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Quality Improvement Models, 2015: WPAFB

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What is Quality Improvement?

Quality Improvement is a formal approach to the analysis of performance and systematic efforts to improve it. There are numerous models used. We will look at some commonly used models in HealthCare.

QI involves both prospective and retrospective reviews. It is aimed at improvement -- measuring where you are, and figuring out ways to make things better. It specifically attempts to avoid attributing blame, and to create systems to prevent errors from happening. (QA, CQI, TQI)

http://patientsafetyed.duhs.duke.edu/module_a/introduction/contrasting_qi_qa.html
I can list 3 Quality Projects currently going on in my residency Program.

A. True

B. False
I am able to articulate how the work that I do impacts Premier’s Quality Scorecard.

A. True
B. False
Quality & Safety- How did we get Here?

IOM in 1999, “To Err is Human: Building a Safer Health System.”

- Tens of thousands of Americans die each year as a result of preventable errors.

- Comprehensive strategy for how healthcare providers, government, industry, and consumers can reduce medical error.

Copies of *To Err is Human: Building a Safer Health System* are available for sale from the National Academy Press; call (800) 624-6242 or (202) 334-3313 (in the Washington metropolitan area), or visit the NAP home page at [www.nap.edu](http://www.nap.edu). The full text of this report is available at [http://www.nap.edu/books/0309068371/html/](http://www.nap.edu/books/0309068371/html/)
“Crossing the Quality Chasm: A New Health System for the 21st Century”

- The next report by the IOM, which asserts that the gap between the care we now provide and the care we should give is not just a gap but a “chasm.”

Factors contributing to the Chasm:
- Technology advancing at unprecedented rate
- Complexity of health care

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Factors influencing Chasm (cont.)

- Rapid changes impede translation of knowledge into practice
- Americans living longer
- Aging population = increased prevalence of chronic conditions
- Focus on acute care verses prevention/primary care
- Care is Fragmented and uncoordinated
Quality Chasm cont...
Six Aims for Improvement

• Safe
• Effective
• Patient-centered
• Timely
• Efficient
• Equitable

IHI’s Triple AIM
Quality Chasm Cont...

Ten Rules for Redesign

• Care based on healing relationships

• Care is customized according to pt. needs and values

• Pt. is source of control

• Pt. has unrestricted access to their info.

• Safety is a system priority
Rules (cont.)

• Decision making is evidence-based

• Transparency is necessary

• Needs are anticipated

• Waste is decreased

• Cooperation among clinicians is a priority
Reports have led us to a Pay 4 Performance environment with a focus on Six Sigma Quality Models for Process Improvement.

**Fishbone Diagram**

A fishbone diagram helps leaders identify multiple causes of a single problem. The diagram takes its name from its shape, which resembles the skeleton of a fish, as shown in the diagram below:

- **People**
  - Poor role definition among health care workers
  - Insufficient staffing in facilities
  - Current facilities are inadequate to meet demand
  - Insufficient medicines

- **Process / Policy**
  - Lack of coordination between different levels of health facilities
  - Inadequate education, knowledge, and skills among facility-based health workers
  - Poor or no referral system
  - Overcrowding in emergency departments

- **Equipment / Supplies**
  - Limited opportunities for education

- **Environment**
  - Too few facilities available

**Poor quality of care**
DMAIC is a data-driven quality strategy used to improve processes. It is an integral part of a Six Sigma initiative, but in general can be implemented as a standalone quality improvement procedure or as part of other process improvement initiatives such as lean.

DMAIC is an acronym for the five phases that make up the process:

- **Define** the problem, improvement activity, opportunity for improvement, the project goals, and customer (internal and external) requirements.
- **Measure** process performance.
- **Analyze** the process to determine root causes of variation, poor performance (defects).
- **Improve** process performance by addressing and eliminating the root causes.
- **Control** the improved process and future process performance.

The DMAIC process easily lends itself to the project approach to quality improvement encouraged and promoted by Juran.

I DON'T ALWAYS ASK "WHY?"

BUT WHEN I DO, I ASK IT 5 TIMES
HOW ABOUT A NICE CUP OF SHUT UP ABOUT SOLUTIONS UNTIL YOU HAVE IDENTIFIED THE ROOT CAUSE?
How to Improve

IHI uses the Model for Improvement as the framework to guide improvement work. The Model for Improvement,* developed by Associates in Process Improvement, is a simple, yet powerful tool for accelerating improvement. This model is not meant to replace change models that organizations may already be using, but rather to accelerate improvement.

