

Performance Measurement and Reporting

Considerations for identifying and reporting measures of performance in documenting quality improvement efforts for maintenance of certification are elaborated below.

Identify the population eligible for measurement. The population eligible for measurement should be clear. In most instances, the study population is the eligible population. However, a specific aspect of performance may apply only to a subpopulation. If so, the further limitations of eligibility should be stated. For example, for 9-month old patients seen in a clinic, all patients are included in assessments of whether or not an oral exam is performed, but only the subgroup with teeth are assessed regarding whether or not fluoride varnish is applied to teeth.

Determine the measure(s) of performance. What measures will guide the QI effort in assessing baseline performance, developing specific aims for improvement, and assessing the extent of improvement following interventions? One measure is required (you may have more), but it must be assessed at least three time periods: baseline, post-intervention, and post-adjustment.

Three common types of measures and their calculation (numerator and denominator) are:

Percent – how frequently is a criterion met (yes or no) over the number of instances observed? For example, percent of diabetic patients with HbA1c measured. Calculation is: numerator = the number of instances where the criterion is met, denominator = the total number of instances. For example, the number of diabetic patients with HbA1c measured divided by the total number of diabetic patients.

Mean – what is the average level of occurrence? For example, the average waiting time for patients. Calculation is: numerator = the sum of value across instances, denominator = the number of instances. For example, the sum of waiting times for all patients divided by the number of patients.

Frequency – how often does something occur in a time period? For example, number of errors reported over a period of two weeks. Report descriptively: the number of instances (numerator) in the observation period (denominator).

Determine how data for measures will be collected. The availability of needed data and the ease of collecting data may limit the ability to perform a data-guided QI project. Initial planning should include determining the practical feasibility of data collection given resources available. Common ways to collect data include keeping a special record or tally of events, someone abstracting data from medical records, or a programmed report produced from electronic medical records. QI projects aligned with institutional efforts may have a higher priority among requests for institutional help with data collection.

Decide how to present results on measures of performance. Results of performance measures need to be presented so that performance can easily be compared across a minimum of three points in time (baseline, post-intervention, post-adjustment). The ABMS Multi-specialty MOC Program requires that data be presented in graphic form, e.g., a table, bar graph, or run chart (line graph). Several [EXAMPLES OF GRAPHIC PRESENTATIONS OF PERFORMANCE RESULTS](#) illustrate possibilities. Any of these presentation formats is acceptable. In determining the method of presentation for your results, consider the number of variables, the frequency with which data are reported, visual communication of overall trends and specific information, and resources available to develop the presentation.

Formal statistical analysis typically not required. Practical operational decisions are often based on information that provides a clear direction, but is not required to have a demonstrated probability $< 5\%$ ($p < .05$) of reflecting a true difference. The results of tests of statistical probability depend on the magnitude of difference observed and the size of the samples. Sometimes the available sample is limited and practical decisions must be made based on available information. However, statistical tests of reliability can always be performed and are expected if results are to be shared widely or published.