Board Quality Scorecards: Measuring Improvement

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Abstract

Board accountability for quality and patient safety is widely accepted but the science for how to measure it is immature, and differences between measuring performance, identifying hazards, and monitoring progress are often misunderstood. Hospital leaders often provide scorecards to assist boards with their oversight role yet, in the absence of national standards, little evidence exists regarding which measures are valid and useful to boards to assess quality improvement. The authors describe results of a cross-sectional board study, identifying the measures used to monitor quality. The measures varied widely and many were of uncertain validity, generally identifying hazards rather than measuring rates. This article identifies some important policy implications regarding boards’ oversight of quality and acknowledges existing limits to how we can measure quality and safety progress on the national or hospital level. If boards and their hospitals are to monitor progress in improving quality, they need more valid outcome measures.

Keywords

hospital boards, quality and patient safety, quality scorecards, measuring improvement

Boards have a fiduciary responsibility to monitor and improve the quality and safety of care provided in their organizations. Yet recent evidence suggests that boards vary widely with regard to the priority they give this responsibility, their training to administer this duty, their use of systemwide measures and standards for the quality of patient care, and their knowledge of how to accurately assess improvement.

As boundaries for trustee accountabilities expand, boards need data to guide their quality and patient safety activities. Consumers, clinicians, and regulators want to know that patient care is evidence based, the risk of harm, and the outcomes achieved. The oversight duty presumes that measures for quality and patient safety exist and that it is possible to quantify hospital performance, especially whether it is improving over time and compared with other organizations. The Patient Protection and Affordable Care Act (P.L. 111-148) and the Health Care and Education Reconciliation Act of 2010 (P.L. 111-152) have a number of provisions that will add burden to this board accountability. These include plans for a national quality improvement strategy and for additional quality measures tied to public reporting and payment under federal health programs.

Yet policy alone will not change health care outcomes, nor will it provide dedicated board members with the skills needed to administer their oversight duty. Patient safety is a new science, and most measures of safety identify hazards rather than provide rates of quality. Moreover, the unique value of qualitative versus quantitative data may not be clear. Qualitative measures of performance are important and are often captured by hearing stories, both good and bad, from caregivers, patients, and families. Although qualitative data can provide meaningful insights to interpreting quantitative data, qualitative data alone are insufficient to monitor progress in improving safety. Hospitals and boards need

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quantitative data to make inferences regarding changes in safety over time, but not all quantitative quality and patient safety data are valid for that purpose. Inferences require rates; that is, they require an accurate and clear numerator of an event (how often the event occurred), a precise denominator (who is at risk for the event), and a surveillance system to identify events and those at risk for events.14

Unfortunately, many measures used in patient safety do not lend themselves to rates, yet hospitals use them to gauge progress, potentially misinforming the board and leaders. For example, self-reported events about medication errors, or other harmful event “triggers” identified by reviewing charts, are important in identifying hazards, yet they do not provide valid measures as rates.15 Nevertheless, hospitals commonly use these data to monitor progress in safety, providing biased and misleading information. Although data about hazards are important to help hospital leaders determine where to focus improvement efforts, they provide little information regarding whether those improvement efforts actually worked.16,17

Rate-based measures can monitor either processes of care (eg, the use of evidence-based therapies) or outcomes of care (ie, the results achieved). There is abundant literature about the relative merits of both types of measures.18,19 Process measures must be valid at 2 levels. First, the process (intervention) must be associated with improved patient outcomes. Second, the process must be accurately measured, reflecting the way it was used in the empiric literature to improve outcomes. For example, when monitoring safety regarding central line–associated bloodstream infections, we can measure a process (compliance with the checklist for inserting the catheter) or the outcomes (the infection rates). In general, process measures that evaluate completion of specific tasks, such as whether a patient received a specific drug, are much more valid than process measures that evaluate team behavior such as patient education or complying with a checklist.

Given the importance of boards’ fiduciary role in monitoring safety, developing strategic priorities, and allocating resources, it is essential that board members have the skill to discern measures that monitor progress from measures that assess performance and that the data they use to make inferences about improvement are accurate and valid. Yet there is little empirical research on the measures hospital boards use to guide their quality and safety efforts.20,21

This article conveys findings from one segment of a cross-sectional study of hospital boards in Tennessee and Michigan. The primary aims were to describe the measures boards review on their quality and safety scorecard and board self-confidence in understanding these measures and then to explore local and national policy implications of our findings.

