Historical Perspective of Quality Improvement in Healthcare

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Hard Facts on Quality in Healthcare

- Hand hygiene in hospitals fails 60% of the time
- Communication across various transitions of care fails 40% of the time or more
- Operating-room fires may occur about 600 times every year
- There may be as many as 50 wrong-site surgeries per week in the United States
Efforts to improve the quality of health care have used a wide variety of approaches. In the past half century all of the following have been in vogue at one time or another:

- Redesigning professional education
- Improving peer review of physician practice
- Reengineering systems of care
- Increasing competition among provider organizations
- Publicly reporting data on quality
- Rewarding good performance
- Punishing bad performance
- Applying continuous quality improvement or total quality management tools
- Measuring and improving the culture of health care organizations to facilitate the adoption of safer systems of care
Early attempts at quality improvements:

- Ignaz Semmelweis - 19th century - introduced hand washing to medical care.
- Florence Nightingale - a pioneer of safety in army hospitals.

Later came pioneers such as:

- Ernest Amory Codman, a crusader for hospital standards.
- Abraham Flexner, efforts to improve clinical quality beginning of the 20th century.
- American College of Surgeons formation of the Hospital Standardization Program – predecessor of the Joint Commission.
Improvement Efforts in the Early Days of Medicare

- The creation of Medicare in 1965 improved access to care but it did little to improve the quality of care.

- In the following year Avedis Donabedian (Evaluating the Quality of Medical Care, 1966) created the first conceptual framework for measuring health care quality:
  - He proposed that quality could be measured by assessing structures, processes, and outcomes of care.
Improvement Efforts in the Early Days of Medicare

- About the same time, researchers began to use new scientific approaches to gather evidence on the contributions of specific clinical practices to improved outcomes.

- The modern randomized controlled trial had been born in 1948, reported by the UK Medical Research Council on the treatment of pulmonary tuberculosis.
  - By the 1960s a few hundred articles based on such trials were being published each year.
  - By the mid 1990s there were 10,000 per year.
  - Today the Cochrane Central Register of Controlled Trials contains more than 640,000 reports.
Improvement Efforts in the Early Days of Medicare

- Although the growing collection of evidence shed light on the clinical efficacy of a variety of tests and treatments, it also magnified the problem of how to rapidly incorporate knowledge of best practices into daily care for patients.

- Andrew Balas and Suzanne Boren have found that it takes an average of 17 years for research to reach clinical practice. (Managing Clinical Knowledge for Health Care Improvement- 2000)
Utilization Review Committees

- The law that created Medicare also required hospitals to establish utilization review committees, to identify if hospital medical staffs were providing appropriate clinical services and to prevent fraud.

- Identifying ways to improve care, although desirable, was rarely part of utilization review.

- These review committees were powerless in terms of improving care because there were no formal evaluation criteria to guide providers’ decision making and no mechanisms to adjust payment based on the quality of care.
Due in part to the ineffectiveness of these utilization review committees, in 1971 Congress created the next generation of quality oversight entities.

Called experimental medical care review organizations, these were associations of physicians that were administered and funded by the National Center for Health Services Research.

These organizations reviewed inpatient and ambulatory services for quality and appropriateness of care. They developed pilot projects that linked quality review with identified improvement strategies. The organizations were themselves pilots.

They became the model for Medicare’s professional standards review organizations (PSRO), which were established by the Social Security Amendments of 1972.
Professional Standards Review Organizations

- Were not-for-profit physician membership organizations funded by federal grants, and their functions were to assess the medical necessity, appropriateness, and quality of inpatient care and services.

- They were intended to ensure that physicians and hospitals met their obligations under Medicare to provide high-quality care. Were designed to help oversee the quality of inpatient medical practice.

- The American Medical Association opposed them and saw them as a type of governmental intrusion into medical practice.

- By the early 1980s the consensus was that these organizations had not succeeded in keeping Medicare costs down or in improving quality.
In 1983 the professional standards review organizations were replaced by the Medicare Utilization and Quality Control Peer Review Organization program, which later became the Quality Improvement Organization program.

The principal focus of the new organizations was to control costs by monitoring the use of services.

They were designed to work with another innovation: a prospective payment system based on DRG’s for inpatient care under Medicare.
Peer Review Organizations

- The peer review organizations’ original charge was to make sure that services provided for Medicare beneficiaries were appropriate, medically necessary, and of high quality.

