

Building A Foundation For Quality Improvement Programs: Indicators & Sources Of Data



Mazi Abdolrasulnia, PhD, MBA, MPH
mazi@m-consultingllc.com

Mazi Abdolrasulnia, PhD, MBA, MPH is Founder of M Consulting LLC and Adjunct Assistant Professor of Health Care Organization and Policy, School of Public Health, University of Alabama at Birmingham. M Consulting LLC provides training and consulting services related to quality improvement.

Measuring the success of a quality improvement program can seem daunting and costly. For example, application of various methodologies, data sources, and indicators, one can use to draw inferences that are meaningful and accurate are numerous and variable. The cornerstone of quality improvement is DATA. The purpose of this article is to outline various data sources, considerations, and types of indicators that can be applied when developing quality improvement programs.

Measuring indicators as a quality improvement tool

Indicators are used to evaluate the degree to which an organization is successful in achieving its goal(s). They are tools to quantify operational processes, health outcomes, care delivery,

patient perceptions/experiences, and systems-related support services (Table 1). Examples of quality indicators include HEDIS, PCPI, and QOPI to name a few. There are many ways to assess these measures and multiple facets to indicators. For example, when examining health outcomes we can think of survival, functional status, or recovery time and these can be measured through patient reported surveys, registries, or extracted from clinical charts. Currently, most indicator measures are process oriented and focus on what a physician does (e.g. orders A1c test). However the field is rapidly growing to include patient-centered and outcome measures such as amputation rates or vision loss related to Type 2 Diabetes. Often these patient-centric and outcome measures are not captured but for

the purposes of this paper we will focus on what currently exists for use in quality improvement programs.

Data sources for measuring indicators for quality improvement

There are many sources of data for measuring indicators for quality improvement as described in Table 2. Selecting and understanding the limitations of these data sources matters to the success of any quality improvement initiative. Table 2 provides an overview of some of the major data sources and the pros and cons of each.

Summary

The key for designing, implementing, and evaluating a quality improvement program is to build on a solid foundation of reliable and relevant data, and indicators that can be measured to reflect the program goals. Other considerations include: **a.** identifying gaps associated within the study population, **b.** technology and capabilities to calculate measures based on the data obtained, **c.** direct interventions to “poor performers”, and **d.** resources needed to conduct the analysis. So take the time at the planning stage to ensure higher success and yield from your efforts.

Table 1: Types of Quality Measures

Type of Indicators	Measures	Example
System	Assess the features, capabilities and support services of the delivery system	Staffing ratio, equipment (MRIs), Number of beds
Process	Linked to the activities carried out by HCPs	Percentage of eligible patients who have received a flu shot
Outcome	Health status, morality or physiologic results and markers. Patient reported outcome (e.g., pain levels)	Average A1c level of T2DM patient population is 7.2%
Patient Experience	Patient satisfaction, patient understanding, self-efficacy, communication	HealthActCHO surveys such as the Patient After the Visit Evaluation

Table 2: Types of Data Sources

Data Source	Pro	Con	Application
Electronic Medical Records (manual chart reviews for unstructured data)	<ul style="list-style-type: none"> • Potential prospective or near real-time analysis • Comprehensive and relatively timely clinical information 	<ul style="list-style-type: none"> • 80% of data unstructured • Lack information from outside the specific site(s) included unless part of network 	Examining the impact of diabetes initiative on A1C values
Claims Data	<ul style="list-style-type: none"> • Cost, hospitalization, and health care utilization studies • Cost-effective methods for secondary or population data analysis 	<ul style="list-style-type: none"> • Lack details on inpatient care, labs, disease assessments, comorbidity • Transactional and often incomplete reflection of care processes and patient outcomes. 	Examining the impact of an initiative on immunization rates
Registries	<ul style="list-style-type: none"> • Uniformed data from multiple sites • Specific to certain condition or disease 	<ul style="list-style-type: none"> • May not provide longitudinal information • Non-randomized data and difficult to verify 	Examining the impact of an initiative on treatment selection
Patient surveys	<ul style="list-style-type: none"> • Provides the perspective of the patient directly from them • Valid tools exist and have been test to produce reliable data 	<ul style="list-style-type: none"> • Cross-sectional data • Costly to obtain 	Examining the impact of an initiative on patient experience of care

References

1. Cebul, R. & et al. Electronic health records and quality of diabetes care. *New England Journal of Medicine*, September 1, 2011, 365(9): 825-33.
2. Desai, J. & et al. Diabetes and asthma case identification, validation, and representativeness when using electronic health data to construct registries for comparative effectiveness and epidemiologic research. *Medical Care*, July 2012, 50(7) Suppl 1: S30-S35.
3. Landgraf, JM. Monitoring quality of life in adults with ADHD: Reliability and validity of a new measure. *Journal of Attention Disorders*, 2007;11(3):351-362.
4. Larsson S, Lawyer P, Garellick G, Lindahl B, Lundström M. Use of 13 disease registries in 5 countries demonstrates the potential to use outcome data to improve health care's value. *Health Aff (Millwood)*. 2012 Jan;31(1):220-7.