QUALITY, PATIENT SAFETY, AND HOSPITAL BOARDS OF TRUSTEES: IMPLICATIONS FOR CREATING SAFER HEALTH CARE

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Dedication

I dedicate this work to the memory of my parents
William Edward Goeschel and Ruth Lillian Goeschel

Through their faith, words, and example, they taught me
To work hard
To dream
To believe that all things are possible

I dedicate it also to my daughter
Jennifer Leigh Sullivan

She is the perpetual blessing in my life, my hope for the next generation
A constant reminder of the meaning of unconditional love

She is my inspiration

Abstract

Quality, Patient Safety and Hospital Boards of Trustees:

Implications for Creating Safer Health Care

Background and Significance

The quality of care in U.S. Hospitals is a cause of widespread concern. Seminal reports in 1999 and 2001 from the Institute of Medicine (IOM), and in 2003 from RAND provided evidence that care is not what it should be. In the ten years since these reports, quality and safety activities increased significantly but measurable improvement is scant. Hospital boards are accountable for quality of care, yet little empirical evidence exists describing how they address this accountability or quantifying their influence on quality and safety outcomes.

Methods and Results:

This cross-sectional study sought to collect data regarding (1) board structures and processes for quality oversight (15 items); (2) board member perceptions of self and group efficacy for quality and patient safety oversight, (36 items); and (3) what data boards receive to guide their efforts (copy of blank board quality scorecard).

Study participants included a voluntary sample of thirty-five hospital boards representing fifty hospitals in Michigan and Tennessee. Three hundred and sixty six board members completed the self-efficacy survey, (72% response rate). A general linear mixed model was used to examine relationships between board structures and processes and (1) board member self-efficacy, and (2) publically reported measures of quality.

None of the relationships demonstrated statistical significance, practical significance not withstanding.

Findings included significant variation in structures and processes for quality oversight, and in performance on public measures of quality. Board member confidence about quality was the norm, yet tensions within boards emerged, as perceptions often diverged on key efficacy statements. Scorecards included few measures that are valid for measuring improvement, many measures for monitoring hazards, and significant differences in the amount and types of data boards receive.

Main Conclusions

Study data provide important insights into the challenges boards face in their accountability for quality of care. Within boards, there is a great divide about whether they need more physician involvement, although many board members report that they do not meet with clinical staff to discuss quality improvement. This finding speaks to the unique contribution of this study: the value of exploring the perspectives of all board members, rather than just the board chair. The conflicting and often counterintuitive findings may reflect the nascent nature of the science, the immature state of methods to measure improvement, and the recent emergence of the board oversight role. Further research is needed to advance understanding of these critical relationships.

Quality, Patient Safety and Hospital Boards of Trustees:

Implications for Creating Safer Health Care

Introduction

The quality of care in U.S. Hospitals is a cause of widespread concern.(Leape, 2010) This is particularly disquieting since there has been a dramatic increase in quality and safety related activities during the past decade. (R. M. Wachter, 2010).When the Institute of Medicine (IOM) released its seminal reports *To Err Is Human* in 1999 and *Crossing the Quality Chasm* in 2001, the premise that between 44,000, and 98,000 preventable deaths occur annually in U.S. hospitals was both startling and riveting. The IOM minimum goal of a 50% reduction in errors over five years seemed aggressive but plausible.(Committee on Quality of Health Care in America, Institute of Medicine, 2001; Institute of Medicine, 1999) A RAND report suggesting that U.S. hospitalized patients receive, on average, half the therapies evidence suggests they should, (McGlynn et al., 2003) fueled the urgency for improvement created by the IOM reports. Subsequent surveys suggested patient safety was a top priority for hospital leaders, including Boards of Trustees (Middleton, 2005; Vaughn et al., 2006). High expectations prevailed, yet just three years after the IOM reports, health services researchers began voicing concerns over the slow pace of progress.(Auerbach, Landefeld, & Shojania, 2007; Leape & Berwick, 2005; Leatherman et al., 2003; R. Wachter, 2004)

Now, ten years after *To Err is Human*, there is broad agreement that health care is more complex, methods to improve are more challenging, and progress is more elusive than anyone imagined. Health disparities research suggests uneven distribution of the

improvements in quality of care, and a decline in many measures when assessed against minority status. (Arispe, Holmes, & Moy, 2005) Consumer research suggests public frustrations are growing due to lack of information on quality of care, or inaccurate information. (Consumers Union, 2009) Patient safety and quality research suggests progress is slow, new problems are emerging, and on many national measures care stayed the same or got worse during the past decade. (AHRQ, 2008a; The Commonwealth Fund Commission on a High Performance Health System, July 2008) Health policy research suggests the costs of poor quality are rising, regulatory interests are intensifying and policy solutions to clinical problems are increasing. (Leape, 2010)

In a juxtaposition of reality versus rhetoric, health services research reveals that in spite of persistent and far-reaching concerns about quality and patient safety, hospital boards may be retreating in their efforts. Since boards are ultimately accountable for care in the hospitals they govern, this is disconcerting. Evidence from a recent national study of over 1,000 board chairs suggests that fewer than half of hospital boards rate quality of care as one of their top two priorities. (Jha & Epstein, 2009)

The dissonance between perception and reality, when coupled with the dearth of knowledge around whether and how healthcare leaders influence clinical improvements, provides fertile ground for health services research. Thus the study: "Quality, Patient Safety and Hospital Boards of Trustees: Implications for Creating Safer Health Care" is both timely and relevant.

Background

Boards of trustees are legally accountable for quality and safety, yet little empirical evidence exists regarding how they address their accountability, and whether or how board structures and processes are associated with institutional performance on quality and safety measures. (McDonagh, 2006; Prybil, 2006) The Joint Commission accredits nearly 6,000 acute care hospitals in the U.S., and its governance standards guide boards on their oversight for quality and patient safety. Hospital Boards of Trustees are in a position to set the direction of change in their organizations. (Peregrine & Broccolo, 2006) In the years immediately following the IOM reports, there was an upsurge in the number of studies examining the board/quality dynamic. (Becker, 2006; Jiang, Lockee, Bass, & Fraser, 2008; Prybil, 2006) There was also a naïve yet common sense belief that boards influence the quality of care in the hospitals they serve. (J. A. Alexander & Lee, 2006) Through allocation of resources and guidance for strategic development, hospital governance plays a pivotal role in shaping the social role of the hospital as a competitive business and steward of community resources. (J. A. Alexander, Ye, Lee, & Weiner, 2006; Larson, 2005) Boards set the mission, create the vision, develop strategic plans, select and supervise the executive with administrative accountability for hospital operations, and are accountable for the medical staff. (J. E. Orlikoff & Totten, 2003) Board influence on these critical hospital functions is generally visible and often standardized. Increasingly, however, consumers and regulators also evaluate hospital board effectiveness by the real and perceived performance of the core business: delivery of patient care.(J. A. Alexander, Weiner, & Bogue, 2001; Batalden & Davidoff, 2007; Becker, 2006; Tregoning, 2000) In this critical role, board activities and influences are neither visible nor standardized.

Studies that examine beliefs of individual board members regarding their capacity to effectively perform quality and patient safety oversight activities are absent from the empirical literature. Published literature on the board quality relationship most often relies on perceptions from board chairs and chief executive officers.(Brunelle, Leatt, & Leggat, 1998; Jiang et al., 2008)

Changing Pressures for Board Leadership

The legal responsibilities and organizational complexities attached to board membership have increased over time. (J. A. Alexander, Lee, Wang, & Margolin, 2009; Culbertson & Hughes, 2008; Culbertson & Hughes, 2008; Fennell & Alexander, 1989; Makowski, 1976; Nigosian, 1980) As guardians of mission and margin, hospital trustees guide the strategic development and implementation of hospital programs, as well as the responsible allocation of resources. They must handle both responsibilities prudently. (J. A. Alexander & Schroer, 1985; Longo, Alexander, Earle, & Pahl, 1990; Morlock & Alexander, 1986) Historically, hospital boards exercised their influence through direct oversight for executive functions: hiring, firing and determining the compensation of the CEO based on operational performance of the organization, and oversight of care through approval of medical staff bylaws and credentialing of the organized medical staff.(Gautam, 2005; Judge & Zeithaml, 1992; Pointer & Orlikoff, 2002) Both corporate and community boards became much more hands on in their leadership, however, in the wake of the ENRON collapse.(Galloro, 2002; Greene, 2005; Greene, 2007; Nadler, 2004)

Federal legislation enacted in 2002 revolutionized the world of for-profit governance and had widespread, though non-binding, influence in the non-profit sector as

well. The Public Company Accounting Reform & Investor Protection Act of 2002 (Sarbanes-Oxley, "SOX") protects the interests of investors and delineates corporate (board) oversight and accountability for publicly traded companies. While the Act applies only to publicly traded companies, the emergence of corporate practices in response to the legislation raised the bar for all governance entities. Regulatory agencies and consumers now expect that governance oversight and accountability in hospitals includes not only accounting practices and management ethics, but delivery of care as well. Trustees are seeking best governance practices in response to the confluence of pressure by policymakers, regulators, employers, consumers, payers and accrediting agencies to resolve the quality and safety issues in health care. Current recommendations regarding effective board governance for quality and patient safety come primarily from the experiential assessments of health care consultants, not from empiric evidence.(Barr, 2005; O'Reilly, 2008)

Activities to Improve Patient Safety

The number and types of quality improvement and patient safety activities occurring across the country are growing exponentially. Yet how to disseminate the lessons learned and align the resources invested in these initiatives is unclear.

Congress passed *The Patient Safety and Quality Improvement Act of 2005* (S. 544), a law to make it easier for providers to report and learn from medical errors. The law is now in effect, and over 75 PSOs exist as an experience-based platform for patient safety learning. As of yet there are no published examples of improved practices or widespread value from the PSOs. Several states enacted mandatory error reporting

systems (Leape, 2000; Rosenthal & Riley, 2001; Weissman et al., 2005) (L.L.Leape, 2010) but it is difficult to find evidence of successful improvements based on data from those systems.

Accrediting bodies developed standards highlighting the importance, and delineating accountability for quality and safety within hospitals (Joint Commission on Accreditation of Healthcare Organizations, 2003) In 2007, The Joint Commission reported high hospital compliance with its National Patient Safety Goals yet limited change in the safety outcomes that it monitorshttp:///. The Joint Commission is a prominent force guiding governing body activities as expectations for board oversight of quality expand. Escalating concern about the lack of progress led to Joint Commission Sentinel Event # 43 "Leadership Committed to Safety", in August 2009.(The Joint Commission. 2009; The Joint Commission, 2009) The Joint Commission is uniquely capable of clarifying the board role within the context of all other hospital accreditation standards..

In 1999, The National Quality Forum was created as part of an integrated quality improvement agenda for the country. The Forum established a number of national safety imperatives and measure sets that addressed the need to build health care infrastructure, coalitions, and strategies to improve quality and safety for the long term. Issues identified in the IOM report are NQF priorities, as evidenced by the release of a "Serious Reportable Events" list in 2002 (updated in 2006 and under revision currently) and a list of "30 Safe Practices" in 2003, which were updated in 2006, 2009 and again in January 2010. (National Quality Forum, 2003) The NQF list of endorsed performance measures now numbers 615, although understanding where and how to use those measures, and

appreciating whether they align with measures suggested by professional societies and specialty providers is left for the user to determine. In December 2004, the NQF addressed institutional oversight for quality and safety through a "Call to Responsibility for Hospital Governing Boards" that included 4 principles and 22 distinct activities related to board accountability for quality and safety. (National Quality Forum, 2005) The principles included ensuring that hospital staff provides high quality and safe care, and that boards (1) regularly assess their own performance related to quality and safety, (2) recruit diverse board members to assure board level expertise in these domains, (3) develop quality and patient safety literacy, and (4) oversee institution participation in national performance/benchmarking systems. In 2006, NQF changed its approach and now integrates board expectations into each of its safe practices. The NQF framework includes explicit suggestions for governance leadership of quality and safety through activities to develop and implement structures and systems for awareness, accountability, ability and action.

Availability of Board Training Programs

Industry groups including the American Hospital Association, the Health Resource and Education Trust (HRET) and the Governance Institute as well as a large cadre of independent consulting firms offer board assessment surveys, educational resources, and board development strategies to support the goal of measurable improvements in quality of care and safety of patients. Though they may provide value for basic knowledge or skill development, these tools typically lack empirical grounding,

measurement rigor and results of impact lack scientific validity. (Bader & O'Malley, 2000; Dulworth, 2003; Evans, 2009)

Awareness campaigns, such as the Institute for Healthcare Improvement (IHI) governance guidance "Getting Boards on Board" appear to attract great interest and "commitment", but awareness does not equate with action and commitment does not equate with change. (Conway, 2008)

Theoretical Framework

Studies of leadership have interested scholars for over 200 years. Theorists have addressed why and how particular individuals gain power in an organization or society, what personal attributes seem to lead to positions of leadership, how individuals attempt to communicate and realize their vision, and the influences of formal and informal leaders. In the wake of the IOM and RAND reports and in light of continued lagging progress to improve quality of care, it is important to maximize health care leadership to improve quality of care and patient safety. (D. M. Berwick & Leape, 1999; D. Berwick, 2002; C. Goeschel, 2008; C. A. Goeschel et al., 2006; Leape, Berwick, & Bates, 2002; P. J. Pronovost et al., 2006; P. J. Pronovost, Berenholtz, & Needham, 2008; P. J. Pronovost, Miller, Wachter, & Meyer, 2009) As the chasm between best clinical evidence and common practice becomes more apparent, opportunities for linking leadership theory to practice are growing, and new constructs continue to emerge. (S. M. Shortell, Rundall, & Hsu, 2007; S. M. Shortell & Singer, 2008; B. J. Weiner, Shortell, & Alexander, 1997) (S. M. Shortell, 2004)

Understanding how boards carry out their fiduciary duty to care as it relates to quality and safety oversight is complex, and there are likely both group and individual

dimensions to performance. This study included measuring board member self-efficacy for quality oversight to provide novel insights for methods to improve board effectiveness.

Social learning theory suggests that four information cues influence development of self-efficacy (belief in one's capability to perform a specific task). These cues, from most to least influential, are enactive mastery (defined as repeated performance accomplishments); vicarious experience (modeling); verbal persuasion and individual perceptions of his or her physiological state.(Bandura, 1982) Bandura suggests that the cognitive appraisal and integration of these data ultimately determine self-efficacy. (Bandura, 2002)

The study used a recent adaptation of contingency theory (Donaldson, 2001) to describe how boards function as a group in addressing their fiduciary duty to care. Contingency theories are a class of behavioral theory that builds on the assumption that there is no one best way of organizing or leading. The popularity of contingency theories is due in part to their capacity for broad application. As such, they offer a reasonable perspective from which to study associations between governing bodies and quality and safety performance in hospitals.

The contemporary theory building work of Dr. Ronald Heifetz provides the framework for this research because of its practicality, (R. A. Heifetz, 1994) and personal experience with the model by the principle investigator (CAG). Prominent in the emerging field of leadership analysis, Dr. Ronald Heifetz' leadership and decision-making construct distinguishes between technical and adaptive work and between leadership and authority. (M. Heifetz & Halle, 1996)

According to Heifetz, adaptive work is evolutionary in nature and aims to diminish the gap between values espoused by individuals or organizations and the reality they face. Adaptive challenges typically affect a variety of stakeholders, each with their own interpretation of the issue, and involve changing values, attitudes, beliefs and behaviors. A classic example of an issue ripe for adaptive leadership is the gap between provider perceptions of quality of care and the reality of preventable hospital deaths and errors of omission and commission in U.S. hospitals. Though U.S. health care providers (institutions and clinicians) often claim to provide the best care in the world, a number of studies document the fallacy of that belief. (Schoen et al., 2005; The Commonwealth Fund Commission on a High Performance Health System, July 2008) Adaptive leaders mobilize individuals and constituencies to learn and integrate new behaviors through asking difficult questions and orchestrating conflict. They understand that deep and profound change requires time, experimentation, disequilibrium and they realize that solutions reside with stakeholders, not authoritative experts.

