Board Oversight of Quality: Any Differences in Process of Care and Mortality?

H. Joanna Jiang, PhD, senior social scientist, Center for Delivery, Organization and Markets, Agency for Healthcare Research and Quality, Rockville, Maryland; Carlin Lockee, managing editor, The Governance Institute, San Diego; Karma Bass, FACHE, president and CEO, Alliance Healthcare Foundation, and former senior research executive at The Governance Institute; and Irene Fraser, PhD, director, Center for Delivery, Organization and Markets, Agency for Healthcare Research and Quality

EXECUTIVE SUMMARY

In response to legal and accreditation mandates as well as pressures from purchasers and consumers for quality improvement, hospital governing boards seek to improve their oversight of quality of care by adopting various practices. Based on a previous survey of hospital presidents/chief executive officers, this study examines differences in hospital quality performance associated with the adoption of particular practices in board oversight of quality.

Quality was measured by performance in process of care and risk-adjusted mortality, using the Hospital Compare data from the Centers for Medicare & Medicaid Services and the Healthcare Cost and Utilization Project inpatient databases of the Agency for Healthcare Research and Quality. Board practices found to be associated with better performance in both process of care and mortality include (1) having a board quality committee; (2) establishing strategic goals for quality improvement; (3) being involved in setting the quality agenda for the hospital; (4) including a specific item on quality in board meetings; (5) using a dashboard with national benchmarks that includes indicators for clinical quality, patient safety, and patient satisfaction; and (6) linking senior executives' performance evaluation to quality and patient safety indicators. Involvement of physician leadership in the board quality committee further enhanced the hospital's quality performance. Taken together, these findings seem to support the will-execution-constancy of purpose framework on improving the effectiveness of hospital boards in overseeing quality. Future study should examine how specific board practices influence the culture and operations of the hospital that lead to better quality of care.

For more information on the concepts in this article, please contact Dr. Jiang at joanna.jiang@ahrq.hhs.gov.

he ultimate legal responsibility of the governing board for hospital quality has been well established by court rulings, state statutes, and Joint Commission accreditation (Marren, Feazell, and Paddock 2003; Weiner and Alexander 1993). Historically, governing boards tend to delegate the quality oversight function to medical staff and have not considered quality as a top priority for the hospital. Since the publication of a series of reports by the Institute of Medicine (2000, 2001) that focus on quality and patient safety, public attention to hospital quality has increased. The heightened call for transparency and accountability led to public reporting of hospital quality performance in many states as well as by the Centers for Medicare & Medicaid Services (CMS). Purchasers, such as CMS and many large employers, are also experimenting with pay for performance (CMS 2005; Rosenthal et al. 2007). As a result of these recent changes, hospital governing boards are being pushed to demonstrate their leadership in quality improvement.

Only a handful of studies have examined the performance of hospital governing boards in oversight of quality and patient safety. Through interviews with board members, board chairs, and chief executive officers (CEOs) from a small number of hospitals, two studies concluded that active engagement in quality by hospital governing boards is lacking (Joshi and Hines 2006; Levey et al. 2007). Nonetheless, two other studies, which are based on different surveys of hospital leaders, reported that hospital governing boards appeared to be engaged in quality oversight (Jiang et al. 2008; Vaughn et al. 2006). Those

surveys revealed various practices that have been adopted by the boards, such as establishing a board quality committee, monitoring the quality performance of the hospital, linking compensation of senior executives to quality measures, spending time on quality issues at board meetings, and involving clinical leadership.

Built on findings of previous research, this study aims to examine whether differences exist in the hospital's quality performance in relation to the adoption of particular practices in board oversight of quality. In this study, quality performance is measured in both process of care and outcomes, whereas previous studies tended to focus on outcomes. For example, the quality measure in the study by Jiang and colleagues (2008) consists of mortality only, and the quality index in the study by Vaughn and colleagues (2006) is based on morbidity, mortality, and complications.

This study also examines some areas of board oversight function that have not been looked at in prior research in terms of the association with the hospital's quality performance. Jiang and colleagues (2008) found that the existence of a board quality committee enhanced the board oversight function and was associated with lower mortality. Yet it is unknown whether the composition of the board quality committee also links to differences in the hospital's quality performance. Vaughn and colleagues (2006) found better quality scores associated with spending more time on quality issues at board meetings, using quality performance reports, linking senior executives' compensation to quality improvement, and involving medical staff in the quality strategy. However, no results were reported for other board practices.

METHODS

Survey of Hospital CEOs

Data on practices in board oversight of quality were drawn from a survey of hospital presidents/CEOs conducted by The Governance Institute (TGI) between January and May 2006. The TGI survey posed 27 questions about the existence and composition of the board quality committee, specific practices in oversight of quality, and perceived effectiveness of the board oversight function. TGI mailed the survey to more than 3,800 hospitals (mostly nonprofit or public hospitals) and 302 systems.

Process of Care Measures

Quality of care was measured in terms of performance in process of care and outcomes. The Hospital Compare data collected by CMS were used to measure process of care. The Hospital Compare data include 20 measures that cover four clinical areas: heart attack, heart failure, pneumonia, and surgical infection prevention. These measures have a solid evidence base and a broad consensus among clinicians. They were selected for public reporting of hospital quality performance by CMS through its participation in a public-private collaboration called Hospital Quality Alliance (Jha et al. 2005). For example, one of the measures for heart attack patients is receipt of aspirin (if without aspirin contraindications) within 24 hours before or after hospital arrival. Each measure is scored by the percentage of

patients who have received a particular process of care.

