The Evolution of Health Care Quality and Patient Safety

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United Hospital Fund
Shaping New York's Health Care: Information, Philanthropy, Policy

Presentation Key Focus

Setting the Framework:

How has quality improvement evolved in health care?

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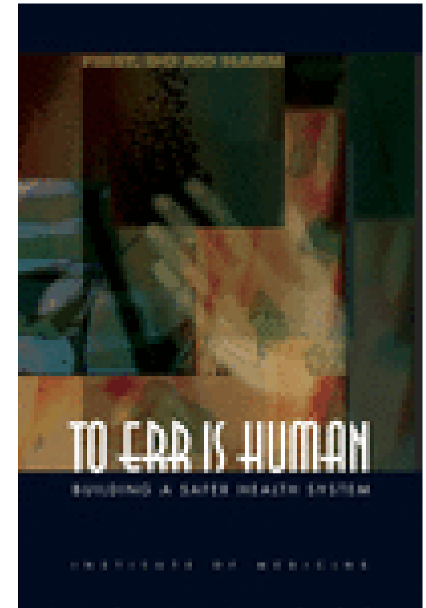
Institute of Medicine*
To Err Is Human

- Released November 1999
- 44,000 – 98,000 people die in hospitals each year due to preventable medical errors
- Cost of Errors = $17 Billion - $29 Billion per year
- Types of Error
  - Diagnostic
  - Treatment
  - Preventive
  - Other



*Now called the National Academy of Medicine
Part of the National Academies of Science, Engineering and Medicine

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Institute of Medicine*
To Err Is Human

- Faulty System Processes
  - Not individual recklessness or group actions

- Strategy for Improvement
  - Knowledge of safety: leadership, research, tools, and protocols
  - Mandatory public and voluntary local reporting systems
  - External organizations and group purchasers of health care awareness/expectations about safety
  - Safety systems implementation/ensure safe practices at the delivery level

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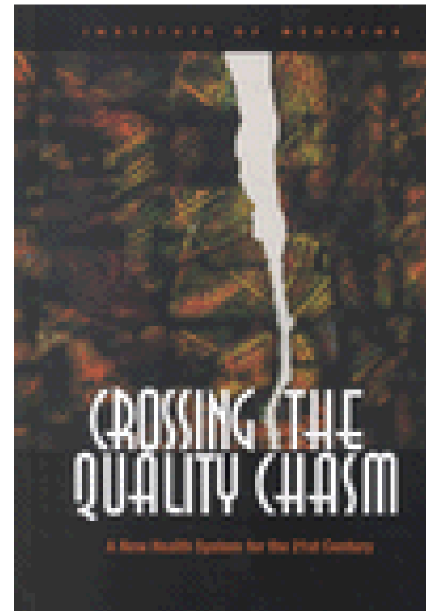
Institute of Medicine*
Crossing the Quality Chasm

- Report Released March 2001

- Delivery of health care is often:
  - Poorly Organized
  - Overly Complex
  - Fragmented and Uncoordinated

- Six Aims for Patient Care:
  - SAFE
  - EFFECTIVE
  - PATIENT-CENTERED
  - TIMELY
  - EFFICIENT
  - EQUITABLE



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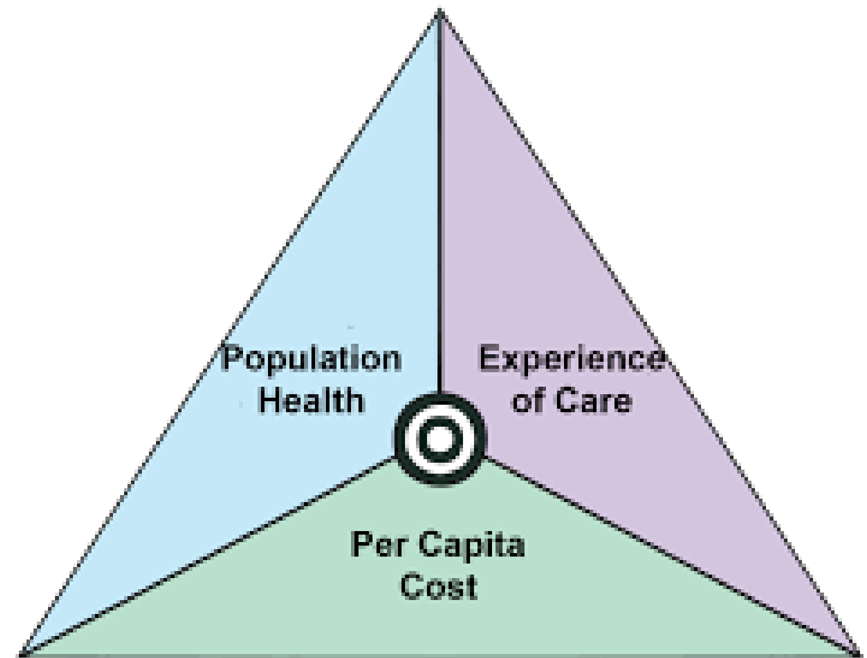
Institute for Healthcare Improvement Triple Aim

