Leading Change Toward Quality Improvement

Dr. Charlie Husson
Ascension Health: Michigan Market, Chief Medical Officer
Disclosure

• I have no actual or potential conflict of interest in relation to this program/presentation.
Learning Objectives

• Describe the role of physicians in the historical development of quality improvement in medicine

• Describe the core components of quality improvement in medicine

• Identify opportunities and barriers to implementing quality improvement projects

• Discuss the ways physician leadership can model and encourage continuous quality improvement in medicine
References

- Avedis Donabedian,. 1985. The Epidemiology of Quality, Inquiry BCBS.
- Avedis Donabedian. 1985. Twenty Years of Research on Quality of Medical Care. *Evaluation and Health Professions* Vol. 8 No. 3.
Historical Timeline: Efficiency -- Quality

• Ernest Codman

• Avedis Donabedian

• Institute of Medicine: 1970

• Donald Berwick

• Formation of Institute of Healthcare Improvement (1991)

• National Academy of Medicine: July, 2015
Ernest Codman

- Born in Boston, 1869
- Attended Harvard Medical School
- He was a surgeon, lecturer, and author
- His ideas were revolutionary at the time and not widely accepted by his colleagues
Ernest Codman

• Proposed the End-result system in 1905

• Goal: Review clinical outcomes of patients; because, all surgical outcomes can be explained by one or more of these causes...

• Codification system:
  • E-s: Lack of knowledge or skill
  • E-j: Lack of surgical judgement
  • E-c: Lack of care or equipment
  • E-d: Lack of diagnostic skill
  • P-d: Patients unconquerable disease
  • P-r: Patients refusal of treatment

• Medical Audit: anticipates contemporary approaches
• Codman welcomes publicity: both successes and errors
Mr. Edward James Sullivan
Name
50 Crescent St., New York City, N.Y.
Address
Dr. C. M. Black, 100 Beacon St., Boston.
Physician
Mrs. George White, Salem, Mass.
Patient
Diagnosis: Eosinophilic granuloma of the stomach, with severe acute ulceration of the pyloric end and suggested cancer.

Causes of Eosinophilic granuloma:
- Epigastric pain after meals
- Nausea, vomiting
- Hematemesis but no melena
- Tympanic pectoris
- Pyrexia
- Tympanic tympanometry
- Partial gastrectomy

Conclusions:
- Organism of unknown cause
- Except for during convalescence, he vomited several times without apparent cause.

Signed:
A.B.C.

July 15, '45
Date
Remained well until March, 1945, since which time similar symptoms recurred, and also hematemesis and epigastric tumors.

Re-examination:
July 15th. Exploration showed numerous metastases in liver and abdominal glands. No complications. Discharged ten weeks later.
THE BOSTON MEDICAL SCHOOL DEPARTMENT OF MEDICAL SCIENCE.

I. WONDER IF CLINICAL TRUTH IS INCOMPATIBLE WITH MEDICAL SCIENCE?

CLINICAL TRUTH.

II. COULD MY CLINICAL PROFESSORS MAKE A LIVING WITHOUT HUMBUG?

BILL HEAD THE COMMUNITY TO MASS GEN HOSPITAL DEMONSTRATION ANESTHESIA PRINCIPLES SOCIAL SERVICE.

If I only dared look and see, I might find a doctor who could cure my own ills.

DO YOU SUPPOSE SHE WOULD STILL BE WILLING TO LAY?

THE BACK BAY GOLDEN GOOSE OSTRICH.
Historical facts: Connections

• 1910 - 1913: American College of Surgeons is founded: The “end result” system becomes an ACS objective.

• 1917: ACS begins on-site inspections; requirements fill one page

• 1926: 1st standards manual is published (18 pages)

• 1951: ACP, AHA, AMA, CMA join with the ACS to create Joint Commission on Accreditation of Hospitals (JCAH).