Measures pertaining to the three clinical conditions (heart attack, heart failure, and pneumonia) were included in this study. Eight measures were used for heart attack, four for heart failure, and six for pneumonia (for this listing, see Appendix A on www.ache. org/pubs/jhmsub.cfm). For each condition, a summary score was created if the hospital had at least 30 patients for at least one of the measures for that condition. The same criterion has been used in other studies (e.g., Kahn et al. 2006). The summary score was the weighted average of all measures for that condition. After calculating the summary score for each condition, a composite was created by taking an average of the summary scores across all three conditions. This composite was used in the analysis as the measure for process of care.

Outcomes Measures

Mortality for the same three conditions (heart attack, heart failure, and pneumonia) was measured using the Inpatient Quality Indicators (IQI) developed by the Agency for Healthcare Research and Quality (AHRQ 2007). Hospital-level risk-adjusted rates for these mortality measures were generated by applying the IQI software to the State Inpatient Databases (SID) of the Healthcare Cost and Utilization Project (HCUP) sponsored by AHRQ. The SID includes all-payer data on inpatient stays from virtually all community hospitals in each participating state. The IQI software provides risk adjustment that incorporates all-patient-refined diagnosis-related groups, age, and gender. A

composite of mortality was constructed as the average of risk-adjusted mortality rates for these three conditions.

Hospital Characteristics

Information obtained from the American Hospital Association's Annual Survey of Hospitals was used to describe the structural characteristics of hospitals included in the study sample, particularly in comparison with the U.S. community hospital population. These characteristics include size (number of beds), ownership, teaching status, system membership, location (urban/ rural), and region. Size was categorized into small (less than 100 beds), medium (100 to 299 beds), and large (300 or more beds). Teaching hospitals were defined as meeting one of three conditions: (1) having a residency program approved by the American Medical Association, (2) being a member of the Council of Teaching Hospitals and Health Systems, or (3) having a resident-to-bed ratio equal to or greater than 0.25.

Analyses

First, descriptive statistics were generated to examine the structural characteristics of hospitals in the study sample. Chi-square tests were used to assess the statistical significance of differences between the study sample and the U.S. community hospital population. Second, the study hospitals were linked to the CMS Hospital Compare data and to the AHRQ HCUP data to obtain process-of-care and risk-adjusted mortality measures. Comparisons were performed in these quality measures between hospitals represented and hospitals not

represented in the study, with student t-tests used to evaluate the statistical significance of the results. Lastly, for each board practice in quality oversight, performance in process of care and risk-adjusted mortality was compared between hospitals adopting that particular practice and hospitals that did not. Again, student t-tests were used to assess the statistical significance of the observed differences. The purpose of the analysis was to identify any significant association between the use of a particular practice and measures of quality of care. It was not designed to specify the causalities of the observed associations. Thus, if a statistically significant difference is found in the quality measure in relation to a specific practice, it does not necessarily suggest that the adoption of that practice leads to better quality of care or that poor quality causes the hospital to adopt a particular practice.

RESULTS

Overview of the Study Hospitals

A total of 562 healthcare executives responded to the TGI survey, among which 490 were hospital presidents/ CEOs and 72 were system presidents/ CEOs. Only those 490 hospitals were included in this study. Appendix B (see it online on www.ache.org/pubs/ jhmsub.cfm) summarizes the descriptive characteristics of the study hospitals in comparison with the U.S. community hospital population. The study sample spreads fairly evenly across three hospital sizes (small, medium, large). A majority of the hospitals are nonprofit (75 percent) and nonteaching (71 percent). Close to one-fourth are public hospitals, while only a handful of the

hospitals are investor owned. Less than half of the hospitals (43 percent) are system affiliated, while more than half (59 percent) are located in urban areas. Compared with average U.S. community hospitals, the study sample overrepresents large, nonprofit, teaching, independent hospitals as well as hospitals in the Midwest. Small or investor-owned hospitals and hospitals in the South are underrepresented.

To examine potential selection bias, process of care and risk-adjusted mortality were compared between hospitals represented and hospitals not represented in the study (see Appendix C online on www.ache.org/pubs/jhmsub.cfm). No significant difference was found in risk-adjusted mortality rates between these two groups of hospitals. Nonetheless, small but statistically significant differences were found in the process measures. Higher (or better) scores in process of care for all three clinical conditions (heart attack, heart failure, and pneumonia) were found for hospitals participating in the TGI survey. Thus, it is possible that hospitals participating in the survey may pay more attention to quality of care, although they may not necessarily have better or worse mortality rates, in comparison with those hospitals that did not participate.

Existence and Composition of Board Quality Committee

Table 1 compares differences in process of care and mortality, measured by composites, in relation to the existence and composition of a board quality committee. Among the responding hospitals, less than 60 percent had a single board committee focusing exclusively on

quality. Slightly but significantly better process of care was found for hospitals with a board quality committee than for hospitals without a board quality committee (83.8 percent versus 80.2 percent). Also, significantly lower risk-adjusted mortality rates were found for hospitals with a board quality committee (6.2 percent versus 7.9 percent).

Among hospitals reporting the existence of a board quality committee, more than 85 percent had the CEO, the chief nursing officer, a quality improvement department representative, and nonclinical board members on the committee. Because of such high prevalence rates, comparisons in quality measures were not performed for these categories. Instead, the analysis was focused on other categories of representatives and included only those hospitals that had a board quality committee rather than the entire study sample. Significantly better performance in process of care and/or mortality was found for those hospitals that had representatives with clinical expertise serving on the board quality committee, such as a member of the medical staff, a clinical board member, and the chief medical officer/vice president of medical affairs. For example, among hospitals with a board quality committee, about 60 percent had the chief medical officer/vice president of medical affairs on the committee. These hospitals displayed significantly higher process-of-care scores (85.3 percent versus 81 percent) and lower risk-adjusted mortality rates (5.6 percent versus 7.3 percent) than hospitals that had board quality committees but did not have the chief medical officer/vice president of medical affairs on the committee.