Methods

Study Design and Study Population

This cross-sectional study sought to collect data regarding individual board member perceptions of self and group efficacy for quality and patient safety oversight and to understand what data boards receive to guide their efforts. The Tulane University School of Public Health and Tropical Medicine Institutional Review Board determined that the study qualified as exempt research. In July 2008, the principal investigator (PI; CAG) contacted The Tennessee Hospital Association and the Michigan Health and Hospital Association to accrue study participants. We wanted to learn from boards in areas where support for hospital improvement efforts was both central (hospital association) and local (hospital). We selected Michigan because of the diversity of Michigan hospitals and the previous statewide efforts to improve care through the Keystone ICU project.22 We selected Tennessee because it has similar hospital diversity, conducts a well-established Trustee education program, and sponsors an association Council to regularly and systematically address Trustee challenges.23 Each association agreed to invite its acute care hospitals to participate in the study.

We developed a survey to assess individual board member perceptions of self-efficacy for quality and patient safety oversight. We also asked participating sites to provide a blank copy of the board quality and patient safety scorecard. We provided no particular directions for the scorecard submission; therefore, what we received was subject to local interpretation.

Enrollment and Data Collection

Participants learned of the study during July and August 2008 through hospital association newsletters and through announcements at relevant committee meetings. Interested hospitals e-mailed the PI, who provided a site enrollment form, all study materials and instructions, and a postage-paid, self-addressed Fed-Ex mailer to return the study documents. The PI interacted directly with a designated contact person at each site, who administered and returned the surveys and the board quality and safety scorecard. The enrollment and data collection period extended from August 1 through December 31, 2008. We did not attempt to collect scorecards from sites that did not provide one with their survey response packet. Thirty-five boards participated in the study; 22 boards (63%) returned quality and patient safety scorecards.

Classification of Board Quality and Safety Scorecard Measures

A 5-part classification process was used to analyze the blank scorecards. First, we assessed whether the quality...
and safety scorecard was part of a more comprehensive “balanced” scorecard, and then we reviewed the scorecard for the use of color coding or other performance prompts designed to help members understand the data. When we received a balanced scorecard, we classified only indicators that appeared in the quality and patient safety sections of the dashboard. Next, we compiled an aggregate list of all scorecard items and, borrowing from the classic Donabedian model for quality improvement,24 classified each item as a structure, process, or outcomes indicator. Third, we evaluated each measure to determine whether it was a rate-based measure or a non-rate-based measure. We classified the item as rate based if the scorecard defined the numerator (ie, event), the denominator (ie, population at risk for the unique event), and a time frame for surveillance. If the hospital did not provide details regarding the numerator and denominator, the reviewers considered whether there were generally accepted definitions (measure specifications) for these. If generally accepted definitions existed, we classified the measure as a rate. Two experts adjudicated whether measures were rates, with disagreements resolved by a third investigator. Fourth, we assessed whether the indicator was consistent with a known national measurement system (eg, Hospital Compare; Agency for Healthcare Research and Quality [AHRQ] Patient Safety Indicators [PSIs]) or whether the scorecard stated that the measure was part of a larger measurement program (eg, Michigan Blue Cross). Finally, we categorized the measures, using the framework suggested in the literature, into clinical quality, clinical efficiency, patient safety, customer perspectives, financial perspectives, employee perspectives, and other.20 In the category of clinical quality, we also counted how many indicators addressed 3 common safety issues: infections, medication safety, and patient falls.

**Results**

Thirty-five boards participated in our study; 22 boards (63%) provided copies of their quality and safety scorecards. Table 1 displays the characteristics of the participating sites.

**The Structure of Board Scorecards**

Fifty percent of scorecards used color coding to depict performance, 23% included arrows next to performance categories, 14% included graphs of key metrics, and 9% included stars next to certain indicators. Twenty-three percent used more than 1 prompt on the scorecard, and 1 board scorecard included stars, arrows, color coding, and graphs. Seven quality and safety scorecards (32%) were part of comprehensive, balanced scorecards that contained indicators of financial performance and other operational priorities.

**The Board Quality and Safety Scorecard Measures**

The 22 scorecards we collected included 273 unique measures. Site-specific scorecards contained from 21 to 163 measures, although it was impossible to interpret many of the scorecards adequately. For example, scorecards sometimes listed items such as “patient risk analysis and trends” with an up or down arrow next to the category. In those instances, there was no way to know measure specifications; what, if any, additional descriptive information the board received; or how boards used the data provided. Similarly, some scorecards listed individual AHRQ PSIs; other scorecards had a single category labeled “AHRQ PSIs.” One card listed “Ten Stroke Measures.” We were able to classify 261 (95%) of the measures as process (61%) or outcome (39%). Twelve measures (4.4%) were too ambiguous to classify using the Donabedian typology. We further classified the measures as national/regional (28%) or local (72%) and rate based (26%) or nonrate based (74%) (Table 2). Finally, we categorized the scorecard items as measures of clinical quality (16%), clinical efficiency (19%), patient safety (22%), customer perspectives (14%), employee perspectives (7%), and other (23%).

