IND-004 ASSESSING THE RELIABILITY OF STANDARDIZED HEALTH CARE QUALITY INDICATORS IMPLEMENTED ACROSS THE UNITED STATES

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Objective:
The study assesses the reliability of 22 health care quality indicators that have been implemented by approximately 3,500 U.S. hospitals, in order to identify and resolve issues that may hinder the use of the indicators as quality improvement tools.

Methods:
In July 2002, approximately 3,500 hospitals accredited by the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) began collecting data on four sets of standardized health care quality indicators. Each set is comprised of several evidence-based indicators that address a specific disease or condition. The four sets are: Acute myocardial infarction (AMI; 9 indicators), heart failure (HF; 4 indicators), community acquired pneumonia (CAP; 5 indicators), and pregnancy and related conditions (PR; 3 indicators). Hospitals were required to submit data on their choice of two of the four indicator sets. Initial set selections included: 1,674 hospitals collecting AMI indicator data, 2,242 collecting HF indicator data, 2,145 collecting CAP indicator data and 978 collecting PR indicator data.

The reliability of these data are critical, since multiple stakeholders will use the data for a variety of purposes, including health care quality improvement and the public reporting of indicator rates. Therefore, with funding from the U.S. Agency for Healthcare Research and Quality (AHRQ; 1U18HS13728-01), the Joint Commission is completing an assessment of performance indicator reliability.

In order to facilitate implementation of standardized indicators across 3,500 hospitals, the Joint Commission developed detailed indicator specifications and a process to verify that these technical specifications had been implemented correctly. In order to account for the tremendous disparity of technical infrastructure within organizations, however, the actual mechanism for data collection often varied across hospitals. Implementing indicators on an international scale will require a similar approach, as data collection and transmission activities are likely to vary significantly within and across nations. This variation created a unique challenge to standardization and required an evaluation of data collection reliability.

The evaluation assessed the reliability of indicator data across hospitals. A sample of 30 hospitals, stratified by size, setting (urban/rural), and financial status (profit/non-profit), was identified. JCAHO data abstractors visited each facility and reabstracted approximately 30 medical records (15 records were randomly selected per indicator set) at each site. Data collected by JCAHO abstractors were then compared, data element by data element, to data originally collected by the hospital. Discrepancies were discussed with the original data abstractor to gather explanations for the discrepancies and identify systemic data collection problems and solutions.

Results:
Fifteen of 22 indicators had an agreement rate in excess of 0.90, and 19 of 22 indicators had agreement rates of 0.82 or better. Measures in the HF and PR sets had agreement rates that ranged from 0.92 to 0.95 and 0.98 to 0.99 respectively. Agreement rates for measures in the AMI set ranged from 0.78 to 0.98, and CAP rates ranged from 0.73 to 0.97.

Conclusions:
Reliability testing has been successful in identifying a number of data quality concerns that can be easily addressed and corrected. Perhaps most significantly, the study revealed that problems with reliability could frequently be traced back to a few specific data elements (i.e., arrival time, contraindications to medication). Identification of these data elements has helped to direct adjustments to data element definitions and has been used to modify abstractor guidelines in an effort to improve clarity. The information will also be used to guide educational efforts to improve understanding across hospital abstractors. Based upon feedback from hospital abstractors, implementation of new indicators may be benefit from more aggressive educational programs that directly target hospitals in addition to measurement system vendors. This general approach may serve as a model to support the international implementation of indicators.