TABLE 1
Existence of Board Quality Committee

		Quality of Care Measures	
	Respondents (n=490)	Process of Care	Risk-Adjusted Mortality
Having a single board committee that focuses exclusively on quality			
Yes	57.6%	83.8%	6.2%
No		80.2%	7.9%
Representatives on the board quality committee ^a			
Members of the medical staff			
Yes	83.0%	84.2%	6.1%
No		80.9%	6.8%
Clinical board member			
Yes	63.8%	84.2%	5.7%
No		82.8%	7.2%
Chief medical officer/VP of medical affairs			
Yes	60.6%	85.3%	5.6%
No		81.0%	7.3%
Chief of staff			
Yes	58.9%	83.6%	5.9%
No		84.0%	6.7%
Board chair			
Yes	51.4%	82.7%	5.9%
No		84.9%	6.5%
Chief operating officer			
Yes	47.9%	84.4%	6.2%
No		83.1%	6.2%

 $^{^{}a}$ More than 85 percent of hospitals with a board quality committee reported having their CEO, chief nursing officer, QI department representative, and nonclinical board members on the quality committee. Thus, comparisons were not performed for those categories of representatives. Also, the analysis included only those hospitals with a board quality committee. Numbers bolded and italicized are statistically significant at the p < .05 level.

Again, the difference in mortality was more substantial than the difference in process of care.

Individual Board Practices in Quality Oversight

Table 2 presents similar comparisons in quality measures for individual board practices. The first category of board quality engagement practices is performance monitoring. More than 80 percent of the responding hospitals reported that their boards included in the dashboard internal data for clinical quality, patient safety, and patient satisfaction. Between 65 percent and 75 percent of the hospitals included national benchmarks for these indicators as well. Hospitals that adopted these performance monitoring practices had significantly higher scores in process of care and lower risk-adjusted mortality rates than hospitals that did not have these practices.

The second category of board practices pertains to discussion of quality at board meetings. A majority of the responding hospitals (75 percent) reported having a specific item devoted to quality in most to all of their board meetings. This group of hospitals showed significantly better scores in process of care (83.2 percent versus 79.9 percent) and lower mortality rates (6.6 percent versus 7.7 percent) than other hospitals. About 40 percent of the hospitals reported that their boards spent 20 percent or more of board meeting time on quality. These hospitals had slightly but significantly better processof-care rates than hospitals that spent less than 20 percent of board meeting

time on quality (83.6 percent versus 82 percent). The difference in mortality rates was not significant. More than 80 percent of the hospitals indicated reports of corrective action related to serious or adverse incidents or trends at board meetings. However, no significant difference in quality measures was observed in relation to this practice. About 61 percent of the hospitals indicated reports of sentinel events at the full board level, and these hospitals displayed significantly higher mortality rates than other hospitals (7.5 percent versus 6 percent). One possible explanation is that when hospitals became aware of their relatively poor quality performance, they might have increased their attention to sentinel events.

The third category of board practices is aimed to enhance accountability of senior leaders by including measures for quality and patient safety in senior executives' performance evaluation. This practice was adopted for the CEOs in more than half of the responding hospitals (56 percent) and for the executive team members in about 72 percent of the hospitals. Hospitals that implemented these accountability measures for their senior executives showed significantly higher scores in process of care and lower risk-adjusted mortality rates.

The fourth category of board quality oversight practices addresses alignment of key stakeholders on quality issues. Only 36 percent of the responding hospitals reported that their boards mandated alignment on quality initiatives among key stakeholders in the organization. Hospitals adopting this practice displayed significantly better

TABLE 2 Practices in Board Oversight of Quality

		Quality of Care Measures ^a	
	Respondents (n=490)	Process of Care	Risk-Adjusted Mortality
Performance monitoring			
Include the following indicators in the dashboard			
Clinical quality: Internal data			
Yes	85.9%	83.2%	6.5%
No		76.9%	9.1%
Clinical quality: National benchmarks			
Yes	74.3%	83.6%	6.4%
No		77.6%	8.6%
Patient safety: Internal data			
Yes	82.2%	83.3%	6.5%
No		77.7%	8.6%
Patient safety: National benchmarks			
Yes	64.7%	83.8%	6.4%
No		79.4%	7.8%
Patient satisfaction: Internal data			
Yes	82.6%	83.2%	6.5%
No		78.2%	8.6%
Patient satisfaction: National benchmarks			
Yes	68.5%	83.9%	6.1%
No		78.5%	8.6%
Discussion of quality at board meetings			
Most to all of board meetings have a specific			
item on the agenda devoted to quality			
Yes	75.0%	83.2%	6.6%
No		79.9%	7.7%
More than 20% of board meeting time spent on quality			
Yes	40.4%	83.6%	6.4%
No		82.0%	7.0%
Report on the progress of corrective action related to serious or adverse incidents or trend	s		
Yes	82.0%	82.5%	7.0%
No		81.8%	6.6%