Not all leadership work, however, is adaptive. Technical work contrasts with adaptive work. Technical problems are those for which answers are readily available. Technical problems most often require development or refinement of individual or institutional knowledge or skill. The knowledge required to solve the problem is available. Closing the quality and safety gap requires both technical and adaptive work. For example, the ability to measure progress in patient safety is technical work. In some instances, evidence does exist regarding how to provide best care, but implementation is lacking. Changing practice is adaptive work. Medicine and health care are full of examples of knowing what to do and how to do it, even if procedures and policies are not

always perfectly applied. Heifetz classifies situations and their component work into three types that are useful for understanding board quality and safety (Q/S) work. When there is discordance between organizational perception of performance and objective measurement of performance, the application of technical expertise is likely essential but not sufficient to change results. For example, hospitals that consider themselves high quality but perform poorly on public measures of quality typically must change clinical practice patterns to improve. (JCAHO issues call to improve liability system and promote culture of safety.2005; Goodman, 2003; Nieva & Sorra, 2003; Rose, Thomas, Tersigni, Sexton, & Pryor, 2006; Winokur & Beauregard, 2005) Measurable improvement may require not only modification of data collection or reporting (technical skills) but behavior change and perhaps a change in values and attitudes as well (R. A. Heifetz & Linsky, 2002)

The task of adaptive work orients leadership in the Heifetz framework. Leadership is a value-laden *activity*, not a *position* of authority or a set of personal characteristics. The inclusive dimension of this leadership model is highly applicable in health care, where key people in the power structure are practitioners whose institutional role is typically limited to clinical privileges, and where implementers of clinical interventions may include a variety of providers, ranging from staff trained on the job, to practitioners with advanced degrees. All of them play a role in patient safety, and any of them may assume a leadership role in quality and safety improvement. Recognition of leadership as an activity not tied to positional authority and board member ability to discern the difference between technical and adaptive situations, are critical skills, skills since technical and adaptive situations require different leadership responses.

If board members come from highly technical professions such as banking, manufacturing or computer technology, they may feel compelled to relinquish leadership for quality and safety of care to health care "technical" experts: physicians and nurses. Yet standardized systems for measuring and reporting quality and safety in health care are in their infancy, and technical solutions to quality and safety problems are limited. Boards must commit to patient safety and authorize use of resources to achieve safety goals. Yet those technical interventions are likely insufficient to achieve top performance. Having strategic support and resources to achieve safety goals is very different than knowing what to do and how to do it within a given institutional culture. Given the history of hospital boards and their predominate focus on finance and business strategy (highly technical fields); it is possible that boards are taking technical approaches to solving adaptive problems.

Adaptive solutions emerge from thought provoking debate and a willingness to challenge assumptions of the status quo. Adaptive leadership involves mobilizing stakeholders toward a shared solution rather than providing a solution. In healthcare, this involves engaging a diversity of clinicians and front line staff in the dialogue about what must change, and how that change may be accomplished. In the Heifetz model, effective boards would appreciate dynamic tension as part of the process of engaging individuals in solving the problem, rather than being concerned about upsetting equilibrium or making certain stakeholder groups uneasy. Clarifying what matters most, what trade-offs are necessary, and what measures of progress are important is a central task of adaptive leadership. Changes in values, attitudes or habits of behavior are neither easy nor quick.

(Carroll & Quijada, 2004; Odwazny, Hasler, Abrams, & MCNutt, 2005; P. J. Pronovost et al., 2007)

Since most quality and safety related problems require a change in values, beliefs or behavior in order to implement specific evidence-based interventions, they involve both technical and adaptive work.

Literature Review

The need for major improvement of quality and safety in U.S. health care is now widely embraced. (Altman, Clancy, & Blendon, 2004; Longo, Hewett, Ge, & Schubert, 2005)(Arrow et al., 2009) To achieve its six health care aims -- to provide healthcare that is effective, safe, timely, patient-centered, equitable and efficient -- the IOM suggested a four- tiered approach. The approach calls for efforts to enhance patient safety knowledge; identify and learn from errors; raise performance standards; and implement systems to ensure safe practices at the delivery level In keeping with this approach, board actions to facilitate patient safety improvements should be both proactive (supporting knowledge enhancement, and implementing safety systems to ensure safe practices at the delivery level.) (Bates & Gawande, 2003; Hicks, Santell, Cousins, & Williams, 2004; Kwaan, Studdert, Zinner, & Gawande, 2006),(AHRQ, 2008b) and reactive (learning from errors, responding to institution specific data on performance, gathering and responding to patient perspectives on delivery of care, monitoring and sharing public reporting of comparative data, and acknowledging the legitimacy of purchaser mandates for improved value for their health care purchase). (Birkmeyer, 2004; Galvin, Delbanco, Milstein, & Belden, 2005; P. J. Pronovost et al., 2009; Tamuz, Thomas, & Franchois, 2004).

Published literature that addresses hospital board activities related to quality of care or patient safety is rare prior to 2001. A 2001 systematic review of literature examining linkages between organizational factors, medical errors and patient safety, included 3,500 articles; only eight identified board functions as an organizational factor. In those that did, links between board functions and medical errors or patient safety did not exist. (Hoff, Jameson, Hannan, & Flink, 2004) In early 2006, however, studies began to emerge that examined CEO and board perspectives on quality and safety more closely, though with limited methodological rigor.

In February 2006, Weiner, Alexander et al. used the Medicare Inpatient Database, the American Hospital Associations Annual Survey of Hospitals, the Bureau of Health Professions Area Resource File and two proprietary data sets to examine the association between scope of Quality Improvement (QI) implementation and hospital performance on AHRQ patient safety indicators. The sample included 1,784 community hospitals and employed a two stage instrumental variables estimation in which estimation of four patient safety indicators used predicted values of four QI scope variables and control variables. Involvement by multiple hospital units in the QI effort is associated with worse values on all four patient safety indicators. The percentage of physicians participating in QI teams is associated with better values on two patient safety indicators. While the researchers did not look explicitly at board activities, they did find that percentages of hospital staff and of senior managers participating in QI teams exhibited no statistically significant association with any patient safety indicator. (B. J. Weiner, Alexander, Baker, Shortell, & Becker, 2006) In April 2006, a follow-up piece by the same research team in the same journal examined the association between the scope of quality improvement in

hospitals and hospital performance on selected indicators of clinical quality. Their conclusions supported the notion that the scope of QI implementation in hospitals is significantly associated with hospital-level quality indicators. However, the direction of the association varied across different measures of QI implementation scope.

Also in April 2006, Joshi and Hines reported on interviews with CEOs and board chairpersons from a convenience sample of 30 hospitals in 14 states. Their study probed three general questions: the extent to which hospital leaders understand quality and safety issues; the actions that boards and CEOs are taking to drive QI in their hospitals; and whether board knowledge and board quality activities were associated with different outcomes. There were several interesting findings. First, they reported that the both CEO's and Board chairs ranking of level of knowledge of the IOM reports *among board members* was very low (4.16 by CEO's; 5.37 by board chairs using a 10 point scale where 1 was "not familiar" and 10 was "very familiar" with report, findings and recommendations). Second, there were significant differences between CEO perceptions of the level of knowledge of their board chair and the board chairs' self-perception (Familiarity of Board Chair with IOM reports: CEO 4.92; Board chairs 6.30. responses differ at p=.06). Conversely, both board chairs and executives reported high-level understanding of publicly reported hospital specific quality information (CEO 8.48; Board Chair: 8.75).

In September 2006 Alexander, Ye et al. reported on their examination of how governing board configurations have influenced profound organizational change in U.S. hospitals and the conditions under which such change occurs. They found that hospitals governed by boards that resemble a corporate governance model were more likely to

experience changes such as diversification and less likely to close. They also found that organizational performance influenced change, but largely independent of governance configurations. Only in the case of hospital closure did they find that governance configuration operated jointly with organizational performance. (J. A. Alexander et al., 2006)

Although initial studies were small in scope, they represented substantial movement in our understanding and intellectual curiosity about the association between boards and quality and safety activities. The number of studies looking at hospital boards and their influence on quality and safety is growing quickly, yet generalizable findings have been limited.

Between 2007 and 2010 over 40 articles examining hospital boards, and quality of care were published in U.S. peer reviewed journals, a clear indication of the importance of the topic. They varied in study design, methods and populations, and most yielded results that were not statistically significant, but useful. Given the nascent nature of quality and safety science, the immature nature of quality and safety measurement, and the emerging importance of governing body oversight, researchers are starting with a nearly blank slate. Each study begins to narrow the field or add texture to nuances from previous studies. The articles may be clustered into several domains.

A small and recent number of studies identify the need and offer suggestions for a standard taxonomy to describe board roles for quality and safety oversight. A somewhat larger group of studies have begun to address comparisons between not for profit boards and for profit boards, their approaches to monitoring quality, and whether and what board activities are statistically related to quality outcomes. The largest number of studies might

be loosely aligned under the category of exploring relationships and expectations: relationships between boards and the community; boards and hospital administrative leaders; boards and hospital medical staffs, boards and regulators; and boards and patients and families. A need for knowledge to guide what boards should do to improve quality of care, how they should do it, and how they will know they are making a difference undergirds all of the studies.

Board effectiveness is complex. It seems logical that Board structures and processes play an important role in the institutional integration of quality and safety as a strategic priority. In spite of this growing body of research, empirical evidence about whether board structures, processes and self-efficacy affect quality and safety remains largely unknown.

Hypotheses and Research Questions

There are no empiric benchmarks (based on associations with quality and safety performance) for board size, composition, monitoring structure, and education for hospital quality and patient safety. Nevertheless, consultants routinely publish guidelines for these structures and processes based on their experiences working with boards. (Pointer & Orlikoff, 1999; Pointer & Orlikoff, 2002)(J. E. Orlikoff & Totten, 2001) The survey instruments for this study incorporated benchmarks for board size, board composition, quality and patient safety monitoring, board member quality and patient safety education, and board quality and patient safety self efficacy, using governance guidelines published by leading industry consultants. The hypotheses were that the industry recommendations are associated with quality of care and patient safety performance. The research examined associations between recommended practices and

quality and safety as measured on publically reported clinical performance, and compliance with the Joint Commission National Patient safety goals.

Research Questions:

1. Is board composition associated with quality and safety performance or board self-efficacy?
2. Is board monitoring of quality associated with quality and safety performance or board self-efficacy?
3. Is board size size associated with quality and safety performance or board self-efficacy?
4. Is board quality and safety education associated with quality and safety performance or board self-efficacy?

Methods

Study Design and Study Population

This cross-sectional study sought to describe the variation in board structures and processes, board efficacy for quality and safety oversight, and the relationship between these variables and publically reported measures of hospital quality. The Tulane University School of Public Health and Tropical Medicine Institutional Review Board determined that the study qualified as exempt research. The unit of analysis was hospital boards in Tennessee and Michigan. In July 2008, the principal investigator (CAG) contacted The Tennessee Hospital Association and the Michigan Health and Hospital Association to garner study support. The intent was to learn from boards where support for hospital improvement efforts was both central (hospital association) and local (hospital). Michigan was selected because of the diversity of its hospitals, and previous statewide efforts to improve care through the Keystone ICU project. (P. Pronovost et al.,

2006; P. J. Pronovost et al., 2006) (C. A. Goeschel et al., 2006) Tennessee was selected because of similar hospital diversity, and because of the hospital association investment in board development. (Becker, 2006; Becker, 2007; Evans, 2009) Each association agreed to invite their acute care hospitals to participate in the study.

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 emailed the principal investigator, 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 documents to be returned included completed survey instruments and a blank copy of the board quality and safety scorecard. 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. Thirty-five boards participated in the study. Twenty-two boards (63%) returned quality and patient safety scorecards. No attempt was made to collect scorecards from sites that did not provide one with their survey response packet.

Survey Development

Two survey instruments were developed for the study. The "board characteristic survey" assessed board structures and processes for quality and patient safety oversight.

The "board efficacy" survey assessed individual board member perceptions of self and group efficacy for quality and patient safety oversight.

The board characteristics survey built on industry literature for recommended board practices, (J. E. Orlikoff, 2005) and on empirical studies. (J. A. Alexander & Lee, 2006; Lee, Alexander, Wang, Margolin, & Combes, 2008) The self-efficacy survey emerged from a review of literature on the history of hospital boards, duties and accountabilities of hospital governance, and social cognitive theory. (Bandura, 2002) Both instruments went through a multi-step vetting process prior to use. The final 15-item board characteristics survey included categorical, multiple-choice, and numerical response questions. The final board member survey (called the "efficacy survey") included 33 efficacy statements with a 5-point Likert response scale, and 3 multiple-choice questions.

Analysis

The relationship between board characteristics and board member self- efficacy was assessed using a general linear mixed model. Self-efficacy score was considered as a response variable, as well as each of the three subscales pertaining to confidence, knowledge, and skill. A random effect for hospital was included in each model to account for the increased likelihood of similar responses for board members from the same hospital. Hospital bed size, system status, hospital locale (urban/rural), and hospital status (profit/non) were controlled for in this analysis. This allows for quantifying associations between board characteristics and board member self-efficacy while accommodating for confounders and properly accounting for the within hospital correlation resulting from multiple board member responses from the same hospital. A general linear mixed model

framework was also used to examine the relationship between composite scores on publically reported quality measures for acute myocardial infarction, heart failure, pneumonia, and surgical site infection prevention and board characteristics. No statistically significant associations were identified. Descriptive analyses of board self-efficacy data were conducted at the board level, the state level, and the study level. We explored variation in board member background and board structures and processes at the state and study levels.

Results

A voluntary sample of 35 boards that govern 50 hospitals participated in the research. The study cohort included 14 boards representing 29 Tennessee hospitals (24% of non-federal, short-term acute care hospitals in the state) and 21 boards representing 21 Michigan hospitals (18% of non-federal short-term acute care hospitals in the state). Thirty-five boards submitted a board characteristics survey, though not all surveys were complete. Three hundred and sixty-six individual board members completed efficacy surveys (72% of board members at participating hospitals). Site-specific board member response rates ranged from 50%-100%. Eighty percent of individual respondents reported that they serve on boards other than the hospital board, and 32% reported personal education/training in a clinical discipline.

Board size varied (from 6-26 board members) as did composition (from 0-9 physician board members). Boards reported wide variation in hours of board education for quality and safety oversight, (from less than 4 hours per year to more than 20 hours per year, per board member. Quality and safety monitoring processes varied less. Seventy three percent of boards had a separate quality and safety committee and 65% of boards

reported they review quality and safety at every full board meeting. Perceived self and group efficacy for quality and safety oversight was strong, irrespective of hospital or board characteristics. Ninety-two percent of individual board members reported that their hospitals quality and safety issues are clear, 89% agreed or strongly agreed that the quality reports they receive are detailed enough to guide action, and 94% agreed or strongly agreed that their board handles quality and safety issues appropriately. The vast number of boards reported a strong sense that they drive change in their hospitals, and that hospital staff know how to improve quality.

Within boards, there is a great divide about whether they need more physician involvement, although many board members report that they do not meet with clinical staff to discuss quality improvement. This finding speaks to the unique contribution of this study: the value of exploring the perspectives of all board members, rather than just the board chair. The majority of board members reported they feel well equipped for their role, are comfortable discussing hospital specific quality and safety performance, and believe their hospital learns from its mistakes. Yet 27% reported they did not understand or were not certain they understood CMS pay for performance, 13 % disagree or are not certain whether the board hears the stories of harm that occur in the hospital, less than half have any formal training in improvement, and fewer than a third have training in any clinical discipline. Results of multi-level modeling to assess efficacy in relationship to board structures and processes were statistically insignificant.

Discussion

Although research findings were not statistically significant, the study provides rich data that may improve our practical understanding of how boards conduct their

quality and safety activities, how they related to clinical experts, how they perceive their own knowledge, influence and skills for quality and safety oversight, and what factors may be influencing these perceptions. Three initial manuscripts based on the research begin to address these questions.

1. Quality of clinical care and patient safety are the primary domain of clinicians. Study data suggested that board engagement with medical staff varied, and there were strong opinions regarding whether boards needed more or less physician involvement. The value of shared mental models for board and physician leadership of quality and patient safety oversight informed the first peer reviewed manuscript which will be published based on this research: "Responsibility for Quality Improvement and Patient Safety: Hospital Board and Medical Staff Leadership Challenges". (Appendix 1). The article will appear in the journal CHEST, which is the official publication of the American College of Chest Physicians and has over 30,000 national and international readers. The manuscript was submitted on August 30, 2009; underwent three rounds of revisions, and was accepted for publication in November 2009. It will appear in print in early 2010.

