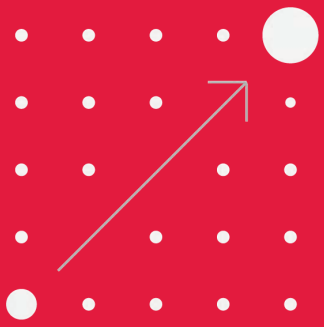
Explain THIS

Measurement for Improvement



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This resource is adapted from 'Measurement for Improvement', by Alene Toulany and Kaveh G. Shojania, part of THIS Institute's series 'Elements of Improving Quality and Safety in Healthcare'.

About the series

Explain THIS is a collection of short, accessible microlearning resources designed to help people working in healthcare improvement understand key concepts and approaches. Whether you're new to improvement work or looking to refresh your knowledge, Explain THIS offers clear explanations and links to further resources to support your learning.

Explore the series here:
https://ths.im/explain-this

About this resource

This resource offers clear, practical guidance on measurement for healthcare improvement. It defines terms, describing structural, process, and outcome measures, and the types of data that can be collected to measure healthcare improvement efforts. The resource also includes practical questions to guide planning, alongside links to further reading for deeper insights. Whether you're starting a new improvement initiative or looking to expand and sustain existing work, this guide provides actionable advice to support your efforts.

Definitions

Measurement is an essential part of improving healthcare. It helps teams understand whether they are making progress towards their goals, where changes are needed, and whether those changes are actually working.

There's no single perfect way to measure healthcare improvement. Healthcare is complex and quality can mean different things to different people. Efforts to create change can have both positive and unintended effects. Numbers alone rarely tell the full story, so combining data with people's experiences and perspectives can often help clarify whether any improvement is real or why challenges persist.

Data refers to the information relevant to improvement, which may be quantitative (measured) or qualitative (collected through non-numerical methods).

Quantitative data provides numerical insight, such as the amount of time a procedure takes, rates of medication errors, or patient satisfaction scores.

Qualitative data, gained through methods such as observations, focus groups or interviews, can give different insights – particularly from the perspective of those involved in a change initiative.

Measurement is the process of using data in a meaningful way to track progress, identify patterns, and drive decisions.

Types of measures

Measurement for improvement can focus on structures, processes, or outcomes.

Structural measures assess the settings in which care happens, such as staffing levels, availability of equipment or technology, or buildings and facilities.

Advantages

- ✓ Relatively easy to measure and understand.
- ✓ Capture aspects of care that have the potential to affect multiple processes and outcomes.

Disadvantages

- × Can lack detail.
- × Often hard to change.
- × Relationships between structure and outcomes not always clear.

Process measures capture the actions and processes involved in delivering care, such as decision-making, teamwork, and adherence to guidelines.

Advantages

- ✓ Directly measure the care patients receive.
- ✓ Can detect quality problems before poor outcomes become apparent.
- ✓ Directly suggest targets for improvement.

Disadvantages

- × May be multiple processes that are hard to link to measures.
- × Not always meaningful for patients or decision-makers.

Outcome measures assess the effects of care on the health status of patients and populations, such as mortality, improved patient experience.

Advantages

- ✓ Meaningful to patients, providers, and decision-makers.
- ✓ Capture the ultimate goal of improvement efforts.

Disadvantages

- × Multiple factors influence outcomes.
- × Adjustment for casemix (the mix of patient characteristics and conditions that can influence outcomes) can be difficult.

Balancing measures are essential to detecting any potential unwanted consequences, making sure that improvements in one area don't cause problems elsewhere.

Types of data

Healthcare improvement efforts can draw on many different sources of data, including:

- **Administrative data**, such as diagnostic codes used to record hospital admissions and procedures.
- **Data warehouses**, which bring together information from multiple parts of the healthcare system in one comprehensive database – including medical records, staffing assignments, supply chain, and financial data.
- **Patient registries and national clinical audits**, containing information on patients who have a particular disease or condition.
- **Chart reviews**, where information is taken directly from patient records.
- **Key performance indicators**, used to track important areas of performance.
- **Patient and staff surveys**, used to measure patient and staff experience and satisfaction.
- **Publicly available patient feedback**, including comments shared on social media and websites.

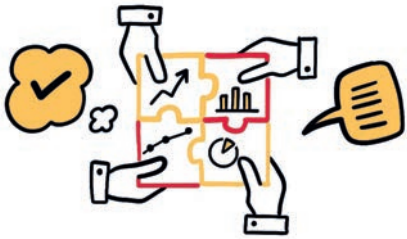
Using multiple data sources can help teams understand the nature and scope of quality problems, and what might be causing them. Presenting or visualising data in ways that will engage team members is also important.

Whatever types of data are involved, they should help answer three key questions about the improvement intervention:

- Was it tested or implemented successfully?
- Did it achieve what it was meant to?
- Did it create any new or unexpected problems?

Top tips for measurement for improvement

Use a family of measures



No single measure can tell the whole story of a healthcare improvement effort. Use a small, balanced set of structure, process, and outcome measures to show progress and potential side effects. Don't use too many measures at once as it can become difficult to figure out what caused any change.

Ensure data quality

Reliable and accurate data is crucial for improvement efforts. Collect data consistently and quality assure it.

Monitor variation over time

Understanding variation over time is critical to improvement efforts. Look for sustained trends or changes over time, not just isolated points.

Engage stakeholders

Involve frontline staff in measurement. Their insights can ensure that you are measuring the right things and interpreting data meaningfully.

Avoid measurement burden

Make data collection as easy as it can be for patients and clinicians. Only collect the data you need.

Use data to learn and adapt

Improvement is an ongoing process. Use what the data shows to adjust your approach, test new ideas, and keep learning.

Practical questions

1. What specific improvement goal or problem are you addressing?
2. What measures will best show progress toward this goal?
3. Have you considered structure, process, and outcome measures to get a full picture?
4. Is there any existing data you can use?
5. How will you prevent bias in your sampling and data?
6. What is the starting point or baseline for your measurements?
7. Is the period of time you're using the right length to accurately reflect what you want to measure?
8. How will you collect and analyse data consistently and reliably?
9. How will you assess whether changes are having the desired effect?
10. How will you engage frontline staff in the measurement process?
11. Are you collecting only the amount of data needed?
12. How will you present the data? Can you use visualisation techniques, such as charts, graphs, or diagrams?
13. What will you do if the data shows no improvement?
14. What will you do if unwanted effects show up?
15. How will you assess whether the improvement can be sustained over time?

Notes

Notes

Useful resources

The following resources have been selected to provide further information for those working in healthcare improvement.

The Healthcare Improvement Studies (THIS) Institute
Alene Toulany and Kaveh G. Shojania
Measurement for Improvement
https://doi.org/10.1017/9781009326063

NHS Institute for Innovation and Improvement
Improvement Leaders' Guide
https://www.england.nhs.uk/improvement-hub/wp-content/uploads/sites/44/2017/11/ILG-2.1-Measuring-for-Improvement.pdf

NHS Elect
Measurement for Improvement Online Course
https://www.nhselect.nhs.uk/online_training_courses_detail.aspx?sectionID=42

THIS Institute
Mohammed A Mohammed
Statistical Process Control
https://doi.org/10.1017/9781009326834

NHS Institute for Innovation and Improvement
The How-to guide for measurement for improvement
https://www.england.nhs.uk/improvement-hub/wp-content/uploads/sites/44/2017/11/How-to-Guide-for-Measurement-for-Improvement.pdf

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