TABLE 2 continued

Care Mortality			Quality of Care Measures	
Yes		•		Risk-Adjusted Mortality
No 83.4% 6.0% Accountability of senior executive leaders The CEO's performance evaluation includes measures for clinical improvement and patient safety Yes 56.2% 83.8% 6.3% No 80.5% 7.6% The executive team members' performance evaluation includes measures for quality and patient safety Yes 71.9% 83.1% 6.6% No 80.4% 7.6% Alignment of key stakeholders on quality issues Mandate alignment on quality initiatives among key stakeholders in the organization Yes 36.3% 83.5% 6.7% No 81.7% 7.1% Key stakeholders aligned around definition of quality, quality indicators, and issues related to quality improvement* Yes 53.5% 83.6% 6.8% No 81.0% 6.9% Policy, goals, and agenda setting Establish strategic goals for quality improvement Yes 80.0% 82.8% 6.6% No 80.3% 7.9% Involved in setting the quality agenda for the organization Yes 63.0% 83.2% 6.4%	Report sentinel events at the full board level			
Accountability of senior executive leaders The CEO's performance evaluation includes measures for clinical improvement and patient safety Yes 56.2% 83.8% 6.3% No 80.5% 7.6% The executive team members' performance evaluation includes measures for quality and patient safety Yes 71.9% 83.1% 6.6% No 80.4% 7.6% Alignment of key stakeholders on quality issues Mandate alignment on quality initiatives among key stakeholders in the organization Yes 36.3% 83.5% 6.7% No 81.7% 7.1% Key stakeholders aligned around definition of quality, quality indicators, and issues related to quality improvementb Yes 53.5% 83.6% 6.8% No 81.0% 6.9% Policy, goals, and agenda setting Establish strategic goals for quality improvement Yes 80.0% 82.8% 6.6% No 80.3% 7.9% Involved in setting the quality agenda for the organization Yes 63.0% 83.2% 6.4%	Yes	61.4%	81.8%	7.5%
The CEO's performance evaluation includes measures for clinical improvement and patient safety Yes 56.2% 83.8% 6.3% No 80.5% 7.6% The executive team members' performance evaluation includes measures for quality and patient safety Yes 71.9% 83.1% 6.6% No 80.4% 7.6% Alignment of key stakeholders on quality issues Mandate alignment on quality initiatives among key stakeholders in the organization Yes 36.3% 83.5% 6.7% No 81.7% 7.1% Key stakeholders aligned around definition of quality, quality indicators, and issues related to quality improvementb Yes 53.5% 83.6% 6.8% No 81.0% 6.9% Policy, goals, and agenda setting Establish strategic goals for quality improvement Yes 80.0% 82.8% 6.6% No 80.3% 7.9% Involved in setting the quality agenda for the organization Yes 63.0% 83.2% 6.4%	No		83.4%	6.0%
measures for clinical improvement and patient safety Yes 56.2% 83.8% 6.3% No 80.5% 7.6% The executive team members' performance evaluation includes measures for quality and patient safety Yes 71.9% 83.1% 6.6% No 80.4% 7.6% Alignment of key stakeholders on quality issues Mandate alignment on quality initiatives among key stakeholders in the organization Yes 36.3% 83.5% 6.7% No 81.7% 7.1% Key stakeholders aligned around definition of quality, quality indicators, and issues related to quality improvement Yes 53.5% 83.6% 6.8% No 81.0% 6.9% Policy, goals, and agenda setting Establish strategic goals for quality improvement Yes 80.0% 82.8% 6.6% No 80.3% 7.9% Involved in setting the quality agenda for the organization Yes 63.0% 83.2% 6.4%	Accountability of senior executive leaders			
patient safety Yes 56.2% 83.8% 6.3% No 80.5% 7.6% The executive team members' performance evaluation includes measures for quality and patient safety Yes 71.9% 83.1% 6.6% No 80.4% 7.6% Alignment of key stakeholders on quality issues Mandate alignment on quality initiatives among key stakeholders in the organization Yes 36.3% 83.5% 6.7% No 81.7% 7.1% Key stakeholders aligned around definition of quality, quality indicators, and issues related to quality improvement Yes 53.5% 83.6% 6.8% No 81.0% 6.9% Policy, goals, and agenda setting Establish strategic goals for quality improvement Yes 80.0% 82.8% 6.6% No 80.3% 7.9% Involved in setting the quality agenda for the organization Yes 63.0% 83.2% 6.4%	The CEO's performance evaluation includes			
Yes 56.2% 83.8% 6.3% No 80.5% 7.6% The executive team members' performance evaluation includes measures for quality and patient safety Yes 71.9% 83.1% 6.6% No 80.4% 7.6% Alignment of key stakeholders on quality issues Mandate alignment on quality initiatives among key stakeholders in the organization Yes 36.3% 83.5% 6.7% No 81.7% 7.1% Key stakeholders aligned around definition of quality, quality indicators, and issues related to quality improvement Yes 53.5% 83.6% 6.8% No 81.0% 6.9% Policy, goals, and agenda setting Establish strategic goals for quality improvement Yes 80.0% 82.8% 6.6% No 80.3% 7.9% Involved in setting the quality agenda for the organization Yes 63.0% 83.2% 6.4%	measures for clinical improvement and			
No 80.5% 7.6% The executive team members' performance evaluation includes measures for quality and patient safety Yes 71.9% 83.1% 6.6% No 80.4% 7.6% Alignment of key stakeholders on quality issues Mandate alignment on quality initiatives among key stakeholders in the organization Yes 36.3% 83.5% 6.7% No 81.7% 7.1% Key stakeholders aligned around definition of quality, quality indicators, and issues related to quality improvement Yes 53.5% 83.6% 6.8% No 81.0% 6.9% Policy, goals, and agenda setting Establish strategic goals for quality improvement Yes 80.0% 82.8% 6.6% No 80.3% 7.9% Involved in setting the quality agenda for the organization Yes 63.0% 83.2% 6.4%	patient safety			
The executive team members' performance evaluation includes measures for quality and patient safety Yes 71.9% 83.1% 6.6% No 80.4% 7.6% Alignment of key stakeholders on quality issues Mandate alignment on quality initiatives among key stakeholders in the organization Yes 36.3% 83.5% 6.7% No 81.7% 7.1% Key stakeholders aligned around definition of quality, quality indicators, and issues related to quality improvementb Yes 53.5% 83.6% 6.8% No 81.0% 6.9% Policy, goals, and agenda setting Establish strategic goals for quality improvement Yes 80.0% 82.8% 6.6% No 80.3% 7.9% Involved in setting the quality agenda for the organization Yes 63.0% 83.2% 6.4%	Yes	56.2%	83.8%	6.3%
evaluation includes measures for quality and patient safety Yes 71.9% 83.1% 6.6% No 80.4% 7.6% Alignment of key stakeholders on quality issues Mandate alignment on quality initiatives among key stakeholders in the organization Yes 36.3% 83.5% 6.7% No 81.7% 7.1% Key stakeholders aligned around definition of quality, quality indicators, and issues related to quality improvement ^b Yes 53.5% 83.6% 6.8% No 81.0% 6.9% Policy, goals, and agenda setting Establish strategic goals for quality improvement Yes 80.0% 82.8% 6.6% No 80.3% 7.9% Involved in setting the quality agenda for the organization Yes 63.0% 83.2% 6.4%	No		80.5%	7.6%