• 1965: Social Security Amendment recognizes hospitals with the JCAH accreditation as “deemed” to be in compliance with most Medicare Conditions of Participation
Avedis Donabedian

• Born in Beirut, Lebanon in 1919

• He studied Medicine at the American University of Beirut

• Moves to the United States and receives his MPH degree at Harvard

• He is recruited to the University of Michigan by the School of Public Health in 1961

• He authored 11 books and more than 200 articles on quality assessment and improvement within the healthcare sector

• A landmark article in 1966: Evaluating the Quality of Medical Care
Evaluating the Quality of Medical Care

- Approaches to Assessment: What to assess.
  - **Outcomes**: “The validity of outcome as a dimension of quality is seldom questioned.
  - However...there are limitations...”the first of these is whether the outcome of care is, in fact, the relevant measure.”
  - Many factors other than the medical care, may influence the outcome.
  - “Another approach to assessment is to examine the **process of care** itself; rather than its outcome “ Key: Is whether medicine is properly practiced.
  - Lastly, ...”a third approach to assessment is to study not the process of care itself, but the setting in which it takes place and the **instrumentalities** of which it is the product.” **Structure.**
Evaluating the Quality of Medical Care

• Sources and Methods of Obtaining Information
  • Physician records
  • Diagnostic testing
  • Issue: rating the quality of the record vs the quality of care
  • Interviews
  • Observations

• Sampling and Selection

• Measurement Standards and Measurement Scales
  • Empirical Standards
  • Normative Standards

• Reliability of assessment: need details and specifications of criteria
• Bias: need to control
• Validity: complex interplay between health and satisfaction
• Indices of Medical Care: multidimensional assessment of care is difficult, costly, and laborious to gather.
• Some problems of Assessing Ambulatory Care
What to measure?

Structure
The environment in which care occurs

Process
What care is delivered, and how

Outcome
The impact on patients and the population

‘Outcomes remain the ultimate validators of the effectiveness and quality of medical care’ but they ‘must be used with discrimination’

Avedis Donabedian
A classic approach to developing measures

\[ S + P = O \]

Structure + Process = Outcomes

Institute of Medicine: founded 1970
Institute of Medicine:

• To ERR is Human: Building a Safer Health System (1999)
  • ~ 100,000 patients are losing their lives to iatrogenic harm within US hospitals
• Crossing the Quality Chasm: A New Health System for the 21st Century (2001)
  • Safe
  • Effective
  • Patient-Centered
  • Timely
  • Efficient
  • Equitable
Don Berwick: IHI Journey

• 1986: National Demonstration Project on Quality Improvement in Healthcare (NDP)
• 1989: Continuous Improvement as an Ideal in Health Care, NEJM
• 1990: Curing Health Care: New Strategies for Quality Improvement 1st Edition
• 1991: Institute of Healthcare Improvement is founded
• 1993: Associates in Process Improvement (API) introduces its model of improvement
• 1995: First IHI Breakthrough collaborative aims to reduce the US C-section rate
• 1999: To Err is Human: Building a Safer Health System (1999)
• 2001: Crossing the Quality Chasm: A New Health System for the 21st Century
• 2010: Triple Aim
• 2012: Book: Triple Aim
• 2014: Promising care: How we can rescue healthcare by improving It
• 2018: Collaboratives, Initiatives, Leadership development, Redesigning primary care
Why we must measure outcomes

The ultimate measure by which to judge the quality of a medical effort is whether it helps patients (and their families) as they see it. Anything done in health care that does not help a patient or family is, by definition, waste, whether or not the professions and their associations traditionally hallow it.

Don Berwick, *BMJ* 1997
Better Health and Well-Being
• Systems Strategies for Better Health Throughout the Life Course
• Addressing Social Determinants of Health and Health Disparities
• Preparing for Better Health and Health Care for an Aging Population
• Chronic Disease Prevention: Tobacco, Physical Activity, and Nutrition for a Healthy Start
• Improving Access to Effective Care for People Who Have Mental Health and Substance Use Disorders
• Advancing the Health of Communities and Populations

High-Value Health Care
• Benefit Design to Promote Effective, Efficient, and Affordable Care
• Payment Reform for Better Value and Medical Innovation
• Competencies and Tools to Shift Payments from Volume to Value
• Tailoring Complex Care Management, Coordination, and Integration for High-Need, High-Cost Patients
• Realizing the Full Potential of Precision Medicine in Health and Health Care
• Fostering Transparency in Outcomes, Quality, Safety, and Costs
• The Democratization of Health Care
• Workforce for 21st Century Health and Health Care

