education, as curriculum designers, teachers and assessors with perhaps the greatest role being that of positive role model.

19.7 Reflections

- The important issues in contemporary medical education are the selection of both medical students and trainees into vocational programs and the management of medical students and trainees through these courses.
- The proper use of the most appropriate assessment tools, which match the curricula in content and context, is key to being confident that the graduates are capable of medical practice at their level of entry.
- The importance of doctors as educators, assessors and role models cannot be understated.

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Research Governance

20

Margaret Wilsher

20.1 Introduction

Key obligations apply to organisations that allow health research involving their patients. Medical managers often hold the accountability for health research activity, especially its safety and quality. The organisation's executive and board must have assurance about this aspect of the business, and research participants, and their supporting families and communities, must know that their safety is paramount as they engage in research procedures.

Key learning points for the medical manager include:

- Understanding the regulatory and ethical research framework that applies in their jurisdiction,
- Knowing the procedures that are necessary for safe high-quality research,
- How to implement a health research management structure with operating procedures and guidelines,
- An awareness of risk relating to health research activities in their organisation.

20.2 Definition

Health research takes place in virtually every healthcare organisation, whether it be a simple audit, quality improvement cycles, single-site observational or interventional study or multicentre clinical trial. Where human participants are the subject of research, then specific ethical and regulatory frameworks apply. Research governance is necessary to provide assurance about the safety of health research undertaken in the organisation, that such research complies with necessary local, national and international regulations and standards, and is ethical and of high quality. That assurance extends from participant to researcher and to organisation and owner. Assurance can only be provided if risks pertaining to health research are identified and managed, and reporting of such is transparent.

This chapter will focus on human participant research in clinical trials, but medical administrators accountable for animal laboratories or bench research involving human tissue will also need to ensure they understand any specific regulations that apply to such activity. At a practical level, examples of research that might take place in a hospital or clinic include analysis of data from clinical records, patient surveys or trials of new questionnaires, use of blood or tissue samples, review of imaging, clinical trials involving new drugs or implantable devices (see Table 20.1).

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Table 20.1 Examples of health research activity and whether ethics approval required

Simple audit or retrospective cohort study: a retrospective review of clinical records to determine the frequency of clinical event	No ethics approval required
Registry: often multicentre and, in some instances, required, e.g. transplant services	Ethics approval is generally not required as primarily a quality activity. Will be required for any studies that use the registry data.
Prospective observational (cohort) study: view of changing health metrics over time, e.g. a physiological measure, development of disease or therapeutic intervention rate	May require ethics approval if the researcher is not part of the usual clinical team and will be accessing the clinical record
Patient survey: A written questionnaire or interview involving individual participants or groups. Does not involve an additional therapeutic or diagnostic intervention	Ethics approval is required
Study using stored samples or images: research that does not require an additional intervention but uses patient material for a purpose for which it was not originally intended	Ethics approval is required. Informed consent may be waived where data are old and patients may not be contactable
Case-control study: a comparison of one population with another similar population that did not have the clinical intervention or outcome of interest. It may be retrospective or prospective	May require ethics approval
Clinical trial of a new intervention, drug or device	Ethics approval is required
Evidence-based review such as meta-analysis	Ethics approval is not required
Epidemiologic and public health studies: population rather than individual participant-based research. May use anonymised individual or aggregated data from external agencies or repositories	Ethics approval is not generally required

20.3 Ethics and Good Clinical Practice

Research governance provides assurance that the rights of the participant are paramount. This is enshrined in the World Medical Association Declaration of Helsinki (1964), which in the latest revision (2013) comprised a '*statement of ethical principles for medical research involving human subjects*'. The Declaration of Helsinki was subsequently used as the basis for the conduct of clinical trials, and following the Tripartite International Conference on Harmonisation (ICH 1996), the principles of Good Clinical Practice (GCP) were developed and subsequently applied by research organisations, industry and international regulators.