- Improve the Health of the Population
- Enhance the Patient Experience of Care
  - Quality, Access, Reliability and Satisfaction
- Reduce, or at Least Control, the Per Capita Cost of Care



Institute for Healthcare Improvement Quadruple or Quintuple Aim?

- Improve the Health of the Population
- Enhance the Patient Experience of Care
  - Quality, Access, Reliability and Satisfaction
- Reduce, or At Least Control, the Per Capita Cost of Care
- 4th Aim:
  - Provider and care team well-being
  - Joy in Work
  - Equity
  - Organization Readiness

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Institute for Healthcare Improvement Quadruple Aim?

https://youtu.be/d1uXN0WFcAY

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How Did We Get Here?

- Thomas Percival: 1740-1804
- Florence Nightingale: 1820-1910
- Ernest Armory Codman: 1869-1940
- Walter Shewhart: 1891-1967
- W Edwards Deming: 1900-1993
- Joseph Juran: 1904-2008
- Kaoru Ishikawa: 1915-1989
- Avedis Donabedian: 1919-2000

Key founders of Quality Improvement

"In 1900 I became interested in what I called the 'end result' idea….every hospital should follow every patient it treats long enough to determine whether or not the treatment has been successful, and then should inquire, 'If not, why not?' with a view to preventing similar failure in the future."

Ernest Armory Codman, 1910

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W. Edwards Deming: 1900-1993

- Electrical Engineer
- Inspired by Walter Shewhart
- Known for his work in Japan – a world leader in manufacturing excellence
- Focused on Quality Control
- Popularized the Plan-Do-Study-Act (PDSA) Cycles

"Quality is Everyone's Responsibility."

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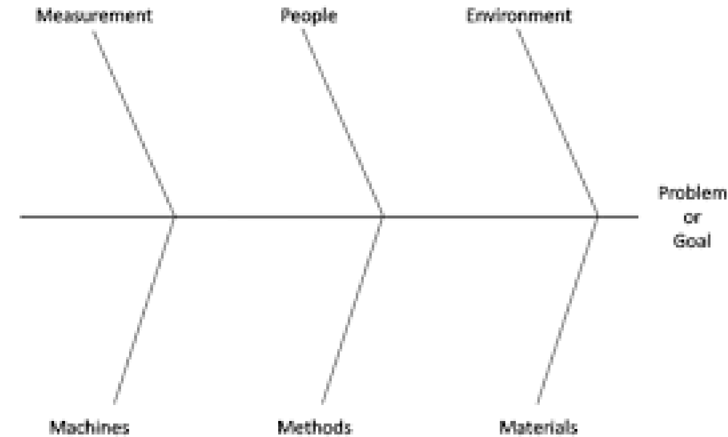
Kaoru Ishikawa: 1915-1989

•Japanese professor/Engineer
•Founder of the Cause-and-Effect Diagram (Fishbone Diagram)
  - Used to determine root causes



Avedis Donabedian: 1919-2000

•Physician trained in public health
•Quality = Structure, Process, Outcome
•Impact of clinical decisions on quality
•Relationship between quality and cost
•Focused on Patient Satisfaction

U.S. Health Care Quality and Safety

A Brief History

1910's — 1940's — 1950's — 1960's — 1970's

1910's

- Codman proposes measuring outcomes
- Onsite hospital Inspections prompted

1940's

- Juran & Deming become prominent quality figures

1950's

- The Joint Commission established

1960's

- Donabedian published article defining health care quality

1970's

- Institute of Medicine, Accreditation Association for Ambulatory Care, & National Committee for Quality Assurance formed

*Partial timeline of quality activities over time.