2. The perceptions of the 366 board members that completed surveys on self-efficacy for quality and safety oversight provide vast opportunities to explore how boards evaluate their own quality and safety knowledge and skill, and the quality performance of the hospitals they govern. Moreover, the response variation at the board level suggests that relying on a board chair or CEO to accurately portray "the board" in an area as complex as quality improvement may warrant closer consideration in future research. The

richness of the efficacy data informed the second manuscript based on this study: "Hospital Board Oversight for Quality of Care: Structures, Processes and Perceptions of Self and Group Efficacy" (Appendix 2). The manuscript was submitted to Medical Care Research and Review on February 7, 2010. Journal response is pending.

3. Building on the assumption that shared mental models of accountability for quality and safety oversight are important, and self-perceptions of knowledge, skills and abilities contribute to board effectiveness in the oversight role, the question of what tools and data boards are provided to guide their oversight activities informed the third paper based on this research. The twenty-two board quality and patient safety scorecards submitted by study sites were alarming in their variation, and in the sparsity of measures that are valid for monitoring improvement. "Quality Scorecards for Hospital Boards: Interpreting Improvement" (Appendix 3) was submitted to the American Journal of Medical Quality on March 24, 2010. Journal response is pending.

Future work.

The study yielded a rich data set for small but varied group of boards. Data mining continues and three additional manuscripts are in various stages of completion. They draw on results from recent studies and address the following questions:

1. Were participating boards structured for success?

How did board structures in these 35 hospitals compare with new empirical evidence suggesting certain structures may in fact be associated with quality and patient safety

performance? If we replicate analyses from emerging studies with the data from this study, will we see similar patterns of association between structures and performance ?

2. Did the participating boards use their direct authority for the CEO to manage the organization for quality and safety success? Data collected as part of the study included whether quality and safety performance is a component of the compensation plans of various hospital leaders, and whether boards set performance targets for these plans. This data, in conjunction with exploration of the self-efficacy data from the Heifetz technical/adaptive framework is providing interesting early results, and the manuscript on managing for success will incorporate these additional analyses.

3. What policy implications emerge from findings in light of health reform?

The need to improve quality and safety, and to develop a national agenda for doing so received strong bi-partisan support in health reform legislation. Findings from this study suggest a need for a greater number of standardized, valid measures to monitor progress, guidelines for board education in light of their expanding role, and methods to disseminate and implement best practices when they emerge. These challenges lend themselves to policy solutions that will be explored in a future manuscript.

Conclusions

This study provides important insights that may be useful at the local, regional and national levels. Researchers eager to inform the field of quality and patient safety leadership have limitless opportunities to explore. Yet individual hospitals and state hospital associations that received blinded aggregate reports based on the study

(Appendix 4 and Appendix 5) continue to inquire about new insights, how to use their study data, and recommendations for how to improve board engagement with quality and safety leadership. They want practical tools and clear guidance.

Recent evidence that suggests boards may have turned their attention away from quality of care is consistent with study results that suggest boards are largely confident in their knowledge and skill; believe hospital staff know how to improve quality, and believe quality is in fact improving. Prudent boards need to prioritize their activities and attention, and financial challenges facing hospitals during the current economic downturn are no doubt intense. Yet hospital scorecards that contain few valid measures to track progress, national scorecards that suggest improvement is slow or quality is deteriorating, and recent calls for more transparency and increased public accountability all point to the need for more quality improvement knowledge, skill and attention across the entire industry.

Boards are not alone in their delusion, but they are at the top of the hierarchy in terms of accountability for quality and patient safety in the hospitals they govern. Understanding what structures and processes will help them be efficient and effective in administering their fiduciary duty is an important area for continued research.

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Appendix 1

Responsibility for Quality Improvement and Patient Safety: Hospital Board and Medical Staff Leadership Challenges

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CHEST

Responsibility for Quality Improvement and Patient Safety:

Hospital Board and Medical Staff Leadership Challenges

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Responsibility for Quality Improvement and Patient Safety:
Hospital Board and Medical Staff Leadership Challenges

Hospital boards have fiduciary responsibility to oversee the safety and quality of care provided in their institutions, though until this decade, boards assumed quality, rather than measured it, and provided relatively little direct attention to this duty. The two primary categories of board authority for quality and safety include decision making, which has to do with medical staff credentialing, and an oversight function. [1] Yet most boards delegated oversight of clinical matters to their medical staffs and administrators, either formally or informally. [2]Boards typically focused their talent and energies on financial issues, including fundraising, capital expenditures, and operating margins.

This pattern changed abruptly in response to two cataclysmic forces. First, a series of corporate scandals in the for-profit world, capped by the implosion of Enron in 2001, WorldCom in 2002, and non-profit scandals such as the $1.3 billion bankruptcy of the Allegheny Health, Education, and Research Foundation (AHERF), [3] led to much greater scrutiny of corporate boards and far higher standards of accountability. As a result, the 2002 Sarbanes Oxley legislation (SOX) [4] introduced major changes to the regulation of corporate governance and public finance and called for the Securities and Exchange Commission (SEC) to " foster greater public confidence in securities research" (Sox sec 501). Second, the IOM reports on medical errors and on health care quality published in 1999 and 2001[56] led to tremendous pressure on healthcare organizations, particularly hospitals, to improve the quality of care provided to their patients. In the face of reports of nearly 100,000 deaths per year from medical mistakes and failure to provide evidence-based care nearly half the time, the laissez-faire attitude of hospital boards regarding clinical care gave the sense of being asleep at the switch[7].

These two forces – increased scrutiny of institutional leadership in general, and enhanced pressure to improve quality and safety in hospitals, transformed the roles and responsibilities of hospital boards. Yet responsibility does not equate with action. A recent study surveying a nationally representative sample of board chairs in 1,000 U.S. hospitals found that fewer than half of the boards rated quality care as one of their top two priorities.[2] In this article we review these responsibilities, describe the legal and political underpinnings of board governance, portray the need for increased collaboration between boards and medical staffs to meet the new mandates, provide recommendations for boards and medical staff members that will help both meet their important responsibilities related to safety and quality of care, and offer the framework for a board scorecard to monitor quality and patient safety.

The Legal and Regulatory Context for Boards' Activities

In not-for-profit (NFP) hospitals, the roles and responsibilities of governing boards are complex, interconnected, and critical to institutional viability and to fulfilling their community obligation. [8] NFP hospital governance boards are legally bound to the fiduciary duties of care, loyalty, and obedience..[9 1] Historically the interpretation of those duties varied widely in accordance with local culture, and reflected the flexibility of state statutes.

Wide variation still exists in the level of hospital board involvement with clinical performance, quality of care, and patient safety. Many board efforts related to quality and safety were historically more form than function. [10, 11]. It is important to appreciate why this was the case. First, board appointment was an honor: a recognition and reinforcement of community status. Most board members were upstanding, often well-

to-do members of their local community, chosen for these attributes more than any knowledge of healthcare. Second, healthcare is a rapidly changing, technologically and knowledge intensive industry, thus boards need to hire and rely on managers with high levels of content expertise. In the past, boards often relied on the CEO to manage clinical issues while the board focused its attention on traditional business issues: strategic planning, financial management and community benefit. Finally, the unique aspects of medical staff-hospital relationships also conspired to keep boards away from direct oversight of clinical care. In most NFP hospitals, physicians were individual entrepreneurs, not employees of the hospital, and medical staffs had considerable leeway over their organization and practice. It was an unusual board that chose to step into the complex politics involving the relationships between medical staffs and hospitals. The result was that while boards had legal responsibility to oversee quality and safety, the de facto practice placed quality and safety oversight in the trusted hands of medical staff, the CEO and hospital administrative leaders.

Boards, as external, representative, oversight bodies, protect and advance owner or stakeholder interests in the organizations they govern. In contrast to investor-owned companies in which shareholder votes guide board decision-making, NFP hospital boards make decisions on their own and must balance the often conflicting interests and goals of their hospital, the medical staff, and the communities the hospital serves. Yet all boards must adhere to legal and regulatory standards. In the wake of SOX, even NFP hospital boards face increased scrutiny of their financial accountability as well as their attention to the performance of the core business: patient care. [12, 13]

Though the specific duties of boards are often ambiguous and may vary, [14 15 16] there is widespread consensus on the following broad governance responsibilities:

a. Formulate organization mission & key goals

b. Ensure high levels of executive performance

c. Ensure high quality of care

d. Ensure high quality financial management

Boards have the legal duties of care, loyalty, and obedience. [1]. The duty of care refers to the obligation of corporate directors to act in (1) good faith, (2) with the care an ordinarily prudent person would exercise in like circumstances, and (3) in a manner that they reasonably believe to be in the best interests of the corporation. [1] A board exercising its duty of care must consider quality and patient safety in all of its decisions. Obligations under this duty require the board to promulgate written bylaws or mechanisms that ensure the medical staff is accountable to the governing board for the quality of care provided to patients. They also require hospital leaders and elected members of the medical staff to codify standards and monitor competence of the credentialed medical staff. Board oversight activities for hospital quality and patient safety require discussing, investigating and monitoring performance and allocating sufficient resources to ensure high quality safe care. Regulatory agencies (Centers for Medicare and Medicaid Services, Food and Drug Administration) and accreditation agencies (The Joint Commission) reinforce board accountability through standards that expressly guide governance structures, functions and activities related to quality and patient safety.

The board duty of loyalty asserts that NFP board members owe allegiance in their deliberations and decision-making to the hospital stakeholders (e.g. community) rather than to personal interests or the interests of other organizations or individuals, including members of the medical staff. Boards must be hypervigilant with respect to their own conflicts of interest because they are responsible for overseeing medical staffs who themselves face immense pressure to avoid real and perceived conflicts with industry. This duty can pose a challenge. For example, many boards face strong pressure from physician leaders to support business ventures potentially perceived as skimming the cream (e.g. removing well paying patients) from the acute care setting. Physician board members may have unique appreciation for the entrepreneurial interests of their colleagues on the medical staff. Yet his or her board role requires prioritizing hospital interests in board decision making. In the NFP sector, where the profit making services cover the losses on services that are essential but not profitable, this shifting of volume could put the viability of the hospital at risk. The duty of obedience requires adherence to the purpose and mission of the health care organization. While the CEO is generally the only direct board report, the board has obligations that transcend the performance of the hospital administrative leader. The duty of obedience obligates the board to make certain that institutional policies and practices place a priority on the quality of patient care. These obligations are primary when leaders consider new hospital services or business ventures. Though boards delegate much work, they are ultimately accountable for everything that transpires in the name of the organization.

Board Structures and Functions

The term governance structure encompasses structural aspects of board including size, number and types of committees, relationships to other boards in multi-site organizations, rules for member recruitment, retention and retirement, and mechanisms for board self-evaluation. Boards must meet a fiduciary responsibility to ensure the use of community assets for the benefit of the organization's social mission, while they simultaneously address complex and rapidly changing business problems.

Board structure influences board effectiveness and efficiency. As in most things, parsimony is essential. The most effective structure has the fewest members, layers, and committees needed to perform these key board functions[17]:

a. Formulate policy: conveying expectations and directives
b. Make decisions choosing among alternatives
c. Monitor performance

Until recently, hospital boards modeled their structure after non-healthcare boards and from the business and management literature. This literature recommends evaluating board effectiveness largely by markers of company financial performance, such as the balance sheet, market share analyses, and stock price.[18] In this model product quality is assumed to be reflected in financial performance. Such a view is necessary but insufficient in health care, where the quality of the product (in this case patient outcomes) must be directly measured rather than assumed. Given that most hospitals treat patients with hundreds of diagnoses and perform thousands of procedures, this is no easy task. Since most board members are not clinicians, their capacity to be effective in this role hinges in large part on functional relationships with the medical staff and a robust system to monitor quality of care. A recent study of 35 hospital boards representing 50 hospitals

in two states measured board characteristics related to quality and safety oversight, and collected self-efficacy data from 366 individual board members. The overwhelming majority of board members reported their belief that the medical staff is committed to providing evidence-based care (Figure 1), yet nearly half of board members believe the board needs more physician involvement. (Figure 2) [19].These results illuminate the challenge: boards are feeling the need to better understand the clinical care delivered in their institutions, yet are likely to continue to need to delegate individual care decisions to physicians (most of whom are not employees) and, more broadly, to the medical staff. While placing some physicians on the governance board is likely to be part of the answer, it does not completely reconcile these tensions.

Physician Involvement in Quality and Patient Safety Oversight

Since the late 1990s, physicians are increasingly serving as hospital leaders and on hospital boards. Yet, whether hospitals with physicians in senior leadership roles provide higher quality care than hospitals that lack physician leaders is uncertain. There is limited empiric evidence on the impact of physician involvement in management and governance, and early research identified apparent associations with improved efficiency, not quality of care .[20]. Nevertheless, the growing pressure to address quality and safety problems has increased interest in physician-board collaboration.

The board must create a quality and patient safety improvement system, that is meaningful, measurable and manageable. This requires both technical and adaptive work: a combination of business acumen, clinical knowledge and courage. The technical work of improvement involves identifying known solutions to performance problems, ensuring

patients reliably receive evidence-based therapies, and monitoring performance. Physician involvement is essential. Physician involvement is also essential to adaptive work, which involves changing attitudes, beliefs and behaviors needed to provide high quality and safe patient care. Though boards are responsible for both the technical and adaptive work of quality and safety improvement, they cannot successfully address adaptive challenges unless individual physicians and medical staff leaders work cooperatively with them. Boards can collaborate with physicians by appointing them to leadership roles, or by participating in hospital committees and medical staff meetings. With increasing frequency, governing boards recruit physician members.[21] The physician- trustee role is not easy. [22] These physicians must balance tensions and conflicts of interests in advocating for the medical staff, the hospital and the community (Table 1). For example, the board may vote on adding a new service that could compete with the physicians practice.[23, 24] . To circumvent those challenges, some boards recruit physician trustees that are not credentialed members of the medical staff. Most boards also have well documented conflict of interest policies to guide decision-making, though the degree to which these truly mitigate the problems is uncertain. The conflicts are not only with physicians. Non-physician board members may, and often do, eschew at quality of care problems by a physician who brings in a large number of patients or revenue. Physician accountability is poorly developed in most hospitals. [25]

Empiric literature describing differences in hospital performance related to numbers and types of physicians on the board is just beginning to emerge. [16, 26-28] Early studies suggested that physician-at-large board members might favor traditional methods for ensuring quality of care (quality assurance, risk management, utilization review) more

than interactive and proactive processes.[23]. Studies that are more recent have not replicated that result, but do support the performance advantage of boards with high physician membership [17]. Physicians interested in leading quality and patient safety efforts should make their interests known to hospital leadership and prepare diligently for a governance role.

