Healthcare Quality:
An Introduction to Basic Principles and Tools for Quality Improvement

MPA Annual Convention + Exposition 2016

Presented by:
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Objectives

At the conclusion of this module, participants will be able to:

- Define and review the evolution of healthcare quality.
- Identify basic principles of quality improvement.
- Utilize tools to optimize the success of a quality improvement project.
- List characteristics of effective teams and stages of team development.
Defining Healthcare Quality
What is Quality?

Quality is the responsibility of everyone.

Quality depends on the perception of the customer.

Quality refers to a high level of value or excellence.


What is Health Care Quality?

“The degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge.”

— Institute of Medicine (IOM)

“Doing the right thing, at the right time, in the right way, for the right person – and having the best possible results.”

— Agency for Healthcare Research + Quality (AHRQ)

Evolution of Healthcare Quality
Florence Nightingale (1820–1910)

- Founder of modern nursing
- Kept detailed statistical reports related to patient deaths at a hospital in Turkey during the Crimean War
- Reduced the death rate from 42.7% to 2.2% over the course of four months through implementation of an aggressive sanitation program

Hall J. Introduction to Healthcare Quality. Presented at: National Association for Healthcare Quality Introduction to Healthcare Quality Course; May 8, 2015; Chicago, IL.

Historical Foundations

Ernest Codman, MD *(1869-1940)*

- Founder of outcomes management
- Proponent of hospital standardization
- Developed the first patient registry (bone sarcoma)
- Focused on “the common sense notion that every hospital should follow every patient it treats, long enough to determine whether or not the treatment has been successful, and then to inquire ‘If not, why not?’ with a view to preventing similar failures in the future”

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Walter Shewhart (1891–1967)
- Father of statistical quality control
- Introduced the Shewhart cycle (Plan-Do-Check-Act [PDCA]) for continuous quality improvement in the 1920s

W. Edward Deming (1900–1993)
- Known as the “philosopher of quality” and the learning organization
- Created a management philosophy based on 14 points for businesses that seek to be competitive
Historical Foundations

Avedis Donabedian, MD (1919–2000)
- Founder of the quality assurance field
- Researcher and physician at the University of Michigan
- Developed a theoretical framework for patient care evaluation, focusing on structure, process and outcomes
- First to describe an assessment of quality through a **systems framework**—provided the basis for the development of future models

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Historical Foundations

Medicare, Medicaid and Accrediting Bodies

- Congress established Medicare and Medicaid in 1965
  - Conditions of participation (e.g., staff credentials, 24-hour nursing services, utilization review)
- Joint Commission on Accreditation of Hospitals established in 1951
  - Defined minimum quality standards

Historical Foundations

First Era
[1850s–early 1900s]

Second Era
[early 1900s–1980s]

Third Era
[1980s–Present]

Process Errors

Individual Errors
Historical Foundations

First Era
[1850s–early 1900s]

Second Era
[early 1900s–1980s]

Third Era
[1980s–Present]

Reactive Quality Assurance

Proactive Quality Improvement

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The Institute of Medicine (IOM) published *To Err is Human* in November 1999

- At this time, 44,000 to 98,000 deaths each year were due to medical errors
- A 1997 study estimated $2 billion was spent on preventable adverse drug events
  - The number of deaths exceeded those attributable to car accidents, breast cancer or AIDS
IOM published *Crossing the Quality Chasm* in March 2001

- “Indeed, between the health care that we have now and the health care that we could have lies not just a gap, but a chasm”
- Provided a strategy for reinventing the health system to foster innovation and improve the delivery of care
- Outlined six aims for improvement and ten rules to inform efforts
Historical Foundations

First Era
[1850s–1950s]

Second Era
[early 1900s–1980s]

Third Era
[1980s–Present]

Safety

Timeliness

Effectiveness

Efficiency

Equality

Patient-Centeredness
Historical Foundations

General principles to inform efforts:

1. Care is based on continuous healing relationships.
2. Care is customized to the patient’s needs and values.
3. The patient is the source of control.
4. Knowledge is shared and information flows freely.
5. Decision making is evidence-based.
6. Safety is a system property.
7. Transparency is necessary.
8. Needs are anticipated.
9. Waste is continuously decreased.
10. Cooperation among clinicians is a priority.