The thirteen core principles of GCP are:

1. Clinical trials should be conducted in accordance with the ethical principles that have their origin in the Declaration of Helsinki and that are consistent with GCP and the applicable regulatory requirement(s).
2. Before a trial is initiated, foreseeable risks and inconveniences should be weighed against the anticipated benefits for the individual trial subject and society. A trial should be initiated and continued only if the anticipated benefits justify the risks.
3. The rights, safety, and well-being of the trial subjects are the most important consideration and should prevail over the interests of science and society.
4. The available nonclinical and clinical information on an investigational product should be adequate to support the proposed clinical trial.
5. Clinical trials should be scientifically sound and described in a clear, detailed protocol.
6. A trial should be conducted in compliance with the protocol that has received prior institutional review board (IRB)/independent ethics committee (IEC) approval/favourable opinion.

7. The medical care given to, and medical decisions made on behalf of, subjects should always be the responsibility of a qualified physician or, when appropriate, a qualified dentist.
8. Each individual involved in conducting a trial should be qualified by education, training and experience to perform his or her respective task(s).
9. Freely given informed consent should be obtained from every subject prior to clinical trial participation.
10. All clinical trial information should be recorded, handled, and stored in a way that allows its accurate reporting, interpretation and verification.
11. The confidentiality of records that could identify subjects should be protected, respecting the privacy and confidentiality rules in accordance with the applicable regulatory requirement(s).
12. Investigational products should be manufactured, handled, and stored in accordance with applicable good manufacturing practice (GMP). They should be used in accordance with the approved protocol.
13. Systems with procedures that assure the quality of every aspect of the trial should be implemented' (FDA Guidance for Industry1996).

It is recommended that all clinical researchers working with human participants are trained and credentialled in GCP and that healthcare organisations keep records of compliance. If an organisation does not have the resources to provide its own GCP training, there are many suitable online courses that provide proof of completion.

In order to protect research participants, all health research other than simple audit, observational or quality improvement activity should be subject to independent ethical review. This may comprise a national or regional centralised ethical review process or local ethics committee. Independence of membership is key. Most health jurisdictions will publish ethical standards for the conduct of research involving human participants.

A health research ethics committee will consider if the proposed study meets established ethical standards and if an independent scientific review has been carried out. Depending on the nature of the research, specific considerations may apply:

- Consultation with relevant communities. In New Zealand, this applies to Māori in the context of Te Tiriti o Waitangi, and in Australia, consultation with Aboriginal elders who hold the wisdom and stories.
- The use, collection and storage of human tissue where jurisdictional law or indigenous interests apply, including the establishment of a human tissue bank.
- The use or disclosure of personal health information.

Once a study has received appropriate ethics and host institutional (these may comprise one or two committees/offices) approval, the onus is on the principal investigator to ensure that study procedures comply with ethical and regulatory standards. It is particularly important to be aware of mandatory notification such as might be required for urgent safety measures, temporary halting of a study and protocol deviations, including breach of consent process. Generally, annual safety reports must be provided to the approving ethics committee, and any changes to the investigator or protocol must be notified to the committee as a proposed amendment.

Note that for specific types of research, for example, research that creates or uses a human gamete, human embryo or hybrid embryo, approval may be required from a specific ethics committee as directed by law.

20.4 Research Management

Just as an organisation must have assurance that all clinical research is ethically sound, so it must ensure that research is of high quality, safe and appropriate. An organisational research strategy may align with the core health strategy or the direction of an academic partner such as a univer-

sity. Very often research is directed by the academic interests of clinicians, but such research must always be appropriate, feasible and safe.

Healthcare organisations should have a research management office with the capability to assess the quality of a research proposal, feasibility of the project, capability of the investigator and team and adequacy of the research budget (Fig 20.1). Some organisations appoint a local scientific review committee, and others rely on independent external assessment of proposals. Feasibility is important to ensure that individual units are not competing for the same pool of participants, that research does not interfere with clinical delivery and that the research team has the capability, resources and time to undertake the research as described. An appropriate approval pathway should be described in easily accessible research operating procedures. All clinical trials should be registered on public trial registers.

