Chapter 2
Communication Hypocompetence: An Iatrogenic Epidemic

Introduction

Writing in the American Medical Student Association's journal *The New Physician,* a fourth year student, Adam Carlisle (Carlisle et al. 2010), suggested that 'We train clinicians to … practice evidence-based medicine …. However, we do not train them to care'. This remark is understandable but misplaced. Carlisle opposes the science of medicine and the art of care, where these practices should not have been opposed in the first place and can be readily reconciled. 'Science' is also an art, having a wide aesthetic brief. Science can be beautiful, imaginative, and well designed and introduces both complexity and uncertainty. Indeed, as contemporary medicine becomes increasingly complex, so it must draw on complexity theory to understand the relationship between science theory and application. More importantly for the theme of this book, the 'care' aspect of medicine—with communication as the heart of the matter—has an evidence base and can be considered scientifically.

We can frame 'care' as an evidence-based practice grounded in the science of communication that turns clinical knowledge into patient benefit. Where communication skills training in medical education has failed to reverse 'empathy decline' in medical students, I will develop an argument that evidence-based care may be best learned through the medical humanities, integrated into the core, scientific medicine curriculum. In time, this curriculum intervention may serve to challenge and transform habitual autocracy in medical culture to produce democratic working patterns that, in turn, improve communication and teamwork for patient benefit and safety.

An Epidemic of Medicine's Own Making

While the power of applied technical medicine grows exponentially, this book argues that medicine's Achilles' heel is elsewhere, in the 'nontechnical' aspects of work—communication and shared decision-making with colleagues in team settings and with patients in consultations. To rehearse the argument introduced in the previous chapter and developed throughout this book, there is a cumulative evidence base detailing an iatrogenic effect that has reached epidemic proportions, where patients' health and safety are placed at risk through poor communication, making a mockery of the Hippocratic Corpus': 'First, do no harm'.

The seminal 1999 Institute of Medicine (IOM) report concluded that medical errors caused as many as 98,000 deaths annually in the USA (Kohn, Corrigan, & Donaldson, 1999). While this estimate was initially questioned on the basis of methodological rigour (Sox & Woloshin, 2000), subsequent studies suggest that the IOM study underestimated the problem. An audit of 37 million patient records doubled the IOM estimate, suggesting that as many as 195,000 Medicare patients died due to potentially preventable, hospital-based medical errors in each of the years 2000–2002 (HealthGrades Quality Study, 2004). Starfield (2000), noting that 40 million people in the USA do not have health insurance, increased the estimate to 225,000 deaths per year. If this estimate were accurate, medical error would be the third cause of death after heart disease and cancer in the USA.

The Agency for Health-care Research and Quality (2008, p. 8) produced the first US national governmental report on health-care quality, recognizing that while 'Tracking trends in patient safety is complicated by difficulties assessing and ensuring the systematic reporting of medical errors and patient safety events', nevertheless 'approximately one out of seven adult hospitalized Medicare patients experiences one or more adverse events'. Over the period of 5 years prior to the report's publication, while medical outcomes improved, quality of patient safety decreased. This is like driving a car with the brakes engaged. HealthGrades produced a further study in 2008, drawing on Medicare data from 2004 to 2006. While optimistic about an upturn in patient safety awareness, the report still found more than a million patient safety incidents in 40 million hospitalizations and a large disparity between the best and worst performing hospitals (HealthGrades Quality Study, 2008). Literally adding insult to injury, the medical profession has a poor record of apologizing to patients and their families in the wake of medical error (Truog, Browning, Johnson, & Gallagher, 2011).

What can be done to fully acknowledge and then address this iatrogenic epidemic? The AHRQ (2008, p. 5) study noted that an upturn in patient safety outcomes could be established 'by improving communication and teamwork skills among health professionals'. Xyrichis and Ream (2008, p. 232) suggested that an estimated '70–80 % of health-care errors are caused by human factors associated with poor team communication and understanding' and that 50 % of such error could be avoided through improving team-based communication. The IOM (1999) study had estimated that 72 % of hospital deaths due to medical errors were grounded

in communication errors, and a 2004 US study of 2,455 patient safety events concluded that 70 % were the result of systems-based miscommunications (JCAHO, 2004), where the basic system is the clinical team. This high level of medical error with a root cause in communication may be due to what Platt (1979) called 'clinical hypocompetence' based on a 'high control style' exerted by doctors. In the context of medical education, 'hypocompetence' has been defined as a performance deficiency in clinical competence, including communication (Pilpel, Schor, & Benbassat, 1998, p. 5), but 'clinical hypocompetence' may be better termed 'communication hypocompetence'.