Patient safety Yes 71.9% 83.1% 6.6% No 80.4% 7.6% Alignment of key stakeholders on quality issues Mandate alignment on quality initiatives among key stakeholders in the organization Yes 36.3% 83.5% 6.7% No 81.7% 7.1% Key stakeholders aligned around definition of quality, quality indicators, and issues related to quality improvement Yes 53.5% 83.6% 6.8% No 81.0% 6.9% Policy, goals, and agenda setting Establish strategic goals for quality improvement Yes 80.0% 82.8% 6.6% No 80.3% 7.9% Involved in setting the quality agenda for the organization Yes 63.0% 83.2% 6.4%	The executive team members' performance			
Yes No 83.1% 6.6% No 80.4% 7.6% Alignment of key stakeholders on quality issues Mandate alignment on quality initiatives among key stakeholders in the organization Yes 36.3% 83.5% 6.7% No 81.7% 7.1% Key stakeholders aligned around definition of quality, quality indicators, and issues related to quality improvementb Yes 53.5% 83.6% 6.8% No 81.0% 6.9% Policy, goals, and agenda setting Establish strategic goals for quality improvement Yes 80.0% 82.8% 6.6% No 80.3% 7.9% Involved in setting the quality agenda for the organization Yes 63.0% 83.2% 6.4%	evaluation includes measures for quality and			
No Alignment of key stakeholders on quality issues Mandate alignment on quality initiatives among key stakeholders in the organization Yes No No 81.7% 7.1% Key stakeholders aligned around definition of quality, quality indicators, and issues related to quality improvementb Yes No No 83.6% 83.6% 6.8% No 81.0% 6.9% Policy, goals, and agenda setting Establish strategic goals for quality improvement Yes No No 80.3% 7.9% Involved in setting the quality agenda for the organization Yes 63.0% 83.2% 6.4%	patient safety			
Alignment of key stakeholders on quality issues Mandate alignment on quality initiatives among key stakeholders in the organization Yes 36.3% 83.5% 6.7% No 81.7% 7.1% Key stakeholders aligned around definition of quality, quality indicators, and issues related to quality improvement Yes 53.5% 83.6% 6.8% No 81.0% 6.9% Policy, goals, and agenda setting Establish strategic goals for quality improvement Yes 80.0% 82.8% 6.6% No 80.3% 7.9% Involved in setting the quality agenda for the organization Yes 63.0% 83.2% 6.4%	Yes	71.9%	83.1%	6.6%
Mandate alignment on quality initiatives among key stakeholders in the organization Yes 36.3% 83.5% 6.7% No 81.7% 7.1% Key stakeholders aligned around definition of quality, quality indicators, and issues related to quality improvement ^b Yes 53.5% 83.6% 6.8% No 81.0% 6.9% Policy, goals, and agenda setting Establish strategic goals for quality improvement Yes 80.0% 82.8% 6.6% No 80.3% 7.9% Involved in setting the quality agenda for the organization Yes 63.0% 83.2% 6.4%	No		80.4%	7.6%
among key stakeholders in the organization Yes 36.3% 83.5% 6.7% No 81.7% 7.1% Key stakeholders aligned around definition of quality, quality indicators, and issues related to quality improvement ^b Yes 53.5% 83.6% 6.8% No 81.0% 6.9% Policy, goals, and agenda setting Establish strategic goals for quality improvement Yes 80.0% 82.8% 6.6% No Involved in setting the quality agenda for the organization Yes 63.0% 83.2% 6.4%	Alignment of key stakeholders on quality issues			
Yes 36.3% 83.5% 6.7% No 81.7% 7.1% Key stakeholders aligned around definition of quality, quality indicators, and issues related to quality improvement ^b Yes 53.5% 83.6% 6.8% No 81.0% 6.9% Policy, goals, and agenda setting Establish strategic goals for quality improvement Yes 80.0% 82.8% 6.6% No 80.3% 7.9% Involved in setting the quality agenda for the organization Yes 63.0% 83.2% 6.4%	Mandate alignment on quality initiatives			
No Key stakeholders aligned around definition of quality, quality indicators, and issues related to quality improvement ^b Yes 53.5% 83.6% 6.8% No 81.0% 6.9% Policy, goals, and agenda setting Establish strategic goals for quality improvement Yes 80.0% 82.8% 6.6% No 80.3% 7.9% Involved in setting the quality agenda for the organization Yes 63.0% 83.2% 6.4%	among key stakeholders in the organization			
Key stakeholders aligned around definition of quality, quality indicators, and issues related to quality improvement Yes 53.5% 83.6% 6.8% No 81.0% 6.9% Policy, goals, and agenda setting Establish strategic goals for quality improvement Yes 80.0% 82.8% 6.6% No 80.3% 7.9% Involved in setting the quality agenda for the organization Yes 63.0% 83.2% 6.4%	Yes	36.3%	83.5%	6.7%
quality, quality indicators, and issues related to quality improvement by Yes 53.5% 83.6% 6.8% No 81.0% 6.9% Policy, goals, and agenda setting Establish strategic goals for quality improvement Yes 80.0% 82.8% 6.6% No 80.3% 7.9% Involved in setting the quality agenda for the organization Yes 63.0% 83.2% 6.4%	No		81.7%	7.1%
to quality improvement ^b Yes 53.5% 83.6% 6.8% No 81.0% 6.9% Policy, goals, and agenda setting Establish strategic goals for quality improvement Yes 80.0% 82.8% 6.6% No 80.3% 7.9% Involved in setting the quality agenda for the organization Yes 63.0% 83.2% 6.4%	Key stakeholders aligned around definition of			
Yes 53.5% 83.6% 6.8% No 81.0% 6.9% Policy, goals, and agenda setting Establish strategic goals for quality improvement Yes 80.0% 82.8% 6.6% No 80.3% 7.9% Involved in setting the quality agenda for the organization Yes 63.0% 83.2% 6.4%	quality, quality indicators, and issues related			
No 81.0% 6.9% Policy, goals, and agenda setting Establish strategic goals for quality improvement Yes 80.0% 82.8% 6.6% No 80.3% 7.9% Involved in setting the quality agenda for the organization Yes 63.0% 83.2% 6.4%	to quality improvement ^b			
Policy, goals, and agenda setting Establish strategic goals for quality improvement Yes 80.0% 82.8% 6.6% No 80.3% 7.9% Involved in setting the quality agenda for the organization Yes 63.0% 83.2% 6.4%	Yes	53.5%	83.6%	6.8%
Establish strategic goals for quality improvement Yes 80.0% 82.8% 6.6% No 80.3% 7.9% Involved in setting the quality agenda for the organization Yes 63.0% 83.2% 6.4%	No		81.0%	6.9%
improvement Yes 80.0% 82.8% 6.6% No 80.3% 7.9% Involved in setting the quality agenda for the organization Yes 63.0% 83.2% 6.4%	Policy, goals, and agenda setting			
Yes 80.0% 82.8% 6.6% No 80.3% 7.9% Involved in setting the quality agenda for the organization 983.2% 6.4% Yes 63.0% 83.2% 6.4%	Establish strategic goals for quality			
No 80.3% 7.9% Involved in setting the quality agenda for the organization Yes 63.0% 83.2% 6.4%	improvement			
Involved in setting the quality agenda for the organization Yes 63.0% 83.2% 6.4%	Yes	80.0%	82.8%	6.6%
organization Yes 63.0% 83.2% 6.4%	No		80.3%	7.9%
Yes 63.0% 83.2% 6.4%				
		63.0%	83.2%	6.4%
	No	22.2.2	80.9%	7.7%

