Using Your Practice Data to Your Advantage

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Shewhart – “Quality must be stated in a measurable way”

Common cause variation – process must be changed to drive this out

Special cause variation – not part of the system
PDSA Cycle

- Plan
- Do
- Study
- Act
Model for Improvement
(Nolan and colleagues)

1. What are we trying to accomplish?
2. How will we know that a change is an improvement?
3. What changes can we make that will result in improvement?
4. Run a test of change
Repeated Use of the Cycle

Hunches
Theories, Ideas

Changes That Result in Improvement

DATA
Continuous Quality Improvement

Diagram showing the transition from low performers to top performers with an emphasis on average performers.
QI Principles Simplified

- Opportunity for Improvement
- Measure it
- Intervene (change process of care!)
- Measure it again
Why Measure?

- Healthcare needs to be improved
- If it is not measured it cannot be improved
- Quantitative feedback facilitates improvement
- Not all improvement projects work
The Measurement Trap

- If you spend all your time on measurement you will not have time to improve.
- Measurement is important, precise measurement is not.
- Don't compulsely on your measures - they should evolve anyway.
- Imprecision cancels out from baseline to re-measurement.
- Even imprecise measures will respond to effective improvement strategies.
Quality Indicators

Based on:
- Performance Measurement
- Consensus Guidelines and Protocols
- Medical Societies
- Consensus Indicators (HEDIS, FAACT, OASIS, ORYX, PCPI, AQA – Medical Societies)
- Literature Review
- Internal Consensus/Protocols/Procedures
- Ad hoc measures
Quality Indicators - Data Sources

- Administrative Data (billing data)
  - Inexpensive, process oriented
- Medical Record Review (abstraction)
  - Detailed process measures, expensive
- Provider and Patient Surveys
  - Satisfaction
- Functional and Health Status Data
  - OASIS - Home Health, MDS - Long Term Care
Quality Indicators

Must be:

• Data Driven - measurable
• Intuitively Appealing - simple & defensible
• Always positive - towards 100%
• Current - close in time
• Periodic - repeated discrete measures
to see trends and change
Operable Unit of Improvement: *The Level at Which Care Will be Improved*

- What Provider Entity will the quality indicator describe?
  - The system, practice, team, ultimately - the practitioner
- Introduce QI at the Aggregate Level
- Build trust, drive operable unit lower
Outcome Indicators

• Must be related to a process of care

• Short Term
  – Acute care
  – Risk Factor Control

• Long Term
  – Health or Functional Status
  – Mortality (IHI’s 100,000 Lives)

• Must be responsive to intervention
4 General Categories of Indicators

- Preventive Care Quality Indicators
- Emergent Care Quality Indicators
- Acute Care Quality Indicators
- Chronic Care Quality Indicators
Preventive Service Quality Indicators
Mammography

- Denominator = Eligible Women
- Numerator = Mammogram in past
  - QI (Process): Rate of women receiving mammograms/time
  - QI (Outcomes): Early detection / earlier stage diagnosis, decreased mastectomy, decreased mortality
Tips for Preventive Service Indicators

- Usually a rate among a population
- Denominator = all those eligible
  - Prostate exam = men of a certain age
  - PAP smear = women of a certain age
- Numerator = all those receiving service
- Data Source - often administrative billing
- Missed Opportunity / Realized Opportunity
Emergent Care Quality Indicators

Community Acquired Pneumonia

• QI (Process): Time to antibiotic admin.
  – Dichotomous - before 4 hours, 8 hours
  – Continuous - Average time to administration

• QI (Outcomes): Length of stay, decreased complication rate, mortality, readmissions
Tips for Emergent Care Indicators

• Always a time element
• Time can be dichotomous - “for a rate”
• Or continuous - “for an average time to”
  – Average time to (mean / median)
  – Outliers & potential second events
• Outcome Indicators
  – Watch for the “Molinari Paradox”
Examples of Quality Indicators
Acute Care - Transfusion

• Denominator - Transfusions
• Numerator - Autogolous Transfusions
  – QI (Process): Rate of autogolous transfusion events among transfusions
  – Outcomes: Length of stay, decreased complication rate, mortality
Tips for Acute Care Indicators

- Usually a rate for an event
  - Denominator = patient with event
  - Numerator = compliant event

- Track incidence or rate of event
  - Event/discharge or related discharge

- Usually requires medical record abstraction
Examples of Quality Indicators
Chronic Disease Model

- Denominator - “Identified Diabetics”
- Numerator - “ID” Receiving Service
  - QI (Process): Rate of diabetics with quarterly hemoglobin A1c tests, annual eye exams
  - QI (Outcome): Reduced hospitalizations, amputations, incidence of blindness & ESRD
Tips for Chronic Disease Indicators

