

Knowing if you Improved: Measures for Improvement

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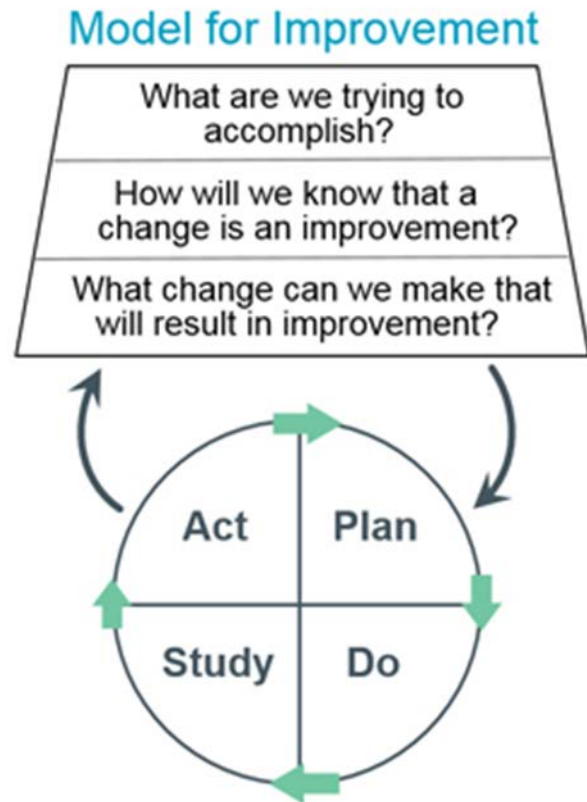
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The why, how & what of “data for improvement”

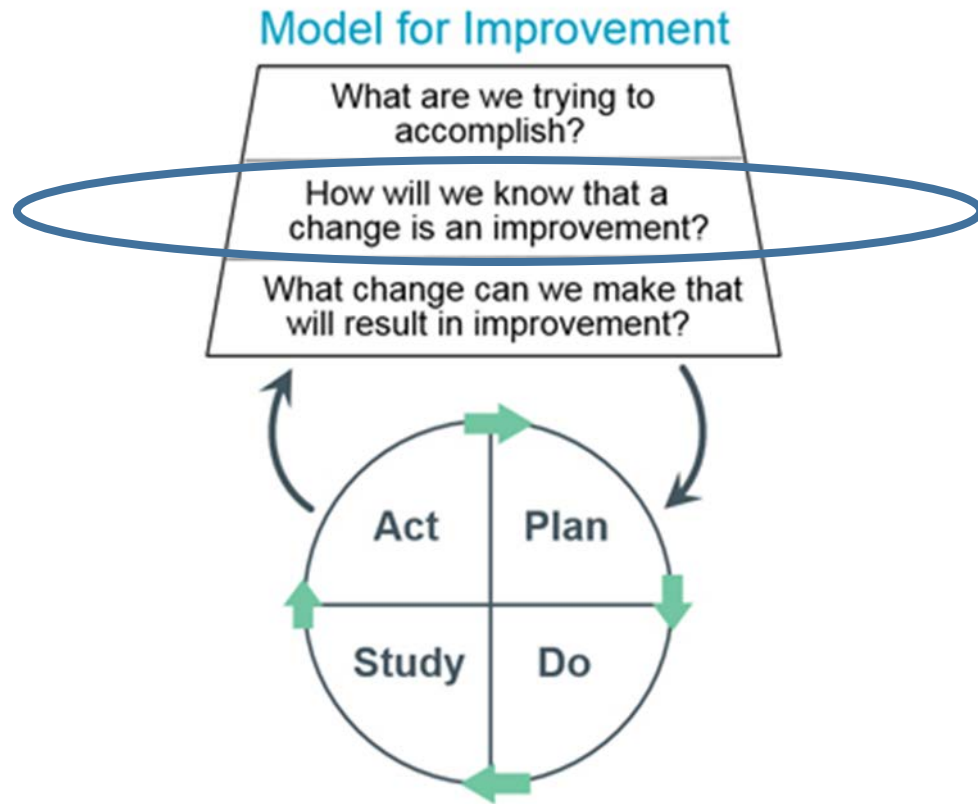
- Learn the critical nature of the second question of the Model for Improvement
- Understand the steps to create a measure and the different types of measures we create when using “data for improvement”
- Know the importance of “operationally defining” your measures
- Table top exercises