TABLE 2 continued

		Quality of Care Measures	
	Respondents (n=490)	Process of Care	Risk-Adjusted Mortality
Participate in the development and/or			
approval of explicit criteria for physician			
appointments, reappointments, and clinical			
privileges			
Yes	67.7%	82.8%	6.9%
No		81.5%	6.9%
Involved in setting the agenda for the board's discussion on quality			
Yes	41.8%	83.0%	6.6%
No		82.0%	7.1%
Issue a written resolution or policy on quality for the organization, and formally communicate it to the senior executive team, physician leadership, and all hospital employees			
Yes	29.1%	82.6%	7.1%
No	23.170	82.3%	6.8%
Quality literacy of board members Orientation for new board members include all 3 components: the organization's definition of quality, how to understand quality reports, and reasons for focusing on specific quality priorities			
Yes	55.4%	82.9%	6.8%
No		81.7%	7.0%
All board members participate in annual education on quality issues			
Yes	48.9%	82.8%	7.0%
No		81.9%	6.9%

^a Composite measures were used that cover three clinical conditions (heart attack, heart failure, and pneumonia). Process of care was measured using the CMS Hospital Compare data. Risk-adjusted mortality was measured by the AHRQ Quality Indicators and HCUP data. See the Methods section for details.

Numbers bolded and italicized are statistically significant at the p < .05 level.

 $^{^{\}rm b}$ On a scale of 1 to 6, with 1 being not aligned and 6 being very well aligned.

performance in process of care than other hospitals (83.5 percent versus 81.7 percent). However, the difference in mortality rate was not significant. Slightly more than half of the respondents indicated that key stakeholders in their organization were well aligned on issues related to quality, quality indicators, and quality improvement.

The fifth category of board practices relates to policy, goals, and agenda setting. Eighty percent of the responding hospitals had their boards establish strategic goals for quality improvement, while 63 percent had their boards involved in setting the quality agenda for the entire organization. Hospitals that adopted these practices showed significantly higher scores in process of care and lower risk-adjusted mortality rates. Nevertheless, no significant difference was found in either process or mortality in relation to the other three practices—the board participating in the development and/or approval of explicit criteria for physician appointments and clinical privileges; the board being involved in agenda setting for its discussion on quality; and the board issuing a written policy on quality and formally communicating it to all staff in the organization.

The last category deals with quality literacy of board members, which includes two practices: (1) orientation for new board members that includes three components (definition of quality, understanding quality reports, and rationales for specific quality priorities) and (2) participation of all board members in education on quality issues on an annual basis. These practices were

reported by about half of the responding hospitals. However, no significant difference was found in process of care or mortality rate between hospitals that adopted these practices and hospitals that did not.

