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## The Four Faces of Measurement

**W**orksite health promotion is no different from any other area of the company when it comes to being accountable for value, performance, and improvement of programs and services. The use of data to show current performance and new opportunities or strategies for improvement strengthens the positioning of many programs. In fact, it may be considered impossible to make lasting improvements without measurement. However, the selection or design of the optimal measurement strategy to assess program value and performance should be made while keeping the end in mind.

Program measurement can vary between simple assessments and complex analyses. It can be fairly inexpensive or quite costly. It is therefore important to have specific goals and a clear set of objectives around which the measurement activities can be designed. A focused, clear, and meaningful measurement strategy can be created that incorporates a balanced set of measures, keeps the measurement process as simple as possible, allocates an appropriate amount of resources to the task, and reports the results to the identified audiences in the most compelling manner. The first task is to decide what “face” to put on the measurement activity, that is, what is the overall purpose for the measurement task? Based upon several reports in the quality improvement literature (1–4), four fundamentally different reasons for measurement are outlined here and constitute the “four faces of measurement.” Measurement can be used for the following:

- decision making
- accountability

- improvement
- surveillance, longitudinal analysis, and knowledge discovery

### Measurement for Decision Making

Measurement can support decision making by ensuring that specific data analyses and information are presented in a timely manner so as to provide relevant and meaningful contributions to the deliberations on the topic at hand. This type of measurement support should involve measures that are relevant, valid, and reliable. In addition, measures may support the creation of scenarios or data-driven assumptions that can provide reasonable estimates of a future state, such as projected return on investment.

### Measurement for Accountability

Accountability for achievement or progress towards a set of stated program objectives is typically accompanied by periodic reporting of a set of agreed-upon measures. A good example of such measurement is the Health Plan Employer Data Information Set (HEDIS) from the National Commission on Quality Assurance (NCQA, [www.ncqa.org](http://www.ncqa.org)). This type of measurement approach includes a defined set of measures linked to key program objectives. Most, if not all, are outcome measures that are presented with great transparency, thereby holding an individual organization or program accountable for its performance. The measures included need to be accurate, valid, and reliable and may need to be collected with the aid of external staff or independent audits. Finally, only a few but vital set of measures should be used.

### Measurement for Improvement

Measurement designed to support program improvement includes data collection and analyses that identify barriers, opportunities, and process-related issues that ultimately enhance performance. To integrate this approach to measurement into daily operations where it is most effective, the measurements need to be simple, easy to implement, and reported in frequent and rapid cycles of operations. A good example of this type of measurement approach is the Plan-Do-Study-Act (PDSA) cycle (5), in which staff plan the change, do the change, study the results, and act upon the results on the basis of what has been learned.

### Measurement for Surveillance, Longitudinal Analysis, and Knowledge Discovery

The discovery of new knowledge through research, as well as the ongoing surveillance of the worksite population, requires a higher level of measurement expertise. Health-related trends may be uncovered by more in-depth analyses of longitudinal data. Sophisticated analyses may be



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**Table. Characteristics Related to Four Different Reasons for Program Measurement**

