




1B – Functions of Measurement in Healthcare

QHN Summer Camp for QI
July 14-15 • Alliston, ON
Richard Scoville, PhD
Jane Taylor, EdD

© Richard Scoville, PhD

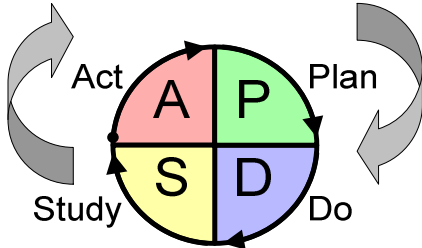
Measurement for Improvement



AIM: What are we trying to accomplish?

MEASURES: How will we know if a change is an improvement?


CHANGE: What changes can we make that will result in improvement?



© Associates for Process Improvement
© Richard Scoville, PhD

13-Aug-10 - 2

Measurement for Improvement




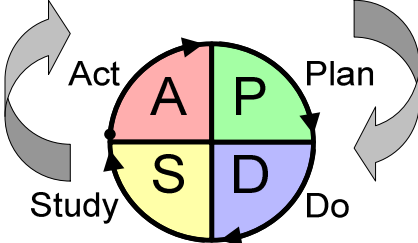
AIM: What are we trying to accomplish?

↓

MEASURES: How will we know if a change is an improvement?


↓

CHANGE: What changes can we make that will result in improvement?

© Associates for Process Improvement
© Richard Scoville, PhD
13-Aug-10 - 3

3 Faces of Performance Measurement




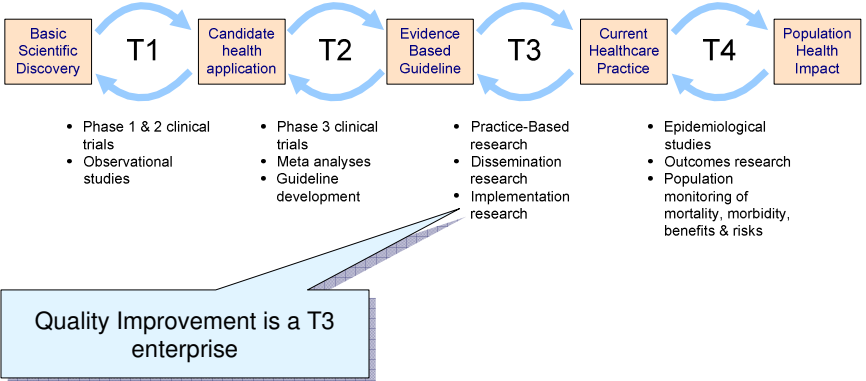
	Improvement	Accountability	Research
Aim	Improvement of care	Comparison, choice, reassurance, spur for change	New knowledge
Test Observability	Test observable	No test, evaluate current performance	Test blinded or controlled
Bias	Accept consistent bias	Measure and adjust to reduce bias	Design to eliminate bias
What to Measure	"Just enough" data, small sequential samples	Obtain 100% of available, relevant data	"Just in case" data
Flexibility of Hypothesis	Hypothesis flexible, changes as learning takes place	No hypothesis	Fixed hypothesis
Testing Strategy	Sequential tests	No tests	One large test
Determining if a Change is an Improvement	Run charts or Shewhart control charts	No change focus	Hypothesis, statistical tests (t-test, F-test, chi square), p-values
Response to Context Variation	Utilize to test resilience of process design	Ignore, acknowledge, or use risk adjustment	Control or eliminate effects of confounding vbls
Confidentiality of the Data	Data used only by those involved with improvement	Data available for public consumption and review	Research subjects' identities protected

Solberg, L. I., G. Mosser, et al. (1997). "The three faces of performance measurement: improvement, accountability, and research." *Jt Comm J Qual Improv* 23(3): 135-47.

© Richard Scoville, PhD
13-Aug-10 - 4

Translational Research






Quality Improvement is a T3 enterprise

Westfall, J. M., J. Mold, et al. (2007). "Practice-Based Research--"Blue Highways" on the NIH Roadmap." *JAMA* 297(4): 403-406.

Khoury, M. J., M. Gwinn, et al. (2007). "The continuum of translation research in genomic medicine: how can we accelerate the appropriate integration of human genome discoveries into health care and disease prevention?" *Genet Med* 9(10): 665-74

© Richard Scoville, PhD 13-Aug-10 - 5

Functions of Measurement



“Many managers fail to realize that traditional measures, which focus on results, may help them keep score on the performance of their business but do not help a multifunctional team monitor the activities or capabilities that enable it to perform a given process. Nor do such results measures tell team members what they must do to improve their performance.”

Meyer, C. (1994). "How the Right Measures Help Teams Excel." *Harvard Business Review* 72(3): 95-103.

© Richard Scoville, PhD 13-Aug-10 - 6

Fundamental Questions for Measurement



1. How can we monitor the real-time behavior of the system of care, get the work done, steer it to avoid crashes, and maintain it's operational reliability?
2. Over time, where are the gaps in performance that indicate a need for system change (i.e. improvement)?
3. In our efforts to improve, are we on track to meet our aims? ('How will we know that a change is an improvement?')

