Deciphering Harm Measurement

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Improvement in health care quality and safety can be notable when measurement criteria are clear, evidence is strong, and policy and interventions are focused. Despite this potential, progress in reducing patient harm in hospitals has been slow. In an effort to catalyze progress, the Department of Health and Human Services (HHS) is funding a national program, Partnership for Patients (P4P), with the ambitious goal of reducing "preventable hospital-acquired conditions" by 40% by 2013, focused initially on 9 complications. Although the program's goal formally includes only preventable harm, the HHS notes "the Partnership will target all forms of harm" and provide guidance to hospitals for reducing "all-cause harm." Simultaneously, the list of "serious reportable events" for which the Centers for Medicare & Medicaid Services will modify physician and health care institution payment is increasing. However, delay in defining a measurement strategy for harm has slowed progress and has created confusion. The need to reach consensus on robust, pragmatic measures for assessing and tracking harm rates has therefore become urgent.

Harm Measures

The terms harm, adverse events, and injuries are often used interchangeably. The Canadian Disclosure Guidelines provide particularly useful definitions: harm is "an outcome that negatively affects a patient’s health and/or quality of life"; an adverse event is "an event which results in unintended harm to the patient, and is related to the care and/or services provided to the patient, rather than to the patient’s underlying medical conditions."

Measures of harm can be grouped into those that focus on specific types of harm—the Harvard Medical Practice Study, the Medicare Patient Safety Monitoring System, and the Agency for Healthcare Research and Quality (AHRQ) Patient Safety Indicators—and those that focus on all-cause harm—the Global Trigger Tool and derivative methods (TABLE). The Harvard Medical Practice Study method used 18 criteria to find information in medical records that leads to "readily identifiable events associated with poor patient outcomes." The Medicare Patient Safety Monitoring System applies algorithms to administrative and medical record data to detect common and serious events. This condition-specific approach includes a high proportion of total harms and may provide a reasonable estimate of all-cause harm. The AHRQ is redesigning its Medicare Patient Safety Monitoring System for use as a retrospective surveillance system to track improvement in safety. The agency currently supports Patient Safety Indicators, which mine prespecified International Classification of Diseases, Ninth Revision, Clinical Modification codes in administrative data to detect 19 hospital-acquired conditions. Patient Safety Indicators provide reasonably precise estimates for a number of hospital-acquired harms given that AHRQ excludes harms present on admission and provided that the coding is performed accurately.

In contrast, the Global Trigger Tool measures all-cause harm, building on studies demonstrating that record review can be expedited by screening for triggers—clues that increase the likelihood that the patient experienced harm. The Global Trigger Tool has reasonable reliability and is more sensitive than other methods used by hospitals to assess all-cause harm. However, the tool remains controversial. Critics suggest that it is not appropriate to include harms that are present on admission unless those harms clearly resulted from care during a prior hospital admission. Some contend that hospitals should not be held responsible for nonpreventable harms; others counter that harms deemed nonpreventable today may be considered preventable in the future, citing substantial reductions in catheter-associated bloodstream infections previously thought unavoidable. Critics contend the Global Trigger Tool inflates harm rates by including nonsevere, temporary harms; on the other hand, the Global Trigger Tool underestimates the true burden of harm because it does not detect diagnostic errors and errors of omission. It also relies on labor-intensive manual chart review.

The Office of the Inspector General adapted the Global Trigger Tool for its National Point Prevalence Study, avoiding some of these controversies by excluding harms that were present on admission, calculating separate rates for higher-severity harms, and estimating rates of preventable harms. In a study by Levinson, a random sample of 750 Medicare records yielded a relatively precise estimate (13.5%, 95% CI, 10.9%-16.1%) of national all-cause harm. This approach may be appealing because it provides a sensitive method for estimating harm rates while excluding harms considered beyond the immediate control of the hospital and its clinicians.

Automated detection that leverages data in electronic health records could in theory supplement or possibly replace manual record review and the mining of administrative data. Automated real-time detection of triggers also could allow caregivers to intervene immediately to prevent or mitigate imminent harm.

Identifying Improvement Opportunities

Hospital leaders need multiple supplemental streams of information to understand patient safety issues and identify...
improvement opportunities. For example, voluntary reporting of near misses and failure-prone systems, while promoting a culture of safety. Morbidity and mortality reviews, executive walk-rounds, root-cause analyses, and failure modes and effects analyses can yield important clues to improving hazardous systems.

Conclusions

The Centers for Medicare & Medicaid Services and the AHRQ are well positioned to speedily clarify which measures and methods can most effectively evaluate progress toward the P4P goals. Until then, despite its imperfections, the Office of the Inspector General approach may be the best available method for determining national harm trends.

While awaiting consensus, individual hospitals can apply a portfolio of measurement methods, including those outlined in this Viewpoint, according to their own safety priorities. Condition-specific measures (including Patient Safety Indicators and real-time surveillance of specific harms) are valuable for within-organization improvement. However, hospitals will need to address multiple types of harm before substantial improvement in all-cause harm rates will be observed. Delay in measuring the effect of best practices on harm rates will postpone the day when the nation can celebrate significant improvement in patient safety.

## REFERENCES


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