- Instead of being funded by federal grants the new organizations submitted competitive bids for contracts. The initial contracts focused on reducing the inappropriate use of services. Later contracts stressed ensuring or improving quality more broadly.

- In spite of that shift of emphasis the paucity of data on evidence-based interventions limited the organizations’ effectiveness.
Peer Review Organizations

Research was demonstrating the use of evidence-based recommendations that physicians could use to deliver more effective clinical care. These recommendations came to be known as clinical practice guidelines. The premise was that clinical care would improve if physicians used these guidelines.
The Development of Practice Guidelines

- The existence of large geographic variations in practice patterns within Medicare along with the widespread of inappropriate use of common medical and surgical procedures helped spark congressional interest in a new program of research on the outcomes and effectiveness of medical treatment.

- In 1989 the Agency of Health Care Policy and Research – later renamed the Agency for Healthcare Research and Quality (AHRQ) – was created replacing the National Center for Health Services Research.
The Development of Practice Guidelines

- The Agency was to pay particular attention to addressing large variations in practices and extensive inappropriate use of services and funded a series of Patient Outcomes Research Teams designed to review and synthesize clinical evidence, analyze practice variations, and assess patient outcomes.

- The Agency also convened panels of experts to develop clinical practice guidelines for a variety of clinical conditions to prompt physicians to rely on scientific evidence in providing clinical care.
The Development of Practice Guidelines

- At the same time a number of professional organizations, including the American College of Physicians, the American College of Cardiology, and the American Heart Association started to develop and promulgate guidelines.

- By the late 1980s researchers were increasingly documenting serious and persistent problems in health care quality.

- Hospitals began applying improvement methods that had worked in industry, such as continuous quality improvement.
The Development of Practice Guidelines

- The Joint Commission modified its traditional accreditation process – which was based on standards like those pertaining to the relationship between organized medical staff and hospitals – to focus more on Donabedian’s framework of structure, process, and outcome.

- For the first time, the Joint Commission announced that it would require accredited organizations to use evidence-based measures of performance as part of their quality improvement programs, many of which were contained in clinical guidelines. (1987)
Although there was growing interest on the part of providers, policy makers, and patients in the direct measurement of clinical outcomes, the technical challenges involved were substantial.

Risk adjustment was especially complicated. Different patients admitted to a particular hospital have various risk factors that influence particular outcomes.

To enable meaningful comparisons of outcomes across hospitals, difference in these risk factors among patients must be measured, and the data combined into one composite measure or score.
The Turn Away From Guidelines

- In the mid 1990s, during President Clinton’s efforts to reform the healthcare delivery system, shifting political winds in Congress set the stage for the near-demise of the Agency for Health Care Policy and Research, which was the principal funder of the work on clinical quality.

- The Agency survived, but with a sharp reduction in its budget for fiscal year 1996. Four years later it was given a new name, the Agency for Healthcare Research and Quality, with a modified mandate.

- The new mandate included a focus on research related to clinical outcomes and effectiveness as well as Medicare spending, but it no longer included the development of clinical practice guidelines.
By the turn of the 21st century, many randomized controlled trials and meta-analyses were providing strong evidence that certain clinical interventions were effective, but it was becoming increasingly clear that patients were often not receiving evidence-based care.

Two landmark reports from the Institute of Medicine (To Err is Human: Building a Safer Health System -2000 / Crossing the Quality Chasm: A new Health System for the 21st Century -2001) galvanized new efforts to improve quality by further elucidating the magnitude of the problem and reframing it as a matter of patient safety.
The Turn Away From Guidelines

- The new research results, clinical practice guidelines, and improvement strategies were overwhelming to practitioners and healthcare organizations.

- They realized that clinical care was inconsistent and performance was often poor, but they struggled to find effective solutions to these problems.

- In response to a recommendation of President Clinton’s Advisory Commission on Consumer Protection and Quality in the Health Care Industry, the National Quality Forum – a private, not-for-profit organization – was created in 1999.
The Turn Away From Guidelines

- Its mission is to improve health care delivery by promoting the use of standardized quality measurements and public reporting of the resulting data.

- The National Quality Forum has played an increasingly prominent role in identifying and evaluating measures being used by organizations in the public and private sectors to assess health care quality and patient safety.
Where We Are Today

- Health care quality and safety today are best characterized as showing pockets of excellence on specific measures or in particular services at individual health care facilities.

