



## CHAPTER TWO

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# SUMMARY OF *CROSSING THE QUALITY CHASM: A NEW SYSTEM FOR THE 21<sup>ST</sup> CENTURY*

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*Crossing the Quality Chasm* is a report prepared by the Institute of Medicine's Committee on Healthcare Quality in America and approved by the National Research Council. It describes the problems in health care today and the changes needed. The report also urges redesign of the system to deliver safe, effective, patient-centered, timely, efficient, and equitable care.<sup>1</sup> These principles or aims are not new to health care. See Table 2-1, where the six aims are cross walked to the JCAHO 10 dimensions of performance that were developed almost 10 years ago. There is little difference between the dimensions of performance and the six aims discussed in this book. The difference is that this book recommends actions needed to reach the six aims and acknowledges that specific goals need to be developed for each aim. The book advocates use of complex adaptive systems theory that says organizations need two things to change: a common purpose and a simple set of rules.<sup>2</sup> The common purpose is the six aims and the simple rules are the 10 rules recommended for implementation discussed in Table 2-1.

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### Problems in Health Care

A huge chasm exists between the quality of care Americans receive and the quality of care they should receive.<sup>3</sup> JCAHO's promulgation of the

TABLE 2-1

Six Aims for 21st Century	JCAHO Dimensions of Performance
Safe: patients are not injured by care intended to help them	Safety
Effective-Evidence based health care	Efficacy, appropriateness
Patient centered	Respect and caring, continuity
Timely	Availability, timeliness
Efficient	Efficiency, effectiveness
Equitable	

10 dimensions of performance did little if nothing to close this gap over the past 10 years. Times have changed, but the health care system has not changed to respond to the changing needs of patients. Health care workers are not able to make use of the explosion of information that has become available to them in this century. We live in a world where tremendous resources are dedicated to clinical research, but very few clinicians can access this research for clinical decision making. Most health care expenditures are for chronic illness, yet today's health care system was designed to deliver acute care. The current payment system does not support improving the quality of health care, and preventing morbidity and mortality. Teamwork and communication are critical in health care, but little work has been done in that area. The airline industry gained much from the crew resource management work they did with their teams.<sup>4</sup> Finally, these systems are so overwhelmed with problems from staffing, uncompensated care, and payment issues that they do not have the resources to redesign their systems in order to function appropriately today and in the future.

### The Institute of Medicines Recommendations

The IOM report calls for all involved in health care to reduce the burden of illness, injury, and disability and to improve health and functioning. It defines the type of health care delivery system needed (safe, effective, patient-centered, timely, efficient, and equitable) through their six aims, and suggests that organizations creatively redesign their systems to meet the six aims, but gives a list of rules (Table 2-2) that organizations must adhere to when striving for their aims. It suggests that Congress should appropriate funds for Department of Health and Human Services (DHHS) to monitor and evaluate progress being made on achieving the aims and provide annually a status report to Congress.<sup>5</sup>

TABLE 2-2<sup>6</sup>

Rules	Description
Accessible	Patients can freely interface with the system when, where, and how it is convenient for them. Traditional face-to-face visits are no longer the sole interaction for the patient and the health care system.
Flexible	Care should be standardized so that the majority of patient needs are met efficiently, but can be customized when individualized care is required to meet the patient's unique needs.
Informed patient decision making	Patients should be given all the information needed to make a decision. Hospitals should share with patients information about their outcomes so that they can choose the organization where they are most likely to have the best outcome. Clinicians and patients should share in decision making.
Free access to information and knowledge	Patients should be given access to their medical records and clinical information. There is a wealth of clinical information available to the patient on the Internet. The clinician's role is to help the patient interpret the information and make sure that the patient has access to the complete information in order to make a sound decision. Patients should have access to their medical records 24 hours a day so that when there is need to use them they can make them available to the clinician who will be caring for them.
Evidence based	Care should be based on the best scientific information available. This is not limited to only the clinical trial-type of research evidence. Physicians and providers should not let their preferences create illogical variances in care. Patients should be able to receive the same standard of care, wherever they go, that is based on the best scientific evidence.
Safe	Patients should not be harmed by the health care they receive, and all health care providers should engage in risk reduction and patient safety.
Transparent	All providers should give patients the information needed to make informed decisions, including information regarding their own performance with regard to safety, evidence-based practice, and satisfaction.
Anticipates needs	Organizations should study scientific evidence and their outcomes. They should standardize care based on the needs of most patients with the ability to customize when necessary.
Decrease waste	Organizations should shift the focus from decreasing cost to decreasing waste of time and resources. The big picture should be considered, including the patient's long-term outcome and resources needed to achieve the best outcome versus short-term cost.
Collaboration	Clinicians and institutions should openly collaborate and communicate to ensure the best patient outcomes.

