

Building a Health Care System
for the 21st Century:
Role of the Institute of Medicine

Harvey V. Fineberg, M.D., Ph.D.

Quality Colloquium at Harvard University
25 August 2003

Ten Forces Acting on Health Care

1. Scientific advances and new technology
2. Growing prevalence of chronic disease
3. Globalization and emerging diseases
4. Bioterrorism and the interface between medicine and public health
5. Persistent economic exigencies

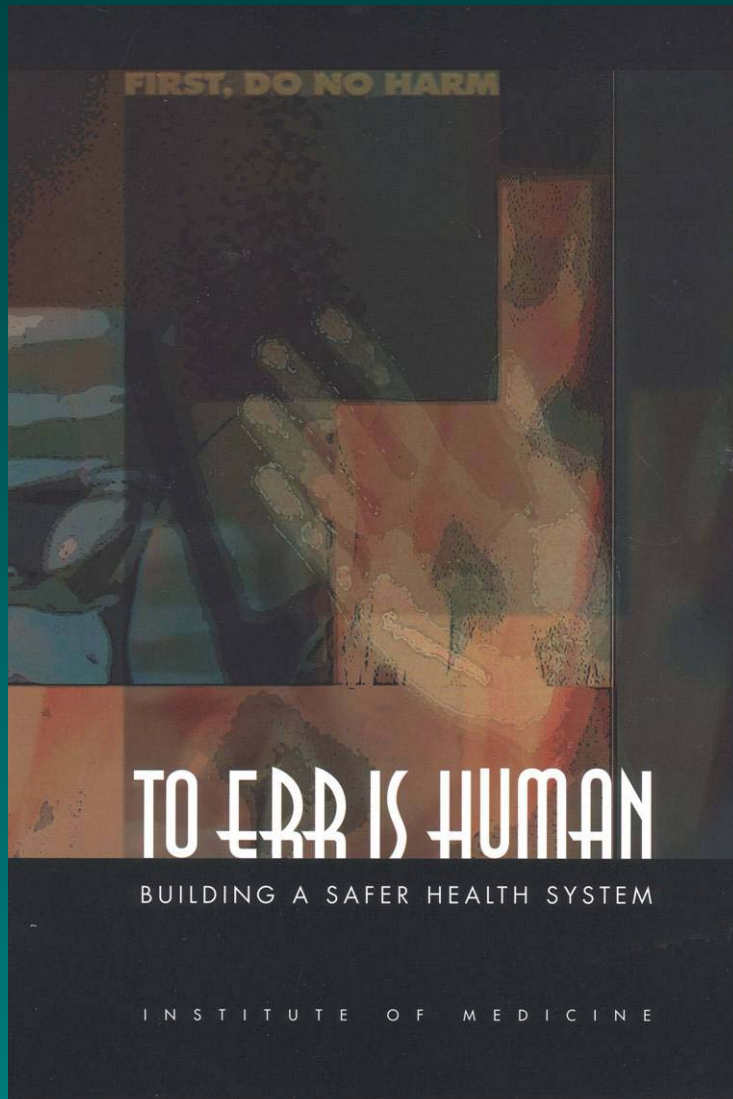
Ten Forces Acting on Health Care

6. Legal and regulatory pressures
7. Professional discontent and shortages
8. Rising expectations for quality
9. Patient empowerment and interest-group politics
10. Uncertain system reform