- Excellence across the board is emerging on some important quality measures. Hospitals have reduced the percentage of patients who acquire some preventable infections in intensive care units.

- More organizations than ever before are actively engaged in a wide variety of improvement efforts. These include the Medicare QIO’s, CMS /HENs, AHRQ PSO’s, the Leap Frog Group, AHA’s HPOE, and a number of state-based initiatives.
Where We Are Today

- Private organizations such as the Institute for Healthcare Improvement, the Robert Wood Johnson Foundation, and the Commonwealth Fund have played vital roles in facilitating improvement activities on the part of health care providers and communities.

- Regional collaborative of multiple stakeholders have invigorated local improvement efforts, as have numerous initiatives directed by large integrated delivery systems and medical centers.

- Federal initiatives emanating from the health reform law (ACA), such as programs to create ACO’s, Patient Centered Medical Homes, the HEN project and other federal initiatives of the CMS Center for Innovation, may further accelerate progress.
Where We Are Today

- What has eluded our health care delivery system so far is maintaining consistently high levels of safety and quality over time and across all health care services and settings.

- The pockets of excellence coexist with enormously variable performance across the delivery system.

- Along with some progress, we are experiencing an epidemic of serious and preventable adverse events. These include patients undergoing surgical procedures intended for others, fires in operating rooms, and patients committing suicide while in the care of hospitals.
Where We Are Today

- The available evidence suggests that the risk of harmful error in health care may be increasing.
- As new devices, equipment, procedures, and drugs are added to our therapeutic arsenal, the complexity of delivering effective care increases.
- Complexity greatly increases the likelihood of error, especially in systems that perform at low levels of reliability.
- The most complex health care is delivered in hospitals, which are populated by patients whose severity and acuity of illness have been increasing inexorably.
Where We Are Today

- We face the intersection of two interrelated trends: Hospitals house patients who are increasingly vulnerable to harm due to error, and the complexity of the care hospitals now provide increases the likelihood of those errors.

- The need for major improvements in safety and quality has never been greater.

- Current approaches are not producing the pace, breadth, or magnitude of improvement that all stakeholders desire.
Where We Are Today

- It is becoming essential that we look outside healthcare for solutions. Specifically, we should first get a clear picture of how complex organizations establish and maintain extremely high levels of safety. Then we must apply the lessons we learn from them to health care.
High Reliability in Health Care

- The study of “high reliability”- consistent performance at high levels of safety over long periods of time – began with investigations of organizations that manage extreme hazards with exemplary safety records, far better than those in healthcare today.

- Today we have studies of many different “high reliability organizations,” including the nuclear power industry, the commercial air travel system, and the flight decks of aircraft carriers. These studies have revealed common key features that facilitate the maintenance of consistent excellence.
High Reliability in Health Care

- Although high reliability science has greatly increased our understanding of how these organizations function, it does not provide much practical insight into how organizations can move from low to high reliability.

- Some studies are beginning to shed light on health care organizations’ experiences in adapting high reliability principles to their operations. (Dixon NM, Shofer M., Health Serv Res, 2006: Fei K, Vlasses FR., J Healthe Qual. 2008)

- How effective these principles can be in improving safety and quality in health care remains to be determined.
High Reliability key features are the following:

- Collective mindfulness – continuously uncovering safety concerns to identify safety or quality problems at a stage when they are easily fixed.

- Elimination of deficiencies through the use of powerful tools of robust process improvement.

- The organization rely on a particular organizational culture. (Safety Culture)
Three Requirements for Achieving High Reliability

It has been proposed that for healthcare organizations to become highly reliable, three interdependent and equally critical changes must take place:

- Leadership must make a commitment to the goal of high reliability
- The organizational culture that supports high reliability must be fully implemented
- The tools of robust process improvement must be adopted
Triple AIM

- Better Health for the Population
- Better Care for Individuals
- Lower Cost Through Improvement
Recent Developments

CMS Quality Strategy 2016

CMS Vision: Quality Improvement and Transformation of Healthcare

Four Foundational Principles:

- Eliminate Racial and Ethnic Disparities
- Strengthen Infrastructure and Data Systems
- Enable Local Innovation
- Foster Learning Organizations
CMS Quality Strategy Goals