Measurement for:	Decision-Making	Accountability	Improvement	Surveillance, Longitudinal Analysis, and Knowledge Discovery
<b>Who?</b>				
Audience (for whom?)	<ul style="list-style-type: none"> <li>• Management with budget responsibility</li> <li>• CEO; CFO; top management</li> </ul>	<ul style="list-style-type: none"> <li>• CEO; CFO; top management team</li> <li>• Management with budget responsibility</li> </ul>	<ul style="list-style-type: none"> <li>• Program staff</li> <li>• Management team</li> </ul>	Program leadership at every level
<b>Why?</b>				
Purpose	<ul style="list-style-type: none"> <li>• Understanding of cost-benefit</li> <li>• Prioritization</li> <li>• Understanding of need and demand</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate performance</li> <li>• Comparison</li> <li>• Reassurance</li> <li>• Identify need for change</li> </ul>	<ul style="list-style-type: none"> <li>• Understanding of processes</li> <li>• Understanding of user groups or employees</li> <li>• Baseline assessment</li> <li>• Evaluation of changes</li> </ul>	<ul style="list-style-type: none"> <li>• Notice patterns and trends</li> <li>• Explain areas of concern</li> <li>• Monitor population health statistics of special interest</li> <li>• Show causality</li> </ul>
<b>What?</b>				
Scope	<ul style="list-style-type: none"> <li>• Specific to organizational interests and needs</li> <li>• Specific to program needs</li> <li>• Specific to customer demands</li> </ul>	<ul style="list-style-type: none"> <li>• Specific to organizational interests and needs</li> <li>• Specific to program needs</li> <li>• Specific to customer demands</li> </ul>	Specific to individual program needs	Universally applicable to organizational needs and demands
Measures	<ul style="list-style-type: none"> <li>• Few</li> <li>• Reasonable, reliable, and valid</li> <li>• Projected estimates with acceptable assumptions</li> </ul>	<ul style="list-style-type: none"> <li>• Very few</li> <li>• Accurate, reliable, and valid</li> </ul>	<ul style="list-style-type: none"> <li>• Few</li> <li>• Easy to collect</li> <li>• Simple</li> <li>• Approximate</li> <li>• Fast</li> </ul>	<ul style="list-style-type: none"> <li>• Many</li> <li>• Complex</li> <li>• Precise, reliable, and valid</li> <li>• Systematic collection</li> </ul>
Time Period	<ul style="list-style-type: none"> <li>• Intermediate, retrospective, prospective (projected, estimated)</li> </ul>	<ul style="list-style-type: none"> <li>• Long, retrospective</li> </ul>	<ul style="list-style-type: none"> <li>• Short, concurrent, ongoing</li> </ul>	<ul style="list-style-type: none"> <li>• Long, retrospective, prospective</li> </ul>
Confounders	<ul style="list-style-type: none"> <li>• Consider, but rarely measure</li> </ul>	<ul style="list-style-type: none"> <li>• Describe and try to measure</li> </ul>	<ul style="list-style-type: none"> <li>• Consider, but rarely measure</li> </ul>	<ul style="list-style-type: none"> <li>• Measure and/or control</li> </ul>
<b>When?</b>				
Timing and timeliness	<ul style="list-style-type: none"> <li>• Annual</li> <li>• Periodic based upon schedule</li> <li>• In time to inform budget-related decisions</li> </ul>	<ul style="list-style-type: none"> <li>• Annual</li> <li>• Insync with comparison units</li> </ul>	<ul style="list-style-type: none"> <li>• Ongoing</li> <li>• Insync with improvement cycles</li> <li>• Insync with program implementation efforts</li> </ul>	<ul style="list-style-type: none"> <li>• Ongoing</li> <li>• Specific to issue or topic needing to be examined</li> </ul>
<b>How?</b>				
Data collection staff	<ul style="list-style-type: none"> <li>• Internal with external expertise as required</li> </ul>	<ul style="list-style-type: none"> <li>• Internal with external expertise as required</li> </ul>	<ul style="list-style-type: none"> <li>• Internal</li> </ul>	<ul style="list-style-type: none"> <li>• External</li> <li>• Internal if expertise is available</li> </ul>
Sample sizes	<ul style="list-style-type: none"> <li>• As large as feasible</li> <li>• Specific to identified population</li> </ul>	<ul style="list-style-type: none"> <li>• Large</li> <li>• Statistically valid</li> </ul>	<ul style="list-style-type: none"> <li>• Small</li> <li>• Convenience samples</li> </ul>	<ul style="list-style-type: none"> <li>• Large</li> <li>• Statistically valid</li> </ul>
Data collection process	<ul style="list-style-type: none"> <li>• Sufficiently complex to assurance acceptable level of accuracy, reliability, and validity to take action</li> </ul>	<ul style="list-style-type: none"> <li>• Complex</li> <li>• Requires moderate effort and cost</li> </ul>	<ul style="list-style-type: none"> <li>• Simple</li> <li>• Minimum cost required</li> <li>• Integrated with program implementation</li> </ul>	<ul style="list-style-type: none"> <li>• Highly complex</li> <li>• Costly</li> </ul>

*(Continued on next page)*

Table. Continued

Measurement for:	Decision-making	Accountability	Improvement	Surveillance, Longitudinal Analysis, and Knowledge Discovery
Confidentiality and Privacy	<ul style="list-style-type: none"> <li>• Very high</li> <li>• De-identified data only</li> <li>• Comply with HIPAA and ADA regulations</li> </ul>	<ul style="list-style-type: none"> <li>• None for purposes of comparison—the goal is exposure and transparency</li> <li>• De-identified data only</li> <li>• Comply with HIPAA and ADA regulations</li> </ul>	<ul style="list-style-type: none"> <li>• Usually repeated frequently in order to create process run charts</li> <li>• Very high</li> <li>• De-identified data only</li> <li>• Comply with HIPAA and ADA regulations</li> </ul>	<ul style="list-style-type: none"> <li>• Very high</li> <li>• De-identified data only</li> <li>• Comply with HIPAA and ADA regulations</li> </ul>

able to present trends, associations, and causal inferences of worksite health promotion related results and opportunities that otherwise would go unnoticed. This type of measurement involves a relatively complex methodology, includes precise, reliable and valid measures, can take a long time to complete, and may be very costly.

**Measurement Characteristics for the “Four Faces of Measurement”**

The Table presents the “four faces of measurement” as outlined above and delineates a variety of characteristics that address the appropriate audience, purpose, type of measures, timing of measurement, and measurement methodologies to consider when selecting the most appropriate measurement approach for any worksite health promotion measurement task. Broadly, these categories describe the “who, why, what, when, and how” of the measurement approach and recognize some fundamental differences among the four reasons for measurement. At the same time, the rows represent the respective programming needs for measurement

and issues related to data integration and reporting.

For worksite health promotion practitioners, the selection of the most appropriate measures at the most appropriate cost that most accurately reflect the intent and results of the program is of utmost importance. The “four faces of measurement” may provide a useful framework for data management that can be readily applied to the unique needs of worksite health promotion programs (Table).



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