Question 1 of the Model for Improvement



- Pick a topic
- Narrow the focus
- Be specific

Question 2 of the Model for Improvement



- The most basic answer to the 2nd questions is this.. through

MEASUREMENT

Data for improvement is not just numbers

Quantitative Data

- Continuous measurements
- Counts of observations
- Ratings
- Ranking

Qualitative Data

- Documentation of what people think and feel

Measurement for improvement does not have to be complicated

- Track a few measures over time and present them well
- Measurement can reveal important information
 - How well your current process is working
 - How much variation is in your data/process
 - What is the impact of a small test of change
 - Whether the changes have resulted in improvement
 - Whether a change has been sustained

Measurement in quality improvement is different than measurement in research

	Measurement for Research	Measurement for Learning and Process Improvement
Purpose	To discover new knowledge	To bring new knowledge into daily practice
Tests	One large "blind" test	Many sequential, observable tests
Biases	Control for as many biases as possible	Stabilize the biases from test to test
Data	Gather as much data as possible, "just in case"	Gather "just enough" data to learn and complete another cycle
Duration	Can take long periods of time to obtain results	"Small tests of significant changes" accelerates the rate of improvement

“You can’t fatten a cow by measuring it”

-Palestinian Proverb



- Improvement is NOT just about measurement...
- ...but you won't know if you improved something without measuring it!



Quality Measurement Journey

Milestones in the Quality Measurement Journey



Source: R. Lloyd. *Quality Health Care: A Guide to Developing and Using Indicators*. Jones and Bartlett Publishers, 2004.

Generating ideas

- Logical thinking
- Benchmarking or learning from others
- Using technology
- Creative thinking
- Using change concepts

Utilize a “Change Concept”

- Standardization
- Minimize handoffs
- Reduce choices or features
- Adjust to peak demand
- Develop contingency plans
- Eliminate multiple entry
- Move steps in the process closer together
- Use a coordinator
- Change the order of the processes/steps
- Reduce demotivating aspects of the pay system
- Invest more resources in improvement
- Develop alliances and cooperative relationships

Moving from a Concept to Measure



*"Hmmm...how do I move
from a concept
to an actual measure?"*

*Every concept can have MANY measures.
Which one is most appropriate?*

Relating a Change Concept to a Measure

Concept	Idea	Potential Measure
Standardization	<ul style="list-style-type: none"> •Create central line bundle to be used for every central line insertion 	<ul style="list-style-type: none"> •Qualitative feedback from staff •Percent staff able to find bundle •Percent usage of bundle or aspects of bundle •CLABSI infection rate •Added time for documentation
Move steps in the process closer together	<ul style="list-style-type: none"> •Mount hand hygiene gel dispensers to the right of every patient door 	<ul style="list-style-type: none"> •Percentage of staff using gel before entering •Volume of gel used per month •Incidence of MRSA colonization •Cost of gel
Invest more resources in improvement	<ul style="list-style-type: none"> •Pay for staff members to attend the PNQIN meeting 	<ul style="list-style-type: none"> •Percentage of staff attending meeting •Number of QI projects underway in NICU •Staff retention rate •Press Ganey survey results

Milestones in the Quality Measurement Journey



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Structural/Demographic Measures

- Describe the environment
 - Number of beds, types of patient rooms, square footage of space
 - Hospital setting, type of hospital
- Describe the population
 - Age range, gender, race, ethnicity, gestational age, of population
 - Number of staff members, staffing ratios
 - Staff qualifications and competencies
- Describe technology and its characteristics
 - EMR, type of ventilators or monitors or pulse oximetry machines

Three types of measures for quality improvement

- Outcome measure
- Process measure
- Balancing measure

Outcome measure

- Outcome measures reflect the impact of the health care service or intervention on the health of patients.
- This is the main thing you want to change by doing your project
 - Incidence of a specific disease or outcome
 - Readmissions to the hospital or ED visits
 - Patient or staff satisfaction
 - Cost per case, average LOS, revenue per case

Process measure

- These measures are the specific steps in a process that lead to a particular outcome metric
- These measure the actual steps you are taking to achieve your outcome
 - Frequency of the use a new bundle or guideline or product
 - Percentage of patients provided with specific instruction
 - Number of staff members attending the meeting

Balancing measure

- These are the metrics you want to track to ensure an improvement in one area isn't negatively impacting another area
- Looking at a system from different directions. What happened to the system as we improved the outcome and process measures?
 - Unintended consequences of the new program
 - Unanticipated increases in mortality, morbidity or cost
 - Has the shifting of resources in an organization compromised other client or patient populations?