- Make care safer by reducing harm caused in the delivery of care.
- Strengthen person and family engagement as partners in their care.
- Promote effective communication and coordination of care.
- Promote effective prevention and treatment of chronic disease.
- Work with communities to promote best practices of healthy living.
- Make care affordable.
  - Payment system that rewards value over volume.
  - Cost analysis data to inform payment policies.
The Partnership for Patients Campaign

Guide to Safety Across the Board

“Some guide will help healthcare organizations develop systematic approaches to mainstreaming safety into their organization’s culture. This guide developed by the P4P Campaign and the NRC leads for creating this Guide to Safety Across the Board that can serve as a blueprint for promoting a culture that reduces harm occurring in hospitals.”

—Lalisen Spencer, MHA, MSHA, Patient Advocate
Guide to Safety Across the Board

Purpose of the Guide

- Developed by the HENs with support from PFP.
- Summary of collective experience of 26 HENs (3700 hospitals).
- Describes a framework of concepts/ways to guide hospital executives.
- Guide to provide safe care and achieve Safety Across the Board.
Safety Across the Board: The New Normal

- Safety Across the Board occurs when hospitals take a systemic approach to measuring, monitoring and continually improving care.

- Shift to systems thinking to reduce all harms.

- Leadership commitment and board of directors engagement.

- Organizational infrastructure and comprehensive reporting and measurement system.

- Analysis and response to the data collected.

- Continuous improvement- investigation and assessment.
The Joint Commission Center for Transforming Healthcare – Established in 2008

- Work together with hospitals and systems that have mastered robust process improvement methods to apply these tools to vital safety and quality problems.

- Hand hygiene was the first problem addressed by a group of eight hospitals that worked with the center.

- The Joint Commission has produced tools to spread the knowledge gained from this project to all health care organizations it has accredited.
Integrated patient safety system.

How hospitals can develop into learning organizations.

How hospitals can continually evaluate the status and progress of their patient safety systems.

How hospitals can work to prevent or respond to patient safety events.

A framework to guide hospital leaders as they work to improve patient safety in their hospitals.

Contains a list of standards, requirements and references related to patient safety systems.
CMS Hospital Engagement Network Initiative

- Partnership for Patients National Campaign 40/20 goal.
- Hospital HAC Teams.
- Clinicians & Front Line Staff.
- Work with hospitals to implement best practices to reduce harm and readmissions.
- Provide best-practice resources, education support and build improvement capacity.
CMS HEN Initiative Tools

- Change Packages
- Top Ten Improvement Strategies Checklist
- Guidelines
- Comprehensive Data System
- Encyclopedia of Measures
- National and Local Webinars
- Collaborative Meetings
- Regional Meetings
- Quality Coordinators’ Hospital site Visits
- Quality Coordinators’ Hospital Unit Rounds
- Executive Hospital Site Visits
- Others
CMS Quality Conference – December 2015

- 17% improvement in HACs
  - From 145 harms/1000 discharges in 2010
  - To 121 harms/1000 discharges in 2014

- Reduction of 2.1 million harms

- Estimated savings of $20 Billions

- 87,000 lives saved
HEN 2.0 Improvement Drivers

- Senior leadership and governance
- Physician leadership
- Unit-based
- Patient and family engagement
The HEN 2.0 Project will end on September 2016.

CMS has the intention to solicit and award multiple HIIN contracts.

HIINs will engage hospital, provider and broad caregiver communities to quickly implement well tested and measured best practices.

Priority will be to focus on inpatient harm and 30 day readmissions including core set of topics similar in scope and size to HEN 2.0.

Encouraged to propose additional innovative topics.
Hospital Improvement and Innovation Network

- Conduct training activities to address harm reduction and provide technical assistance which could include reducing disparities and ensuring patients and families are involved in care.

- Measure and track hospital performance.

- Collaborate and coordinate with other QI stakeholders.

- Have hospital leadership commit to aims of Partnership for Patients.

- Will use 2014 harm rate of 121 harms/1,000 discharges as baseline for progress which will run through 2019.
Quality Issues

- Quality problems exist in three forms:
  - Overuse
  - Underuse
  - Misuse

- Three key findings:
  - There are many causes or contributing factors that explain the failures.
  - Each cause requires a different intervention to deal with it effectively.
  - A different group of important causes is found when a different hospital is examined.

- Culture Matters!
Thank You
For Your Attention