Gathering and reporting statistics is the prelude to explaining them. We need to know *why* poor communication is happening, to map the contributing factors so that we can intervene appropriately. Such factors centrally include doctors' styles of working that cannot be reduced to personality effects but reflect wider cultural norms in medicine. For example, Platt's (1979) early work observing over 300 clinical interviews noted 'high control style' in doctors' consultations with patients. This was not just a product of its time. Recognizing the persistence of 'high physician control', Boyle, Dwinnell, and Platt (2005, p. 29) developed the 'invite, listen, and summarize' 'patient-centred communication technique', recognizing that 'high physician control' contributes to poor communication as it frustrates information flow from the patient that may, for example, be essential to diagnosis.

Communication with colleagues can also show hypocompetence and high control styles. In a study of 444 surgical malpractice claims from four liability insurers, 60 cases involved communication breakdown leading to harm to the patient. Attending surgeons were the most common team members involved in poor communications, and 'status asymmetry' was described as the main causative factor (Greenberg et al., 2007). 'Status asymmetry' describes how differences between members of a team, such as a surgeon, anaesthetist, and nurse, are played out in terms of an unproductive hierarchy.

Differences in educational experience and subsequent technical knowledge and skill constitute a meritocracy. How these differences are expressed is important to quality of teamwork, where evidence from large-scale studies shows that collaborative teamwork can greatly improve patient outcomes (West & Borrill, 2002; Harden, 2011). 'Status asymmetry' typically describes autocratic working patterns, where those at the top exert power that is authoritarian or bullying, resisting democratic participation and collaboration.

A second factor hindering communication is that doctors generally do not listen well to patients, as a meta-review of studies of communication between doctor and patient shows (Roter & Hall, 2006). On average, doctors interrupt patients 16 s into the consultation. Seventy-five per cent of doctors cut across the patient's story early in the consultation and interrupt the narrative flow—as a consequence the patient abandons the narrative in 98 % of cases. Sanders (2010) suggests that there is a fault line running through the consultation—that doctors use an 'interrogation' method rather than a listening method, where if all you do is ask questions, then all you will get is answers. 'Answers' do not constitute a patient's narrative or story, but, rather, offer a response to the doctor's narrative style and conventions.

The interrogative method is rationalized as an efficient information-gathering style, but it may gather the wrong information. A literature review revealed only nine studies of communication with patients focusing on efficiency, but showed that patient-centred consultations not only lead to increased patient satisfaction, but also save time (Mauksch, Dugdale, Dodson, & Epstein, 2008), and a comprehensive literature review revealed that a significant result of poor communication by physicians is an increased likelihood of complaints by patients (Laidlaw & Hart, 2011).

A third area of concern linking medical error and communication is diagnostic errors, which result in an estimated 80,000 deaths annually (Winters, Aswani, & Pronovost, 2011), and where 17 % of patients in the hospital suffer from misdiagnoses (Sanders, 2010). These figures must remain estimates where there is no valid mechanism to measure diagnostic error, but a 25 % discordance between ante- and post-mortem diagnoses offers some guidance (Swaro & Adhiyaman, 2010). Graber Franklin, and Gordon (2005) conducted a retrospective study of 100 cases of diagnostic error from three medical centres over a period of 5 years to conclude that the main cause of diagnostic error is premature closure (stopping considering other possibilities once a diagnosis is reached). Norman and Eva (2010) undertook a rigorous analytic review of Graber's and others' studies to suggest that premature closure may include physicians not thinking of the correct diagnosis and then not gathering relevant data. This may suggest lack of technical skill. Sanders (2010, p. 7), however, suggests that 'anywhere from 70 to 90 percent' of the diagnosis is grounded in the patient's 'story', and 'this is well established'—although only one relevant study is cited in support (Hasnain, Bordage, Connell, & Sinacore, 2001). Sanders (2010, p. 7) further suggests that neither the physical examination nor hi-tech tests have 'such a high batting average' as the history in diagnosis.