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U.S. Health Care Quality and Safety

*A Brief History**

1988 · 1998 · 2008 · 2010 · 2012 · 2015 - 2020 · ‘21-23

- HCFA hospital mortality reports
- HCFA CCP Pilot
- NY, PA CABG report
- IHI
- NCQA HEDIS measures
- HCFA National CCP
- NCQA website
- Healthgrades
- IOM Report
- NQF
- Leapfrog
- Hospital Compare
- Joint Commission Core Measures & NPSG
- Deficit Rdxn Act
- CMS P4P
- NY HAI Reporting
- HCAHPS
- CMS HACs
- Affordable Care Act
- ACGME Requirements For Quality & Patient Safety
- IPPS/IQR Program
- CMS PFP
- NYS HAI Enhanced Reporting
- Meaningful Use
- NY Health Homes
- CMS VBP
- 30-day Readmissions (HF, AMI, Pneumonia)
- CMS ACOs
- NY Sepsis Mandates
- NYS DOH Patient Safety Council
- NY Hospital-Medical Home Demonstration Program
- IPPS Final Rule
- DSRIP
- VBP
- PQRS
- TCPI
- NYS Population Health Improvement Program And NYS SIM
- ICD-10
- e-prescribing Mandate
- APC
- MACRA/MIPS
- Repeal and Replace
- COVID-19 Pandemic
- 21st Century Cures Act

*Partial timeline of quality activities over time.

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U.S. Health Care Quality and Safety
An Events Based Timeline

- Quality Measure Development
- Pay for Reporting
- Pay for Performance/Provider Accountability
- Patient Centered Medical Homes
- Meaningful Use
- Value Based Purchasing
- 30-Day Readmissions
- State Innovation Models
- DSRIP
- ACOs, Bundled Payments, Shared Risk
- 21st Century Cures Act

You will be learning more about these and other topics throughout the year.

U.S. Health Care Quality and Safety

Quality Measure Development

1991 – **Goal:** To develop a strategy to evaluate the quality of care provided by special needs plans

HEDIS (Healthcare Effectiveness Data and Information Set) is a set of standardized performance measures developed by the National Committee for Quality Assurance (NCQA) to objectively measure, report, and compare quality across health plans.

>200 Million people are enrolled in plans that report HEDIS measures

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Sample Quality Measure Set

New York State Primary Care Core Measure Set for 2020

DOMAIN	MEASURE	POPULATIONS	DATA SOURCE
Prevention	**Cervical Cancer Screening** (#32/HEDIS)	Adults: 21–64 years	Claims-only possible
	Breast Cancer Screening (#2372/HEDIS)	Adults: 50–74 years	Claims-only possible
	Colorectal Cancer Screening (#34/HEDIS)	Adults: 50–75 years	Claims/EHR
	Chlamydia Screening (#33/HEDIS)	Adolescents/Adults: 16–24 years	Claims-only possible
	Influenza Immunization - all ages (#41/AMA)	All: 6 months+	Claims/EHR/Survey
	Well-Child Visits in the 3rd, 4th, 5th, and 6th Years of Life (NQF #1516)	Children: 3–6 years	Claims/EHR
	Immunizations for Adolescents (NQF #1407)	Adolescents: 13 years	Claims/EHR
	Childhood Immunization Status (#38/HEDIS)	Children: 2 years old	Claims-only possible
Chronic Disease	**Tobacco Use Screening and Intervention** (#28/AMA)	Adults: 18 years+	Claims/EHR
	Controlling High Blood Pressure (#18/HEDIS)	Adults: 18–85 years	Claims/EHR
	Diabetes: A1C Poor Control (#59/HEDIS)	Adults: 18–75 years	Claims/EHR
	Diabetes: Eye Exam (#55/HEDIS)	Adults: 18–75 years	Claims
	Diabetes: Medical Attention for Nephropathy (#62/HEDIS)	Adults: 18–75 years	Claims
	Persistent Beta Blocker Treatment after Heart Attack (#71/HEDIS)	Adults: 18 years+	Claims/EHR
	Medication Management for People with Asthma (#1799/HEDIS)	All: 5–65 years	Claims-only possible
	Weight Assessment and Counseling for Nutrition and Physical Activity for Children and Adolescents (#24/HEDIS)	Child/Adolescents: 3 - 17 years	Claims/EHR
	BMI Screening and Follow-Up (#421/CMS)	Adults: 18 years+	Claims/EHR
Behavioral Health/ Substance Use	**Screening for Clinical Depression and Follow-up Plan** (#418/CMS)	Adolescents/Adults: 12 years+	Claims/EHR
	Initiation and Engagement of Alcohol and Other Drug Dependence Treatment (#4/HEDIS)	Adolescents/Adults: 13 years+	Claims/EHR
	Antidepressant Medication Management (#105/HEDIS)	Adults: 18 years+	Claims
Patient-Reported	**Advance Care Plan** (#326/HEDIS)	Adults: 65 years+	Claims-only possible
	CAHPS Access to Care, Getting Care Quickly (#5/AHRQ)	All	Claims/EHR
Appropriate Use	**Use of Imaging Studies for Low Back Pain** (#52/HEDIS)	Adults: 18–50 years	Survey
	Avoidance of Antibiotic Treatment in Adults with Acute Bronchitis (#58/HEDIS)	Adults: 18–64 years	Claims
	Inpatient Hospital Utilization (HEDIS)	All	Claims
	Plan All-Cause Readmissions (#1768/HEDIS)	Adults: 18 years+	Claims
	Emergency Department Utilization (HEDIS)	All	Claims
Cost	(Pending measure review)		