Historical Foundations

- Affordable Care Act (ACA)
  - Value-based purchasing: Pay-for-performance approach to reimbursement based on quality of care, not just quantity
- American Recovery and Reinvestment Act / Health Information Technology for Economic and Clinical Health (HITECH) Act
- Continuous Quality Improvement (CQI)
Basic Principles of Quality Improvement
What is Quality Improvement?

“Quality improvement (QI) consists of systematic and continuous actions that lead to measurable improvement.”

What is Quality Improvement?

“Quality improvement (QI) consists of systematic and continuous actions that lead to measurable improvement.”

Current System

Performance

The Importance of QI

A QI program can facilitate change that may be necessary to improve healthcare outcomes by:

- Identifying ways to improve efficiency
- Improving profitability by avoiding costs associated with process failures and proactively recognizing and addressing problems
- Enhancing communication in an organization


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The Concept of Change

“All improvements require change, but not all change will result in improvement.”

— Institute of Medicine (IOM)
Four Key Principles

Successful QI programs incorporate four key principles:

- Work as systems and processes
- Focus on patients
- Focus on being part of a team
- Focus on use of data
Work as Systems and Processes

Process mapping can:

- Help illustrate the organization’s delivery system and key processes.
- Identify the critical pathway, or essential steps, required to provide optimal healthcare.
- Compare current map with ideal state map to identify opportunities for improvement.

Focus on Patients

- Patients are the customers of healthcare.
- Healthcare quality depends on:
  - The patient’s perception
  - Whether the care provided meets the patient’s expectations.
- Recognizing and addressing patients’ unique culture, language and health literacy levels is necessary for effective health communication.

U.S. Department of Health and Human Services Health Resources and Services Administration. Culture, Language and Health Literacy.
Focus on Being Part of the Team

- Quality improvement is a team process.
- Using a team approach allows for diverse perspectives, skills, experiences and understanding of the process in question.
- More to come on effective teams and stages of team development.

Focus on Use of the Data

Quality improvement depends on data because it can:

- Differentiate what is *thought* to be happening from what is *actually* happening
- Establish a baseline
- Determine whether implemented changes led to improved results
- Monitor performance measures to ensure persistence

Continuous Quality Improvement

- Continuous quality improvement (CQI) is a philosophy that promotes a culture of improvement in an organization.
- Encourages all employees to continuously assess how the organization is doing.
  - “How are we doing?”
  - “Can we do it more efficiently?”
  - “Can we be more effective?”
Continuous Quality Improvement

Exhibit 1 from the National Learning Consortium


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Continuous Quality Improvement

Exhibit 2 from the National Learning Consortium

Continuous Quality Improvement (CQI) Initiative

Structure
- People
- Technology

Process

Output

Outcome

Established CQI Programs

The Institute of Healthcare Improvement (IHI) Model for Improvement

- Focus on goal setting and teambuilding to achieve change
- Guided by three questions and the Plan-Do-Study-Act (PDSA) cycle

Established CQI Programs

Lean

- Reduces non-value added activities, inconsistency and waste
- Eight Wastes in Health Care
Established CQI Programs

Lean
- Reduces non-value added activities, inconsistency and waste
- Eight Wastes in Health Care

Defects
Over-Production
Waiting
Non-Utilized Talent
Transportation
Inventory
Motion
Extra Processing


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Established CQI Programs

Six Sigma

- Focus on minimizing variability and eliminating the causes of defects/errors

Used to perfect business processes already in place

Used to create and perfect brand new products or services


Established CQI Programs

Six Sigma

- Focus on minimizing variability and eliminating the causes of defects/errors


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Quality Improvement Tools
What is a SWOT analysis?

