

# **Quality Improvement in Healthcare**



**. . . A brief overview**

# Objectives



- **Introduction**
- **Comparison of manufacturing and healthcare**
- **Early approaches to quality in healthcare**
- **More recent concepts**
- **Continuous improvement**
- **Questions**

# Background



- **Experience**

- 30 years in quality assurance/improvement
- 20 years in designing, implementing and supporting quality initiatives in 6 hospitals

- **Education**

- MSPH in Health Services Management
- BBA in Management

# Comparison



	<b>Manufacturing</b>	<b>Healthcare</b>
<b>Raw Material</b>		
<b>Work Force</b>		
<b>Direction</b>		
<b>Payment</b>		

# **A very early idea**



**Three or four persons should be employed in hospitals to set down the cases of the patients from day to day, candidly and judiciously without regard to private opinions or public systems, and at year's end publish the facts just as they are. . . Leaving everyone to make the best use he could for himself.**

*Sir Francis Clifton, 1732*

# **Another early idea**



**In comparing the deaths of one hospital with those of another, any statistics are justly considered absolutely valueless which do not give the ages, sexes, and the diseases of all the cases.**

*Florence Nightingale, **Notes on Nursing**, 1860*

# A “Modern” Idea



I'm called eccentric for saying that hospitals must find out what their results are; must analyze their results to find their strong and weak points; must care for those cases they can care for well; must assign staff, for better reasons than seniority, the calendar of convenience; and must promote staff on what they can and do accomplish - such opinions will not be eccentric a few years hence.

*Ernest Codman, A Study in Hospital Efficiency: The First Five Years, 1916*

# **A More Modern Idea**



- **Avedis Donabedian, MD, PhD**
  - **Structure**
  - **Process**
  - **Outcome**

# Various Approaches



**Joint Commission**

**CMS**

**Core Measures**

**NCQA**

**HEDIS**

**QAPI**

**HHS**

**AHCA**

**DRG's**

**COPs**

**Top 100 Hospitals**

**Hospital Compare**

**Evidence Based Medicine**

**Dartmouth Atlas of Health**

**To Err is Human**

**Clinical Pathways**

**California Medical Insurance Feasibility Study**

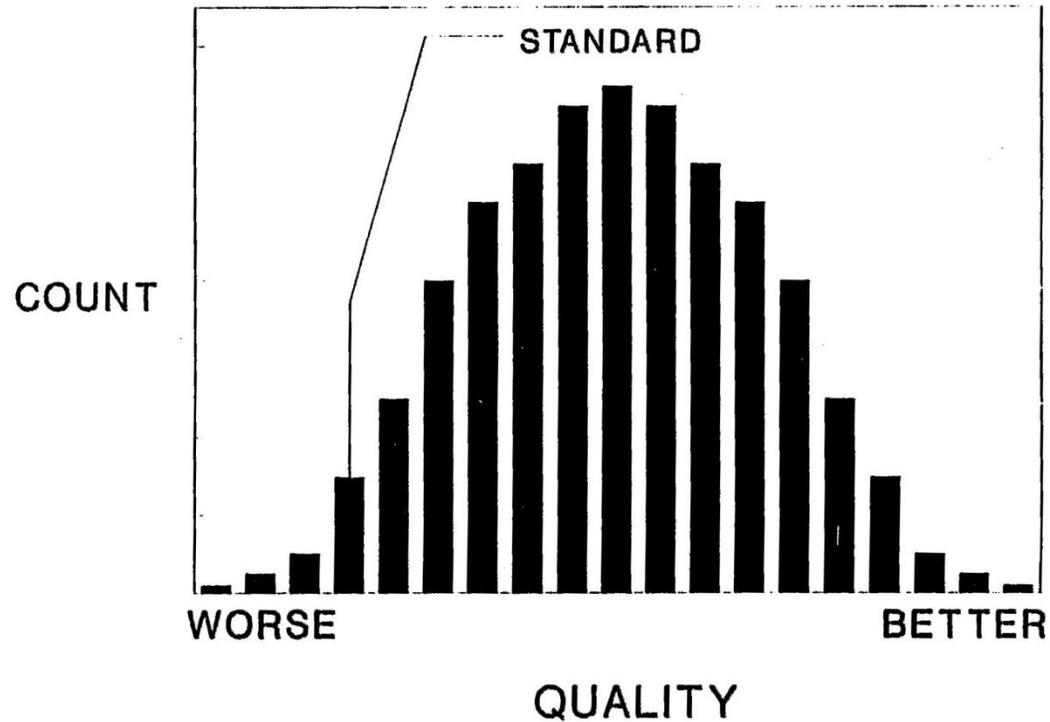
**U.S. News Best Hospitals**

# The old way . . .



# Theory of bad apples

BAD APPLES  
("sort and shoot")



