



# The Quality Landscape

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Quality of health care and patient safety have become important topics in the public and medical press of the United States since the publication of *To Err is Human* almost two decades ago. This is not surprising since that publication reported two studies confirming that medical errors and preventable harm from medical treatment contribute substantially to morbidity and mortality in the United States accounting for an estimated 44,000–98,000 deaths per year [1]. Unfortunately, little progress has been made over the past two decades in reversing this trend despite efforts to increase the understanding of why it is occurring. The delivery of health care is very complicated and sick patients have a high risk for complications and death, no matter what is done. However, medicine’s efforts to reduce these numbers have stalled, while other professions that deal with dangerous situations, such as aviation, have improved safety tremendously over the past few decades. The purpose of this chapter is to provide a perspective on the current status of health care quality in the United States.

## What Is Quality in Health Care?

Quality in health care was defined by the National Academy of Medicine as “the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge” [1] (Fig. 4.1). This definition emphasizes the obligation the health care system has to individual and populations of patients to improve health outcomes by

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**Fig. 4.1** Quality in health care

The degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge.

**Fig. 4.2** Health care quality

Safe  
Timely  
Effective  
Efficient  
Equitable  
Patient-centered

providing care consistent with published best practices. Outcomes of care are the primary determinants of quality against which all care must be measured. This emphasis on process of care outcomes is important, as new treatment and care options are developed.

The National Academy of Medicine also defined several components of quality that should be considered when measuring the quality of health care [2] (Fig. 4.2). These components of quality include the entire spectrum of health care delivery. Understanding the relationships among these components is critical to improving overall health care quality because it means the traditional “silos” of responsibility and accountability in health care have to be dismantled for quality and safety to be maximally improved. While these silos are understandable, given the reductionism emphasized by medical research over the last century, they inhibit the ability to look at quality at a system or macro level. For example, a health care system may provide low-cost care to a group of patients, but the care is substandard according to published best practices. Should this system be rewarded in our payment system? Most would think not.

The delivery of medical care should be thought of as a system and judged by the total outcomes of that system, not individual domains within the system.

However, the six domains of quality illustrated above provide a useful framework to judge the total quality of a health care system when taken as a whole. First, the care must be safe. This domain is probably the most important. A tenet of medicine is to “first, do no harm” and providing safe care is a moral obligation of our system. Second, the care should be timely. This means that the care should be given when the patient needs it and not at the convenience of the care delivery system. Many times, this domain is measured in terms of access to care by patients or populations of patients. Next, the care should be effective. This means that the care delivered should be consistent with best medical practices. Unfortunately, much of the care delivered in the US health system is based on tradition and not based on evidence from medical research. The domain of efficiency brings in the variable of cost to the quality equation. Health care should be delivered at the lowest necessary cost,

**Fig. 4.3** Value in health care

$$\text{Value} = (\text{Quality} + \text{Access} + \text{Experience}) / \text{Expense}$$

not the lowest possible cost to avoid affecting the safety of the care delivered. The next domain is equity. This means that the care delivered to all patients should be based on need and not based on arbitrary variables such as insurance status, race, or other patient characteristics. This domain has been one with which the US health system has struggled and has led to many described medical disparities among those in our county. Finally, the care should be patient-centered. This means that the focus of patient care should always be on the needs of the patient and not on the needs of providers or the system of delivery of the care.

Today, the “value” of health care is considered one of the most important characteristics of the US health care system to be evaluated by the public and policymakers. Value is defined as the quality or outcomes of care (some would add access and experience here while some would argue they are included in quality) divided by the cost of the care provided (Fig. 4.3). Evaluating the “value” emphasizes the important relationship between efficiency and cost to quality and the critical perspective of patients and payers in any discussion of the quality of health care.

Another complementary model of health care value, known as the Triple Aim, has been suggested by Berwick et al. [3]. This model emphasizes the importance of improving the patient experience or quality of care, improving the health of populations and reducing the per capita cost of care as the ultimate goals of health care delivery.

Health care delivery in the United States is among the best and worst in the world, depending on the characteristic(s) examined. For example, the number of patients who suffer preventable harm each year in the United States is much too high, and the cost of health care in the United States is the highest in the world in both absolute dollars spent per capita and percent of the gross domestic product [4]. In 2016, spending per capita in the United States was just over \$10,000, which is the most of any other country by far.

This high cost of health care in the United States, combined with poor outcomes in certain areas, such as preventive care, lead some to believe the value of health care in the United States is far below other developed countries [5] such as France, Canada, and the United Kingdom. On the other hand, the United States is at or near the top of the world in outcomes of certain conditions, such as cancer or major trauma. Also, we are a world leader in new technology and drug development. Patients in the United States also wait less time for elective surgery or needed consultation from a specialist than in France, Canada, the United Kingdom, and many other industrialized countries [6, 7].