- Structured planning method for identifying and evaluating the following as they related to a project or business:
  - **Strengths**
  - **Weakness**
  - **Opportunities**
  - **Threats**

When used correctly, it can help:

- Uncover opportunities
- Manage and eliminate threats
- Understand competition
- Develop a strategy
SWOT Analysis

**Strengths**
- What do you do better than anyone else?
- What unique resources do you have that others don’t have?
- What do customers and/or competitors see as your strengths/advantages?

**Weaknesses**
- What areas for improvement exist?
- Where do you lack resources?
- What do customers and competitors see as your weaknesses?

**Opportunities**
- What opportunities are you open to?
- What trends can you take advantage of?
- How can you turn your strengths into opportunities?

**Threats**
- What threats could harm you?
- What is your competition doing?
- What threats do your weaknesses open you up to?


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Brainstorming

- **Definition:**
  - Problem-solving technique involving spontaneous contribution of ideas from members of a group
  - Free-flowing generation of ideas

- **Brainstorming can generate excitement – capitalize on this!**

- **During the brainstorming phase**
  - All ideas are recorded
  - There is no judgment or discussion of individual ideas
  - There is **not** a focus on feasibility


Multivoting

- Quick and easy decision-making technique
- Helps determine which ideas are most popular or important to team members
- Used to reduce the number of items the group will focus on (usually by half)

Multivoting

<table>
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<tr>
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<th>Assigned Number</th>
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</table>

Phase 1

- List all ideas generated during the brainstorming phase in a single location
- Combine any items that may be similar
- Assign a number to each idea

Multivoting

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Phase 2
- Determine how many ideas to focus on
- As a general rule, keep at least one-third of the original list
- Instruct team members to list the items they feel are most important

Example:
- Goal: Narrow down the list to four ideas
- Action: Have all five team members list their top four ideas
- Tally the votes

Multivoting

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<th>Votes</th>
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Nominal Group Technique

- Structured group decision-making process
- Most useful when team members do not know each other well or when there are divergent opinions and/or goals
- Phase 1
  - Clearly define the question to be answered (clarify any questions about the task at hand)
  - Have all team members write down their ideas (brainstorm) in silence
  - List all ideas in a single location
    - Make sure that all ideas are shared and accounted for
    - Use a structured approach for collection of ideas

Nominal Group Technique

- **Phase 2**
  - Clarify and discuss each idea, one at a time
  - Determine how many ideas each team member should prioritize
    - As a general rule, have team members prioritize four to eight ideas
  - Give each team member a piece of paper for each idea to be prioritized
    - For example, if four ideas will be prioritized, give each team member four pieces of paper
    - Have each team member select four ideas and write them, with a rank, on a piece of the paper
    - Team member should rank ideas from 4 (most important) to 1 (least important of ranked ideas)
  - Collect cards and tally the total for each idea
  - The idea with the largest sum becomes the group’s priority
Delphi Method

- Useful for situations when team members are not in a single location and collaboration will occur electronically
- Combines the techniques previously discussed
- After each step in the process, one person compiles the information and sends a communication out to team members regarding next steps

Brainstorming  Multivoting  Nominal Group Technique

Prioritization Matrix

- Used to help select a project when there are competing priorities
- Allows for prioritization based on agreed-upon criteria
- Helps to answer the question, "what should we do first?"
Prioritization Matrix

Step One:
List all possible projects in the left-hand column of the chart.

<table>
<thead>
<tr>
<th>Projects</th>
<th>Factor 1</th>
<th>Factor 2</th>
<th>Factor 3</th>
<th>Factor 4</th>
<th>Factor 5</th>
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</table>
## Prioritization Matrix

### Step Two:
Determine what factors will be included in the criteria for prioritization.

<table>
<thead>
<tr>
<th>Factors</th>
<th>Projects</th>
<th>Risk (weight x 2)</th>
<th>Volume</th>
<th>Cost</th>
<th>Customer Satisfaction</th>
<th>Legal Requirements (weight x 2)</th>
<th>TOTAL</th>
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<tr>
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<td>Project A</td>
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## Prioritization Matrix

### Step Three:
Rank each project for each factor, on a pre-defined scale [1–5].

<table>
<thead>
<tr>
<th>Projects</th>
<th>Risk (weight x 2)</th>
<th>Volume</th>
<th>Cost</th>
<th>Customer Satisfaction</th>
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## Prioritization Matrix

### Step Four:
Sum the total for each project.

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## Prioritization Matrix

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Sum the total for each project.