Recommended Governance Practices for Quality Improvement and Patient Safety

Most board-related research focuses on board attributes and structural elements: the size of the board, board composition including the presence or absence of physician board members, board orientation and ongoing education for the role, and prior board experience. Research increasingly suggests, however, that in complex organizational systems such as hospitals, boards interconnect with hospital leaders and medical staff that perform in a mutually reinforcing and systemic manner [16] Governance of quality and safety in hospitals continues to be shaped by a combination of scant but growing evidence, and tacit knowledge for structures and functions that seem to be effective at improving quality. Some of the most widely accepted practices include:

a. Boards should have a separate quality and patient safety committee that meets regularly and reports to the full board. Evidence suggests boards with such a committee spend more time on improvement activities and their hospitals may have better outcomes. [17]. If the board does not have a separate Q/S committee, there should be clear evidence that Q/S is an active agenda item at each board meeting.

b. Boards should ensure the existence and annual review of a written quality improvement and patient safety plan that reflects systems thinking, contains valid empiric measures of performance, and is consistent with national, regional and institutional quality and safety goals. Physicians interested in leading quality and safety efforts or growing toward a governance role should ask to see the plan and contribute to it.[29, 30]

c. Boards should have an auditing mechanism for quality and safety data, just as they do for financial data. While data quality control principles apply to clinical research, and apply to financial data through generally accepted accounting principles (GAAP), data quality in measuring quality and patient safety has received little to no attention in most healthcare organizations..[3132]

d. Boards should routinely hear stories of harm that occurred at the hospital, putting a face on the problem of quality and patient safety. Stories may be case reviews presented by staff, or interactions with patients or families that suffered harm.

e. Boards should base compensation for the Chief Executive Officer on achievement of measurable improvement targets for key responsibilities including quality of care and patient safety.

f. In conjunction with the CEO and medical staff leaders, boards should identify specific, measurable, valid quality indicators consistent with strategic goals and hospital services, and review performance against the indicators no less than quarterly. Such review should include:

    i. Regular quantitative measurement against benchmarks

    ii. Reported compliance with rigorous data quality standards

iii. Performance transparency

a. Weekly or monthly reports of harm

b. Sentinel event and claims review for quality and safety problems

iv. Methods for active intervention to improve care

a. Survey of quality and safety culture

b. Use of survey results to shape improvement efforts

c. Routine mechanism to tap the wisdom of bedside caregivers

Finally, boards should obtain continuous education on quality and patient safety standards, the growing body of empiric literature examining board effectiveness for quality and patient safety and emerging national expectations for quality and safety performance in hospitals. [17, 33] Physician leaders may provide such education and may suggest joint medical staff/board training when emerging requirements are new for both groups. Such training is essential given that most board members lack the technical expertise to monitor quality and safety, which is in stark contrast to their ability to monitor financial performance. Collaborative workshops can set the stage for true institutional learning and expedite quality and safety improvements.

Model for a Meaningful Safety Scorecard

Boards face substantial challenges in monitoring quality of care and patient safety. Current measures to evaluate progress in patient safety do not provide an adequate evaluation of services across an institution, and many are of dubious validity. Without rigorous and standardized measurement, boards, hospital leaders, and medical

staff do not know whether care is really any safer than it was previously. Boards are often left monitoring what administrative staff determine is important (or, to be less charitable, what administrative staff want boards to see – sometimes highlighting successes rather than harsh truths) using tools that may be less than informative.

Unfortunately, a clear and standardized national framework to measure and report quality and safety performance does not yet exist. Although the Centers for Medicare and Medicaid Services (CMS) publicly report a few standardized hospital quality indicators, these reflect an extremely small portion of health care services, and generally focus on processes of care (what clinicians do) rather than outcomes (the results achieved). A recent study pointed out the limitations of public quality reporting, including inconsistent patient definitions, varying reporting periods, and differing measures of structures, processes and outcomes, such that there is little agreement across public websites on the quality of the same hospital.[34]

Moreover, much of the quality information reported to boards can misinform rather than inform. For example, hospitals often report data as rates (e.g. self-reported medication errors) when, in fact, they do not satisfy scientific parameters for rate-based measurement. Medication errors are obtained from error reporting systems that are notoriously inaccurate as rates; in these self-reported systems, a small and non random proportion of errors are reported (in fact, increases in reported numbers of errors is often hailed as evidence of a "safety culture"). As such, changes in rate over time likely reflect reporting bias more than changes in patient safety [31, 35]. Rate-based measures require a clearly defined numerator (event) and denominator (those put at risk for the event), as well as a surveillance system for identifying both and defined methods for minimizing

measurement bias. Most measures of patient safety lack these attributes. Without these defined characteristics, measures can actually misinform board members and administrators.

Our experience in developing and disseminating an intervention to reduce the rate of central line associated blood stream infections (CLABSI) provides an instructive model for boards. This program used tools to improve teamwork and safety culture, summarized clinical evidence into a checklist, measured infection rates using Centers for Disease Control (CDC) definitions and rigorous data collection criteria, and reported results at the unit, hospital and state levels. We implemented the program in intensive care units (ICUs) across the state of Michigan and reduced the incidence of CLABSI's by 66%, saving an estimated 1500 lives and $200,000 annually in that state. [3637] Rates fell to a median of zero. The evidence-based interventions used in the study are not costly or controversial. They are however, both technical and adaptive in nature. Thus, they require concerted effort, dedicated resources, and leadership support. Federal funding is making the program publically available to all 50 states, and evidence for the value of the intervention is now strong enough that measures of CLABSI, not subject to the bias of self-reports, should be monitored by every board.

Table 2 illustrates a patient safety framework (originally developed for the ICU CLABSI project) that may be used alone as a tool for boards and hospital quality and safety committees, or as part of a hospital's balanced scorecard. Within the framework, we stratify measures into two categories: measures that we are and are not able to validly measure as rates. Non-rate measures are important; but we must be cautious about how we use them to evaluate patient safety progress.[38,39]

Among the rate-based measures, the board should routinely require answers to two key questions that address outcome and process measures: "how often do we harm patients" (such as with CLABSI), and how often do we provide evidence-based care (such as providing antibiotics prior to surgery)?" Yet most issues in safety cannot be measured as rates, and clinicians and administrators should not present them as rates. For the non-rate-based measures, boards should ask the CEO and medical staff leaders two additional key questions: "How do we know we have learned from our mistakes?" and "How well have we created a culture of safety?" These questions address the extent to which risks to future patients from specific hazards have been reduced. Boards can evaluate learning from mistakes (such as adverse events) by seeking answers to the following; what happened, why did it happen, what did you do to reduce risks to future patients, and how do you know risks were actually reduced. Unfortunately, this last question is often neglected. Hospitals need to learn from mistakes at the unit, department, and health system levels. Nevertheless, the science of determining the most appropriate level to implement interventions is underdeveloped. Safety culture can be measured by surveys administered to staff. There is a variety of validated surveys to measure safety culture. While these surveys are administered annually, it is essential that they be conducted with scientific rigor so results provide valid information. This requires high responses rates and surveying all clinical employees so that unit level reports are available. Culture seems to vary much more among units within a hospital than among hospitals. As such, hospital level sampling may miss important variation in safety culture within a hospital.[40-42]

Using the four question scorecard to organize all quality and safety metrics in conjunction with use of the red, yellow green color-coding that is often used on balanced scorecards can provide complementary value. At a glance, leaders will see not only where additional focus is needed, but also whether patient safety and quality efforts are balanced across the critical dimensions of measuring harm, providing evidence-based care, learning from mistakes and creating a culture of safety. The science of how to measure quality and safety is immature, changing, and in need of robust research funding. Yet physician leaders need to ensure their hospital quality and safety scorecards are scientifically sound, important, and usable and that the inferences boards of trustees make about the quality and safety of care are appropriate for the data provided.

Conclusions

Hospital boards face increased accountability for the quality and safety of care in their organizations. Many boards are responding admirably, and all of them can do so if they and their medical staffs are willing to adapt.

Boards must engage their medical staffs, by becoming more involved in and educated about the quality of care provided in their institutions, and by inviting physicians to join the governing body. Medical staff members should understand the unique duties of boards, which may help soften the inevitable conflicts that arise when boards and physicians embrace divergent goals or strategies.

In addition to appropriate physician-level expertise and engagement, boards require supportive structures and processes to fulfill their mission. Board members must be sufficiently educated in quality and safety management and measurement. Given the substantial resources required to develop robust measures of patient safety, national organizations should develop measures that have broad use. Hospital boards should

review and allow sufficient time to discuss the quality and safety performance at all board meetings. Boards will increasingly require more information about quality and safety of care provided within their institutions. This will include both rate-based and non–rate based indicators. [43] Boards need to hold CEOs and medical staff leaders' accountable for improvements on both kinds of measures, and ensure that the institution has the resources and will to improve. Being a board member today is more demanding and potentially more rewarding than ever before. Communities now expect hospital boards to measurably influence quality and safety performance. New board structures, board education, and performance reports are necessary but likely not sufficient to accomplish the desired improvement. Many boards are finding that this challenge requires a new level of collaboration with the organization's medical staff in shared efforts to improve care.

Figure 1:Board Member Perceptions of Medical Staff Commitment to Quality of Care

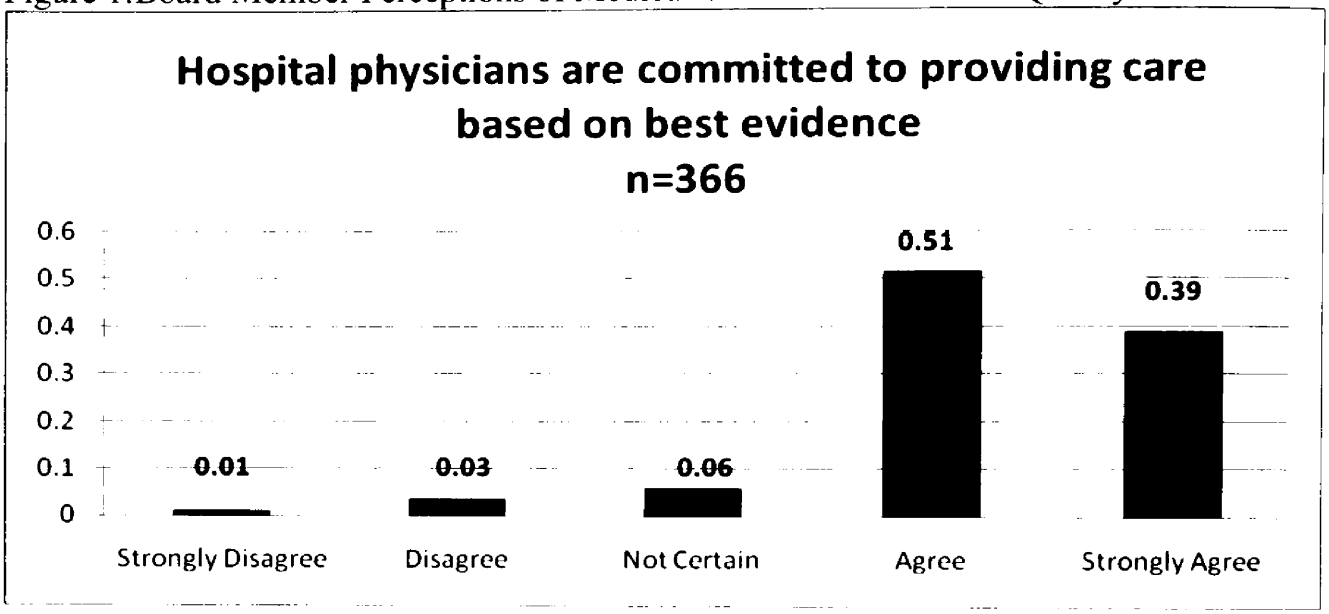

Figure 2: Board Member Perceptions of Need for Interaction with Medical Staff

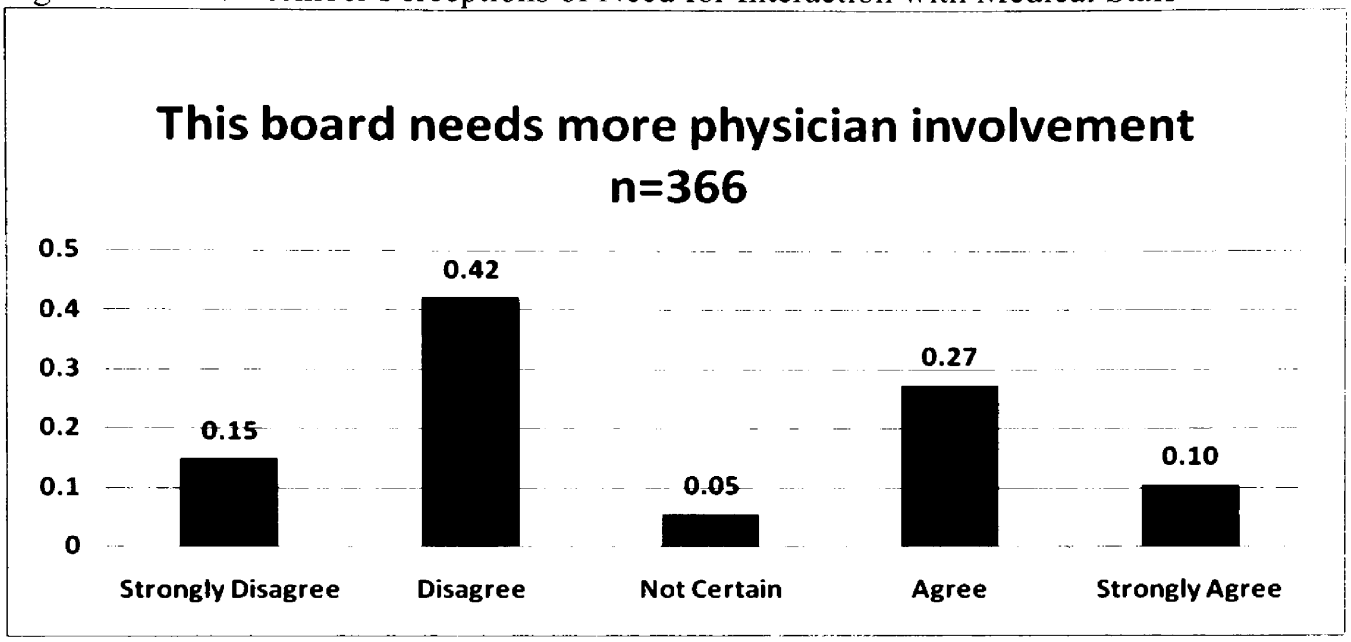

Table 1. Hospital Leadership for Quality and Patient Safety

	HOSPITAL LEADERSHIP		
	TRUSTEES	**CEO**	**PHYSICIAN AS CLINICIAN**
QUALITY AND PATIENT SAFETY	Act as a Body with Single voice	Act as Individual	Autonomous Professional
	Hospital and Community Focus	Hospital Focus	Patient Focus
	Develop Strategy and Policy	Implement Strategy & Policy	Develop and Implement Patient Plan of Care
	Legally Accountable for Hospital Quality & Safety	Position specific shared accountability	Patient specific shared accountability
	Typically Not Health care Expert	Administrative Expert	Clinical Expert
	Typically Volunteer	Paid Hospital Employee	Typically Independent Practitioner
	Strategic Institutional Knowledge	Detailed Institutional Knowledge	Detailed Patient knowledge

Table 2. Board Scorecard for Quality and Patient Safety

Questions to Measure Progress	Type of Metric
1. How often do we harm?	Rate based Outcome measures
2. How often do we provide evidence based care?	Rate based Process measures
3. How do we know if we have learned from mistakes?	Not rate based Process measures
4. Have we created a quality and patient safety culture?	Not rate based Outcome measures

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Appendix 2

Hospital Board Oversight for Quality of Care: Structures, Processes and Perceptions of Self and Group Efficacy

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Hospital Board Oversight for Quality of Care:
Structures, Processes and Perceptions of Self and Group Efficacy

Abstract: There is limited empirical evidence whether, or how, hospital boards influence quality of care. Research often relies on surveys or interviews with the Chief Executive Officer or Board Chair, which may not represent other board members. Social cognitive theory informed our interest in whether a survey of individual board members might provide new understanding of board oversight for healthcare quality. To fill this knowledge gap, we designed a cross-sectional study in which we surveyed 35 boards that govern 50 hospitals. Boards provided data on their structures and processes for quality oversight; individual board members completed a survey that assessed perceived self and group efficacy for the oversight role. Responses revealed diverse structures and processes, and general patterns of efficacy portraying confidence and optimism. Yet clear tensions within boards emerged, as perceptions often diverged on key efficacy statements. The article concludes with ways future research might build on these results.

