Increasing your QI IQ using PI

Scripps Clinic/Scripps Green Hospital Grand Rounds
Leonard Perry, Ph.D., MBB, CSSBB, CQE
December 1, 2010

Mistakes: To Error is Human

- Have you ever done the following:
  - Driven to work and not remembered it?
  - Driven from work to home when you meant to stop at a store?
  - Run a red light?
  - Nodded your head to directions and then asked yourself: “What did she ask me to pick up?”

Healthcare Errors: Just the Facts...

- A 1999 Institute of Medicine report estimated that as many as 44,000 to 98,000 people die in U.S. hospitals each year as the result of medical errors – more than deaths caused by car accidents, breast cancer, or AIDS.
- Eighteen types of medical errors account for 2.4 million extra hospital days and $9.3 billion in excess charges each year
  Institute of Medicine, To Err Is Human: Building a Safer Health System, Washington, DC, National Academy Press; 1999.
- A study conducted from 2002 to 2007 in 10 North Carolina hospitals found “about 18 percent of patients were harmed by medical care, some more than once, and 63.1 percent of the injuries were judged to be preventable.”

Quality Improvement: Process Variation

<table>
<thead>
<tr>
<th>99% - Is it Good Enough?</th>
<th>99.99965% Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;200,000 wrong drug prescriptions each year</td>
<td>&gt;680 wrong prescriptions per decade</td>
</tr>
<tr>
<td>&gt;5,000 incorrect surgical operations per week</td>
<td>&gt;88 incorrect operations per year</td>
</tr>
<tr>
<td>&gt;=15,000 newborn babies accidentally dropped per year</td>
<td>&gt;5 dropped each year</td>
</tr>
<tr>
<td>&gt;2,000 lost articles of mail per hour</td>
<td>&lt;6 lost articles of mail per day</td>
</tr>
<tr>
<td>&gt;2 short or long landings at most major airports each day</td>
<td>&lt;1 short or long landing every eight years</td>
</tr>
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The Market Demands a Higher Standard of Excellence

Bio – Leonard A Perry, PhD

Leonard Perry, Ph.D. is an Associate Professor and Chair of the Industrial & Systems Engineering at the University of San Diego and President of Innovative Quality Systems, LLC.
Dr. Perry’s current research and consulting efforts focus on system improvement via quality improvement methods especially in the area of applied statistics, statistical process control, and design of experiments. He researches, consults, instructs and collaborates on numerous quality improvement projects in biotech, healthcare, defense and traditional manufacturing organizations.
He is a Certified Six Sigma Master Black Belt, ASQ Certified Quality Engineer and a Director of the Lean Six Sigma program at the University of San Diego.

Scripps Mission and Values

Mission
- Scripps strives to provide superior health services in a caring environment and to make a positive, measurable difference in the health of individuals in the communities we serve.
- We devote our resources to delivering quality, safe, cost effective, socially responsible health care services. We advance clinical research, community health education, education of physicians and health care professionals and sponsor graduate medical education.
- We collaborate with others to deliver the continuum of care that improves the health of our community.

Values
- We provide the highest quality of service
- We demonstrate complete respect for the rights of every individual
- We care for our patients every day in a responsible and efficient manner
What is Performance Improvement?

- Performance Improvement (PI) is a process for enhancing employee and organizational performance that employs an explicit set of methods and strategies.
- PI is a continuously evolving process that uses the results of monitoring and feedback to determine whether progress has been made and to plan and implement additional appropriate changes. (Johns Hopkins (jhu.edu) has been made and to plan and implement additional monitoring and feedback to determine whether progress... (Wikipedia.org)
- Performance improvement is the concept of measuring the output of a particular process or procedure, then modifying the process or procedure to increase the output, increase efficiency, or increase the effectiveness of the process or procedure. ... (Wikipedia.org)

PDCA – Plan-Do-Check-Act

- PDCA refers to the cycle of activities advocated for achieving process or system improvement.
- The cycle was first proposed by Walter Shewhart, one of the pioneers of statistical process control and popularized by his student, quality expert W. Edwards Deming.
- The PDCA cycle represents one of the cornerstones of continuous quality improvement (CQI).