Communication Skills Training

Evidence gleaned from the science of communication then articulates the symptoms of communication hypocompetence in medicine and also the level of the iatrogenic effect. Does appropriate treatment, based in medical education, follow? Although training in communication skills was formally established across medical schools 3 decades ago (Waitzkin, 1984), communication hypocompetence and 'empathy decline' (Pedersen, 2010) persist. 'Empathy decline' describes students gradually losing initial idealism as they meet the realities of clinical work and the 'hidden curriculum' of medical culture, including pervasive cynicism and autocracy (Hojat et al., 2009). Evidence for empathy decline has been challenged on the basis of validity of studies, including reliance on folk wisdom (Colliver, Conlee, Verhulst, & Dorsey, 2010), but a systematic review of studies shows that empathy decline is a valid and widespread phenomenon (Neumann et al., 2011). Maintaining empathy is important as it correlates with improved patient outcomes, for example, in diabetics (Hojat et al., 2011).

Where 'status asymmetry' has been identified as the main cause of poor communication in teams, this is a polite way of recognizing the communication style of many senior doctors as dysfunctional. Autocratic behaviour stifles collaboration and collective moral responsibility, producing environments that put patients at risk. Doctors continue to reinforce hierarchies, characteristically viewing 'teamwork as a form in which nurses (are) subordinate' (Xyrichis & Ream, 2008, p. 236). 'Accepting hierarchy' has been described as one of the key aspects to the hidden curriculum in medical education (Lempp & Seale, 2004). Transition from high-risk to high-reliability medicine requires culture change, a transformation of values and institutional structures—in short, a democratizing of medical culture. The iatrogenic effects of poor communication between colleagues, and between doctors and patients, may be due to the primacy of an interrogative, rather than a collaborative, model.

The Role of the Medical Humanities

What has this litany of evidence from studies of communication in medicine got to do with the medical humanities? Traditionally, the 'medical humanities' describe the study of medicine from the perspective of differing humanities, such as the history or philosophy of medicine or doctors as subject matter in literature. More recently, 'medical humanities' signify the introduction of arts and humanities *ways of thinking* into medical education—this might involve clinicians working with visual artists to improve close noticing for diagnostic acumen (Kirklin, Duncan, McBride, Hunt, & Griffin, 2007), or the use of literature scholars and writers to educate 'narrative intelligence' towards patients' stories to improve reception of the history (Charon, 2011).

Two reviews of the literature on the impact of the medical humanities in medical education reveal a catalogue of small-scale, often poorly designed studies. Ousager and Johannessen (2010, p. 988) consulted 245 articles but found only nine that gave evidence of long-term impacts of medical humanities interventions such that 'Evidence on the positive long-term impacts of integrating humanities into undergraduate medical education is sparse', and this may threaten planned provision in an evidence-based era. The review of Wershof Schwartz and colleagues (Wershof Schwartz et al., 2009, p. 377) is less comprehensive, but raises a wider set of conceptual issues. Study effects are claimed in three main areas: humanities input promotes empathy, professionalism, and self-care in medical students. Interplay of variables, biased populations of self-selecting students, and poor conceptualization confound such studies. For example, there is a strong argument that the wider values of 'humanism' may be conceptually different from, and in conflict with, the narrower confines of 'medical professionalism' in areas such as compliance. Further, the review concludes 'few data are available to support the hypothesis that humanities affects professional behaviour'.

Such outcome studies are, scientifically, focused upon proof of intervention, and it may be that there is more value in focus upon proof of concept (or principle)—a realization of an idea to demonstrate its feasibility. For example, rather than provide a humanities intervention to increase empathy and carry out a before-and-after study of changes in empathy scores on a scale, we might focus upon proof of the concept of empathy as an idea by demonstrating the conceptual feasibility of the idea in explaining a paradoxical practice dilemma.

A critical literature review of over 120 studies of empathy development through medical education concluded that persistent empathy decline might be explained as an effect of a growing polarization of the 'hard' biomedical elements and the 'soft' communication elements, leading to the perception of communication and the humanities as peripheral (Pedersen, 2010). A curriculum adjustment is needed, where 'Empathy training and the humanities should not be situated outside the hard core of medicine' (Pedersen, 2010, p. 593). By 'hard core', Pedersen means biomedical science. How science is translated into clinical practice, for example, in clinical reasoning and diagnostic work, centrally involves quality of relationship with patients and colleagues, so that the humanities may be seen as part of the process of translating science into care.