Milestones in the Quality Measurement Journey



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Operational definition

- Every measure needs to have a clear operational definition
- Specify who, what, when, where, and how
- Specify the source of the data
 - Chart review vs. administrative data
 - Patient logs vs. a computer database
- Define specific criteria for the data to be collected
- Define all inclusions and exclusions
- For percentages or rates, or ratios, define the criteria for inclusion in the numerator and denominator
- Always ask “How might somebody be confused by this definition?”

Example of a good operational definition

- Measure name: Percent of medication errors
- Numerator: Number of NICU medication orders with one or more errors. An error is **defined as** wrong med, wrong dose, wrong route, or wrong patient
- Denominator: Number of NICU medication orders received by the pharmacy
- Data collection:
 - Measure applies to all patients in the NICU
 - The data will be stratified by type of order (new or renewal)
 - The data will be tracked daily and grouped by week
 - The data will be pulled from the pharmacy computer and CPOE systems

Milestones in the Quality Measurement Journey



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How often, how long, how much

- Frequency
- Duration
- Volume

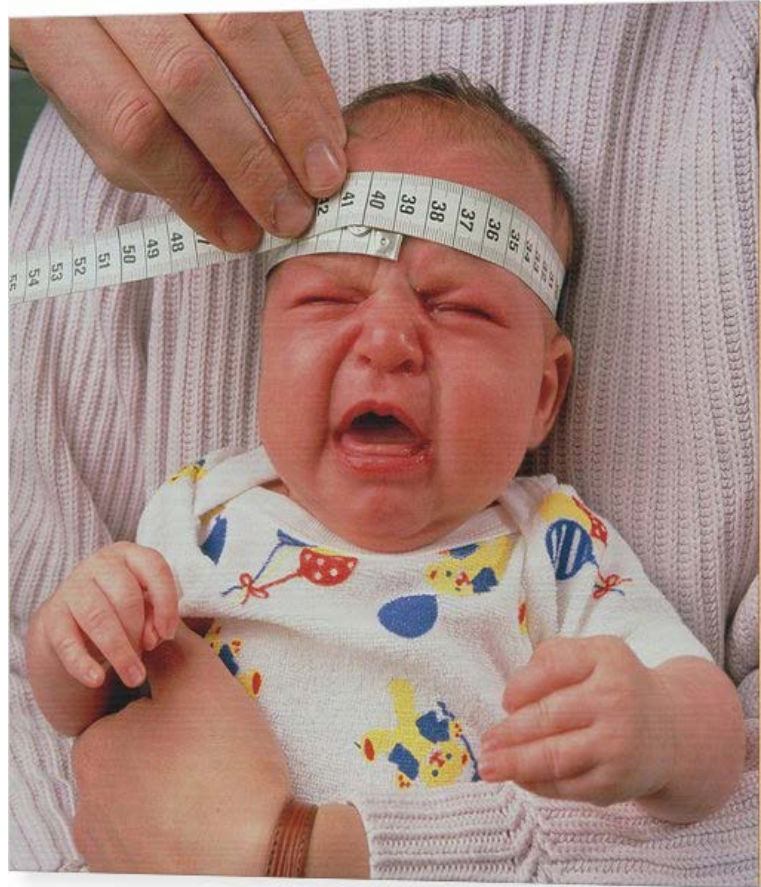
	Low Degree of Belief	High Degree of Belief
Minor Consequences	Medium scale	One test cycle only prior to implementation
Major Consequences	Very small scale	Small to medium scale

Guide for determining test size based on degree of belief and potential consequences²

Table Top Exercises

- Part 1: Banana measuring exercise
- Part 2: Organizing your measures

Thank you!



Learning is not compulsory,
neither is survival

W. Edwards Deming