*Crossing the Quality Chasm* recommends that the Agency for Health care Policy and Research (AHRQ) should recommend 15 priority conditions based on volume, cost, and risk to target for quality improvement over the next five years.<sup>7</sup> It believes that focusing on illnesses will shift the system to patient-centered care regardless of the specialties involved. The report recommends that AHRQ consider the 15 priority conditions recommended by the Medical Expenditure Panel. They believe that organizations should start implementing the aims in these priority conditions.

1. Cancer
2. Diabetes
3. Emphysema
4. High cholesterol
5. HIV/AIDS
6. Hypertension
7. Ischemic heart disease
8. Stroke
9. Arthritis
10. Asthma
11. Gallbladder disease
12. Stomach ulcers
13. Back problems
14. Alzheimer's disease and other dementia
15. Depression and anxiety

The book recommends that AHRQ coordinate workshops that include health care representatives, other industries, and the research community for the purpose of identifying how health care can learn from others, improve, and implement the following in health care:

- Use of evidence-based best practices
- Information infrastructure to support and improve care
- Coordinated systems
- Effective teams
- Knowledge and skill management
- Use of outcome measurement to improve care and accountability
- Align incentives with improved outcomes<sup>8</sup>

Both Congress and private organizations should fund innovations in achieving the six aims and/or improving quality in the 15 priority conditions. Project funding should support projects with the capability of producing public domain tools that can be shared throughout health care for improvement.<sup>9</sup> The book recommends that AHRQ hold workshops with representatives from health care and other industries and research to find approaches to bring about improvements needed. It

believes that too often health care does not involve other disciplines and can lose out on the advances those disciplines have achieved.

There should be core process and outcome indicators to measure quality of care in the 15 priority conditions. The following parties are already involved in measuring these conditions and should be involved in the measurement process:<sup>10</sup> the Foundation for Accountability; Joint Commission on Accreditation of Healthcare Organizations (JCAHO); National Committee for Quality Assurance (NCQA); and Peer Review Organizations (PROs). The Foundation for Accountability has developed quality measures for child and adolescent health, coronary artery disease, end-of-life care, and HIV/AIDS. These include basic management, staying healthy, getting better, living with illness, and changing needs. The JCAHO has developed five areas for indicator development in hospital care: pneumonia, heart failure, acute mi, surgical procedures and complications, and pregnancy and related conditions. The NCQA measures how well care is provided for the following chronic illnesses: cardiovascular disease, cancer, asthma, pneumonia, influenza, and diabetes. PROs are focused on the following areas: acute myocardial infarction, breast cancer, diabetes, heart failure, and stroke.

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## The Six Aims

The six aims will be the common purpose for change in health care and should be implemented within the framework of the 10 simple rules.

### Aim 1

The health care system must deliver safe care to patients and create a safe environment for health care workers to provide care. This report calls on the health care system to build systems where patients are not injured from care intended to help them.<sup>11</sup> It goes on to discuss how the health care organization can achieve this goal.

Patients should receive the same standard of care 24 hours a day, seven days a week.<sup>12</sup> This is going to require health care systems to develop standards and review the care delivered. For example, if the treatment of choice is laproscopic cholecystectomy instead of open cholecystectomy, and Surgeon X does only open cholecystectomy because he is not comfortable with laproscopy, the organization is going to have to find out how it can make laproscopic cholecystectomy available to all patients where the evidence says this is the best treatment option for them. If the organization is going to receive pneumonia patients 24 hours a day, they need to make sure that all patients will receive their first antibiotic within *x* hours of arrival. This is going to

require adequate staffing in multiple areas seven days a week, 24 hours a day to meet the known patient needs at the time. If elective hip surgery patients need physical therapy for three days post op, hospitals will need to evaluate whether to (a) have physical therapists work weekends or (b) perform elective surgery Wednesday through Saturday and have on-call therapists that see emergent surgery patients over the weekend.