• Usually a rate among a defined sub-group identified with the disease
• Denominator = all those with condition
• Numerator = all those receiving a service
  – Count people with service, not service
• Data Source - often Administrative billing
• Missed Opportunity / Realized Opportunity
• Track new therapies & old therapies
Quality Indicators - Things to Remember

- Intuitive Appeal
  - Understandable, defensible, consensus guideline based, non-controversial

- Capture all Potential for Improvement
  - Multiple QIs, mix of process & outcome

- A positive measure - Moves to 100%

- Use the data on hand

- Responsive to improvement efforts
Quality Improvement Tools

- Checklists
- Wall Charts
- Wallet Cards
- Decision Support Tools
- Pill boxes
- Patient Education Handouts
Quality Improvement Tools

• The discharge contract
  – Reminder checklist for provider
  – Documents process of care
  – Patient education tool
  – Patient compliance tool
  – Care transition tool
Evolution of a Measure

- Door to balloon time
- First medical contact to balloon time
- Symptom on set to balloon time
- Symptom on set to reperfusion
- Transfer to balloon time
- First door to balloon time
- Percent of STEMIs receiving primary PCI

*There’s a reason we call it *continuous* quality improvement!*
All you have to remember

Problems are often because of the system and not the people

Think Plan-Do-Study-Act as one way to improve

Think of the 3 questions and run a TEST

1. What are we trying to accomplish?
   • AIM-Quanitifiable
2. How will we know that a change is an improvement?
   • MEASURES-Simple
3. What changes can we make that will result in improvement?
   • WHY - Guesses
Evolution of QI projects

- Ad hoc projects – facility based
- Regional collaboratives
- National collaboratives
- National campaigns
- Learning and Innovation Communities
- Ad hoc projects – facility based
Organizations involved

- Institute for Healthcare Improvement
- Intermountain Healthcare
- National Council on Quality Assurance
- Physician Consortium for Performance Improvement
- CMS/Quality Improvement Organizations
- National Quality Forum
Performance Measures

Cartoon:

1. "This week I developed what I call "Process Pride.""
2. "Obviously I can't take pride in the results of my work."
3. "Obviously."
4. "So I learned to take pride in my processes instead of my results."
5. "Everything I do is still pointless, but I'm very proud of the way I do it."
Barriers to QI

• Steady State
• Enthusiasm
• Time
• Complexity of Delivery Systems
• Culture
• Perverse Incentives
• Consensus / Commitment
The Conundrum

“My question is: Are we making an impact?”
The Fix – making Continuous QI work

• Small tests of change
• Rapid cycle measurement
• Rapid cycle change
• Diffusion of proven success
• Organizational buy-in
• Cultural change
Making Continuous QI work

• Don’t be afraid to change back – all improvements do not work
• Less talk/more action – just do it!
• Do it by next Tuesday!
• Watch the measurement trap - it does not have to be precise!
• Don’t over invest in change
Interventions are key!

We must change the care process to improve

- Tools
- Strategies
- System
- Culture, Culture, Culture
The Midwest Heart Experience
Risk Management: The Midwest Heart Experience

- Quality assurance monitoring of patients with CAD and adherence to ATP II guidelines
  - Results of National Quality Assurance Program (QAP) identified 11% of patients at goal and 7% at goal on therapy
- Midwest Heart Nurse-Based Lipid Clinic (1985)
  - Initial physician evaluation
  - Assessments for genetic diseases and secondary diseases
  - Telephone follow-up evaluation by nurses
    - Dietary and compliance counseling
    - Treatment goals identified
    - Risk profile assessed
- Outcomes
  - Baseline: 22% at goal and 51% taking lipid drug
  - Lipid clinic patients: 71% at goal, 97% taking lipid drug
Risk Management: The Midwest Heart Experience

- Benefits to integrate computerized system
  - Readability
  - Increased productivity
  - Concrete data to support decisions

- Features of MWH Virtual Lipid Clinic
  - Integrated management tool as an adjunct to the EMR
  - Electronic flow sheet recording:
    - Labs
    - Medications
    - Diagnosis
  - Automatic determination of goals
  - Online alerts to deficiencies
Risk Management: The Midwest Heart Experience

• Measured Improvements through Virtual Lipid Clinic
  – Individual physician performance on LDL-C documentation
    • 65% to goal compared to 22% at baseline
  – Percentage of patients achieving goal
  – Lipid drug use

• Additional benefits of integration with Health IT
  – Compile reports
  – Track patient progress
  – Display outcome parameters

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Questions?

Additional questions email katy.vennum@heart.org

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