Performance Improvement (PI) Methodology – PDCA Outcomes

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- The PDCA cycle represents one of the cornerstones of continuous quality improvement (CQI).
## Performance Improvement Training: Current Participant Summary

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive Training on PI Methodology (Feb 10)</td>
<td>47 Participants</td>
<td></td>
</tr>
<tr>
<td>Cohort I (Spring/Summer 2010)</td>
<td>23 Participants</td>
<td></td>
</tr>
<tr>
<td>7 PI Projects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cohort II (Summer/Fall 2010)</td>
<td>24 Participants</td>
<td></td>
</tr>
<tr>
<td>7 PI Projects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>16 PI Projects</td>
<td></td>
</tr>
<tr>
<td></td>
<td>47 Participants</td>
<td></td>
</tr>
</tbody>
</table>

## PI Projects – Cohort I

- Improving Productivity & Labor Efficiency in IR
- Implementing a trusted value methodology
- Decrease Variation in SCMC Patient Scheduling
- Reference Laboratory Testing (Outsourced)
- Match Supply and Demand for CT and MRI services
- Glaucoma Testing, Unilateral Screening
- Decrease Unnecessary Expense Associated with Patient Rental Equipment
- Medication Reconciliation for Home Health Patients
- Reprocessing Hemostats in Hospitalized Patients
- Robin Murray, Barbara Bates, Tamara Winkler, Brian Axworthy
- Improve the Completeness and Timeliness of the Focused Nursing Assessment Process
- Field Testing Mattia Lydon, Dena Desert
- Decreased ED Length of Stay through Utilization of Ready to Move
- Mira Hirt, Scott Farn, Sushma Shah

## PI Projects – Cohort II

- Design of Standardized System-wide Initial Nursing Assessment Process
- Murthi Ashkenazi, Cardiologist, Larry Miller, Brian Miller
- Reducing Full Time from ED to Med Surg Floor
- Lisa Roberts, Patient Care Consultant, Natasha Dehner, Delma Lambert
- Point of Care Testing in the Primary Care Office Setting
- Joy Sokol, Kris Jajdas
- Decrease Approval Time on Non-Threshold Capital Project
- Madeleine, Carl Hoyt, George Cooper, Natalie Smith, Kathy Meglasson
- Optimizing CT/CI Bed Allocation
- Susan Karg, Michele Lifsdottir, Judy Davidson
- Reducing Linen Expense at Scripps Green Hospital
- Lisa Roberts, Patient Care Consultant, Natasha Dehner, Delma Lambert
- Reducing Turnover Time – General Surgery/Main OR
- Hadi Haji, Laci P. Leaver, MU, Katherine Roberts

## Project Charter – SINAP

### PI Projects

- Decrease Unnecessary Expense Associated with Patient Rental Equipment
- Medication Reconciliation for Home Health Patients
- Reprocessing Hemostats in Hospitalized Patients
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## Cost Benefit Analysis

### Expected Costs

<table>
<thead>
<tr>
<th>Description</th>
<th>Unit</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project charter</td>
<td>1</td>
<td>$282,700</td>
</tr>
</tbody>
</table>

### Benefits

<table>
<thead>
<tr>
<th>Description</th>
<th>Unit</th>
<th>Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced wait time</td>
<td>15 minutes</td>
<td>$250,000</td>
</tr>
<tr>
<td>Reduced administrative burden</td>
<td>10 minutes</td>
<td>$300,000</td>
</tr>
<tr>
<td>Reduced travel time</td>
<td>5 minutes</td>
<td>$400,000</td>
</tr>
<tr>
<td>Reduced wait time</td>
<td>20 minutes</td>
<td>$500,000</td>
</tr>
</tbody>
</table>

## Success in Quality

“Process changes, like a new computer system or the use of a checklist, may help a bit,” he said, “but if they are not embedded in a system in which the providers are engaged in safety efforts, educated about how to identify safety hazards and fix them, and have a culture of strong communication and teamwork, progress may be painfully slow.”