In this workshop, we will focus on # 2 (assessing gaps) and #3 (tracking improvement)

1. Steering the Process. Are We On Course?



Also known as 'Feed-Forward' information

2. Assessing Gaps: Do We Need a Change?



Also known as 'Feedback' information

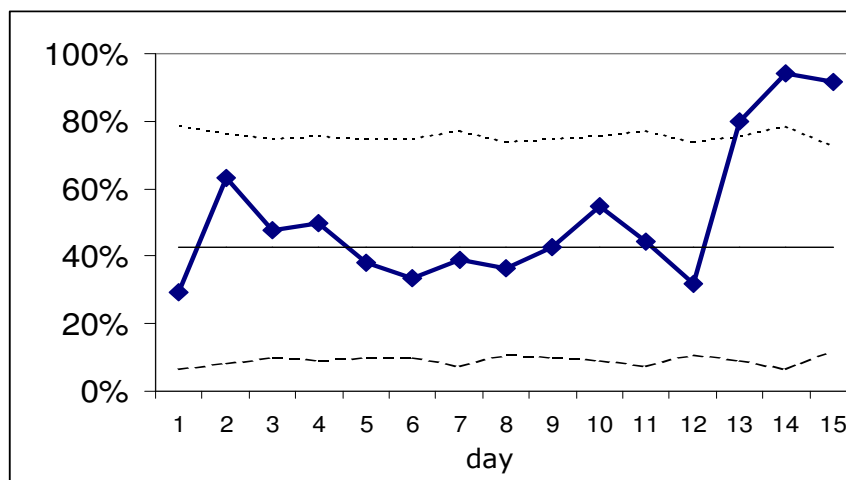
© Richard Scoville, PhD

13-Aug-10 - 9

3. Are We Improving?




Percent of vacation driving time baby not crying



© Richard Scoville, PhD

13-Aug-10 - 10

Feed-Forward Example – SBAR* in EHR 

Situation
What's going on with the patient right now?

- Identify yourself
- Identify the patient
- State the problem concisely

Background
How did we get to this situation?

- Review the chart
- Anticipate questions
- State the relevant medical issues


Assessment
What do I think the issue is? Why am I concerned?

- Provide your observation and evaluation of the patient's current state

Recommendation
What should we do to respond to the situation?

- Suggest what should be done to meet the patient's immediate needs


Source: T. Aldini, Trinity Healthcare, Novi MI
© Richard Scoville, PhD 13-Aug-10 - 11

Feed-Forward: Bed Occupancy Dashboard Unit Level 

Picture of ER display system to control
be utilization

© Richard Scoville, PhD Source: Rostow (2002) 13-Aug-10 - 12

Feedback: Balanced Scorecard* for a Clinic

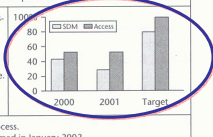


A balanced view of processes and outcomes focuses attention on gaps in performance, and the need for targeted improvement.

Key Processes

Aim: To do the right things at the right time for the patients.

Measure: Shared decision making (SDM): Diagnosis-specific patients checked out either the Herniated Disc or Spinal Stenosis video. Access: Preferred appointment met for patients seeing a surgeon for the first time.

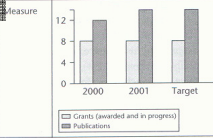


Action plan: SDM: No current plan to improve the process. Access: Scheduling/access workgroup formed in January 2002.

Innovation & Learning

Aim: To create a stimulating and enriching research setting and education of staff.

Measure: Grants (awarded and in progress), Publications

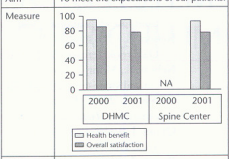


Action plan: Grant writing in progress.

Satisfaction Versus Need

Aim: To meet the expectations of our patients.

Measure: Health benefit, Overall satisfaction

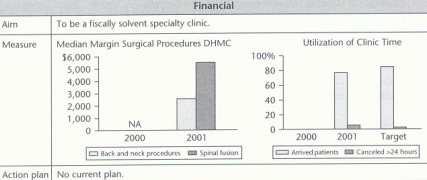


Action plan: No current plan.

Financial

Aim: To be a fiscally solvent specialty clinic.

Measure: Median Margin Surgical Procedures DHMC, Utilization of Clinic Time




Action plan: No current plan.

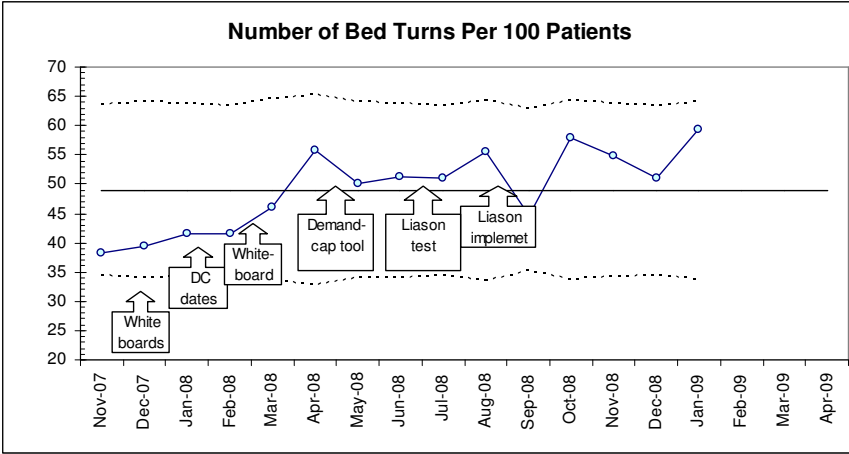
© Richard Scoville, PhD 13-Aug-10 • 13

Nelson, E. C., P. Batalden, et al. (2007). *Quality By Design*. San Francisco, CA, Jossey-Bass.

Improvement: Tracking Tests of Change



Number of Bed Turns Per 100 Patients



© Richard Scoville, PhD 13-Aug-10 • 15

Topic for Discussion



- Pair up
- Identify examples from your organization(s) of the three functions of information:
 - ✓ Feed-forward
 - ✓ Feedback
 - ✓ Improvement
- You have 5 minutes