Care must be seamless.<sup>13</sup> One of the biggest problems in health care is lack of good communication—more clinicians and care settings involved in a case, the more opportunity for error. Organizations need to create ways for all information to be available to clinicians in a user-friendly format and transferable across care settings, so that critical information such as allergies or DNR orders are not lost because our systems do not communicate with one another. Good communication among the health care team is critical. Health care needs to begin studying the work on crew resource management done in aviation as one way to improve team performance and communication.<sup>14</sup>

Patients need to be informed of treatment, risks, and uncertainty related to treatment.<sup>15</sup> The better informed the patient is, the safer the patient, because he can ask questions and become involved in active recovery of errors. Patients themselves should decide the risks that they are willing to accept for the benefits likely to be achieved.

“When complications occur health care practitioners are required to inform the patient of the event, cause of the complication, assist with recovery and actions necessary to prevent recurrence.”<sup>16</sup> This is an excellent goal, but way exceeds any regulatory requirement that exists today. The JCAHO requires health care providers to inform patients of unanticipated outcomes and have said that at minimum a patient needs to be informed of reportable sentinel events.

Some organizations have placed patients and families on their health care organization’s patient care review committees because they recognize that patients can help evaluate the quality of care. As the health care system realizes that it is caring for a chronic population, they will begin to realize that many of the patients that they care for know more about their condition and how to manage it than the clinicians who care for them. Organizations will benefit by patient involvement in managing care and spreading the lessons learned to other patients. For example, a long-term asthmatic has tremendous knowledge of how to manage his or her exacerbations and can share a wealth of information with the health care team and other patients on how to improve care for all patients.

The health care system must be capable of identifying errors, making errors visible, and mitigating harm. The reality is that many health

care practitioners live in an environment that is fearful of making errors visible. They cannot see the benefit of early recognition and management of problems over hiding events from the injured patient's attorneys. Health care systems cannot wait for changes in the law to begin identifying and preventing errors. Transparent health care systems will go a long way in restoring trust to both patients and caregivers.<sup>17</sup>

This report suggests health care can be made safer through simplification and standardization.<sup>18</sup> Health care organizations must use the human factors research and develop systems that avoid reliance on memory and attend to the effects of human conditions on errors, for example, work hours, work loads, staffing ratios, training, sources of distraction, their relationship to fatigue, reduced alertness, and sleep deprivation.<sup>19</sup>

## **Aim 2**

Health care must be effective. Effective health care services are based on scientific knowledge for those that can benefit and not provided when services are unlikely to provide benefit.<sup>20</sup> There is not evidence on how to best treat all conditions and all types of patients, but where the evidence does exist, health care providers should use the evidence. Scientific evidence is not limited to clinical trial-type of data and must be coupled with clinician judgment to make the best possible decision for the patient. Health care practitioners need to be more thoughtful and systematic in studying their own care and outcomes, so that they can use the information when there is no scientific evidence.

## **Aim 3**

Health care must be patient centered. Patients' preferences, needs, and values guide all decisions. Health care teams should treat patients with compassion, empathy, and responsiveness to the patients' needs, values, and preferences. It recognizes the role and needs of families and other caregivers. Patient centeredness requires mass customization, which combines the uniqueness of customization with the efficiencies of mass production.<sup>21</sup> To achieve mass customization, organizations need to stratify patients and collect information on past needs and preferences. Processes need to be developed based on findings so that the system can meet the needs of most patients, and recognize when customization is needed. Patient-centered care strives at open communication with patients about their illness and how to manage it, and also addresses both physical and emotional comfort, especially at the end of life.

**Aim 4**

The health care system must be timely. Waiting time has the possibility of causing both physical and emotional harm to patients. Inefficiency in health care is costly and annoying to health care workers. Reducing cycle time in health care could improve quality, reduce cost, and improve both patient and staff satisfaction.<sup>22</sup>

**Aim 5**

The health care system must be efficient. Efficient care means avoiding waste of supplies, equipment, ideas, and energy.<sup>23</sup> The focus should shift from cost reduction to waste reduction.

**Aim 6**

The health care system must be equitable. This means providing care regardless of personal characteristics.<sup>24</sup> All Americans should receive the same quality of care.