A framework for the financial management of research is recommended with transparency about revenue and costs, both direct and indirect, and dispersment of research financial surpluses. A standard approach to overhead recovery is recommended. Support for researchers preparing study budgets may be required,

It is important to ensure that researchers themselves do not directly benefit from the proceeds of research without approval and declaring such. This is particularly important if an organisation is conducting 'for profit' clinical trials for commercial sponsors.

It is recommended that healthcare organisations have clinical and management leads for research activity and a research management system including secure data management. Reporting within a research governance framework ensures executive and board can have assurance about this activity and equally so, participants and their supporting communities. Metrics should be developed that reflect the scale and type of research activity, the outputs and the benefits.

The research workforce comprises lead or principal investigators who may be supported by research coordinators, graduate students and data administrators for any one project, or program of projects. The research management office will require expert support from finance, legal, laboratory and pharmacy teams. The research management office should have recourse to intellectual property advice and be able to either manage the pathway to commercialisation or ensure that researchers can be supported in the event of promising innovations.

Whilst the project contract and research budget is usually negotiated by the principal investigator, the research management office can ensure

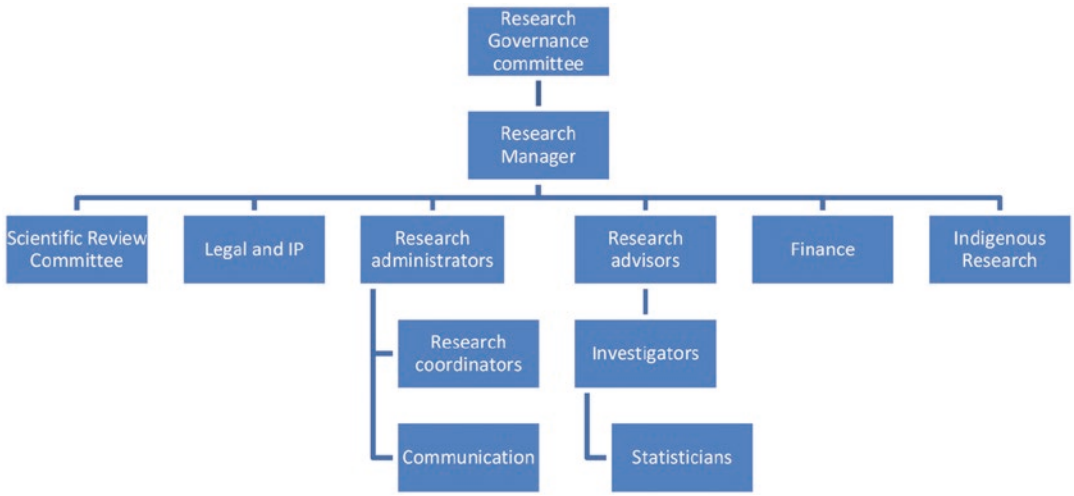

Fig. 20.1 Research management structure: example

that a well-described research infrastructure is visible to external funders who can then determine the suitability of the organisation to participate in specific health research projects. Most pharmaceutical sponsors will contract an external research organisation to conduct clinical trials on their behalf which will look to the adequacy of not only the research infrastructure but the policies and procedures that ensure research is of high quality. Research may be subject to audit by the funder or regulatory authority and the principal investigator and host organisation must ensure all source data is available for review.

All research must be monitored, and compliance with standards must be documented. Research outputs must be shared and the results disseminated appropriately. Increasingly, research findings must be translated into clinical practice so that there is demonstrable benefit to the communities served by the relevant healthcare organisation.