It is a short step from Pedersen's review to suggest that medicine as a 'science using' practice requires a medium for translation of scientific knowledge, and that medium is the humanities. The place of the humanities within the curriculum must then be reconsidered, with humanities as core and integrated. For Pedersen (2010, p. 599), empathy and the humanities should not provide 'soft add-ons' to the curriculum, as this 'may cloak medicine's hard edges instead of drawing attention to the systems and paradigms shaping these hard edges'. We could rephrase this as suggesting that the humanities bring a necessary tender-minded perspective to the traditionally tough-minded culture of biomedical science.

The arts and humanities, as core, integrated provision within medical schools, can provide the longer-term democratizing force necessary to change medical culture, promoting the conditions that may make safer health-care possible. Nussbaum (2010) argues for the humanities (including the arts) as the chief cultural force for promoting democracy, where the humanities diagnose social ills, such as groundless authority supporting unproductive habits, and suggest cures, such as tolerance of difference, and creative debate about quality of life. If we transpose Nussbaum's argument for the humanities as a democratizing force in wider culture to medical culture in particular, the medical humanities may play a bigger role in medical education than we imagine. *The arts and humanities may provide the contextual media through which the lessons of the science of communication in medicine are best learned and promoted.*

Drawing on the developmental psychiatry of Winnicott, Nussbaum argues that social play is essential to the development of tolerance for others and appreciation of their vulnerabilities (empathy). Where imaginative play is curtailed, children fail to learn how to collaborate and retain controlling behaviour as a means of dealing with uncertainty (the very symptom that medical culture grapples with). Transition to democratic participation as adults requires what Winnicott (1971) called

'potential space'—the arts and humanities as an adult equivalent of 'play'—where tolerance of ambiguity, as the basis to learning respect for others by resisting 'premature closure' on judgment, is reinforced. In contrast, authoritarianism, which is typical of medicine, is characterized by intolerance of ambiguity. 'Respect' for others can work within three broad social and political structures: autocracy, meritocracy, and democracy. In an autocratic structure, respect is arranged vertically and hierarchically in an upward flow, where those above have authority over those below, but this may be exerted as repression. In a meritocracy, while a vertical system may hold as an expression of merit through, say, educational achievement, such status is not wielded in an authoritarian manner. In a democracy, respect for others is equated with horizontal collaboration, sharing, and empathy—especially for those who are in need.

Luther and Crandall (2011, pp. 799–800) point out that while practising medicine demands high tolerance of ambiguity, 'the culture of medicine has little tolerance for ambiguity and uncertainty'; yet physicians who are less tolerant of ambiguity tend to order more unnecessary tests and additional treatments for patients, placing a burden upon patients and the health-care system. The purpose of the humanities is to create, and debate, uncertainty and ambiguity, which is central to the democratic experiment (Nussbaum, 2010). From a survey of 313 graduating medical students over a period of 10 years (59 % return rate), those who scored high on an intolerance of ambiguity scale were also found to show significantly greater negative attitudes towards underserved and poor patients (Wayne et al., 2011). Luther and Crandall (2011, p. 800) suggest that such tolerance of ambiguity decline can be addressed through curricular emphasis upon communication skills and professionalism through small group discussion, 'for reminding students of their own humanity and help them learn to connect with the humanity we all share'. This territory is ripe for a medical humanities intervention beyond 'communication skills', where decline in both empathy and tolerance of ambiguity offers faces of the same symptom—communication hypocompetence.

Evidence

I have set out an argument for introducing a core, integrated medical humanities provision to undergraduate medical education with a long-term aim to democratize medical culture by realizing the science behind the medical humanities. Is this a realistic goal, and is there any initial evidence for its claims? Does this argument simply constitute a manifesto, or does it have the status of a hypothesis that can be tested, or can research questions be generated from it?

A special edition of *Academic Medicine* (Albanese, Snow, Skochelak, Huggett, & Farrell, 2003) devoted to 'the humanities and medicine' attracted 'reports of 41 U.S., Canadian and International programs'. Nearly a decade on from this special edition, the New York University 'Medical Humanities' website (http://medhum.med.nyu.edu/) shows global growth in medical humanities provision.