Populations: Children, ages 0–9; Adolescents, ages 10–17; Adults, ages 18+. The WHO defines adolescence as the age range 10–19 years. The AAP/Bright Futures defines it as the age range 11–21 years.
Data Sources: Claims-only possible refers to the fact that the measure requires use of both claims and other sources (EHR, survey) but using only claims is a feasible alternative.

*Credit: NYS Primary Care Core Measure Set, UHF January 31, 2020

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Pay For Performance

Goal: P4P is to be part of the overall national strategy to transition healthcare to value-based medicine.

2003 - CMS established P4P initiatives to strengthen quality measures, improve patient outcomes, and maintain physician accountability. Such P4P programs offer incentives to hospitals, provider groups, and physicians based on adherence to specific composite metrics.

P4P comprises payment models that attach financial **incentives/disincentives** to provider performance.

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Value Based Purchasing

Goal: The Hospital Value-Based Purchasing (VBP) Program is to be part of ongoing work to structure Medicare's payment system to **reward providers for the quality of care they provide**.

Established in 2010 as part of the Affordable Care Act (ACA)

Implemented at U.S. hospitals starting in the 2013 fiscal year.

Four Domains:

- Safety
- Clinical Care
- Person and Community Engagement
- Efficiency and Cost Reduction

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State Innovation Models

Goal: To achieve better quality of care, lower costs and improved health for the population of the participating state.

2015 - Delivery System Reform Incentive Payment Program (DSRIP)

- The culmination of the NY State's initial Medicaid Redesign Team efforts.
- Primary Goal - Reduce avoidable hospital use by 25% over 5 years.
- $8 Billion investment by the Federal Government
- Allows for waivers to make experimental or pilot demonstration changes to its Medicaid program.
- Provides incentive payments for hospitals and other providers to undertake delivery system transformation efforts via provider partnerships.
- Greater focus on high quality ambulatory care and a de-emphasis on hospital inpatient and ED care

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U.S. Health Care Quality and Safety
21st Century Cures Act

Goal: To advance interoperability; support the access, exchange, and use of electronic health information (EHI); and address occurrences of information blocking. Signed into Law - 2016

The Cures Act has resulted in two rulings:

- The ONC Cures Act Final Rule
- The CMS Interoperability and Patient Access Final Rule
- Both of these rulings aim to **provide patients with greater access to care and implement new standards to enable greater access and coordination in patient care**.

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U.S. Health Care Quality and Safety

21st Century Cures Act

The 21st Century Cures Act was designed to revolutionize healthcare by taking full advantage of today's technological capabilities. The key components are:

Improve Interoperability

- Implementation of HL7 FHIR unites healthcare apps by creating a common set of APIs to enable these platforms to share data and communicate with ease.
- Universal API standards simplify the implementation of HIT apps.
- Streamlining secure data flow prevents information blocking, breaks down data silos, and enables a health app economy.

Accelerate Advancement

- $5 billion allocated to NIH will advance precision treatment.
- A $1 billion allocation will help fight the opioid epidemic crisis.
- A modified FDA drug approval process and facilitated approval of specific drugs will streamline drug & device development.
- Ease the regulatory burdens of EHR systems and HIT.