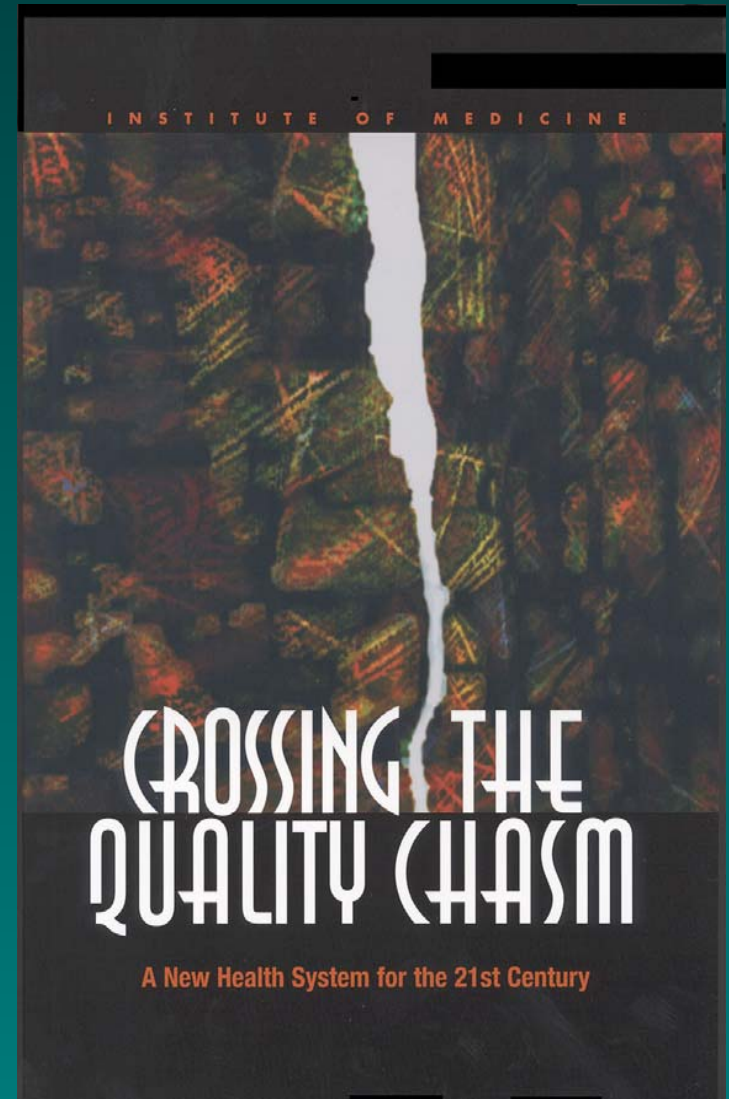
Pathways to Progress in Health Care

- Develop better things to do for patients
 - Scientific discovery
 - Product development
 - Clinical trials
- Devise better ways to do what we already know should be done for patients
 - Access to services
 - Efficiencies of production
 - Improved quality