Perceived Effectiveness of the Board's Quality Oversight Function

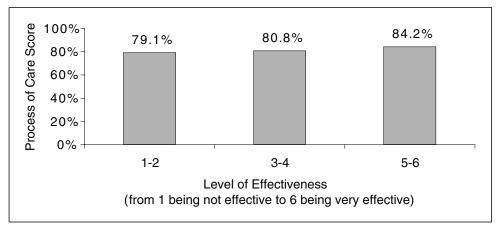
From a scale of 1 to 6, with 1 being not effective and 6 being very effective, the survey asked the CEOs to rate the effectiveness of their board in carrying out its quality oversight function. Among the responding hospital CEOs, 6 percent gave a rating of 1 to 2 (not effective), 45 percent chose 3 to 4 (somewhat effective), and 49 percent marked 5 to 6 (very effective). Figure 1 compares the quality of care among these three groups of hospitals. Hospitals in which the governing board was perceived to be very effective in carrying out the quality oversight function displayed the highest score in process of care and the lowest in risk-adjusted mortality. Opposite results were observed for those hospitals in which the governing board was reported to be ineffective in quality oversight. The differences between those two groups of hospitals were statistically significant (p < .0001).

DISCUSSION

Faced with statutory and accreditation mandates as well as increasing consumer pressures, hospital governing boards are struggling to improve their oversight of quality and patient safety. The results of this study reveal that among various practices adopted by the governing board, a number of them are associated

FIGURE 1

FIGURE 1
Perceived Effectiveness of Board Quality Oversight Function





with better quality of care as measured by process and mortality indicators. First, hospitals that had a single board committee focusing exclusively on quality were found to have better performance in process of care and mortality, which confirms the important role of the board quality committee in overseeing quality. As suggested by advocates for a board quality committee (Marren, Feazell, and Paddock 2003; Reinertsen 2007), the board quality committee not only signals a visible and steady leadership of the board in promoting quality care but also provides an effective organizational structure for the board, senior management, and physician leadership to work together in addressing quality of care. The committee facilitates communication and builds trust among these top leaders, which significantly enhance the hospital's commitment to quality.

Therefore, the composition of the quality committee also matters. Typically, committee membership includes the CEO, nursing leadership, a quality

improvement department representative, a nonclinical board member, and members of the medical staff. Having the chief medical officer/vice president of medical affairs on the quality committee can further enhance the quality performance of the hospital. This finding is consistent with other studies that found involvement of active staff physicians in hospital governance promotes board leadership and clinical involvement in quality improvement (Weiner, Alexander, and Shortell 1996; Weiner, Shortell, and Alexander 1997).

Other board practices found to be associated with better performance in both process of care and mortality include the following:

- Use of a dashboard with internal data and national benchmarks for monitoring clinical quality, patient safety, and patient satisfaction
- Inclusion of measures for quality and patient safety in senior executives' performance evaluation
- Discussion of a quality-specific item at board meetings
- Establishing strategic goals for quality improvement
- Involvement in setting the quality agenda of the organization

Taken together, these findings seem to support the will-execution-constancy of purpose framework proposed by Reinertsen (2007) on how hospital boards can more effectively oversee quality: Using national benchmarks reveals gaps in performance and generates the will for better improvement. Establishing strategic goals, using dashboards to monitor performance and to hold

executives accountable in meeting specific goals/objectives, and spending time to discuss quality at board meetings are important for driving successful changes (execution). Establishing a board quality committee helps the board maintain the constancy of purpose that quality is not just a top priority but also a key strategy for ensuring the organization's long-term success. The board will not drop its attention to quality as time goes by, particularly when other competing priorities emerge.

Practices that did not show significant association with the quality measures for process and mortality include reporting to the board of any corrective action related to adverse events, the board's participation in physician credentialing, orientation for new board members, and education of board members on quality issues. This finding does not mean that those practices are not important in overseeing quality, but it does mean that their influences on process of care and outcomes may be less than direct. Reporting corrective action for adverse events to the board is likely to be a standard practice, regardless of the quality performance of the hospital. Overseeing physician credentialing is always a key function of the board. One challenge to board engagement in quality is that most of the board members may come from sectors outside healthcare and feel they lack adequate knowledge to deal with quality issues. Improving the board's quality literacy is an important way to address this barrier.

Lastly, results of this study show that the perceived effectiveness of the board's quality oversight function was consistent with the quality performance of the hospital as measured by process of care and mortality. This finding suggests that ongoing self-evaluation by the board would be important for the continual improvement in the board's oversight of quality and patient safety. Besides overall perceived effectiveness, the board should examine how it is doing in each specific area of activities.

In summary, the findings of this study suggest that hospitals in which the governing boards adopt certain practices in overseeing quality are likely to have better performance in process of care and clinical outcomes. Those practices tend to link to the organization's strategic goals or specific objectives for quality improvement and entail monitoring of the organization's quality performance through use of national benchmarks while holding the senior executive leadership accountable for the outcomes. Having a board quality committee that involves physician leadership can significantly enhance the hospital's quality performance.

Future study should examine how these board practices actually influence the hospital's culture and operation to lead to better quality of care. A larger sample of hospitals should be included to improve the generalizability of the findings.

NOTE

The views expressed in this article are those of the authors and do not necessarily reflect those of the Agency for Healthcare Research and Quality, the U.S. Department of Health and Human Services, or The Governance Institute. The survey was conducted by

The Governance Institute without any financial support from the U.S. government.