Keywords: hospital boards; quality of care; perceived self-efficacy; board structures and processes

Background

The need to improve health care quality is a widely acknowledged and growing public concern. (Leape & Berwick, 2005)(R. M. Wachter, 2010). The demand for measurable improvement in quality has persisted since 1999, when the Institute of Medicine (IOM) and RAND reported that 98,000 persons die needlessly in U.S. hospitals each year, and hospitalized patients, on average, get half the therapies evidence says they should. (Institute of Medicine, 1999; McGlynn et al., 2003) In spite of an undeniable increase in quality and patient safety awareness and activity, quantifiable progress in reducing preventable harm is limited.(Longo, Hewett, Ge, & Schubert, 2005; P. J. Pronovost, King et al., 2006; R. M. Wachter & Holmboe, 2009). Although the analysis had limitations, a recent Commonwealth Fund report ranked the US health care system last among other industrialized countries in terms of quality, access, efficiency, equity and outcomes, despite spending nearly three times more than any other country on health care. (The Commonwealth Fund Commission on a High Performance Health System, July 2008)

A focus of recent national efforts to improve the quality of care is to engage healthcare senior leaders and boards of trustees more effectively in oversight of healthcare quality and patient safety. (Bolster, Otto, & Hay Group, 2009; Gautam, 2005; McDonagh, 2006) The National Quality Forum and The Institute for Healthcare Improvement each introduced Board focused initiatives in the mid 2000's. (National Quality Forum, 2005; IHI "Boards on board" how-to guide 2006) Yet for most boards, quality is not a top priority. A 2007 national survey of not for profit (NFP) hospital board chairs found that less than one half rated quality of care as one of their two top

priorities. (Jha & Epstein, 2009) In August 2009, The Joint Commission issued a Leadership Sentinel Event alert to highlight unabated concern about hospital leaders' commitment to quality of care and patient safety. (The Joint Commission, 2009) Boards have a duty to deliver on these accountabilities.

The idea that hospital boards could expedite improvement in quality of care has face validity; boards establish organizational priorities and policy, hire the executive responsible for hospital operations, are accountable for care, and most often acknowledge this fiduciary responsibility. (Callendar, Hastings, Hemsley, Morris, & Peregrine, 2007) Yet little empirical evidence exists regarding how boards address this accountability,(Levey et al., 2007) whether variation in board structures and processes influences quality and safety outcomes,(Prybil, 2006) and how individual board members rate their knowledge, skills, and comfort with the quality and safety oversight role.

In the face of limited evidence linking board activities to empirical patient outcomes, social cognitive theory provides a novel framework from which to consider the board/quality performance relationship. (Gist, 1987; Wood & Bandura, 1989) A key concept in social learning theory is self-efficacy, which refers to belief in one's capability to perform a specific task. Perceived efficacy provides the foundation for human agency. (Bandura, 1982) When confronted with challenges, people have little incentive to act or to persevere unless they believe their actions can produce desired results. In addition to self-efficacy, empirical studies have verified the impact of perceived group efficacy,(Gibson, 1999) which is a groups' belief in its ability to perform effectively.(Goddard, Hoy, & Hoy, 2004) Research also suggests that perceived managerial efficacy influences organizational attainments both directly and through its effects on leaders' goal setting and analytic thinking.(Wood & Bandura, 1989). If these relationships hold true in healthcare, it is plausible that hospital quality performance may be associated with board efficacy for quality and safety oversight. To understand this potential better, we sought to

evaluate individual board member perceptions of self and group efficacy regarding oversight for hospital quality of care, and to learn what structures and processes boards use to monitor and improve quality performance.

New Contribution

Hospital boards have a fiduciary duty to monitor and provide oversight for quality of care. (Bryant & Governance Institute, 2005) Despite public concerns and regulatory and legal pressure to improve hospital quality performance, we know little about the board/quality dynamic.

This study contributes to the literature by empirically examining individual board member perceptions of group and self-efficacy for quality and patient safety oversight, in a diverse group of hospitals. The study also explores board structures and processes for quality and patient safety oversight in the participating hospitals. We intend the results of the study to inform hospitals, accrediting agencies and policy makers about the ways boards are approaching their duty to care, and to demonstrate the heterogeneity of perceptions within boards. Empirically documenting these variations is a necessary initial step in expanding the scope of board quality research, which most often relies only on interactions with the hospital CEO or Board Chair.

Method

Study Design and Study Population

This cross-sectional study (Shi 1997) sought to describe the variation in board structures and processes, board efficacy for quality and safety oversight, and the relationship between these variables and publically reported measures of hospital quality.

The Tulane University School of Public Health and Tropical Medicine Institutional Review Board determined that the study qualified as exempt research. The study population was hospital board members in hospitals in Tennessee and Michigan. In July 2008, the principal investigator (CG) contacted The Tennessee Hospital Association and the Michigan Health and Hospital Association to garner study support. The intent was to learn from boards where support for hospital improvement efforts was both central (hospital association) and local (hospital). We selected Michigan because of the diversity of its hospitals, and their previous statewide efforts to improve care through the Keystone ICU project. (P. Pronovost et al., 2006; P. J. Pronovost et al., 2006; P. J. Pronovost et al., 2007) (Goeschel et al., 2006) We selected Tennessee because of similar hospital diversity, and because of the hospital association investment in board development. (Becker, 2006; Evans, 2009) Each association agreed to invite their acute care hospitals to participate in the study.

Methods of Survey Development:

We developed two survey instruments for the study. We designed the "board characteristic survey" to assess board structures and processes for quality and patient safety oversight. We developed the "board efficacy" survey to assess individual board member perceptions of self and group efficacy for quality and patient safety oversight. The combined surveys provided data to answer the research questions:

1 Is board composition associated with quality and safety performance or board self-efficacy?

2 Is board quality monitoring associated with quality and safety performance and board self-efficacy?

3 Is board size associated with quality and safety performance or board self-efficacy?

4. Is board quality and safety education associated with quality and safety performance or board self-efficacy?

We drew from industry literature on recommended board practices, (Orlikoff, 2005) and on empirical studies, (J. A. Alexander & Lee, 2006; Lee, Alexander, Wang, Margolin, & Combes, 2008) to develop the board characteristics survey. We reviewed literature on the history of hospital boards, duties and accountabilities of hospital governance, and social cognitive theory (J. A. Alexander, Weiner, & Bogue, 2001; Bandura, 2002) to develop the efficacy survey. We also interviewed researchers, discussed our ideas with board consultants and hospital administrators, and relied on our knowledge and previous experience. We used a uniform vetting process for survey tools prior to use.

First, we tested survey questions among researchers to establish content validity. We then pilot tested the survey instruments for clarity, face validity, and administration time with 17 board members not involved in the study. We used pilot test feedback to modify both survey instruments and the enrollment documents. The final 15-item board characteristics survey included categorical, multiple-choice, and numerical response questions. We estimated it required 20 minutes to complete, and asked that it be completed by the CEO, Board Chair or Board Secretary, who we assumed would be most familiar with board structures and processes. The final board member survey (called the "efficacy survey") included 33 efficacy statements with a 5-point Likert response scale, and 3 multiple-choice questions. Based on testing we estimated it required 15 minutes to complete. (See appendices for survey instruments)

Methods of participant accrual and survey administration

The Michigan and Tennessee hospital associations announced the study through existing hospital association newsletters and at relevant committee meetings during July

and August 2008. No accrual efforts targeted specific hospitals. The PI developed the study announcement, which explained the research and two reports that participants would receive after completing the surveys. The first report would provide summary data from the board characteristics survey, comparing their board to all others. The second report would provide blinded, item-level board efficacy data, comparing their board to others.

The study announcement invited interested hospitals to email the PI, who managed the three-step process to participate. First, we sent an enrollment form that collected basic information on the number of board members, the date of the meeting when survey administration would occur, and the name, address, phone and email of a designated hospital site coordinator.

When we received a completed enrollment form, we sent the site coordinator all instructions, study materials, and a postage paid, self-addressed mailer in which to return completed surveys. We used a trackable mail service to send and receive all documents.

We asked that the board characteristics survey be completed and placed in the self-addressed return mailer prior to the meeting where members completed the efficacy survey. We asked CEOs and Board chairs to introduce the study at the designated board meeting using a brief overview that we provided, and to allow time for members to complete the survey at the meeting. We instructed the study coordinator to hand each board member one of the sealable envelopes we provided, each of which contained a coded survey instrument and instructions. The instructions asked board members to place their completed survey back in the envelope, seal the envelope and return it to the study coordinator when they finished. We requested that the study coordinator place all sealed

envelopes in the return mailer at the conclusion of the board meeting and immediately send them to the PI. We did not attempt to collect data from board members not present at the board meeting. All board members who attended the meeting completed the survey, though one survey was returned blank, containing the message "first board meeting/ unprepared to answer". The enrollment and data collection period extended from August 1 through December 31, 2008.

Analysis

We used univariate descriptive statistics including measures of dispersion, distribution and central tendency to compare Michigan and Tennessee data. We analyzed data for individual board member perceptions of self and group efficacy at the board level, the state level, and the study level. We explored variation in board member background and board structures and processes at the state and study levels. We assessed the relationship between board characteristics and board member self-efficacy using a general linear mixed model. Self-efficacy score was considered a response variable, as were each of the three efficacy subscales we developed pertaining to confidence, knowledge, and skill. A random effect for hospital was included in each model to account for the increased likelihood of similar responses for board members from the same hospital. Hospital bed size, system status, hospital locale (urban/rural), and hospital status (profit/non) were controlled for in this analysis. This allowed us to quantify associations between board characteristics and board member efficacy perceptions, while accommodating for confounders, and properly accounting for the within hospital correlation resulting from multiple board member responses from the same hospital.

Results

A voluntary sample of 35 boards that govern 50 hospitals participated in the research. The study cohort included 14 boards representing 29 Tennessee hospitals (24% of non-federal, short-term acute care hospitals in the state) and 21 boards representing 21 Michigan hospitals (18% of non-federal short-term acute care hospitals in the state). (Table 1) Thirty-five boards submitted a board characteristics survey, though not all surveys were complete. Three hundred and sixty-six individual board members completed efficacy surveys (72% of board members at participating hospitals). Site-specific board member response rates ranged from 50%-100%. Eighty percent of individual respondents reported that they serve on boards other than the hospital board, and 32% reported personal education/training in a clinical discipline. (Figure 1)

Board size varied (from 6-26 board members) as did composition (from 0-9 physician board members). (Table 2).Boards reported wide variation in hours of board education for quality and safety oversight, (from less than 4 hours per year to more than 20 hours per year, per board member. (Table 3) Quality and safety monitoring processes varied less. Seventy three percent of boards had a separate quality and safety committee and 65% of boards reported they review quality and safety at every full board meeting. (Table 2) Perceived self and group efficacy for quality and safety oversight was strong, irrespective of hospital or board characteristics. Ninety-two percent of individual board members reported that their hospitals quality and safety issues are clear, 89% agreed or strongly agreed that the quality reports they receive are detailed enough to guide action, and 94% agreed or strongly agreed that their board handles quality and safety issues appropriately. The vast number of boards reported a strong sense that they drive change

in their hospitals, and that hospital staff know how to improve quality. Within boards, there is a great divide about whether they need more physician involvement, although many board members report that they do not meet with clinical staff to discuss quality improvement. (Table 4) The majority of board members reported they feel well equipped for their role, are comfortable discussing hospital specific quality and safety performance, and believe their hospital learns from its mistakes. Yet 27% reported they did not understand or were not certain they understood CMS pay for performance, 13 % disagree or are not certain whether the board hears the stories of harm that occur in the hospital, less than half have any formal training in improvement, and fewer than a third have training in any clinical discipline. Results of multi-level modeling to assess efficacy in relationship to board structures and processes were statistically insignificant.

Discussion

Structures and processes for quality oversight were similar across the 35 participating boards. Most results were consistent with previous board quality research that included large, often nationally representative study samples. (J. A. Alexander, Lee, Wang, & Margolin, 2009; Jha & Epstein, 2009; Lee et al., 2008; Prybil, 2006) Valuable insights for future research surfaced in this study. The lack of statistical significance of the relationship between efficacy and board structures and processes does not minimize the practical significance of the research findings. Though prescriptive literature recommends ideal board size, composition, committee structures and processes, hospitals in our study reported wide variation. (Table 2) (Orlikoff, Totten, & Center for Healthcare Governance, 2009; Pointer & Orlikoff, 2002) In an era of scarce resources and growing

public concern about hospital quality, the return on investment for how boards are structured and educated is an area ripe for research.

Our study included the first member-level board efficacy data that we are aware of, and results showed that efficacy perceptions "within" boards differ, sometimes to a great degree. Interpreting the efficacy data is complex. The skew of the data depicts boards that are most often confident, positive about quality in their hospitals, and comfortable with their knowledge and skill for quality and patient safety oversight. Nonetheless, item level responses suggested limits to individual knowledge about quality and patient safety. Respondents share a nearly ubiquitous belief that the hospitals they govern are among the best in their state for quality and safety performance. This premise is not congruent with truth, since there are clear differences in quality performance within the state specific cohorts, and across the study population.

Yet not all efficacy statements evoked a harmonious or positive response. The divergence of opinion within boards in both Tennessee and Michigan was occasionally high, thus overall perceptions could reflect an unwillingness to disclose perceived individual or group deficits. Whether naiveté or denial, it seems that the view from the top may distort the reality of quality at the point of care. Healthcare needs further research to understand within and between group differences in board knowledge, confidence and skill for the quality oversight role. Thus to understand board dynamics and influences on quality performance, future research may benefit from going narrow and deep. That is, exploring fewer research questions but exploring them more thoroughly with all members of participating boards.

Study Limitations

This research has several limitations. First, this was a voluntary study offered only to hospitals in two states where 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. Second, the number of study sites was small, and though participants included hospitals that were teaching and non-teaching, urban and rural, large, small and critical access, independent and part of larger health systems, the sample did not proportionally represent U.S. hospitals, limiting the generalizability of the findings. Third, reliability and validity of the survey instrument are uncertain; to the best of our knowledge no validated hospital board instrument to test perceived efficacy for quality and safety oversight exists. Fourth, the skew of our efficacy data may reflect social desirability response bias, i.e. board member responses influenced by a desire to reflect well on their hospital. Despite these limitations, this study has important implications.

Conclusion

The quality of health care in America does not meet the expectations of patients, providers, payers or policy makers. In spite of the worlds' largest investment in healthcare, the U.S. is near the bottom compared to other industrialized countries on quality of care metrics. Leaders, including boards of trustees, are accountable to change this, yet there is limited empirical evidence to guide their efforts. This research is the first we are aware of to explore board structures, processes and perceived efficacy for quality and safety oversight. Although we discovered widespread board member confidence and willingness to lead, their belief that the quality of care is high and their lack of knowledge

regarding specific topics, suggests that boards may lack the knowledge and skills needed to improve the quality of care. Moreover, for some items on the efficacy survey, variation within boards was great, and inconsistencies between perception and reality surfaced. These findings suggest a need for further research. If board leadership is important to improve quality, as is generally assumed, board leaders should know the variability of knowledge and skill among board members, and understand that confidence does not equate with competence. To address identified gaps they may consider formal training in measurement and evaluation methods for board members and a board recruitment plan that prioritizes clinical or quality improvement experience. This study suggests that rather than relying on chief executive officers and board chairs to understand the board-quality performance dynamic, future research may benefit from including all board members.