In summary, the measurement of the quality of health care is very complicated, and many factors should be included. Although the National Academy of Medicine has tried to create an accepted definition of quality, others continue to use their definitions, which are frequently biased, for marketing or other propriety reasons. Focusing on a single or few factors will not give an accurate picture of quality to patients or the public.

**Fig. 4.4** Safety in health care      Freedom from accidental injury when interacting in any way with the health care system

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## Safety in US Health Care

Quality of health care has an important component of patient safety at its core. The National Academy of Medicine defines safety in health care as “freedom from accidental injury when interacting in any way with the health care system” [1] (Fig. 4.4). Providing a safe environment for our patients, including the safe delivery of care, is a moral obligation of our health care system.

Over the past two decades, the discussion of patient safety in health care in the United States has become important for several inter-related reasons. First, the complexity of care delivery is much greater than in the past, increasing the risk for complications and errors. Early studies of medical errors estimated that 44,000–98,000 patients die every year in the United States from these medically related errors [8, 9], and recent studies indicate this number may be even higher. Many of these errors are due to subtle variations in practice or subconscious slips in the delivery of care and are not due to negligence or malpractice. Second, highly publicized errors have informed the public of the risks of medical errors. These errors are frequently highly sensationalized by the press, which leads to an appropriate heightened awareness of the risks of medical errors, but encourages blaming individuals for the errors rather than the system or environment in which they work. Third, payment for medical care in the United States has previously been determined primarily by the quantity or utilization of medical care, not its quality or appropriateness. In the future, programs such as Value-Based Purchasing by the Medicare System will change this, as payers convert to payment systems that reward high quality and appropriate care. It is hoped that these payment systems will more appropriately emphasize high-quality, safe, and appropriate care. Finally and most importantly, improving the quality and safety of health care is a moral obligation of health care providers to their patients.

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## Why Has the Health Care Industry Been Reluctant to Aggressively and Transparently Address the Issues of Quality and Safety in Health Care?

The answer to this question is complex. The mission of medicine is to help people, and those who work in health care strive to improve the lives of patients and relieve their suffering. This mission is noble and is what motivates the vast majority of people who enter the health care profession. However, the practice of medicine is inherently risky for patients, and those in the medical field deal with probabilities, not certainty, most of the time. The human body’s response to many outside influences, such as disease or the treatments for disease, is not 100% predictable, and this unpredictability must be considered when evaluating the quality of care. This

uncertainty is compounded by the fact that outcomes of patient care may vary based on small differences in care delivery at many levels. This *variation in care* is much of what is wrong with medical care in its current state and accounts for much of the differences in quality seen today from one practitioner or health system to another. Reducing variation in practice and care-delivery processes is an important goal for improving the quality of health care in the United States, and a complete understanding of the methodology of process improvement is critical if substantial improvements are to be made in the effectiveness of medical care.

However, medicine and the societal culture of the United States have created an environment that is not conducive to aggressively addressing the issues of quality and patient safety that exist today (Fig. 4.5). This environment is complex and has several negative drivers such as the traditional payment system that fosters overutilization and focuses on the quantity of care delivered rather than quality. In the traditional payment system in the United States, hospitals and providers were paid more if more care was delivered regardless of the need, appropriateness, or cause for the extra care. For example, a hospital would be paid a certain amount ( $x$  dollars) for the admission of a healthy patient to have their gallbladder removed. If, during that hospitalization, the patient had a urinary catheter placed, and due to improper care of the catheter, suffered a catheter-associated urinary tract infection, the hospital would be paid more ( $x + y$  dollars) even though the hospital-acquired infection was preventable. This payment structure, and the belief that such complications were a normal risk of care, created a disincentive for hospitals to aggressively prevent such complications.

Also, the provision of medical care is dependent on a highly skilled workforce that, while critical to the delivery of high-quality care, fosters the erroneous belief that skilled workers are immune to human error. Skill and education do not protect one from human error, although the types of error may be different for a skilled worker when compared to an unskilled one. This misconception has led many in medicine to resist the use of simple tools, such as checklists, that have been shown to reduce errors in skilled as well as unskilled professionals.