REFERENCES

- Agency for Healthcare Research and Quality (AHRQ). 2007. *Inpatient Quality Indicators*. Rockville, MD: AHRQ. [Online information; retrieved 5/15/07.] http://www.qualityindicators.ahrq.gov/iqi_download.htm.
- Centers for Medicare & Medicaid Services (CMS). 2005. *Medicare "Pay for Performance (P4P)" Initiatives*. CMS Fact Sheet. Baltimore, MD: CMS.
- Institute of Medicine. 2000. *To Err Is Human:* Building A Safer Health System. Washington, DC: National Academies Press.
- ——. 2001. Crossing the Quality Chasm: A New Health System for the 21st Century. Washington, DC: National Academies Press.
- Jha, A. K., Z. Li, E. J. Orav, and A. M. Epstein. 2005. "Care in U.S. Hospitals—The Hospital Quality Alliance Program." *New England Journal of Medicine* 353 (3): 265–74.
- Jiang, H. J., C. Lockee, K. Bass, and I. Fraser. 2008. "Board Engagement in Quality: Findings of a Survey of Hospital and System Leaders." Journal of Healthcare Management 53 (2): 118–32.
- Joshi, M. S., and S. C. Hines. 2006. "Getting the Board on Board: Engaging Hospital Boards in Quality and Patient Safety." Joint Commission Journal on Quality and Patient Safety 32 (4): 179–87.
- Kahn, C. N. III, T. Ault, H. Isenstein, L. Potetz, and S. Van Gelder. 2006. "Snapshot of Hospital Quality Reporting and Pay-for-Performance Under Medicare." *Health* Affairs 25 (1): 148–62.
- Levey, S., T. Vaughn, M. Koepke, D. Moore, W. Lehrman, and S. Sinha. 2007. "Hospital Leadership and Quality Improvement: Rhetoric Versus Reality." *Journal of Patient Safety* 3 (1): 9–15.
- Marren, J. P., G. L. Feazell, and M. W. Paddock. 2003. "The Hospital Board at Risk and the Need to Restructure the Relationship with the Medical Staff: Bylaws, Peer Review and Related Solutions." *Annals of Health Law* 12 (2): 179–234.

- Reinertsen, J. L. 2007. Hospital Boards and Clinical Quality: A Practical Guide. Toronto, ON: Ontario Hospital Association.
- Rosenthal, M. B., B. E. Landon, K. Howitt, H. R. Song, and A. M. Epstein. 2007. "Climbing up the Pay-for-Performance Learning Curve: Where Are the Early Adopters Now?" *Health Affairs* 26 (6): 1674–82.
- Vaughn, T., M. Koepke, E. Kroch, W. Lehrman, S. Sinha, and S. Levey. 2006. "Engagement of Leadership in Quality Improvement Initiatives: Executive Quality Improvement Survey Results." Journal of Patient Safety 2 (1): 2–9.

Weiner, B. J., and J. A. Alexander. 1993. "Hos-

- pital Governance and Quality of Care, A Critical Review of Transitional Roles." Medical Care Review 50 (4): 375–409.
- Weiner, B. J., J. A. Alexander, and S. M. Shortell. 1996. "Leadership for Quality Improvement in Health Care: Empirical Evidence on Hospital Boards, Managers, and Physicians." Medical Care Research and Review 53 (4): 397–416.
- Weiner, B. J., S. M. Shortell, and J. Alexander. 1997. "Promoting Clinical Involvement in Hospital Quality Improvement Efforts: The Effects of Top Management, Board, and Physician Leadership." Health Services Research 32 (4): 491–510.

PRACTITIONER APPLICATION

Eric P. Norwood, FACHE, president and CEO, DeKalb Medical, Atlanta, Georgia

This follow-up study on the influence that boards exert on the practice of care begins to illuminate an important transition in how boards, and management, must approach quality. In recent years, the measurement of quality metrics has been limited to the board "looking through the rearview mirror" at historical performance against historical benchmarks. This approach misses the higher purpose, which is to proactively change behaviors to produce different outcomes. Don Berwick, president and CEO of the Institute for Healthcare Improvement, once said, "Every system is perfectly designed to receive the results it gets." Therefore, if we do not like the results we are getting, we must actually *change* our ways of doing things. This study reveals that a governing board can exert significant influence over the delivery of high-quality clinical care, a finding that is clearly validated by practical application.

A governing board is responsible for ensuring the institution's long-term ability to fulfill its mission. Such success should be defined prospectively by the board, including all facets of what success means: sustaining financial performance, targeted growth, an engaged workforce, service excellence, and clinical quality. The involvement of practicing clinicians (physicians, nurses, and others) on the board is imperative to assess success in the area of clinical quality. The authors correctly observe that the existence of a board quality committee, chaired by a respected clinician, projects personal leadership from the board in setting an agenda for change in quality. The bureaucratization of quality activities within most hospitals can often substitute activity for results; it is the job of the board quality committee to set specific targets and time frames for improvement and to demand results.

Likewise, the linkage of quality improvement to the strategic interests of the institution is an important point. As the study notes, "Eighty percent of the responding

hospitals had their boards establish strategic goals for quality improvement, while 63 percent had their boards involved in setting the quality agenda for the entire organization. Hospitals that adopted these practices showed significantly higher scores in process of care and lower risk-adjusted mortality rates." Whatever a board sets its mind on, and hardwires to the compensation of its management team, gets done. The strategic imperative for quality is no longer difficult to recognize in an era of transparency, never events, and pay for performance. By extension, the strategic linkage of clinical quality and patient safety also deserves additional research in this regard. A recent article by Charles R. Denham (2008) in the *Journal of Patient Safety* provides a compelling argument that "no margin, no mission" is quickly being replaced by "no outcome, no income."

Quality outcomes and patient safety are no longer retrospective data-collection issues that generate polite discussion but no action. Governing boards need to organize themselves to actively participate in setting the quality agenda, demand aggressive goals and timetables for change, and evaluate the performance of management and clinicians on staff against those goals. Future research should focus on some of the emerging innovations that motivate collaborative, clinically integrated efforts of hospital and physician leaders to improve quality performance through process and behavior change by clinicians.

REFERENCE

Denham, C. 2008. "CEOs: Meet Your New Revenue Preservation Officer . . . Your PSO!" *Journal of Patient Safety* 4 (3): 201.