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Table 1 Hospital Characteristics

Characteristics of Participating Boards/Hospitals N=35			
Number of licensed Beds	(%)		
	Study	Michigan N=21	Tennessee N=14
Fewer than 100	26	33	21
100-299	25	24	29
300 -499	26	24	21
500-700	16	9	14
1000+	7	3	14
Part of a Health System	(%)		
		N=21	N=14
Yes	68	67	71
No	32	33	29
Teaching	23	29	14
Non-Teaching	77	71	86
		N=18*	N=10*
Urban	47	24	60
Rural	35	50	30
Critical Access	18	26	10

*Not all hospitals answered this question

Table 2 Board Size and Composition

Board Size and Composition	Mean	Standard deviation	Min	Max
# Board Members	14.61	5.06	6	26.
Michigan n=20	15.2	3.98	9	22
Tennessee n=14	13.7	6.37	6	26
# Voting Members	13.7	4.70	6	22
Michigan n=20	14.6	4.12	9	22
Tennessee n=14	12.5	5.33	6	21
# Voting Physician Members	2.94	2.30	0	9
Michigan n=20	2.95	2.44	0	9
Tennessee n=14	2.93	2.16	1	9
# Non-Voting Physician Members		1.24	0	6
Michigan n=20		1.03	0	3
Tennessee n=14		1.6	0	6

Table 3 Board Quality Monitoring and Education

Board Quality and Patient Safety Monitoring			
N=34	%		
		Michigan N=20	Tennessee N=14
Full Board Reviews Q/S Reports at Every Meeting	65	60	71
Full Board Reviews Q/S Report via Active Agenda	65	60	71
Board has Separate Q/S Committee	73	80	64
Board has at least one member with formal QI training	35	50	14
Total Annual Hours of Board Education on Quality/Safety			
More than 20 hours	6	0	14
13-20 hours	12	15	7
8-12 hours	15	10	14
5-7 hours per year	41	45	36
4 hours or less per year	26	30	20

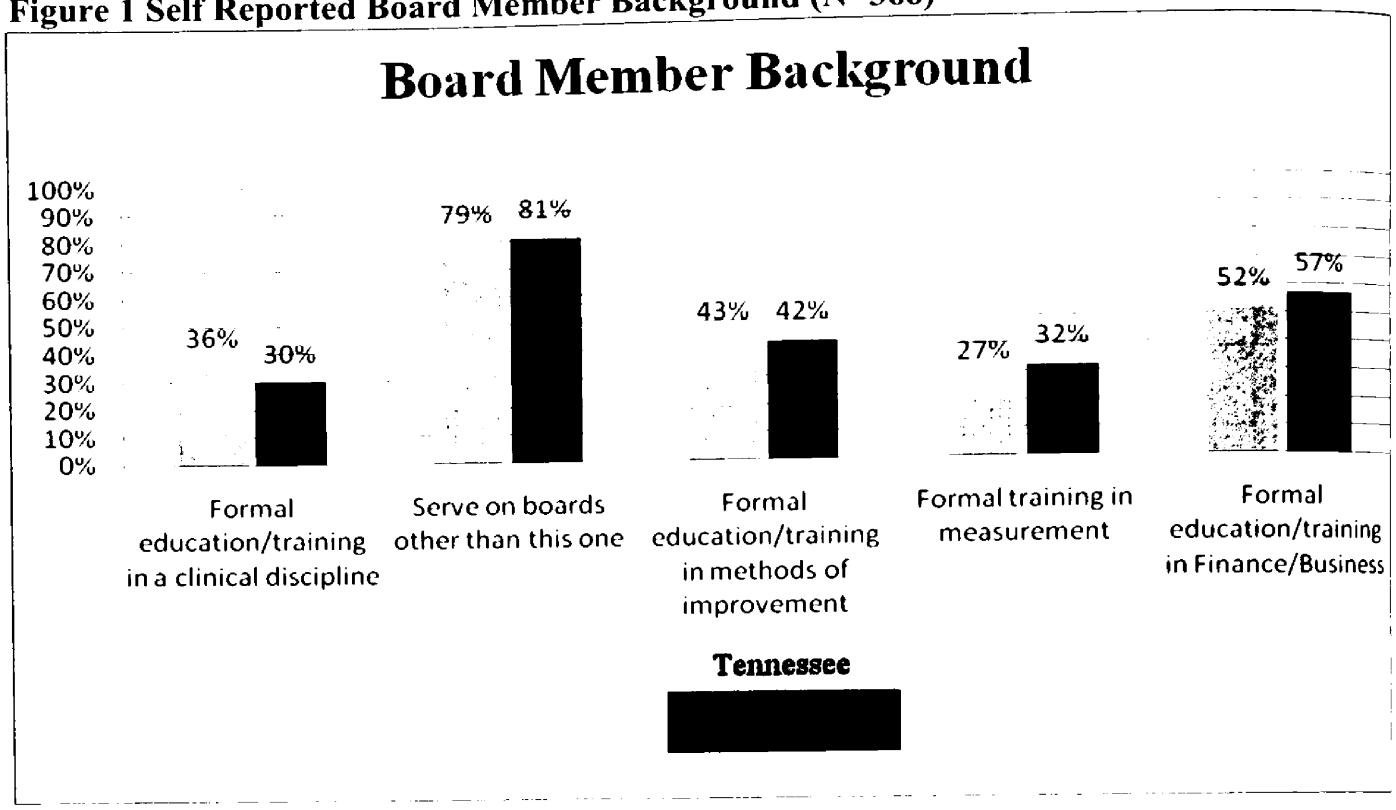
Table 4 Board Member Perceptions

Examples of Board Member Perceptions

Numbers Denote Percent of Board Respondents Scoring
1=Strongly Disagree 2= Disagree 3 = Not Certain 4 = Agree; 5 = Strongly Agree
N=366

Board	This Board Drives Change in This Hospital					This Board needs more physician involvement					This Board meets with clinical leaders to discuss quality and patient safety performance					The staff at this hospital understand how to improve quality and patient performance				
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
1				20	80		40	20	40			20		20	60				60	40
2		9		55	36	18	73	9						82	18				64	36
3		14		43	43	14	71		14			29		57	14				86	14
4		8		33	58	8	50	8	33		8	17		25	50			17	42	42
5		8	8	50	33	15	46		31	8		23		62	15		8	8	54	31
6				50	50	25	50		13	12			13	25	63				38	62
7				29	71	36	50		14			7		57	36				36	64
8				38	62	23	46	15	15					38	62				46	54
9		11		63	28	5	37		32	26		32	5	42	21		5	21	63	11
10		6		13	81	13	25	6	31	25		13		44	44		6		81	13
11		11		33	56		11		33	56		11		67	22				89	11
12			10	40	50	10	40		20	30		30		50	20			10	70	20
13		8		67	25	17	50		25	8		17		58	25			8	50	42
14				33	67	17	17	16	33	17				58	42		8		75	17
15		29		57	14	29	14	14	29	14	14			57	29			14	43	43
16	7	20		40	33	13	20	7	33	27		33	7	20	40		7	13	47	33
17				56	44	11	56		33			22		44	33				11	56
18		6		19	75	19	50	13	6	13		19		38	44				19	81
19				50	50	17	25	8	42	8		25	8	33	33				33	67
20				75	25		25		25	50		50		25	25				50	50
21		29		29	43	14	43		29	14		29		43	29				43	57
22				71	29	25	50	13	13			13		50	38				43	57
23				55	45	18	45	9	18	9	9	27		18	45				30	70
24		20	10	50	20		30	20	50			10	10	60	20			10	60	30
25		6		41	53	29	47		24					35	65			6	47	47
26				67	33		56		44				11	67	22				78	22
27		20		40	40	14	60		13	13				53	47		13	7	53	27
28				50	50		67		33			17		50	33				33	67
29				58	42	8	34	8	50			8		33	58		8		67	25
30		20		40	40		20		50	30		10		60	30		11	22	44	22
31		25		62	13	50	13		25	12		38		38	25			13	63	25
32			33	56	11		78		22		11	11		67	11			11	78	11
33		22	11	44	22		22	22	44	11				56	44				44	56
34				50	50	38	50	13				13		50	37				38	62
35				80	20		60		40					60	40				40	60

Figure 1 Self Reported Board Member Background (N=366)



Appendix 3

Hospital Board Quality Scorecards: Challenges to Measuring Improvement

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to

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Response Pending

Abstract

Hospital Board Quality Scorecards:
Challenges to Measuring Improvement

Although board accountability for quality and patient safety is widely accepted, the science for how to measure is immature, and the 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 for what measures are valid and useful for boards in assessing quality improvement. In this paper, we describe results of a cross sectional board study, identifying the measures used to monitor quality. The measures varied widely among hospitals, and many measures (and most outcome measures) were of uncertain validity, generally identifying hazards rather than measuring rates. This paper 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 as a nation or a hospital. If boards and their hospitals are to monitor progress in improving quality, they need more valid outcome measures. Given the time and expertise needed to develop such measures, the Federal Government should have a role in developing these measures.

Hospital Board Quality Scorecards: Challenges to Measuring Improvement

Introduction

Boards have a fiduciary responsibility to monitor and improve the quality and safety of care provided in their organizations. Yet recent evidence suggests boards vary widely in the priority they give to this responsibility, (Jha & Epstein, 2009) in their training to administer this duty, (Bader & O'Malley, 2000) and in their knowledge of how to accurately assess improvement. (Auerbach, Landefeld, & Shojania, 2007; Batalden & Davidoff, 2007; Becker, 2006)

As boundaries for trustee accountabilities expand, (Culbertson & Hughes, 2008) 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. (Lindenauer et al., 2007; Rothberg, Morsi, Benjamin, Pekow, & Lindenauer, 2008) 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 to other organizations. (R. Lilford, Mohammed, Spiegelhater, & Thomson, 2004)

Patient safety is a new science, and most measures of safety identify hazards rather than provide rates of quality. (Berenholtz, Pustavoitau, Schwartz, & Pronovost, 2007) Moreover, the unique value of qualitative versus quantitative data may not be clear. Qualitative measures of performance are important, and often captured by hearing stories, both good and bad, from caregivers, patients and families. (Conway, 2008) While

qualitative data can provide meaningful insights in interpreting quantitative data, qualitative data alone is insufficient to monitor progress in improving safety. Hospitals and boards need quantitative data to make inferences regarding changes in safety over time, but not all quantitative quality and patient safety data is valid for that purpose. Inferences require rates, that is they require an accurate and clear numerator of an event, (how often did the event occur) a precise denominator (who is at risk for the event) and a surveillance system to identify events and those at risk for events. (R. Lilford, Mohammed, Braunholtz, & Hofer, 2004)

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. (R. J. Lilford, Brown, & Nicholl, 2007) Nevertheless, hospitals commonly use these data to monitor progress in safety, providing biased and misleading information. While data about hazards are important in helping hospital leaders determine where to focus improvement efforts, they provide little information regarding whether those improvement efforts actually worked. (Pronovost, Thompson, Holzmueller, Lubomski, & Morlock, 2005; Thomas & Petersen, 2003)

Rate based measures can monitor either processes of care (such as the use of evidence-based therapies), or outcomes of care (the results achieved). There is a long literature about the relative merits of both types of measures. (Pronovost, Miller, & Wachter, 2007; H. R. Rubin, Pronovost, & Diette, 2001; H. Rubin, Diette, & Pronovost, 2003) Process measures must be valid at two 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 from central line associated blood stream 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 whether a patient received a specific drug are much more valid than process measures that evaluate some 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 to monitor progress from measures to 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. (Kroch et al., 2006) (Bitoun, 2002)

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 the 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 PI, (cag), contacted The Tennessee Hospital Association and the Michigan Health and Hospital Association to accrue study participants. We wanted to learn from boards where support for hospital improvement efforts was both central (hospital association) and local (hospital). We selected Michigan due to the diversity of their hospitals, and because of their previous statewide efforts to improve care, through the Keystone ICU project.(Pronovost et al., 2007) We selected Tennessee because they have similar hospital diversity, they conduct a well-established Trustee education program, and they sponsor an association Council to regularly and systematically address Trustee challenges.(Becker, 2007) Each association agreed to invite their 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, so 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 emailed the principal investigator, 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. Twenty-two boards (63%) returned quality and patient safety scorecards.

Classification of Board Quality and Safety Scorecard Measures

We used a five-part classification process 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. Seven boards (32%) submitted balanced scorecards. In those instances, 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's model for quality improvement, (Donabedian, 1966 we classified each item as a structure, process or outcomes indicator. Third, we evaluated each measure based on whether it was rate based or non-rate based. We classified the item as rate based if the scorecard defined the numerator (that is event), the denominator (that is population at risk for the unique event), and a timeframe 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 (Hospital Compare; AHRQ PSIs) or whether the

scorecard stated that the measure was part of a larger measurement program (e.g. 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. (Kroch et al.2006) In the category of clinical quality, we also counted how many indicators addressed three common safety issues: infections, medication safety and patient falls.

Results

Thirty-five boards participated in our study. Twenty- two boards (63%) provided copies of their quality and safety scorecards. Table 1 provides 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 one prompt on the scorecard, and one board scorecard included stars, arrows, color-coding and graphs. Seven quality and safety scorecards (32%) were part of comprehensive balanced scorecards that contained indicators for financial performance and other operational priorities.

The Board Quality and Safety Scorecard Measures

The 22 scorecards we collected included 273 unique indicators. Scorecards contained from 21 to 163 indicators, 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, we had no way of knowing measure specifications, knowing what if any additional descriptive information the board received, or knowing how boards used the data provided. Similarly, some scorecards listed individual AHRQ PSI's; other scorecards had a singe category "AHRQ PSI's. One card listed "Ten Stroke Measures". We were able to classify 261 (95%) of 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 not rate 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% of total), medication safety (19 measures/7% of total), patient falls (14 measures/5% 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 as though hospitals may have been creating their own measures. (Table 3: Example of Variation: Measuring Mortality) Only one scorecard identified the "source" of the requirement for each measure on their

scorecard (Centers for Medicare and Medicaid Services, The Joint Commission, The National Quality Forum etc).

Board Self Reported Efficacy for Quality and Safety

Seventy-four percent of individual board members at those sites provided self-efficacy data (n=237). (Table 4) 52% of board members strongly agreed and 46% agreed with the statement that quality at their hospital is improving. Yet on many boards, individual members may be relying on others for that assessment. At least one board member disagreed, or strongly disagreed with the following statements : (1) they were confident in their skill to guide quality and safety oversight, [72% of boards]; (2) their knowledge of quality and safety is adequate for their fiduciary duty [41% of boards]; (3) they received adequate education for their board quality and safety role [50% of boards]; and (4) they were confident in their understanding of quality and safety measurement [41% of boards].

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. While 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 included on board scorecards frequently include efficiency measures, patient

satisfaction measures, and human resource/staffing measures under the mantle of quality and safety. Boards may benefit if categories were distinct.

This study highlights the need for a centralized agency to develop valid outcome measures. This data raises substantial concerns about how well hospital senior leaders and boards understand differences between measures to identify hazards, measures to assess operations, and measures to track quality improvement. CEO's 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 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 healthcare). (SEC) FDR developed the SEC—he called it the Truth Agency—to require corporations with publically traded securities to disclose specific results, using generally accepted accounting principles, audited by independent, certified public accountants and made readily available to the public. (Securities and Exchange Commission., 2008) 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),(Financial Accounting Standards Board, 2007) governing boards today examine balance sheets, and understand how their

organization compares to 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 true for quality and safety performance.

