

Data Collection and Analysis – The Basics

Data Informed Stories to Communicate Impact Workshop Series
Session 1 – April 24, 2023

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Stratis Health

- Independent, nonprofit, Minnesota-based organization founded in 1971
 - Lead collaboration and innovation in health care quality and safety
 - Serve as a trusted expert in facilitating improvement for people and communities
- Work at intersection of research, policy, and practice
- Long history of working with rural providers
- Part of the Georgia Health Policy Center Rural Advisory Council

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Data Informed Stories to Communicate Impact Workshop Series

Session 1 | April 23, 2023 | Sarah Brinkman

- Data Collection and Analysis – The Basics

Session 2 | June 7, 2023 | Jean Synodinos

- Telling Your Story Well – Communicating Data for Success and Sustainability

Session 3 | July 13, 2023 | Jean Synodinos

- Pulling it All Together – Drafting Your Data Map

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Chat Check-in

In Chat:

- Organization
- Location
- Grant
- What's the weather?



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After this session, participants will be able to...

- Describe how data is used to demonstrate improvement
- Differentiate between qualitative and quantitative data
- Distinguish between process, outcome, and balancing measures
- Discuss data stratification and its role in analysis
- Identify appropriate data visualization techniques
- Develop a data collection and monitoring plan

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Importance of Data

- Data is a cornerstone of quality improvement
- Describes 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

Tells a Story!

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Who is your audience?

- Project team
- Leadership
- Partners (and potential partners)
- Funders/Payers
- Patients and families
- Community
- Who else?

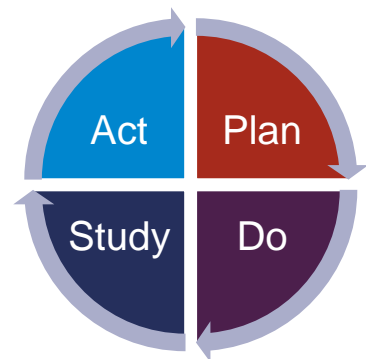


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The Model for Improvement & PDSA

1. What are we trying to accomplish?
2. How will we know that change is an improvement?
3. What change can we make that will result in an improvement?



[How to Improve | IHI - Institute for Healthcare Improvement](#)

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Kinds of Data

Quantitative

- Numbers expressed in measurable units
- Objective, verifiable, and replicable
- Not subject to interpretation

Examples of Quantitative Data

- Blood pressure
- Blood glucose
- Temperature
- Height
- Weight
- Time

Qualitative

- Involves descriptive characteristics
- Can be categorical
- Observable but not measurable

Examples of Qualitative Data

- Patient and staff satisfaction surveys
- Focus group discussion
- Independent observations
- Race, ethnicity, and language (REL)
- Health related social needs (HRSN)/ social drivers of health (SDOH)

Types of Measures

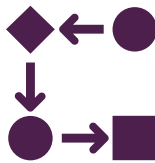
Outcomes

- How does the system impact the values of patients, their health & wellbeing?
- What are impacts on others such as payers, employees or the community?



Process

- Are the parts/steps in the system performing as planned?
- Are we on track in our efforts to improve the system?



Balancing

- Are changes in one part of the system causing problems in another part of the system?



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Independent Reflection

5 minutes on your own – jot down your thoughts.

Think about your grant project.

- What are you trying to accomplish?
- Who is your audience?
 - What data is interesting/compelling to them?
- How will you know that change is an improvement?
 - Specific, Measurable, Attainable, Relevant, Time-Bound
 - Quantitative and Qualitative Data
 - Outcome, Process, and Balancing Measures

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Volunteer to Share

- Briefly share about your grant project.
- What are you trying to accomplish?
- Who is your audience?
- How will you know that change is an improvement?

Getting at Data

- Collection: What data do we have?
 - Retrospective/Prospective
- Source: Where does the data reside?
 - Electronic health record, health information exchange, claims, surveys, other reporting systems
- Extraction: How do we get the data?
 - What process is used? Who is responsible?

Data Analysis

Understanding the what, why, when, where, and how of your data

Descriptive

Summarizes data to highlight anomalies, trends and underlying issues



What happened?

Diagnostic

Identifies potential root causes



Why did this happen?

Inferential & Predictive

Makes estimates and tests hypotheses to draw conclusions about causation



How did this happen?

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Stratification

Enables you to consider:

- Time of day
- Day of week
- Site of care
- Care providers
- Procedures
- Patient characteristics



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When to Stratify

When what you are measuring may differ based on some characteristic of the data. For example:

- Wait times differing by age
- Types of admissions vary by zip code
- Adherence to standard practice protocols differ by day of the week or time day
- Success of engagement strategies differ by site, population of focus, time of day, etc.

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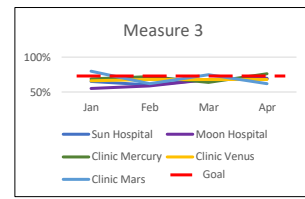
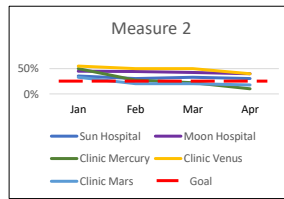
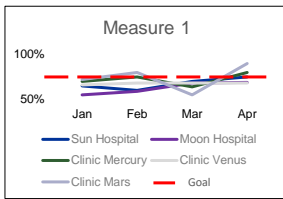
Data Visualization

- Tables
- Histograms
- Bar Charts
- Line graph
- Pie Charts
- Scatter Plots



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Quality Data Dashboard



Measure	Desired goal	Desired Trend	Baseline Performance	Current Performance	Current Trend
Measure 1	75%	increase	58%	86%	
Measure 2	25%	decrease	35%	30%	
Measure 3	75%	increase	67%	65%	

Useful When:

- You want to present high-level summaries of data in a snapshot
- You want to tell a big picture story to various partners/audiences
- You want to monitor and/or analyze large amounts of data quickly
- You want to engage partners into interacting with and impacting your data goals

Narrative Stories



Data Collection and Monitoring Plan

- Measure name
- Measure definition
- Kind of data
- Data source
- Frequency of measurement
- Person responsible
- Data display method(s)
- Baseline performance
- Performance goal
- Stratification factors
- Narrative story
- Audience

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Objectives Review

- Describe how data is used to inform improvement
- Differentiate between qualitative and quantitative data
- Distinguish between process, outcome, and balancing measures
- Discuss data stratification and its role in analysis
- Identify appropriate data visualization techniques
- Develop a data collection strategy

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Independent Reflection

Regarding the session objectives:

- Which do you feel most confident about?
- Which do you feel least confident about?
- What will you do as a result of today's session?

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Waterfall Chat

Draft your response in chat.

Don't hit enter until I tell you to.

- Which do you feel most confident about?
- Which do you feel least confident about?
- What will you do as a result of today's session?



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Questions?

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