Dr. Mark R. Chassin, President of the Joint Commission
Performance Improvement: Success Factors

- Executive Support
- Permanent and Temporary Resources
- Process Management and Measurement
- Project Selection and Alignment
- Training
- Communication

Performance Improvement: Resources

- Process Owners
- Quality Director / Quality Department Representative
- Project Sponsors
- Champions
- Project Leaders
- Team Members

Executive Support

- Visible, consistent support and an active role in communication and reward.
- Assuring linkage of Performance Improvement to corporate strategies.
- Requiring the use of facts and data to support actions at all levels of decision-making.
- Creating accountabilities, expectations, roles and responsibilities for the organization.
- Conducting and attending regular reviews to assure and verify progress.

Process Management and Measurement

- Process Management:
  - Managers must take ownership of processes in order to understand process capability
- Process Measurement
  - In order to fully understand a process you must define and measure the important performance metrics.
  - "You can’t manage what you can’t measure."

IHI – System Measures

<table>
<thead>
<tr>
<th>Measure</th>
<th>Target</th>
<th>Improvement Potential</th>
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</thead>
<tbody>
<tr>
<td>Overall Care Fate Improvement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Length of Stay in Hospital (days)</td>
<td></td>
<td></td>
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<tr>
<td>Mortality Rate</td>
<td></td>
<td></td>
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<tr>
<td>Readmission Rates</td>
<td></td>
<td></td>
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<tr>
<td>Improvement to Percentage Good</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improvement to Percentage Bad</td>
<td></td>
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</tbody>
</table>

Final remarks on data...

"If we are going to make decisions based on opinion, I prefer my own".  
Jack Welch

"In God we trust; all others must bring data."  
W. Edwards Deming
Project Selection

- Sweet Fruit
  Continuous Quality Imp.
  Advanced Tools
- Bulk of Fruit
  Process Management
  Intermediate PI Tools
- Low Hanging Fruit
  Process Simplification
  Basic PI Tools
- Ground Fruit
  Logic & Intuition

Project Selection and Alignment

- Selection Criteria
  - Resources needed
  - Likelihood of success
  - Support or Buy-in
  - Timing
  - Scope
- Alignment
  - Impact on business strategy, competitive position
  - Impact on external customers and requirements

Project Charter

An agreement that:
- Defines the purpose of the project
- Clarifies what is expected of the design team
- Identifies team and key stakeholders
- Keeps team focused and aligned with organizational priorities

Performance Improvement Training: Current Participant Summary

- Executive Training on PI Methodology (Feb10)
- Cohort I (Spring/Summer 2010)
  - 9 PI Projects
  - 23 Participants
- Cohort II (Summer/Fall 2010)
  - 7 PI Projects
  - 24 Participants
- Total
  - 16 PI Projects
  - 47 Participants

Communication

- Advocating and using a "common language" around Performance Improvement when discussing project work.
- Communicating pertinent facts about Performance Improvement in every company meeting.
- Regular written communications on Performance Improvement news and successes.
- Development and dissemination of communication aids to management.
- Creation and communication of a Human Resources plan to support Performance Improvement roles.

Summary

- Performance Improvement Training: Participant Feedback
  - Focusing on the problem
  - Scope, scope, and then scope again
  - Right People at the Right Time
  - Data, Data, Data…
  - Looking for the "Needle in the Haystack"
  - Common Language & Tools
Character cannot be developed in ease and quiet. Only through experience of trial and suffering can the soul be strengthened, vision cleared, ambition inspired, and success achieved.

Helen Keller

Change…

You will never change your life until you change something you do daily

John Maxwell

Questions?

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