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Characteristics of Effective Teams
What is a Team?

A group of people who work together.

What is a Team?

The infrastructure within which the cycle of improvement occurs
What is a Team?

Teams allow for SYNERGY

Effective Teams

The Four Cs

Cohesion  Communication
Clear Roles  Clear Goals

Cohesion

A condition in which people or things are closely united.

- Tips for enhancing cohesion:
  - Establish ground rules
  - Encourage balanced participation through brainstorming
- When there is cohesion, participants feel good about being a member of the team

Communication

- Communication naturally improves once there is cohesion

- Tips for improving communication:
  - Identify the stage of team development (more to come!)
  - Encourage team members to actively listen, avoid interrupting others, and suggest and elaborate on ideas
  - Establish decision-making procedures
  - Use data-driven decision making
  - Use a facilitator

Clear Roles

Sponsor  Champion  Leader  Timekeeper
Process Owner  Facilitator  Member  Scribe
Clear Goals

- Establishing clear goals allows all members to more clearly understand the tasks that need to be accomplished in order to reach the goal.

- Tips for establishing clear goals:
  - Establish a project charter that includes an aim statement and SMART goals.
  - Understand your current state (e.g., process mapping and baseline evaluation).

SMART Goals

- Specific
- Measurable
- Attainable
- Relevant
- Time-bound


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Group Exercise

Learn how to play the piano.

How can we turn this into a SMART goal?

SMART goal
Group Exercise

Improve communication with prescriber offices.

How can we turn this into a SMART goal?

SMART goal
Effective Teams

Additional characteristics of effective teams include:

- Selective use of the team
- Mutual influence between team members and the leader
- Re-organization of the project plan, when necessary (e.g., flexibility)
- Use of tools for planning and improvement
- Clarification of issues as they come up
- Application of available resources and relevant training
- Consensus-based decision making

Effective Teams

Team size

- Depends on the task to be completed
- Most effective team size is 8-12 people
- In general, team size should not exceed 15 people

Team member utilization

- Core team members participate 100% of the time
- Resource team members are utilized when necessary (subject matter expert [SME])


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Stages of Team Development
Stages of Team Development

- Forming
- Storming
- Norming
- Performing
- Adjourning

Stages of Team Development

- Members get to know each other
- Define goal or vision and delegate tasks
- Very little accomplished at this stage
- Period of testing
- Members defer to the leader or dominant member for guidance

Role of the team leader:
Be directive, provide role clarification


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Stages of Team Development

- Conflict arises
- Individual team members attempt to assert themselves and may compete for control
- Emotional responses to group ideas are common
- Team feels pressured to perform
- Team members become willing to make task suggestions

Role of the team leader:

Manage conflict through coaching
*(use conflict to energize the team)*


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Stages of Team Development

- Team identity emerges ("I" → "we")
- Roles are clearly defined
- Constructive criticism is common and welcome
- Team members volunteer for tasks
- True interdisciplinary approach

Role of the team leader:
Support and guard against conformity
(push for continued progress)


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Stages of Team Development

- Productivity and task-oriented behavior
- Team is functioning at the desired level

Role of the team leader:
Develop mechanisms for sharing leadership responsibilities

Stages of Team Development

- AKA “Deforming and Mourning”
- Members move on to new teams and tasks
- Positive departure

Role of the team leader:

Recognize accomplishments, manage member insecurities


Stages of Team Development

Forming → Storming → Norming → Performing → Adjourning

Team Effectiveness

Team Performance


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Summary + Conclusions
Key Points

- Healthcare quality has a long history and continues to be important in modern day.
- QI consists of continuous assessment and implementation of changes to achieve a higher level of performance.
- QI tools can provide a framework for approaching a quality initiative.
- Effective teams are essential to the success of any QI initiative.
Questions?
Thank you.