20.5 Safety and Quality

The safety of the research participant is paramount. All research proposals must be evaluated with that in mind. Where studies are considered higher risk, e.g. first in a human device or potentially toxic investigational product, then an independent data safety monitoring committee/board (DSMB) can provide additional oversight as the trial proceeds. Phase 1 (safety) clinical trial units require considerable safety support. Any serious adverse event must be reported and investigated either by the sponsor or by the institution. Where there is a serious adverse event of concern, then an organisation must be prepared to temporarily halt the study pending incident review and implementation of any recommendations. The relevant ethics committee must be notified in such circumstances.

The institution must be mindful of jurisdictional regulations pertaining to laboratory safety, human tissue protection, use of genetic material, radiation safety, unregistered medicines and novel devices. Investigators need to be aware of which bodies to notify in the event of harm.

Biobanks require particular scientific and ethical oversight, as well as safe laboratory practices to ensure the stored material remains secure and viable. A protocol for the sharing of material from a biobank, taking into account indigenous perspectives, is necessary. All researchers who collect human tissue for the purposes of research must describe what will happen to the tissue when their research is completed. A method for the safe disposal of any tissue is required. Biobanks require specific scientific and governance arrangements including indigenous people's participation.

The quality of research may be judged by the excellence of the consequent research publication, but ultimately, high-quality research translates into health gains for health consumers. Quality can also apply to the timely and appropriate management of research – timely recruitment to projected numbers, a study completed on time and budget. Results from research studies should be shared with participants and relevant communities. A regular research report to organisation management and board can provide evidence of research quality and assurance about such safety.

20.6 Data Sovereignty

All participant data must be kept confidential, nonidentifiable and stored for a period of time depending on jurisdictional requirements. Such data must be accessible to independent audit. Data management must comply with local jurisdiction information privacy standards, including relevant law. Research governance ensures that only those who have a right to such information can access it. Stored images and tissue require the same attention. Any proposal to use research data for purposes other than for which it was collected must be subject to further ethics review. If data, including images and tissue, is to be sent to another jurisdiction, the organisation must have the assurance that appropriate governance of that material is applied. Care should be taken when sending material to other jurisdictions where the same protections might not necessarily exist and where commercialisation of material without

participant permission or acknowledgement could ensue.

Indigenous populations demand data sovereignty and must be provided with their data accordingly. Permission must be sought to use indigenous participant information which in Māori culture is a taonga or treasure which does not necessarily belong to an individual in the Eurocentric approach but rather to the collective or iwi (tribe). In the same way, knowledge of Aboriginal and Torres Islander culture must be preserved and protected with respect due to the Elders who hold the knowledge.

20.7 Research Involving Indigenous People

Research governance ensures that in health research activities, the rights of indigenous populations are upheld, and that inherent cultural values are respected.

There is no United Nations definition of 'indigenous people', and specific regional populations may prefer other terms to describe their people, e.g. tangata whenua/Māori in New Zealand or Aboriginal and Torres Straight Islander Peoples in Australia. Regardless, such people often perceive research being 'done' to them rather than 'with' them. This is contrary to the right to self-determination that is enshrined in the United Nations Declaration on the Rights of Indigenous Peoples. In New Zealand, a unique contract between Crown and Māori was signed in 1840 – Te Tiriti o Waitangi – which, in essence, describes the right to tribal authority over cultural, social and economic resources, protection not just of land but of language and culture, and equity which applies to health. Research practice in colonised countries has historically taken a Eurocentric approach which has not always delivered engagement and participation by indigenous populations. Researchers in Australia and New Zealand are referred to relevant and contemporary guidelines hosted by the Health Research Council of New Zealand and the National Health and Medical Research Council in Australia.

Indigenous populations often have higher health needs, and research is urgently needed to inform solutions to the health inequities that exist in many colonised countries in the world. Unique language and specific cultural perspectives must be taken into account as researchers engage with relevant communities. In keeping with the right to self-determination, community leaders should determine their own research priorities, and studies involving indigenous peoples should be co-designed with contexualised research methodologies, including oral tradition and kaupapa Māori (methods), applied. The research is likely to be more impactful with indigenous researchers leading and participating in the study. That allows traditional knowledge, values and beliefs to be incorporated. It is particularly important to protect genetic resources, traditional knowledge, language and culture in the face of commercial opportunities potentially impacting intellectual property rights.