# **Early “Modern” Attempts**



- **1919 - American College of Surgeons - Accreditation Standard**
- **1954 - Joint Commission**
  - **1980 – Quality Assurance Standard**
- **1960’s – Medicare Conditions of Participation**
- **1989 – National Demonstration Project**
  - **1992 – Institute for Healthcare Improvement**
- **1990’s – Core Measures**

# National Quality Foundation



- Building consensus on national priorities and goals for performance improvement and working in partnership to achieve them;
- Endorsing national consensus standards for measuring and publicly reporting on performance; and
- Promoting the attainment of national goals through education and outreach programs

# Hospital Quality Alliance



- **Hospital Quality Alliance: Improving Care through Information**
- The Hospital Quality Alliance (HQA) is a public-private collaboration that represents diverse stakeholders including hospitals, health professionals, government agencies, quality experts, purchasers, and consumer groups. The HQA is committed to making meaningful, relevant, and easily understood information about hospital performance accessible to the public and to informing and encouraging efforts to improve quality. The HQA believes that the accessibility and use of performance information will spur positive changes in health care delivery. A cornerstone of its collaboration is ***Hospital Compare*** ([www.HospitalCompare.hhs.gov](http://www.HospitalCompare.hhs.gov)), which publicly reports hospital performance in a consistent, unified manner to ensure the availability of credible information about the care delivered in the nation's hospitals.

# CMS Inpatient Measures



- Acute Myocardial Infarction (AMI)
- Heart Failure (HF)
- Pneumonia (PN)
- Surgical Care Improvement Project (SCIP)
- Children's Asthma Care (CAC)
- Venous Thromboembolism (VTE)
- Stroke (STK)
- Global Initial Patient Population (ED, IMM, TOB, SUB)
- Emergency Department (ED)
- Prevention
  - Immunization (IMM), Tobacco Treatment (TOB), Substance Use (SUB)

# CMS Outpatient Measures

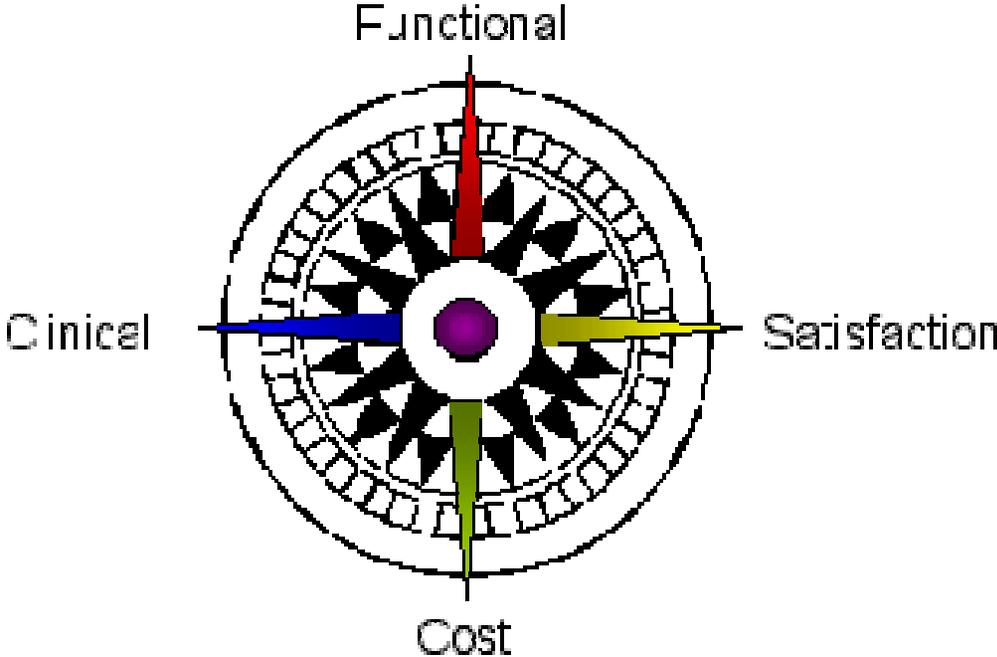
- **Acute Myocardial Infarction / Chest Pain**
  - **OP-1 - Median Time to Fibrinolysis**
  - **OP-2 - Fibrinolytic Therapy Received Within 30 Minutes**
  - **OP-3 - Median Time to Transfer to Another Facility for Acute Coronary Intervention**
  - **OP-4 - Aspirin at Arrival**
  - **OP-5 - Median Time to ECG**
- **Surgical**
  - **OP-6 - Antibiotic Timing**
  - **OP-7 - Antibiotic Selection**
- **Imaging Efficiency**
  - **OP-8 - MRI Lumbar Spine for Low Back Pain**
  - **OP-9 - Mammography Follow-up Rates**
  - **OP-10 - Abdomen CT—Use of Contrast Material**
  - **OP-11 - Thorax CT—Use of Contrast Material**
  - **OP-13 - Cardiac Imaging for Preoperative Risk Assessment for Non-Cardiac Low-Risk Surgery**
  - **OP-14 - Simultaneous Use of Brain Computed Tomography (CT) and Sinus Computed Tomography (CT)**
  - **OP-15 - Use of Brain Computed Tomography (CT) the Emergency Department for Atraumatic Headache**
- **Structural Measures**
  - **OP-12 - The Ability for Providers with HIT to Receive Laboratory Data Electronically Directly into Their Qualified/Certified E H R System as Discrete Searchable Data**
  - **OP-17 - Tracking Clinical Results Between Visits (Submission of this measure is voluntary for the CY 2012 payment determination.)**