This paper 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 as a nation or a hospital. The current state of public and private concern about healthcare 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 healthcare industry could benefit from a contemporary vehicle 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 CEO's 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 only to hospitals in two states where 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. (Miller & Gutmann, 2009; Orlikoff, Totten, & Center for Healthcare Governance, 2009) Second, the number of study sites was small, and although participants included hospitals that were teaching and non-teaching, urban and rural, large, small and critical access, independent and part of larger health systems, the sample did not proportionally represent U.S. 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" up 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 scorecard. Fifth, because we often had limited information about measure specifications, we may have misclassified some measures as rate based and some as non-rate based. Yet we were generally conservative calling measures rate based if there are national measures, even when the organization may not robustly measures 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. (Wachter, 2010) (Califf & Peterson, 2009; Faber, Bosch, Wollersheim, Leatherman, & Grol, 2009) In spite of the worlds' largest investment in healthcare, the U.S. is near the bottom compared to other industrialized countries on quality of care metrics. (The Commonwealth Fund Commission on a High Performance Health System, July 2008)Leaders, including boards of trustees, are accountable to change this. (Callendar, Hastings, Hemsley, Morris, & Peregrine, 2007) Yet there is limited empirical evidence about what data boards use to guide their efforts. (Orlikoff et al., 2009)(Alexander, Lee, Wang, & Margolin, 2009)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 their members have the knowledge and skill to understand the differences between quality measurement and monitoring progress. Until federal vehicles exist to assist healthcare leaders (such as an equivalent of the Securities and Exchange Commission or the Federal Accounting Standards Board), hospital boards must wage constant vigilance and ask themselves if and how science is driving their quality and safety efforts. In the immediate term, boards could incorporate formal training in

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 and patient safety and leadership staff with 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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Table 1 Characteristics of Respondents n=22

Characteristics of Participating Boards/Hospitals	
Number of licensed Beds	(%)
Fewer than 100	36
100-299	18
300 -499	27
500-1000	9
1000+	9
Part of a Health System	
Yes	73
No	27
Teaching	23
Non-Teaching	77
Urban	36
Rural	36
Critical Access	27

Table 2 Board Quality and Safety Scorecard Measures

Total Measures N=261* Rate Based n= 69 (26%) Not Rate Based n= 192 (74%)	Process N=160	Outcome N=101	% of Total Measures
National / Regional Measures	(32) 20%	(42) 41%	(74) 28%
% Rate Based	(26) 81%	(35) 83%	(61) 88%
Not National Measures	(128) 80%	(59)59%	(187) 72%
% Rate Based	(2) 3 %	(6) 9%	(8) 12%
% of Total	(160) 61%	(101) 39%	

*Of 273 scorecard measures 4.4% (12) were too ambiguous to classify .
Note: percentages rounded

Table 3: Example of Variation: Measuring Mortality

Boards Scorecard Mortality Measures N=22		
Hospital Mortality Overall Adjusted INDEX	Heart failure mortality INDEX	CABG mortality (through discharge) INDEX
Pneumonia Mortality INDEX	Acute MI Mortality INDEX	Hospital Mortality Rate
Severity adjusted mortality ratio actual over expected	Expected Mortality Rates	Mortality all inpatient deaths (excluding newborns) as % of discharges
Mortality Rate	Mortality index Premier 3M APR DRG Methodology and QUEST Care Science Methodology	Inpatient Mortality
Risk Adjusted Mortality	Death Rate	

Table 4 Self Reported Efficacy for Quality and Patient Safety Oversight

N= 237 board members from 22 boards 74% response rate	Strongly Disagree %	Disagree %	Not Certain %	Agree %	Strongly Agree %
I am confident in my skill providing quality and patient safety oversight at this hospital	.95	11.28	4.4	40.6	42.7
My knowledge for quality and safety oversight is adequate for my fiduciary responsibility	.3	6.6	4.2	53.5	35.3
I received adequate education for my board role for quality and safety	.83	8.6	3.0	47.7	39.8
I am confident in my knowledge of quality and patient safety measurement	0	5.3	.175	54.9	38.0
Quality and at Safety at this Hospital are Improving	.45	1.04	.3	45.66	52.45

Appendix 4
Board Characteristics Survey
(1 per site)

Instructions: To complete, please enter the number, check the boxes, or circle your response

1. Board Size: (number of voting and non voting board members in 2008)

   Total number of board members_____

   Number of voting members:

   _____

   Number of voting physician members

   _____

   Number of physician members who are non-voting_____

2. Board Composition: Voting members of Board Include (check all that apply)
   - ☐ Community leaders
   - ☐ Medical Staff leaders
   - ☐ Hosp CEO
   - ☐ Members with formal quality improvement training/credentials
   - ☐ Others (describe)_____

     _____

3. How many times did your full board meet in the last 12 months?_____

4. What is the minimum number required according to board bylaws?_____

5. Does your Board have a separate Quality /Patient Safety (Q/S) Committee? YES NO

6. If Yes, how many times did the Q/S Committee meet in the last 12 months?_

   _____

7. What is the minimum number of Q/S meetings required yearly according to bylaws?

   _____

8. The full board reviews quality improvement and patient safety reports (check all that apply)
   - ☐ At every meeting
   - ☐ Regularly but not at every meeting
   - ☐ Only when committee chair requests attention of full board
   - ☐ Via active agenda

- ☐ Via consent agenda
- ☐ Using a standard scorecard
- ☐ Using project specific detailed reports
- ☐ From Board Quality/Patient Safety Committee presentations
- ☐ From improvement team presentations

9. Formal board education for quality improvement and patient safety occurs (check all that apply)
   - ☐ As part of board orientation for all members
   - ☐ As part of orientation only for board quality and safety committee members
   - ☐ Annually for all board members
   - ☐ Annually only for board quality and safety committee members
   - ☐ At every full board meeting
   - ☐ At full board meetings periodically (more than annually; less than every meeting)
   - ☐ At board retreats (special sessions outside of regular board meetings)
   - ☐ At external board conferences and seminars paid for by the hospital
   - ☐ Via relevant journals or magazines paid for by the hospital
   - ☐ Using outside QI/patient safety education and training experts/consultants
   - ☐ Using hospital QI/Safety training leaders

10. Total annual hours PER BOARD MEMBER for education on quality improvement and patient safety paid for or sponsored by the hospital (approximate)
    - ☐ 4 hours or less
    - ☐ 5-7 hours
    - ☐ 8-12 hours
    - ☐ 13-20 hours
    - ☐ More than 20 hours

11. Quality and Patient Safety Performance is part of the formal performance review for: (check all that apply)
    - ☐ CEO
    - ☐ Chief Medical Officer
    - ☐ Medical Directors (Chiefs of Service)
    - ☐ Vice Presidents/ Hospital Senior Administrative Leaders

12. If yes, is the board involved in setting these targets?

CEO	YES	NO
Chief Medical Officer	YES	NO
Medical Directors (Chiefs of Service)	YES	NO
Vice Presidents/ Hospital Senior Leaders	YES	NO

13. Quality and Safety Performance is a factor in determining compensation for (check all that apply)

- ☐ CEO
- ☐ Chief Medical Officer
- ☐ Medical Directors (Chiefs of Service)
- ☐ Vice Presidents/ Hospital Senior Leaders

14. The board is involved in setting the compensation attributed to Q/S performance for (check all that apply)

CEO	YES	NO
Chief Medical Officer	YES	NO
Medical Directors (Chiefs of Service)	YES	NO
Vice Presidents/Hospital Senior Leaders	YES	NO

15. Information about this hospital (fill in the blank or circle the appropriate response)

a. Number of licensed beds_____

b. Part of a Health System YES NO

c. Teaching Non Teaching

d. Urban, Rural Critical Access

e. For Profit Not for Profit

This is the END of the Survey.

Please turn page over for final instructions

Today's' Date _____

Person completing this form:_

Name_____ Title_____

_____

Email:_____

Phone_____

FAX:_____

If you have questions please contact Christine Goeschel:
cgoesch1@jhmi.edu .

Cell phone: 443-710-1819
Fax: 410-502-3235

The investigator has provided a self-addressed Fed-Ex mailer. Please use it to return, in a single mailing:

1. Completed survey of board characteristics (This Form)

2. A blank copy of your board quality/safety scorecard, or a list of quality/safety issues tracked by the board during the past year.

3. Completed individual "Board Member" surveys each in its sealed envelope. *see board member survey for further details.

Appendix 5
Board Self Efficacy Survey
(1 per board member)

For the following questions please CHECK the BOX which best fits your response

	1 Strongly Disagree	2 Disagree	3 Agree	4 Strongly Agree	5 Not Certain
1. This board regularly reviews sentinel adverse events for problems with quality and safety					
2. This board is told about stories of harm that occur in this hospital					
3. This board drives change in this hospital					
4. The board is not provided enough information about quality and safety performance in this hospital					
5. This board handles quality and patient safety problems appropriately					
6. This board is early in developing its' quality and patient safety skills					
7. This board does not confront hospital leaders about quality and safety deficits					
8. This board meets with clinical leaders to discuss quality and safety performance					
9. This board needs more physician involvement					
10. This board receives quality and patient safety reports with the right frequency					
11. Quality and safety reports received by this board include enough detail to guide action					
12. This board reviews reports of financial performance with the right frequency					
13. This hospital learns from its' mistakes					
14. This hospitals' quality and patient safety problems are unclear					
15. This hospital staff includes quality and patient safety experts					
16. This hospital knows with certainty whether quality and patient safety are improving year to year					

	1 Strongly Disagree	2 Disagree	3 Agree	4 Strongly Agree	5 Not Certain
17. This hospital is among the best in the state for quality and patient safety performance					
18. Quality and patient safety at this hospital are improving					
19. The staff at this hospital understand their responsibilities for quality and patient safety					
20. The physicians at this hospital are committed to providing care based on best evidence					
21. The staff at this hospital understand how to improve quality and patient safety performance					
22. I want to understand system problems when I hear stories of harm that occur at this hospital					
23. I am comfortable discussing quality and safety performance					
24. I am confident in my skill providing quality and patient safety oversight at this hospital					
25. I am confident in my skill providing financial oversight at this hospital					
26. My knowledge for quality and safety oversight is adequate for my fiduciary responsibility					
27. Improving quality and patient safety may require changing attitudes, beliefs and behaviors					
28. I am confident in my ability to learn what is needed to provide oversight for quality and patient safety at this hospital					
29. I am comfortable discussing measures of this hospitals' financial performance					
30. I understand the Centers for Medicare and Medicaid Services (CMS) Pay for Performance Measures (P4P)					
31. I received adequate education for my board role for quality and patient safety					
32. I am confident in my knowledge of quality and patient safety measurement					

33. I would feel safe being treated here as a patient					

For the following questions check the box(es) that best fit your response

☐ Board responsibility for quality improvement and patient safety includes **(check all that apply)**

- ☐ Acknowledging gaps between ideal performance and actual performance
- ☐ Providing directives on how to resolve quality and patient safety performance gaps
- ☐ Inviting clinical teams to discuss quality performance issues with the board
- ☐ Debating methods of improving quality and patient safety
- ☐ Requiring CEO strategies for improving quality /safety performance
- ☐ Engaging clinicians in developing solutions to quality and safety problems
- ☐ Hiring consultants to guide quality and patient safety improvement
- ☐ Leading evolution of hospital beliefs and values in light of quality and safety environment

☐ Your background: **(check all that apply)**

- ☐ Formal education/training in a clinical discipline
- ☐ Serve on boards' other than this one
- ☐ Formal education/training in methods of improvement
- ☐ Formal training in measurement
- ☐ Formal education/training in Finance or Business

☐ Medical staff debate about quality and patient safety improvement **(check all that apply)**

- ☐ Is a productive mechanism for change
- ☐ Interferes with board/medical staff relationships
- ☐ Is less productive than mandating evidence based care
- ☐ Is necessary for behaviors, attitudes and practices to change

OVER

PLEASE MAKE CERTAIN ALL QUESTIONS HAVE BEEN ANSWERED WITH CLEAR MARKS.
PLACE YOUR COMPLETED SURVEY IN THE ENVELOPE PROVIDED.
SEAL THE ENVELOPE.

The Board Assistant will collect the sealed survey envelopes.
The sealed survey envelopes will be placed in a fed-ex mailer and sent to the investigator for analysis.

Christine Goeschel RN MPA MPS cgoesch1@jhmi.edu*

This work is being conducted in fulfillment of dissertation requirements at Tulane University, School of Public Health and Tropical Medicine, Executive Doctoral Program: Health Systems Management

Doctoral Dissertation: *Quality, Patient Safety, and Hospital Boards of Trustees: Implications for Creating Safer Healthcare*

THANK YOU FOR CONTRIBUTING TO THIS IMPORTANT PROJECT.

Investigator DISCLOSURE: *Additional affiliations: Christine Goeschel is the Director of Quality and Patient Safety Initiatives , The Johns Hopkins School of Medicine. Quality and Safety Research Group, (Peter Pronovost MD PhD, Director) and Clinical Instructor, The Johns Hopkins School of Nursing.

Note: Dr Pronovost serves on Ms Goeschels' Tulane Dissertation Committee

Appendix 6
State Hospital Association Report

State Hospital Association Report

Quality, Patient Safety, and Hospital Boards of Trustees
Implications for Creating Safer Health Care

Christine A Goeschel RN MPA MPS ScD (candidate)
June 25, 2009

June 25, 2009

The enclosed report and chart pack depict data collected as part of a doctoral dissertation that is not yet final. These descriptive comparisons of both board characteristics and individual board member perceptions of quality and safety responsibilities may provide meaningful information for the state hospital associations that work closely with boards.

The 35 boards and 50 hospitals that participated in the study will receive similar reports over the next several days, though their reports will include blinded, hospital specific comparative data.

Final results of the research, including statistical analysis of associations between board characteristics and outcomes, will be available after the dissertation is complete later this year.

Permission to share the report or comparison charts beyond the participating boards is necessarily limited at this time, so as not to jeopardize the integrity of the dissertation.

Thank you for your support of this research. Please contact me if you have questions.

Chris Goeschel
Cgoesch1@jhmi.edu
4437101819 (cell)

Quality, Patient Safety, and Hospital Boards of Trustees
Implications for Creating Safer Health Care

Introduction

The need to improve health care is widely acknowledged. Pay for performance and public reporting add urgency to clinician, administrator and hospital board efforts to validate and implement best quality and patient safety practices. This pressure, however, is not new.

Demands for measurable improvement have persisted since 1999, when reports from the Institute of Medicine (IOM) and RAND that suggested that 98,000 persons die needlessly in U.S. hospitals each year, and hospitalized patients, on average, get half the therapies evidence says they should.

Hospital boards are legally accountable for care and are eager to embrace "best practices" for this fiduciary responsibility. Yet little empirical evidence exists regarding how boards address this accountability, whether board structures and processes influence quality and safety outcomes, and what individual board members think about their knowledge, skills and comfort with the quality and safety oversight role.

The Research

This study addresses the relationship between board structures and functions ("characteristics"), and outcomes: publically reported measures of quality and patient safety (CMS hospital compare), and board member self-efficacy. The specific research questions:

5. Does board composition predict quality and safety performance?
6. Does board monitoring predict quality and safety performance?
7. Does board size predict quality and safety performance?
8. Does board (Q/S) education predict quality and safety performance?

Study Participants

The Tennessee Hospital Association and the Michigan Health and Hospital Association invited their acute care hospitals to participate in the study. Announcement of the study in hospital association newsletters and at relevant committee meetings facilitated participant accrual. The enrollment and data collection period extended from August through December 2008.

Interested hospitals emailed the principal investigator, who provided all study materials and instructions and interacted directly with the participating sites.

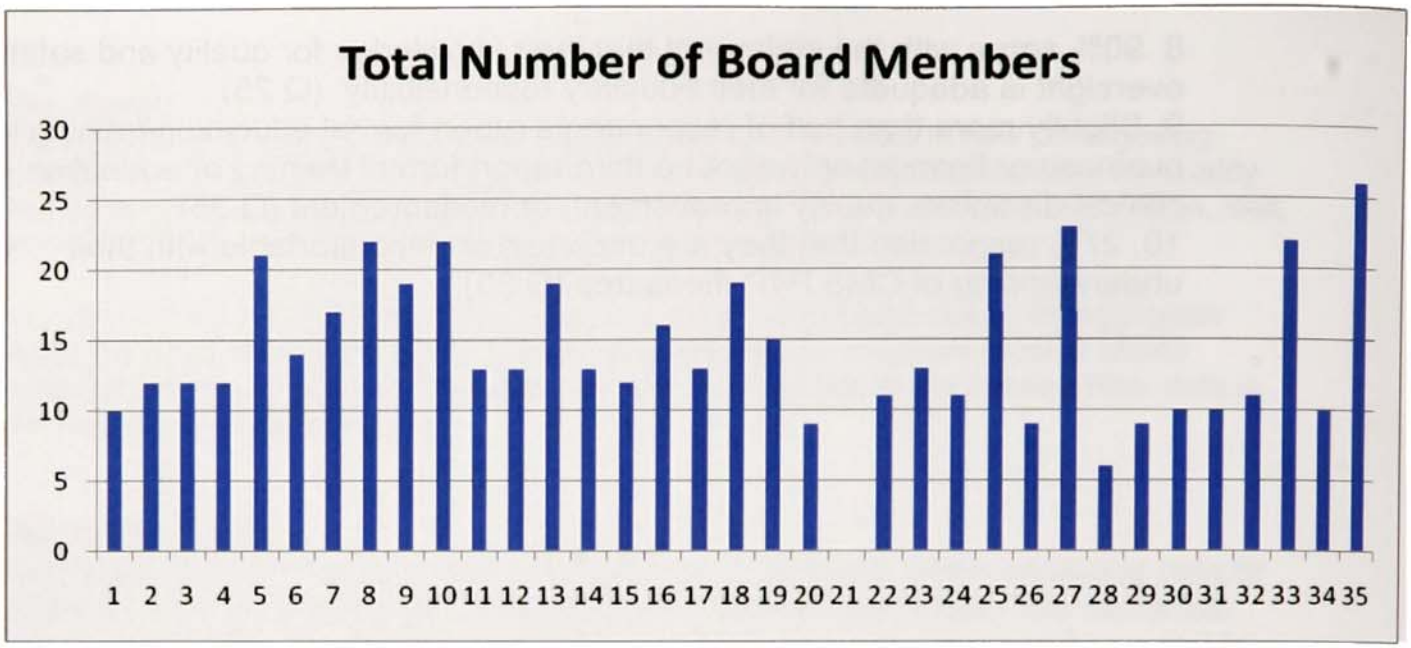
A convenience sample of 35 boards representing 50 hospitals participated in the study. The final study population includes 35 boards, including 14 boards representing 29 Tennessee hospitals and 21 boards representing 21 Michigan hospitals. Three hundred and sixty eight individual board members completed surveys: 72% of the board members for participating hospitals. Site-specific board member response rates ranged from 50%-100%.

