Institute for Healthcare Improvement

Improving Health and Health Care Worldwide

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How to Improve

Science of Improvement: Tips for Effective Measures

See also: Establishing Measures.

1. **Plot data over time.**
   Improvement requires change, and change is, by definition, a temporal phenomenon. Much information about a system and how to improve it can be obtained by plotting data over time, such as data on length of stay, volume, patient satisfaction — and then observing trends and other patterns. Tracking a few key measures over time is the single most powerful tool a team can use.

2. **Seek usefulness, not perfection.**
   Remember, measurement is not the goal; improvement is the goal. In order to move forward to the next step, a team needs just enough data to know whether changes are leading to improvement.

3. **Use sampling.**
   Sampling is a simple, efficient way to help a team understand how a system is performing. In cardiac surgery, the patient volume is typically low enough to allow tracking of key measures for all patients. However, sampling can save time and resources while accurately tracking performance. For example, instead of monitoring the time from catheterization to cardiac surgery continuously, measure a random sample of 10 to 20 cardiac surgery patients per month.

4. **Integrate measurement into the daily routine.**
   Useful data are often easy to obtain without relying on information systems. Don't wait two months to receive data on patients' average length of stay in the hospital from the information systems department. Develop a simple data collection form, and make collecting the data part of someone's job. Often, a few simple measures will yield all the information you need.

5. **Use qualitative and quantitative data.**
   In addition to collecting quantitative data, be sure to collect qualitative data, which often are easier to access and highly informative. For example, ask the nursing staff how weaning from medications is going or how to improve the sedation protocol. Or, in order to focus your efforts on improving patient and family satisfaction, ask patients and their families about their experience of the cardiac surgery process.

HOW TO IMPROVE

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