Even though these six aims are complementary, there will be times when tension among the aims exists. Because unnecessary services serve no purpose and may harm patients, physicians must use ethical principles when there is conflict among aims, such as practicing patient-centered care and practicing effective evidence-based medicine.<sup>25</sup>

Organizations need to have the ability to assess their baseline performance and make changes to improve the system. Organizations need a balanced scorecard that establishes baseline data and measures improvement regarding clinical and financial performance, patient health outcomes, and satisfaction with care. Front-line managers need to use sampling, small-scale rapid cycle testing, modification, and retesting to manage the processes they are improving.<sup>26</sup>

The Secretary of DHHS should be given the responsibility and necessary resources to establish and maintain a comprehensive program aimed at making scientific evidence more useful and accessible to health care practitioners.<sup>27</sup> There should be a renewed national commitment to quality, safe health care that is accountable to the public. The current payment systems need to be examined, impediments to quality improvement removed, and incentives for quality developed.<sup>28</sup> Many health care organizations say that there is little or no incentive to implement preventative programs for diabetes. Many managed care organizations will not pay for these programs because of the cost on the chance that they may not be responsible for the patients' health care years later when the complications are identified and patients require intensive treatment. A research agenda for aligning payment methods with high-quality preventative care is needed.<sup>29</sup>

Clinical education, credentialing, and funding needs to be re-designed to help clinicians prepare for this new environment, but the education should focus on new as well as current clinicians who will be functioning in this new environment. Physicians need to be given incentives to enter specialties that may not be financially rewarding, but for which there is a great demand, based on the growing chronically ill population.

The AHRQ should fund research on how the current regulatory and legal systems facilitate or inhibit achievement of the six aims and how they can be modified for organizations trying to accomplish them.<sup>30</sup>

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### Challenges in Health Care

The IOM report discusses the work of Wagner and colleagues, which has identified five elements needed to improve chronic care:<sup>31</sup>

1. Evidence-based planned care. Guidelines and protocols are incorporated into practice.
2. Reorganization of the practice to meet the needs of patients who require more time, resources, and closer follow-up.
3. Systematic attention to patients' need for information and behavioral change. There is substantial evidence that counseling, education, and information feedback for patients with chronic conditions improves outcomes.
4. Ready access to clinical expertise. There are many ways to do this: education of patients and physicians, referrals to specialists, consultation processes, collaborative care models in which specialists and providers work together, computer decision support systems, information systems that support care processes, registries issuing reminders, and patient-carried and automated medical records.

*Crossing the Quality Chasm* explains the challenges of health care today: an aging population; a growing number of complex chronically ill patients; an explosion of new information and technology that is too great for any one health care practitioner to consistently apply to practice; patients without adequate health information to manage their care; misuse, overuse, and underuse of health care services; a payment system that does not encourage or support quality improvement; and many Americans who do not have access to health care.

The problems are significant, but they are not unsolvable. They require fundamental redesign of the health care system. Health care needs to begin investing in information technology to help clinicians take care of the very complex patient populations that are growing

more complex every day and to take advantage of all the new research information that is available. Health care organizations need to get started implementing the six aims within the framework of the 10 simple rules. The report recommends using the high-priority conditions to get started on the aims and the rules and using many of the recommendations that have come out of the Institute of Healthcare Quality Improvement over the past five years regarding rapid-cycle change and managing chronic illnesses.

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## Notes

1. Committee on HealthCare Quality in America, Institute of Medicine, *Crossing the Quality Chasm: A New Health System for the 21st Century* (Washington, DC: National Academy Press, 2001), 5–6.
2. *Ibid.*, 64.
3. *Ibid.* at 1.
4. *Ibid.*, 131.
5. *Ibid.*, 40.
6. *Ibid.*, 61–62.
7. *Ibid.*, 90–91.
8. *Ibid.*, 112.
9. *Ibid.*, 91.
10. *Ibid.*, 102–103.
11. *Ibid.*, 39.
12. *Ibid.*, 45.
13. *Ibid.*, 45.
14. *Ibid.*, 131.
15. *Ibid.*, 45.
16. *Ibid.*, 45.
17. *Ibid.*, 46.
18. *Ibid.*, 122.
19. *Ibid.*, 123.
20. *Ibid.*, 47.
21. *Ibid.*, 49.
22. *Ibid.*, 52.
23. *Ibid.*, 40.
24. *Ibid.*, 40.
25. *Ibid.*, 54.
26. *Ibid.*, 136.
27. *Ibid.*, 146.
28. *Ibid.*, 182.
29. *Ibid.*, 182.
30. *Ibid.*, 208.
31. *Ibid.*, 28.