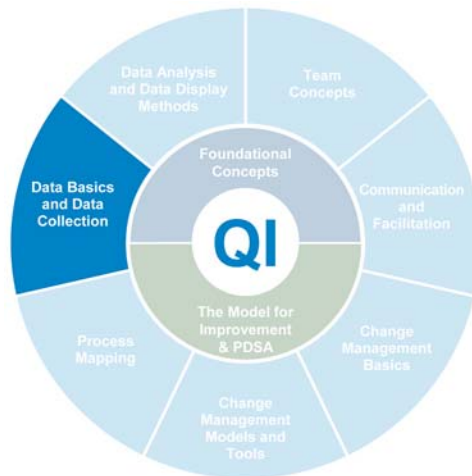


Quality Improvement: Data Basics and Data Collection



Topics



- Using Data Basics
- Differentiate between Qualitative vs. Quantitative Data
- Select or create appropriate measures
- Learn about Data Collection Methods



Using Data Basics



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**“In God we trust.
All others bring data.”**

- William Edwards Deming

- Measurements and data must be valid
- Data must be reliable and credible



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Using Data for Quality Improvement



- Data is the cornerstone of QI
- Describe how well current systems are working
- Demonstrates what happens when changes are applied
- Identifies variations in a process
- Helps monitor processes over time
- Documents successful performance



Source: <https://www.hrsa.gov/sites/default/files/quality/toolbox/508pdfs/qualityimprovement.pdf>

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Focus on the Use of Data



- Separates what is thought to be happening from what is really happening
- Establishes a baseline for improvement
- Indicates whether changes lead to improvements
- Identifies ineffective solutions
- Allows monitoring of system changes to ensure that improvements are sustained
- Allows comparisons of performance across sites



Source: <https://www.hrsa.gov/sites/default/files/quality/toolbox/508pdfs/qualityimprovement.pdf>

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Suggestions



- Keep it simple
- Stay within scope documented in your Project Charter
- Understand variation within your collected data and what it means
- Communicate the findings using your data (“tell your story”)



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Quantitative vs. Qualitative Data



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Quantitative Data



- Involves the use of numbers expressed in measurable units
- Objective and produced through processes that are verifiable, replicable and not subject to interpretation

Examples in a health care setting include:

- Finding the average of a specific laboratory value
- Calculating the frequencies of timely access to care
- Calculating the percentages of patients that receive an appropriate health screening



Source: <https://www.hrsa.gov/sites/default/files/quality/toolbox/508pdfs/qualityimprovement.pdf>

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Qualitative Data



- Qualitative methods collect data with descriptive characteristics and can be categorical
- Qualitative data is observable but not measurable

Common strategies for collecting qualitative data in a health care setting are:

- Patient and staff satisfaction surveys
- Focus group discussions
- Independent observations
- Race, ethnicity, language (REL data)



Source: <https://www.hrsa.gov/sites/default/files/quality/toolbox/508pdfs/qualityimprovement.pdf>

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Quantitative and Qualitative Examples



Quantitative

- Temperature
- Height (72 inches)
- Weight (150 lbs.)
- Waiting time (40 minutes)
- Blood glucose level (5.6 mmol/L)
- Blood pressure (140/90 mmHg)

Qualitative

- Notes from meetings
- Discussions
- Narratives, such as an encounter note
- Race, Ethnicity, Language
- Blood type



Selecting Measures



What To Measure: Processes



Process Measures

- Assess our processes:
 - Are they still working for us?
 - Are we using them?
 - Are we using them accurately?
- If a process or procedure is changed as part of a corrective action, it is important to know if the change actually occurred.
- If the outcome improves, you want to know if it was linked to an actual change in process.

Process Measure Examples

- The number of patients that receive a second blood pressure check if the first measurement is elevated during an encounter
- The number of patients over 18 who are screened for pre-diabetes that are not already diagnosed with diabetes or gestational diabetes



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What To Measure: Outcomes



Outcome Measures

- Measure our outcomes
 - What was the impact on the community members?
 - Did the change in process have the desired result?
- Measuring the process is not enough if your outcome is to assess whether the change you have put in place had the desired effect
- You want to see a change in outcome – eliminate recurrence of the event

Outcome Measure Examples

- The number of patients diagnosed with hypertension that have their BP under control
- The patients diagnosed with prediabetes that have not progressed to a diabetes diagnosis within one year of the original diagnosis



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Data Collection Methods



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Develop a Data Collection Strategy



- Determine how best to track, display, and assess results of measures by answering:
 - What are we measuring (measure/indicator)?
 - When are we measuring this (frequency) and for how long (duration)?
 - How do we measure this (where do we get our data)?
 - Are we using sampling (a subset of all data)?
 - Who is responsible for tracking on this measure?



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Data Collection Methods

- Tally sheets
- Checklists
- Questionnaires
- Feedback interviews
- Observation
- Daily reviews
- Chart audit
- Data obtained from existing databases and systems (EHR)



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Sampling

- The purpose of measurement for improvement is to speed learning and improvement
- Need enough data to make a sensible judgment about the process or system
- Sampling involves deciding how much and which data to collect in order to aid the improvement effort
 - Sometimes it makes sense to collect all the data (small numbers)
 - When working with a great deal of data, it makes sense to sample



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How often and for how long should we collect data?



- Frequency
 - Goes hand-in-hand with the sample size
 - Goal is to understand the impact of the change
- Duration
 - Generally longer than you would like
 - Need to make sure process change is sustained
 - Need to make sure impact is sustained



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Data Collection Plan



- A summary data collection plan should include
 - Purpose of collection (why?)
 - Source(s) of your data (where is it being collected?)
 - Frequency of data collection (schedule of collection) (when?)
 - Who is responsible for collecting data?
 - Type of data (what?)
 - Data dictionary that describes each element you are collecting
 - Method of data storage and how will it be collected? (Excel, written, etc.)
 - How will data be displayed (graphs, charts, diagrams, etc.)



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