The Centers for Medicare and Medicaid Services (CMS) compare measures for heart failure, pneumonia, acute myocardial infarction, and surgical site infection prevention were the most common metrics reviewed by boards (77%), followed by measures prescribed by Blue Cross Blue Shield of Michigan for Michigan boards. Beyond the CMS measures, categories of measures emerged
but consistency in metrics was absent. We identified clusters of interest surrounding mortality (14 measures/5.1% of total), medication safety (19 measures/7.0% of total), patient falls (14 measures/5.1% of total), pressure ulcers (7 measures/2.5% of total), and restraint use (6 measures/2.2% of total). The metrics for these varied widely and it appeared that hospitals may have been creating their own measures (Table 3). Only 1 scorecard identified the “source” of the requirement for each measure on their scorecard (eg, CMS, The Joint Commission, National Quality Forum).

### Board Self-Reported Efficacy for Quality and Safety

Of the 22 sites that provided scorecards, 74% of the board members (237) provided self-efficacy data. In aggregate, 52% (123) of the board members strongly agreed and 46% (110) agreed with the statement that quality at their hospital is improving, and the vast majority was confident in their knowledge and skills. Yet many boards have individual members who are less certain. Sixteen boards (72%) had at least 1 board member who disagreed, or strongly disagreed, that they were confident in their skill to guide quality and safety oversight. Nine boards (41%) had at least 1 board member who disagreed or strongly disagreed that their knowledge of quality and safety is adequate for their fiduciary duty. Eleven boards (50%) had at least 1 board member who disagreed or strongly disagreed that they received adequate education for their board quality and safety role, and 9 boards (41%) had at least 1 member who disagreed or strongly disagreed that they were confident in their understanding of quality and safety measurement (Table 4).

### Discussion

In this study, we identified wide variation in how hospitals convey quality and safety performance data to their boards. Given the large number of measures included on their scorecards, it is clear that boards and the hospitals they lead are interested in quality and patient safety. Scorecards provide a mix of process and outcome measures. Although many of the process measures are valid rates and nationally defined, few of the outcome measures are. Indeed, we found that most of the outcome measures were valid for identifying hazards rather than for measuring process in patient safety. In addition, the metrics on board scorecards frequently included efficiency measures, patient satisfaction measures, and human resource/staffing measures under the mantle of quality and safety.

This study highlights the need for a centralized agency to develop valid outcome measures. These data raise substantial concerns about how well hospital senior leaders and boards understand the differences between measures to identify hazards, measures to assess operations, and measures to track quality improvement. Chief executive
Table 4. Self-Reported Efficacy for Quality and Patient Safety Oversight

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Not Certain</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. I am confident in my skill providing quality and patient safety oversight at this hospital</td>
<td>1% (2)</td>
<td>11% (27)</td>
<td>4% (10)</td>
<td>41% (97)</td>
<td>43% (101)</td>
</tr>
<tr>
<td>B. My knowledge of quality and safety oversight is adequate for my fiduciary responsibility</td>
<td>0</td>
<td>7% (17)</td>
<td>4% (9)</td>
<td>54% (128)</td>
<td>35% (83)</td>
</tr>
<tr>
<td>C. I received adequate education for my board role for quality and safety</td>
<td>1% (2)</td>
<td>9% (21)</td>
<td>3% (7)</td>
<td>47% (112)</td>
<td>40% (95)</td>
</tr>
<tr>
<td>D. I am confident in my knowledge of quality and patient safety measurement</td>
<td>0</td>
<td>5% (12)</td>
<td>2% (4)</td>
<td>55% (131)</td>
<td>38% (90)</td>
</tr>
<tr>
<td>E. Quality and safety at this hospital are improving</td>
<td>1% (2)</td>
<td>1% (2)</td>
<td>(0)</td>
<td>46% (110)</td>
<td>52% (123)</td>
</tr>
</tbody>
</table>

*A total of 237 (74%) of the board members from the 22 sites that submitted scorecards also submitted efficacy surveys. Select efficacy statements with negative responses (strongly disagree or disagree) included (A) 16 boards (72%), (B) 9 boards (41%), (C) 11 boards (50%), (D) 9 boards (41%), and (E) 1 board. Percentages rounded to nearest whole.

officers (CEOs) would never provide a financial report to the board that was not clear, succinct, focused on priorities, comparable to previous internal reports and external benchmarks, and based on defined measures. Yet our study suggests that boards regularly receive such reports about the quality of care and patient safety in their hospitals.