Empower Patients

- Patients will experience greater ease when accessing their PHI.
- Patients will enjoy smoother experiences using HIT apps.
- Mental health services will be improved with: behavioral and mental health insurance coverage, deescalation training for law enforcement professionals, grants for mental health resources, and intervention programs.

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Challenges

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15+ years after *To Err is Human*…

The positives:

- TJC focus on hospitals' journey toward high reliability
- ACGME's development of Clinical Learning Environment Review (CLER) to engage teaching programs in quality and safety
- Clinicians in patient safety now draw on experiences from human factors and systems engineering, sociology, informatics, and behavioral informatics
- Maturation of technical components of patient safety (e.g., measurement/analytics)
- More attention to system issues
- Tremendous improvements in various clinical areas (e.g., CLABSI, CAUTI, etc)

Pronovost, P.J. and Bienvenu, O.J. (2015). From shame to guilt to love. *JAMA*, 314(23):2507-8.
Kuehn, B.M. (2014). Patient safety still lagging: advocates call for national patient safety monitoring board. *JAMA,* 312(9):879-80.

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15+ years after *To Err is Human*…

The negatives:

- Still lack of physician engagement
  - Residents describe "being shamed" by senior MDs for voicing patient safety concerns during clinical cases; they decide to stay quiet even when there are perceived risks
- Sometimes risky and inefficient HIT
- Emotional components are still not regarded significantly
  - Mistakes are still rarely discussed
  - Shame vs. Guilt vs. Love
  - Culture still discourages nurses from speaking up
- More recent research suggests U.S. deaths resulting in medical error are closer to 400,000/year

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A Look Ahead

Some things to consider . . .

- Just Culture
- Artificial Intelligence
- YOU

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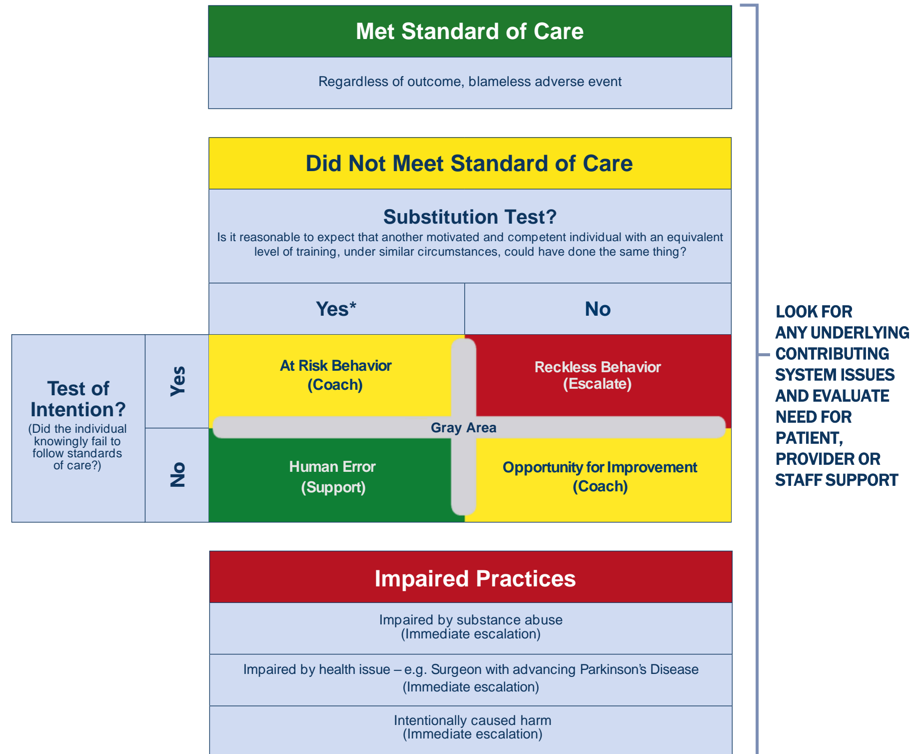
Just Culture



* If the answer to the substitution test is yes, question the effectiveness of current practice and evaluate for "Normalization of Deviance." Normalization of Deviance is defined as the gradual drift away from best practices until a deviant behavior is commonplace (e.g. ignoring an alarm, bypassing a safety check, etc.).

NewYork-Presbyterian

Credit –Jason Adelman, MD NYPH QPS

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Artificial Intelligence

Will Machines Replace Humans?

- Radiology
- Colonoscopy
- ChatGPT and similar

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“Quality is Everyone’s Responsibility.”

W. Edwards Deming

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THANK YOU

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