Strong Science & Technology
• Information Technology Interoperability and Use for Better Care and Evidence
• Data Acquisition, Curation, and Use for a Continuously Learning Health System
• Innovation in Development, Regulatory Review, and Use of Clinical Advances
• Targeted Research: Brain Disorders as an Example
• Training the Workforce for 21st Century Science
Quality Improvement: Key Elements

• End results
• Structure, Process, and Outcomes: Data is key
• Apply industrial methods of continuous quality improvement in health care: Model of Improvement
  • Ask pertinent questions, measure, and change
  • Not randomized placebo controlled studies
  • Intended to Move fast: Fail Quickly towards success
• Aim4Excellence training
The Model of Improvement

- What are we trying to accomplish?
  \[\text{Goal!}\]

- How will we know that a change is an improvement?
  \[\text{Measure!}\]

- What changes can we make that will result in improvement?
  \[\text{Ideas!}\]

PDSA-cycle:
- Act
- Plan
- Study
- Do

Test!

Ref Deming, Nolan
Quality Improvement: Barriers

- Awareness and knowledge
- Motivation
- Skills
- Internal environment
- External environment
- Financial pressures
- Time
- Competing priorities
- Leadership
- The physician is responsible for the clinical outcome
Quality Improvement: Opportunities

- Awareness and knowledge: *Starting in Medical School*
- Motivation: *Exposure and personal experience*
- Skills: *IHI*
- Instrumentalities: *CQI – Improvement model works (Aim4Excellence)*
- External environment: *May force physicians to become engaged*
- Financial incentives: *Grants, Fee for Value, MACRA, Contracts, etc…*
- Time: *Legacy*
- Competing priorities: *Physicians can prioritize with defined roles*
- Leadership: *Its there..., just need to cultivate it and recognize it.*
Physician leadership

- Dyadic model
- Medical Director roles
- Medical Staff evolution
- Peer review processes: new models
- Graduate Medical Education: new changes
- Cross collaboration between Engineering and Medicine
- Collaboration with payers: Value Partnerships with BCBS of Michigan
Graduate Medical Education

• GME Peer Review
  • Code A
  • Code R
• GME Council
  • Alignment of System level goals
  • Alignment of resources and talent
• Alignment of Hospital / Quality Initiatives
  • Sepsis
  • Transition of Care Committee
  • Multi-disciplinary rounds: Attendings and Residents participate
Current Collaborations
Anesthesiology
Bariatric surgery
Blood clot prevention
Cardiothoracic surgery
Cardiovascular Care Transitions
Emergency Medicine
General surgery
Hospital medicine
Knee and hip replacement
Oncology
Pharmacy
Prostate cancer
Radiation oncology
Spine surgery
Trauma
Value collaborative
The mission of CHEPS is to improve the safety and quality of healthcare delivery through a multi-disciplinary, systems engineering-based approach.

We do so by:
COLLABORATION: The University of Michigan has nationally-recognized strengths in engineering, medicine, nursing, public health, business, and more. We work to identify, foster, and promote collaborative projects across these units.

IMPLEMENTATION: The research of the Center is grounded in real problems that affect real patients. We conduct hands-on projects both inside and outside of the University, locally, nationally, and globally. Because of this geographic diversity, research at the Center has an immediate and measurable impact.

INNOVATION: Hands-on projects form the foundation for longer-term, cutting-edge research projects that advance the state-of-the-art in both medicine and engineering.

EDUCATION: A key part of the Center’s mission is to train future generations, helping engineering students to understand the challenges and opportunities found in healthcare delivery as well as educating healthcare providers about the benefits that engineering tools can yield on real-world problems.

DISSEMINATION: The Center will serve as a source of information for the broader community about new advances in healthcare engineering and patient safety through its web site, white paper series, seminar series, symposia, and outreach activities.

Reproduced from University of Michigan CHEPS website
“Ultimately, the secret of quality is love.
...... If you have love, you can then work backward to monitor and improve the system”.

Avedis Donabedian
Father of quality and safety