# **Dartmouth Atlas of Healthcare**



- **For more than 20 years,**
- **Has documented glaring variations in how medical resources are distributed and used in the United States.**
- **Uses Medicare data to provide information and analysis about national, regional, and local markets, as well as hospitals and their affiliated physicians.**
- **Research has helped policymakers, the media, health care analysts and others improve their understanding of our health care system**

# Dartmouth Clinical Value Compass



# **Clinical Value Compass**



- **Named to reflect its similarity in layout to a directional compass, has at its four cardinal points**
  - **functional status, risk status, and well-being**
  - **costs**
  - **satisfaction with healthcare and perceived benefit**
  - **clinical outcomes**

# **Applying CQI to Healthcare**



- **1989 - National Demonstration Project on Quality in Healthcare**
- **1992 - Institute for Healthcare Improvement**

# **Some Examples**



- **Intermountain Healthcare - Salt Lake City**
- **Cedars-Sinai Medical Center - Los Angeles**
- **Shands Healthcare - Gainesville**
- **Harvard Community Health Plan - Boston**
- **Dartmouth Atlas of Health**
- **Medicare Mortality Reports**

# Top 100 Hospitals



## Thompson-Reuters

- Risk-adjusted mortality index
- Risk-adjusted complications index
- Risk-adjusted patient safety index
- Core measures score
- 30-day mortality rate
- 30-day risk-adjusted readmission rate
- Severity-adjusted average length of stay
- Case mix- and wage-adjusted inpatient expense per adjusted discharge
- Profitability (operating profit margin)
- HCAHPS score (patient rating of overall hospital performance)

# U.S. News Best Hospitals

- **Survival score (32.5 percent).** A hospital's success at keeping patients alive was judged by comparing the number of Medicare inpatients with certain conditions who died within 30 days of admission in 2007, 2008, and 2009 with the number expected to die given the severity of illness. Hospitals were scored from 1 to 10, with 10 indicating the highest survival rate relative to other hospitals and 1 the lowest rate. Medicare Severity Grouper, a software program from 3M Health Information Systems used by many RESEARCHERS in the field, made adjustments to take each patient's condition into account.
- **Patient safety score (5 percent).** Harmful blunders occur at every hospital; this score reflects how hard a hospital works to prevent six of the most egregious types. A 3 puts a hospital among the 25 percent of those that were best in this regard, a 2 in the middle 50 percent, and a 1 in the lowest 25 percent. Examples of the six kinds of MEDICAL episodes factored in are deaths of patients whose conditions should not have put them at significant risk and surgical incisions that reopen.
- **Reputation (32.5 percent).** Each year, 200 physicians per specialty are randomly selected and asked to list hospitals they consider to be the best in their specialty for complex or difficult cases. A hospital's reputational score is based on the total percentage of specialists in 2009, 2010, and 2011 who named the hospital. This year some physicians were asked to list up to five hospitals, the rest to list up to 10.
- **Other care-related indicators (30 percent).** These include NURSE STAFFING, technology, and other measures related to quality of care. The American Hospital Association's 2009 survey of all hospitals in the nation was the main source.

# Questions



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