Quantity does not of course guarantee quality, and the high number of schools providing some form of medical humanities provision disguises the fact that much of this consists of peripheral curriculum input such as short, optional study units. Further, both theoretical rationale for and well-designed evaluation of provision are lacking. The medical humanities are still habitually pitched against medical science, as compensation, rather than aligned with science. Accounts of the science behind the medical humanities are notably absent.

However, we can look forward to a new wave of scholarship aligning the humanities and medical science, resulting in curriculum reformulation such as developing the medical humanities as core, integrated provision. Riggs (2010, p. 1669) reminds us that, at the centenary of Abraham Flexner's 1910 report that revolutionized the structure of medical education, we should be ready for another, radical, wave of reform in preparing doctors of the future. Drawing on Flexner's call to produce doctors with an educated 'ethical responsibility', 'medical education could be on the cusp of another set of great advances by renewing interest in medical humanities'. Doukas, McCullough, and Wear (2010, p. 318) note that Flexner viewed a humanities education as essential to medical practice, but assumed that medical students would have already received a liberal education before embarking on medical studies.

The authors note that medical humanities education is generally not well designed and is not integrated with the scientific/clinical curriculum. They propose that medical schools could consider 'clinically relevant humanities teaching to train medical students and residents comprehensively in humane, professional patient care', to follow Pedersen's (2010) suggestion of integrating the humanities into the 'hard core of medicine'.

In an echo of Flexner, the Mount Sinai School of Medicine in New York has evaluated the impact of humanities in medical education not by evaluating a medical humanities curriculum provision, but by comparing students who enter the medicine programme as science or humanities and social sciences graduates without traditional premedical requirements requiring only a summer crash course (Muller & Kase, 2010; Wershof Schwartz et al., 2009). A carefully designed matched cohorts evaluation study over 6 years of intake shows that these 'medicine humanities' entrants perform overall as well as traditional students when compared across knowledge and performance, including basic science, by year 3. This does not demonstrate a significant advantage in bringing humanities expertise into medicine; rather, it demonstrates that medical students may not need the volume of science input that characterizes medicine programmes and that the humanities and science can settle down into productive conversation. Indeed, nearly 15 % of medical school applicants in the USA are humanities and social science majors, where the best predictor of success is overall academic ability (Wershof Schwartz et al., 2009).

Shapiro (2008) suggests that the key ethical dilemma in modern medicine is that it raises false hopes by first failing to recognize its own limits and, second, for all the good that it does in terms of cure and care, passing on false hope to patients. Students must not be drawn into a bubble of invulnerability, but must face the reality of their limits and the limits to medicine, as 'an ethics of imperfection'. Shapiro (2008, p. 11)

also recognizes that current medical educational approaches introduced to promote empathy and humanistic values have limited success and that 'We must excavate more deeply to understand what interferes with learners' impulses and desires to express empathy toward patients'.

However, Shapiro chooses to not excavate medical culture for a potential fault line, but looks to the influence of wider culture—in the values of idealism inherent in modernism that promote cure and perfection, pointing to the heroic need to conquer and control illness. But this does not seem to me to be an explanation for, but a description of, symptom. We need to establish what causes the desire for perfection and control in the first place. This suggestion is not an original one and was articulated by Adorno and colleagues (1950) after the Holocaust, as they traced the psychological structure they termed 'the authoritarian personality'. At the core of authoritarianism is 'intolerance of ambiguity', where the need to control comes from a fear of being out of control. Modern medical culture does not so much have an authority problem as a fear of vulnerability or tenderness.

Conclusion

My approach in this chapter has been to shift emphasis away from potentially doomed (because riddled with confounding variables) scientific studies on specific humanities interventions to utilizing what we know from communication science to address 'communication hypocompetence' in a much wider fashion—first through proof of concept by rigorous conceptualization and second as a more encompassing and long-term curriculum-level intervention aimed at democratizing medical culture.

I also see a key role for the medical humanities as exploring the intrinsic artistry and humanity of scientific practice, and the wonder and beauty of the life sciences, on the basis that appreciation precedes, but also enhances, explanation. The place of the medical humanities in medical education currently mirrors the stage of the early history of medical ethics, once peripheral and now core. The medical humanities should follow, based not on anecdote, but on careful and caring science.