“A Nuts and Bolts Approach to Quality Improvement/Patient Safety Projects.”

Bill Corser, PhD, Jon Rohrer, PhD, DMin
MSU Statewide Campus System
Learner Objectives

By the end of this presentation, each learner will be able to:

– Analyze at least three similarities and three differences between typical “Quality Improvement/Patient Safety” (QIPS) and “research” projects;

– Evaluate at least three of the common frameworks or tools used to develop QIPS projects; and

– Evaluate at least six general criteria suggested for development of a feasible QIPS project.
“Quality Improvement” Terms

• Also includes all of the following:

  — “Quality Assurance” (QA)
  — “Program Improvement”
  — “Quality Control”
  — “Continuous Quality Improvement” (CQI)
  — “Total Quality Management” (TQM)
  — “Six Sigma”
  — “LEAN”

(We shall stick with “QIPS”).
Key Questions for QIPS Projects

• “How do we know that we’re providing the best possible healthcare services in our setting?”

• “How can we identify the stronger and weaker parts of our care delivery processes?” and

• “How can we develop a feasible QIPS project to better understand our healthcare processes?”
QIPS Principles

- Generally oriented to healthcare processes.
- Often multidisciplinary in nature.
- Generally considered a continual effort.
- Ideally, an evidence-based series of activities.
QIPS vs. Research

• QIPS incorporates acquired knowledge (to improve internal organizational processes); and

• Research generates new knowledge that benefits the broader scientific community.
  (Shirey, et al., 2011)

• “Evidence-based Medicine” translates the knowledge to guide specific clinical practices.
<table>
<thead>
<tr>
<th>QIPS Project</th>
<th>Research Project</th>
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<tbody>
<tr>
<td><strong>Primary Orientation</strong></td>
<td><strong>Generation of generalizable knowledge to other settings</strong></td>
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<tr>
<td>System/Program process (or outcome) improvement</td>
<td></td>
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<tr>
<td><strong>Role of Context</strong></td>
<td><strong>Attempts made to eliminate effects of context</strong></td>
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<tr>
<td>Of KEY interest!</td>
<td></td>
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<tr>
<td><strong>Period Required to Incorporate Results into Practice</strong></td>
<td><strong>SHORTER</strong></td>
</tr>
<tr>
<td>SHORTER</td>
<td><strong>MUCH LONGER</strong></td>
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<tr>
<td><strong>Analyses</strong></td>
<td></td>
</tr>
<tr>
<td>Usually more descriptive, with smaller-scale, shorter measurement “window”</td>
<td>More (inferential) statistically oriented</td>
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<tr>
<td><strong>1. Degree of “intervention”</strong></td>
<td><strong>Generally LESS</strong></td>
</tr>
<tr>
<td>Generally LESS</td>
<td><strong>Generally MORE</strong></td>
</tr>
<tr>
<td><strong>2. Amount of “interface” with Human Subjects</strong> (recruiting, consenting, interviewing, etc.)</td>
<td><strong>LESS</strong></td>
</tr>
<tr>
<td>LESS</td>
<td><strong>MORE</strong></td>
</tr>
<tr>
<td><strong>3. Amount of “Protected Health Information” required.</strong></td>
<td><strong>LESS</strong></td>
</tr>
<tr>
<td>LESS</td>
<td><strong>MORE</strong></td>
</tr>
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“FOCUS-PDSA” Process

- **F**ind a process to improve.
- **O**rganize a team that understands the process.
- **C**larify current knowledge of process.
- **U**nderstand the main causes of *process variation*.
- **S**elect the process improvement.
- **T**HEN do some “Plan-Do-Study-Act” (PDSA) project planning.
What are we trying to accomplish?

How will we know that a change is an improvement?

What changes can we make that will result in improvement?

Act

Plan

Study

Do
The Six Sigma Model

- Define
- Measure
- Analyze
- Improve
- Control
The Process of Requesting Lab Work

1. Gather patient information

2. Physician will order laboratory tests

3. Physician completes and submits request form

4. Is patient outpatient?
   - Results may take 2-7 days

5. Are there special instructions?
   - Depending on tests, special directions before test may apply

6. Laboratory professional will instruct you on the proper collection of specimen

7. Is sample collected by patient?
   - Patient collects sample at home
   - Laboratory professional collects specimen

8. Results within a few hours or even less
   - Results sent to physician
   - Physician reviews results
   - Patient meets with physician
   - Physician reviews results and determines treatment
CAUSE & EFFECT DIAGRAM
Ordering Ward Collect Labs

Nursing
- High turnover
- Variable training
- Staff shortage
- High patient:nurse ratio

MAS
- No clerks at night
- Incorrect urgency
- Some orders lost

MDs
- Incorrect order
- May not be in room

Patients
- Difficult access

Electronic order prints to paper
- Some orders lost
- Must sort thru paper

Collectors
- Collector must write
- Must sort thru paper
- To look for order

No direct notification
- To collector

Collection sits in box for escort
- Escort may batch

IT/Equipment
- Lab nurse

Supplies
- Phlebotomy supplies
- Not readily available
- Only 2 routine Lab draws/day

Lab
- Batch collections
- Per ward - busy

Methods

Delayed ward Lab collections

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UT HEALTH SCIENCE CENTER
WE MAKE LIVES BETTER

Educating for Quality Improvement & Patient Safety
Planning your QIPS Project

1. Identify an (interesting) problem/process in your healthcare setting. (A.K.A. “The Idea”)
2. Discuss your project idea(s) with your faculty mentor/peers.
3. Thoughtfully consider the magnitude and complexity of your envisioned project design.
   - use some type of PDSA, etc. framework worksheet
4. Review the pertinent published literature!!!!!
5. TRIM DOWN YOUR IDEAL PROJECT DESIGN.
6. Write up your project proposal (early, several times and **long before** IRB application).
   - overall purpose, specific objectives, personnel, sampling plan, measure(s), data collection methods, data set creation, analysis plan, timeline, dissemination plan.
7. Remind yourself that there has never (ever) been a “perfect” QIPS project design.
8. Consider how your project might be influenced by your resources, organ. priorities, etc.
9. Obtain IRB review and approval as early as you can.
10. Conduct your *perfectly designed* project. Take regular “field notes during project!!!
11. Remember that “midstream” adjustments are NOT forbidden during QIPS projects.
12. Maintain a “parking lot” of project contingencies to address unforeseen project issues.
13. Write up your project results with your thoughtful conclusions and “lessons learned.”
14. Get your results disseminated (more than once)!!!
15. Ensure that your current results help “inform” your next (imperfect) project design.
F.I.N.E.R. Project Design Criteria

- Feasible
- Interesting
- Novel
- Ethical
- Relevant

(Dr. Stephen B. Hulley, MD, MPH at UCSF)
Thank you.

Bill Corser, PhD, RN, NEA-BC
Statewide Campus System
College of Osteopathic Medicine
Michigan State University
965 Fee Road, A339D East Fee Hall
East Lansing, MI 48824
(Cell) (517) 918-3470 (highly preferable)
corser@msu.edu (preferable)