20.8 Risk, Probity, Misconduct and Fraud

Health organisations conducting health research activities must be cognisant of risks in relation to such and ensure probity and strict adherence to jurisdictional and insitutional regulations including ethical standards (see Table 20.2).

Research misconduct and fraud are related but separate. Misconduct applies to the violation of ethical and regulatory codes for research. Fraud is intentional deception and generally for personal gain.

Table 20.2 Examples of research misconduct and fraud

Investigator misrepresentation of research qualifications or experience
Failure to adhere to research protocol
Failure to adhere to institutional and jurisdictional research standards
Misuse of research funds
Failure to declare a conflict of interest, e.g. in regard to commercial trials
Falsification of research information or data
Publication fraud
Failure to disclose harm from research

Research misconduct may be a consequence of investigator incompetence or poor organisational management. Investigators must have appropriate training (including cultural training) and experience in research, have completed GCP and maintained certification. Sufficient resources must be allocated for research; time, space and staff. Inadequately described research procedures, insufficient resources, poor supervision and failure to promote relevant standards can all lead to consent and documentation breaches. At worst, this might result in failure to adhere to the protocol or to report when necessary. Research managers and principal investigators must insist on the highest standards being applied to research involving human participants.

Mechanisms must exist to enable detection of potentially fraudulent research activities and the publication of fraudulent research outcomes. Fabrication of documents including informed consent, clinical history/examination and research metrics and statistical manipulation constitute scientific fraud. Publishing the results of fraudulent research can harm an institution's reputation, and if false findings are translated into clinical practice, then patient or population harm may ensue. This is best illustrated by the slump in measles, mumps and rubella vaccine (MMR) vaccine uptake following the 1998 Lancet publication that reported higher rates of autism in children who had received MMR. The article was subsequently retracted with the results declared fraudulent.

Particular care must be taken in regards to potential publication fraud which can be extremely difficult to detect. Organisations should consider how to routinely audit a selection of their own research outputs, looking for red flags such as inexperienced investigator with multiple publications, implausible interventions, unrealistic study timeframes, incorrect statistics and multiple positive study outcomes. Strong research leadership, clear policies and guidelines, and transparency in regard to all aspects of research help mitigate this risk.

Financial probity is also essential and transparent mechanisms for ensuring study funding/revenue and costs are measured are necessary. A mechanism for the transparent dispersment of research financial surpluses must be in place. Organisations might consider a research financial reporting system and a decision tree for the approval of the use of research surpluses, which usually arise from commercial trials. The organisation must ensure that conflicts of interest are recognised and managed, particularly in relation to commercial research. With respect to commercial trials, an organisation should satisfy itself that there are benefits other than purely to the commercial sponsor.

Due diligence should be undertaken when contracting with external health research providers or when agreeing to supply names of potential research participants to such. Compliance with necessary ethics and privacy regulations is necessary.

20.9 Research Benefits

Healthcare organisations that perform clinical research enjoy greater staff satisfaction and better patient outcomes. The organisation benefits in tangible and intangible ways, so research outputs should be acknowledged and celebrated. Research benefits should be apparent to relevant communities served by the organisation, whether that be by annual reports or celebratory research promotion events. Open and transparent governance of clinical research can engender the trust of communities and participants and the researchers themselves.

20.10 Conclusion

Health research is a vital activity in most healthcare organisations, with benefits accruing to patients, staff and organisation. Specific standards and regulations apply in order to provide assurance to participants, communities and staff about the quality and safety of research that they are engaged in. Healthcare organisations should ensure robust research management systems and processes are in place, and that there is senior clinical and management oversight of research activities.

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