Another challenge to the aggressive approach to quality is the belief that any improvement in quality requires a net investment of money resulting in more expensive health care. While quality improvement does frequently involve an initial investment, savings from improved care due to fewer complications, less reworking,

**Fig. 4.5** Why the reluctance to address issues of quality and safety today?

- Reimbursement structure of health care
- Dependence on highly skilled work force
- Belief that quality improvement always cost money
- "Culture of blame"
- Tendency to look at errors as individual failure instead of system failures
- Belief that some complications are "normal"
- Medical legal environment
- Media obsession with sensationalism and language used

and increased efficiency more than make up the initial investment required to start the process.

A “Culture of Blame” in which the blaming of providers for mistakes is perceived to lessen the likelihood of those mistakes recurring in the future exists in many health systems across the country. This faulty logic ignores the evidence that system factors contribute, at least in part, to almost all medical errors, and these factors are frequently completely out of the control of the person blamed for the error. Unfortunately, this culture often results in hiding mistakes to avoid being caught and appearing incompetent. On a positive note, many health care systems are adopting a more evidence-based, algorithmic approach to personal culpability when a human medical error is committed. An example of more enlightened approaches to human error can be found in the writings of James Reason and the program known as “Just Culture.” Hopefully, adoption of these and similar approaches will allow a more open discussion of medical error.

Traditional medical teaching has also contributed, in some part, to the reluctance to address quality issues. In the past, this style of teaching was frequently adversarial, and the demand for excellence was interpreted as a demand for perfection. Consequently, providers frequently associated human error with incompetence. Although this notion is antithetical to modern theories and evidence of human error, many are reluctant to admit even trivial errors for fear of being accused of incompetence or needing additional training to maintain competence. Fortunately, many now accept the notion that humans make errors, and we need patient safety systems that acknowledge this fact. Developing systems that mitigate and recognize human error in time to prevent the error from reaching a patient is much more effective than demanding human perfection which is unrealistic. Certainly this does not mean that diligence and striving for perfection should not be the aspirations of all providers. It does mean that we should recognize that human errors will eventually occur despite our diligence. Finally, society, in general, has contributed substantially to the current medical culture through medico-legal actions.

While this list is not complete, it does provide some of the reasons that the medical system has avoided an aggressive approach to improving quality of care and human error until recently.

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## **Transparency and the Quality of Health Care in the United States**

The past two decades have seen a shift in the health care industry toward more transparency of measures of quality of care for health systems, hospitals, clinics, and individual practitioners. This shift began with the Centers for Medicare and Medicaid Service (CMS) when it started public reporting of quality and safety metrics for US hospitals in its Hospital Compare website in 2005. The first metrics published for the public were a group of process measures called “Core Measures” and a few outcome measures such as mortality rates for patients admitted to the

hospital with heart attack, congestive heart failure, and pneumonia. Since that time, other measures have been added by CMS, including some for clinics and individual practitioners, and other outcome measures, such as readmission rates and outcome of some surgical procedures. In addition, patient satisfaction scores for hospitals (HCAHPS) were added in 2008.

The public announcement of the quality measures was met with both praise and criticism from the health care industry. Most believe that patients have a right to know the level of quality delivered by individual providers so that they can make rational choices about care for themselves and their families. Reliance on individual health care systems or individual hospitals to report their quality measures was felt to be inadequate and filled with too many biases to be reliable.

However, others appropriately argue that publically reported measures are not always an accurate way to compare one system to another because some hospitals and practitioners treat sicker patients than others, and these differences in patient populations are not always reflected in the publically available quality metrics. Also, many public quality assessments of health systems have been performed by proprietary organizations, such as U.S News and World Reports™, Leapfrog™, Healthgrades™, Becker's Health Care™, Consumer Reports™, etc. While these provide insight for patients in choosing a system for care, their lack of transparency in risk-adjustment and evaluation criteria often result in marked variation in the measurement of health care systems when one method is compared to another. In fact, studies have shown that different quality assessment groups rarely agree on which hospitals deliver the best care. In addition, many of these groups use their quality ratings to sell consulting services to organizations that want to improve their ratings. Others allow their ratings to be used in marketing for the health care organizations as long as a fee is paid to the quality rating group. Many of these practices have raised concerns regarding bias in the reporting by these groups because of a lack of transparency in the rating systems. In the end, the rating system by CMS is felt by many to be the most reliable and transparent.

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## Summary

The measurement and reporting of health care quality have undergone dramatic change over the past two decades. This has led to a greater emphasis on quality of care delivery than in the past, and organizations, in general, are placing a greater emphasis on transparency of quality data for the public. Despite these changes, health care in the United States is not universally accepted as the standard for quality in the world, and it is unquestionably too expensive for the value it presents to patients. The chapters that follow in this book provide an extensive review of health care quality and present many ideas that can transform the US health care system. The time has come for consumers and providers of health care in our country to demand the exceptional quality and transparency that patients deserve.

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