Learn about the fundamentals of the Model for Improvement and testing changes on a small scale using Plan-Do-Study-Act (PDSA) cycles.

- Introduction
- Forming the Team
- Setting Aims
- Establishing Measures
- Selecting Changes
- Testing Changes
- Implementing Changes
- Spreading Changes

PDSA Worksheet

PDSA Worksheet for Testing Change

Aim: (overall goal you wish to achieve)

Every goal will require multiple smaller tests of change

Describe your first (or next) test of change:

<table>
<thead>
<tr>
<th>Person responsible</th>
<th>When to be done</th>
<th>Where to be done</th>
</tr>
</thead>
</table>

Plan

List the tasks needed to set up this test of change

<table>
<thead>
<tr>
<th>Person responsible</th>
<th>When to be done</th>
<th>Where to be done</th>
</tr>
</thead>
</table>

Predict what will happen when the test is carried out

<table>
<thead>
<tr>
<th>Measures to determine if prediction succeeds</th>
</tr>
</thead>
</table>

Do

Describe what actually happened when you ran the test

Study

Describe the measured results and how they compared to the predictions

Act

Describe what modifications to the plan will be made for the next cycle from what you learned
FMEA Tool

Use the interactive Failure Modes and Effects Analysis Tool on IHI.org (http://www.IHI.org/ihi/workspace/tools/fmea/) to create your FMEA, automatically calculate the risk priority number (RPN) of your process, evaluate the impact of process changes you are considering, and track your improvement over time.
Control Charts - Walter Shewhart

“Variation is the Enemy of Quality Control”
FIGURE 2 | The 'Swiss Cheese' model proposed by James Reason demonstrates how gaps in culture, defenses, barriers, and safeguards align and permit errors to propagate unchecked, leading to harm.167

FROM THE FOLLOWING ARTICLE:
Safety in the operating theatre—a transition to systems-based care

Thomas G. Weiser, Michael P. Porter & Ronald V. Maier
Nature Reviews Urology 10, 161-173 (March 2013)
doi:10.1038/nrurol.2013.13
Swiss Cheese in Healthcare

“...poorly designed work schedules, lack of teamwork, variations in the design of important equipment between and even within institutions—are sufficiently common that many of the slices of cheese already have their holes aligned. In such cases, one slice of cheese may be all that is left between the patient and significant hazard.”

Source: http://www.psnet.ahrq.gov
Creating a “Just Culture…”

*Shared accountability* in managing risk, identifying and encouraging opportunities for incident-reporting to promote growth and learning, and implementation of findings to improve quality and safety. It’s about asking what happened, Why did it happen, and How can we prevent it from happening again? It’s also about assessing “at risk” behaviors where risk may not have been recognized or mistakenly believed not to have been there. This requires coaching. Finally “Reckless Behavior”, a very small percentage of cases, where guidelines, protocols, and risks were known but ignored or over-looked. This behavior requires remediation.

Taken from IHI Website- Thomas Nolan and James Reason.
The quality of this X-ray is terrible. I should wait for better films, but instead I'm just gonna hope for the best and discharge you.
Which of the following best describes a *Just Culture*?

A. Culture of safety where all staff are treated equally

B. Culture where Accountability & “no blame” are balanced

C. Culture where consequences match the severity of the error / incident
Do You Believe you Practice in a “Just Culture?”

A. Yes
B. No
Which of the following are reportable incidents?

A. A near miss
B. A procedural complication
C. Unanticipated patient deterioration
D. Sentinel event
E. A &D
F. All of the above
What Happened, why did it happen, and how can we prevent it from happening again?

Another preventable death

Sorry we lost your father. But really, don’t these drug names sound alike?
Morbidity and Mortality Conference Discussions should include all of the following elements **except**: 

A. PHI (Protected Health Info.)  
B. Root cause analysis  
C. Action planning  
D. A standardized template for discussion  
E. Monitoring efforts  
F. Peer Review
We practice in a complex world...
Why are you being required to complete 23 IHI Modules in Q&S?

A. Because your DIO, Dr. Albert Painter, thought it was a good idea
B. Because your PDs didn’t want to teach it
C. Because your Director of PSQI for GME had nothing better to do
D. Because a curriculum in patient safety & QI is required by ACGME and the RRC / Milestones.
Individual Quality Scorecard

- Priorities

- Review of results