Recent Studies by the Institute of Medicine

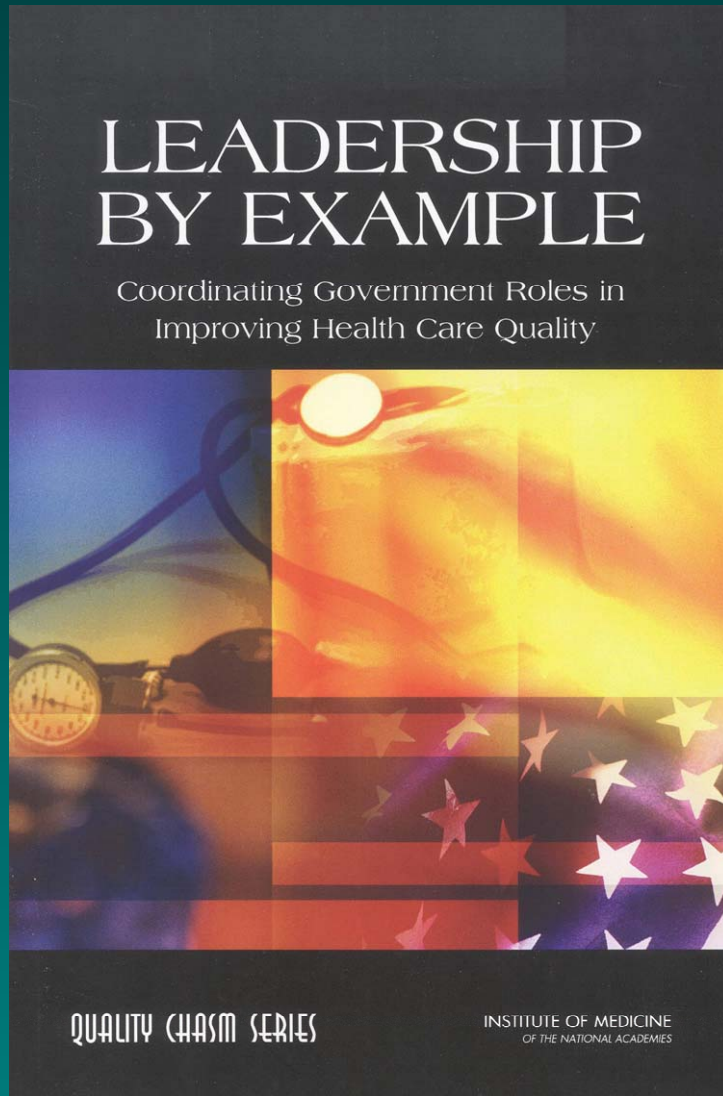


2000

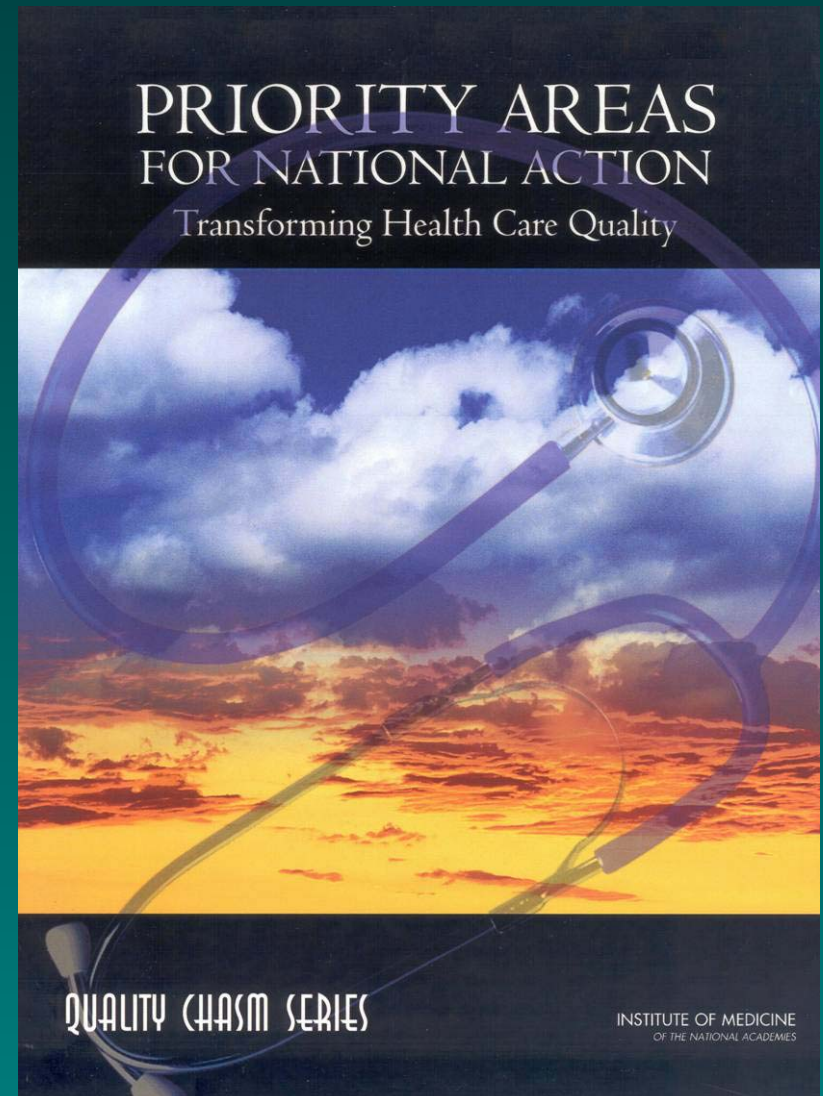


2001

Recent Studies by the Institute of Medicine



2002



2003

Dimensions of Quality of Care

Health care should be:

- Safe
- Effective
- Patient-centered
- Timely
- Efficient
- Equitable

Studies of Quality and Safety

- More than 70 studies document poor quality of care (Schuster et al, 1998; 2000)
- More than 30 studies document medication errors (IOM, 2000)
- Large gaps between the care people should receive and the care they do receive
 - true for preventive, acute and chronic
 - across all health care settings
 - all age groups and geographic areas

Quality of Health Care Delivered to Adults in the United States

- Methods
 - Study of >6700 participants in 12 metropolitan areas
 - 439 indicators of quality for 30 conditions
- Selected Findings:
 - 46% did not receive recommended care
 - 11% received potentially harmful care
 - Only 24% of diabetics received 3 or more glycosylated Hgb tests over two-year period
 - 65% of hypertensives receive recommended care
 - Only 45% of persons with MI receive beta-blockers

Studies of Errors Among Hospitalized Patients

- New York State (1984 data)
 - 3.7% experience injury due to medical care
 - 13.6% of injuries are fatal
 - 58% of injuries are preventable
- Colorado and Utah (1992 data)
 - 2.9% experience injury due to medical care
 - 6.6% of injuries are fatal
 - 53% of injuries are preventable

Studies of Errors Among Hospitalized Patients

- Australia (1992 data)
 - 16.6% experience injury or longer stay due to medical care
 - 4.9% of injuries are fatal
 - 51% of injuries are preventable

