

027: USING COMPOSITE PERFORMANCE MEASURES FOR THE PUBLIC REPORTING OF HOSPITAL PERFORMANCE DATA.

Authors:

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Objective:

To evaluate composite measures of hospital performance for the purpose of public reporting.

Methods:

Clinical indicator sets for Acute Myocardial Infarction (AMI), Heart Failure (HF), and Pneumonia (PNE), developed by both the Joint Commission on the Accreditation of Healthcare Organizations (JCAHO) and the Center for Medicare and Medicaid Services (CMS), were applied to data from the Cooperative Cardiovascular Project database and the JCAHO Core Measure Pilot Project to determine the proportion of cases that meet the criteria for inclusion in the denominator of each measure. A national database of Medicare discharge data was examined to estimate the number of cases per condition at each hospital in the database. Hospitals were classified into quartiles based on their annual patient volume within each condition. The median expected denominator size for each measure was calculated for each quartile of hospitals. This process was repeated using a composite measure, which combined the results of multiple indicators within each condition. The expected denominator size for individual indicators was compared to the denominator size for the composite measures.

The composite measures were then evaluated by a group of stakeholders for a public reporting project in the State of Rhode Island to determine their acceptability for inclusion in public reports. Stakeholders included representatives from The State Department of Health, The Hospital Association of Rhode Island, Quality Improvement Organizations, Hospitals and Consumer Groups.

Results:

The annual volume of Medicare insured cases for AMI (median = 21, inter-quartile range 2 to 75), HF (median =59, inter-quartile range = 11 to 167), and PNE (median = 76, inter-quartile range 20 to 172) seen at many U.S. hospitals is so small that sample sizes were inadequate for statistically precise measurement of hospital performance using many of the indicators evaluated.

The proportion of cases included in the denominator of individual measures for AMI ranged from 79% (aspirin at admission) to a low of 5% (time to PTCA). Similar variation was noted for HF and PNE indicators.

The composite measures produced substantially larger denominators than individual performance measures. The composite measure for AMI produced denominators that were 3.2 times larger than the individual clinical indicator with the largest denominator (aspirin at admission) and more than 50 times larger than the indicator with the smallest denominator (time to PTCA). Similar results were found for composite measures developed for HF and PNE Indicators.

Review of the composite measures with public reporting stakeholders indicated that composite measures would contribute to producing public reports that are more understandable to consumers and other stakeholders.

Conclusions: The authors conclude that use of composite measures greatly improve the sample sizes used to evaluate hospital performance. Indicators that would be impractical for individual reporting due to problems with measurement imprecision could be utilized in a composite measure. Problems with reader interpretation may also be improved by the use of composite measures as they reduce the amount of information that the user must interpret and facilitate the simplification of medical terminology.