Ours is not the first industry to face such challenges, however, and there are examples we can look to for a way forward. When Franklin Delano Roosevelt (FDR) created the Securities and Exchange Commission (SEC) in 1934, it standardized the financial reporting of businesses (including health care). FDR developed the SEC—he called it the Truth Agency—to require corporations with publicly traded securities to disclose specific results; using generally accepted accounting principles; audited by independent, certified public accountants; and made readily available to the public. The Federal SEC superseded numerous nonfunctional state and private transparency agencies. A similar agency could likely help mature the field of quality measurement and reporting. Thanks to standardization that emerged from the SEC and its affiliated agencies, such as the Financial Accounting Standards Board (FASB), governing boards today examine standard balance sheets and understand how their organization compares with others. Boards understand the impact of financial performance on bond ratings, and they skillfully anticipate how financial strength may affect strategic opportunities. They can rely on certified public accountants and finance professionals to recommend how and where to refocus strategies and tactics to meet expectations when reports fall short of targeted goals. Those finance professionals work with a standard set of definitions, metrics, and generally accepted accounting principles. The same level of standardization, sophistication, and oversight should be available for quality and safety performance.

This article identifies some important policy implications regarding board and hospital leaders’ quality and patient safety training and acknowledges existing limits to how we can measure quality and safety progress at the national and hospital levels. The current state of public and private concern about health care quality, lack of trust in hospitals’ self-reported data, and hospital leaders’ confusion about how to “do it right” is similar to the situation in financial markets during the great depression. The health care industry could benefit from a contemporary vehicle, similar to the SEC, for quality and patient safety oversight. Boards, in their leadership role, could help make that happen. In order to do so, however, they need to appreciate the limitations of the quality and patient safety data they currently receive.

As hospital leaders, boards are in a position to advance the field of quality and safety measurement by holding their CEOs and hospital leaders accountable for valid measures of progress. They should become engaged in the national quality and patient safety dialogue, where they can influence the evolution of safety standards. Boards should demand that science drives improvement efforts, or they may squander scarce hospital resources, misinform consumers, compromise their core fiduciary duties, and limit real progress.

Study Limitations

This study has several limitations. First, this was a voluntary study offered to hospitals in only 2 states in which a focus on quality and safety performance is well entrenched. As a result, our findings may not be generalizable. Nevertheless, hospitals in most states are making efforts to improve quality, and scorecards are widely regarded as a tool to aid boards in this effort. Second, the number of study sites was small, and although participants
included hospitals that were teaching and nonteaching; urban and rural; large, small, and critical access; independent and part of larger health systems, the sample did not proportionally represent US hospitals. This limits the ability to generalize findings. Third, we left our direction to provide a blank copy of the board “quality and safety scorecard” open to interpretation by the local sites; thus, there may be explanatory documents or additional materials boards use that we did not consider. Fourth, we based our assessment solely on what appears on the scorecards. Fifth, because we often had limited information about measure specifications, we may have misclassified some measures as rate based and some as nonrate based. Yet we were generally conservative in calling measures rate based if there are national measures, even when the organization may not robustly measure the outcome as a rate.

Conclusions

The quality of health care in America does not meet the expectations of patients, providers, payers, or policy makers. In spite of the world’s largest investment in health care, the United States is near the bottom on the issue of quality of care metrics compared with other industrialized countries. Leaders, including boards of trustees, are accountable to change this. Yet there is limited empirical evidence about what data boards use to guide their efforts. In this assessment of 22 scorecards, the variation in structures, the diversity in scorecard metrics, and the aids to interpretation (color coding, arrows, and stars) are irrefutable indicators of the immature state of quality and safety measurement and monitoring. Furthermore, ambiguity and diversity of opinion about what constitutes “quality and safety metrics” likely influences board perceptions of whether quality is improving. Board member confidence and willingness to lead are essential but likely insufficient to effect improved clinical performance. If board leadership is important to improve quality, as is generally assumed, board leaders should ensure that their members have the knowledge and skill to understand the differences between quality measurement and monitoring progress. Until federal vehicles exist to assist health care leaders (eg, an equivalent of the SEC or FASB), hospital boards must be constantly vigilant and ask themselves whether and how science is driving their quality and safety efforts. In the immediate term, boards could incorporate formal training into measurement and evaluation in annual board education activities, and they could create a board member recruitment strategy that values clinical or quality improvement experience. At a minimum, they should ensure that the CEO places priority on hiring quality, patient safety, and leadership staff who have strong quantitative skills and credentials that support their level of responsibility. The board, through its principle agent, the CEO, should hold those individuals accountable to create a board quality and safety scorecard that is accurate, concise, scientifically sound, reflective of national and local priorities, and useful to monitor progress.

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