Alternative Models to Apprehend Problems of Safety and Quality

- Moral Actor

Alternative Models to Apprehend Problems of Safety and Quality

- Moral Actor
- Rational Actor

Alternative Models to Apprehend Problems of Safety and Quality

- Moral Actor
- Rational Actor
- Psychological Actor

Alternative Models to Apprehend Problems of Safety and Quality

- Moral Actor
- Rational Actor
- Psychological Actor
- Educated Actor

Alternative Models to Apprehend Problems of Safety and Quality

- Moral Actor
- Rational Actor
- Psychological Actor
- Educated Actor
- **Systems**



The Doctor (1891)

Fildes, Sir Luke (1843-1927)



Ohio State University heart surgeons (1999)

System defined

“A regularly interacting or interdependent group of items forming a unified whole”

Systems in Health Care

- **Social-level:** finance, organization, global management, etc.
- **Institutional-level:** hospital services, institutional data-bases, etc.
- **Individual-level:** physician practices, patient-care decisions, etc.

Building Organizational Supports for Change

- Redesign care processes
- Make effective use of information technologies
- Manage clinical knowledge and skills
- Develop effective teams
- Coordinate care across patient conditions, services and settings over time
- Measure and improve performance and outcomes

Building Organizational Supports for Change

- Redesign care processes
- Make effective use of information technologies
- Manage clinical knowledge and skills
- Develop effective teams
- Coordinate care across patient conditions, services and settings over time
- Measure and improve performance and outcomes

Redesign Care Processes

- System design using the 80/20 principle
- Design for safety
- Mass customization
- Continuous flow
- Production planning

Redesign Care Processes

- System design using the 80/20 principle
- Design for safety
- Mass customization
- Continuous flow
- Production planning

Does good design matter?

Jacques Carelman's Coffeepot for Masochists



From Donald A. Norman, *The Design of Everyday Things*

Safe Design

- Complex, tightly coupled systems are prone to error (Perrow, 1984; Reason, 1990)
- User-centered design principles (Norman, 1988)
 - Visibility
 - Simplicity
 - Affordances and natural mappings
 - Forcing functions
 - Reversibility
 - Standardization

A New Environment for Care

- Applying evidence to health care delivery

Applying Evidence to Health Care Delivery

- Ongoing analysis and synthesis of medical evidence
- Delineation of specific practice guidelines
- Enhanced dissemination of evidence and guidelines to the public and professions
- Decision support tools for clinicians and patients
- Identification of best practices in processes of care
- Development of quality measures for priority conditions

A New Environment for Care

- Applying evidence to health care delivery
- Using information technology

Using Information Technology

- Consumer health
- Clinical care
- Administration and finance
- Public health
- Professional education
- Research

Core Functionalities for an Electronic Health Record System

- Health information and data
- Results management
- Order entry/management
- Decision support management
- Electronic communication and connectivity
- Patient support
- Administrative processes
- Reporting & population health

A New Environment for Care

- Applying evidence to health care delivery
- Using information technology
- Aligning payment policies with quality improvement

Aligning Payment Policies

- Efforts may be hard to justify economically
 - Difficulty of measuring impact of quality improvement on the fiscal bottom line
 - Infrastructure investment required up front
- Adapt various existing payment methods (fee-for-service, capitation, blended, shared-risk) to support quality improvement: value-based reimbursement
- Experiment with payment for priority conditions

A New Environment for Care

- Applying evidence to health care delivery
- Using information technology
- Aligning payment policies with quality improvement
- Preparing the workforce

Preparing the Workforce

- Restructuring clinical education at first-stage, graduate, and continuing education for medical, nursing and other professionals.
- Implications for credentialing, funding and sponsorship of educational programs.

Criteria for Priority Health Areas

Individual

- Impact
- Improvability
- Inclusiveness

Collective

- Span the lifespan
- Full spectrum of health care

Priority Health Areas - 1

- Asthma
- Care coordination
- Children with special needs
- Diabetes
- End of life with organ system failure

Priority Health Areas - 2

- Evidence-based cancer screening
- Frailty associated with old age
- Hypertension
- Immunization
- Ischemic heart disease

Priority Health Areas - 3

- Major depression
- Medication management
- Nosocomial infections
- Obesity
- Pain control in advanced cancer

Priority Health Areas - 4

- Pregnancy and childbirth
- Self-management/health literacy
- Severe and persistent mental illness
- Stroke
- Tobacco-dependence treatment in adults

Key Points

- Unremitting forces impinge on medicine and health care
- Quality of care is the central objective
- Systems are a key organizing principle, and process redesign is a key strategy
- Everyone has a stake in promoting patient safety and the quality of care