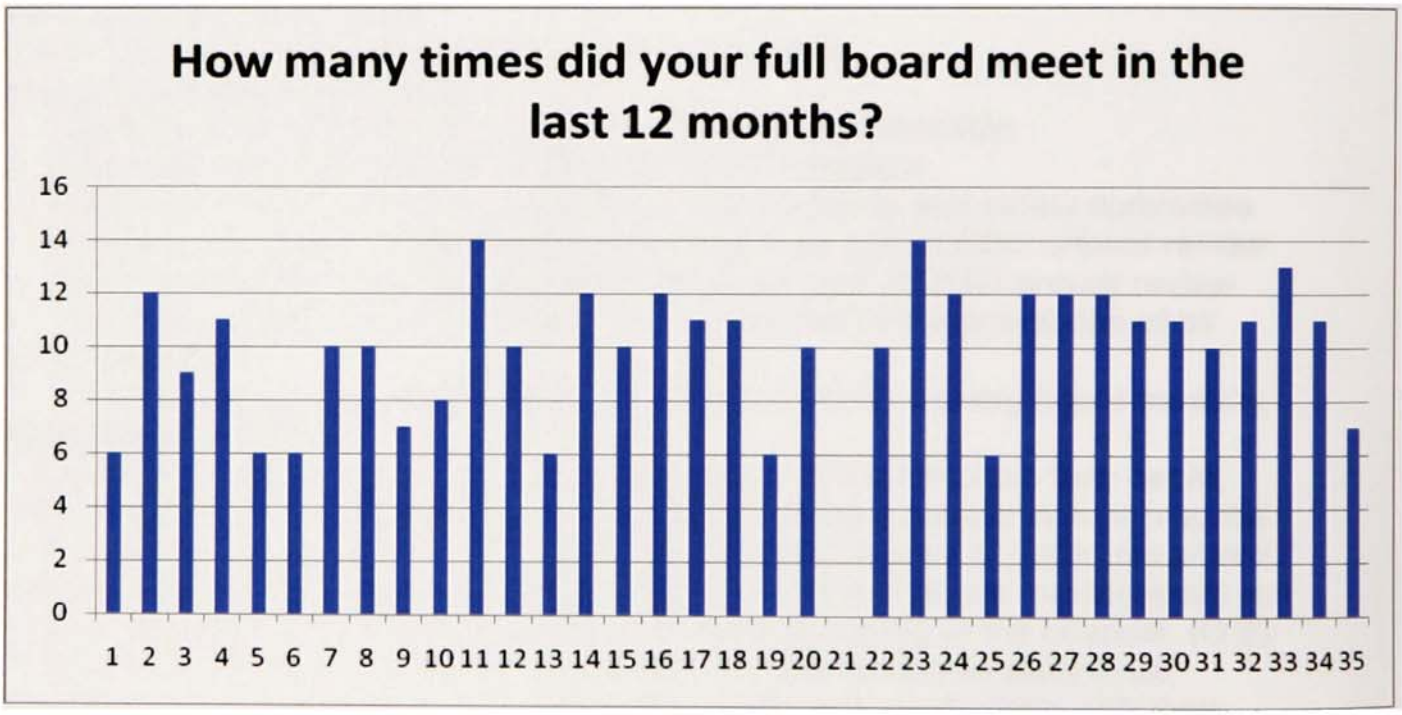
The charts
The charts in this report depict some of the variation that exists in how participating hospital boards are structured, how they handle their fiduciary responsibility for quality and patient safety, and how individual board members think about their knowledge, skill, and comfort ,with their quality and patient safety oversight role.

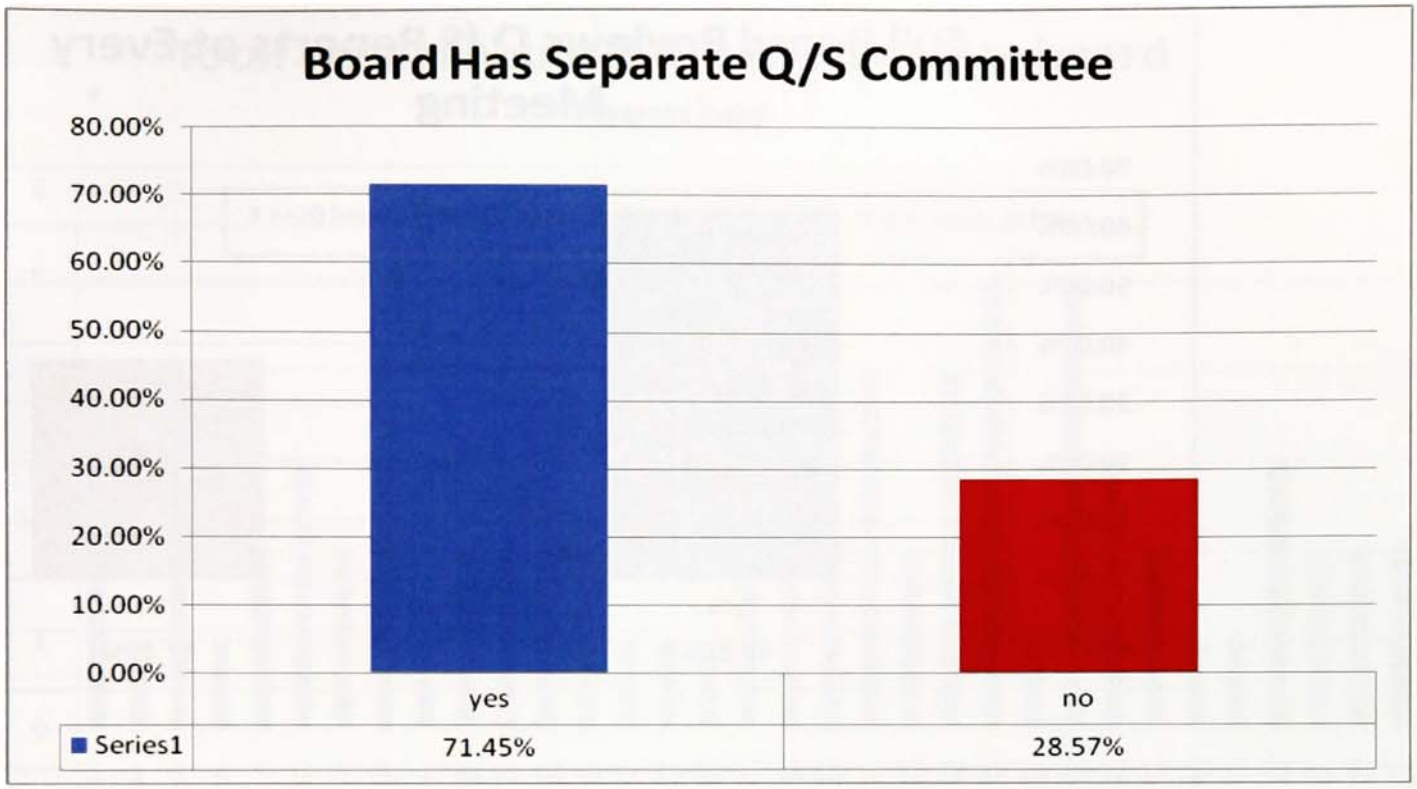
The sponsoring state hospital associations receive comparison charts for aggregate state and composite study data. In addition, participating hospitals receive charts comparing their specific response data to state and composite responses. Raw data is not currently available for use

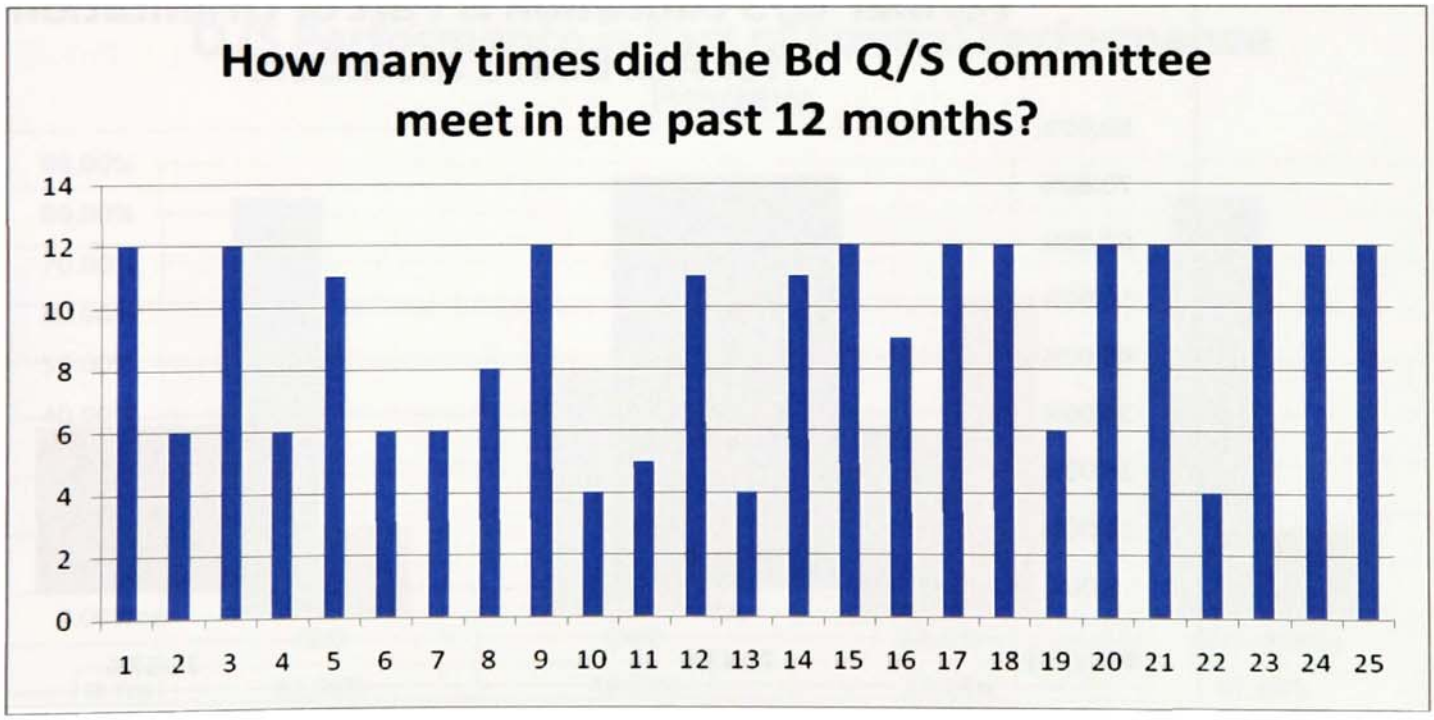
Using the charts
Individual hospital boards have many factors to consider when exploring how to enhance their effectiveness. This study touches on only a few. The statistical significance of the final study results, as is often the case, may not be useful to individual study participants. Yet the comparisons that follow might provide a meaningful starting point for discussion and consideration at both the hospital association and local level.
Listed below are some observations from the surveys.
Board Characteristics Survey:
1. Only one of the 35 boards reported no physician membership
2. Participating boards ranged in size from 6-26 members
3. Most boards reported having a separate board quality and safety committee
4. Most boards report including Q/S performance as part of CEO annual review
5. About half report including Q/S performance as part of CMO annual review
6. Ten of the 35 boards do not include Q/S education in the orientation of all board members
7. Thirteen boards reported that they do not review Q/S at every board meeting
Board Member Survey
1. Board members are overwhelmingly supportive of the hospitals they serve; 100% responded that they would be comfortable being a patient in their hospital.
2. The goal of understanding system problems when "stories of harm" are shared is supported nearly unanimously (99%; Q 22), yet 14% of board members are not sure, or do not believe they are informed of harm occurring at the hospital. (Q 2)
3. Though 66% percent of respondents describe their board as early in its development of quality and safety skills, (Q 6) 86% are comfortable with their own skill. (Q 24)
4. Well over a third of the responses said their boards need more physician involvement (Q 9)
5. Over 80% of board members report that they serve on boards other than the hospital board.
6. 92% agree with the statement that hospital staff includes quality and patient safety experts (Q 15)
7. 90% agree with the statement that medical staff is committed to providing care based on best evidence (Q 20)

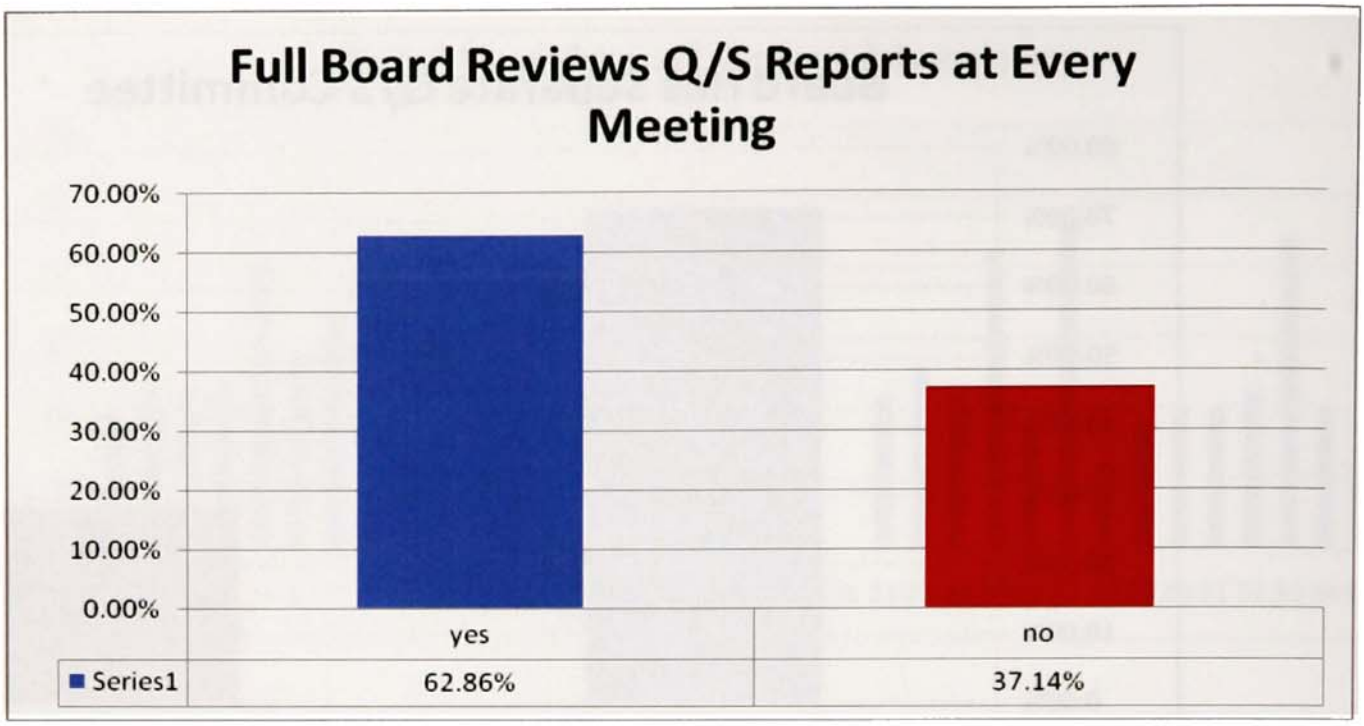
8 .90% agree with the statement that their knowledge for quality and safety oversight is adequate for their fiduciary responsibility. (Q 25)
9. Slightly more than half of respondents report formal education/training in business or finance; only about a third report formal training or education in a clinical discipline, quality improvement, or measurement (Q 35)
10. 27% responded that they are uncertain or uncomfortable with their understanding of CMS P4P measures (Q 30)

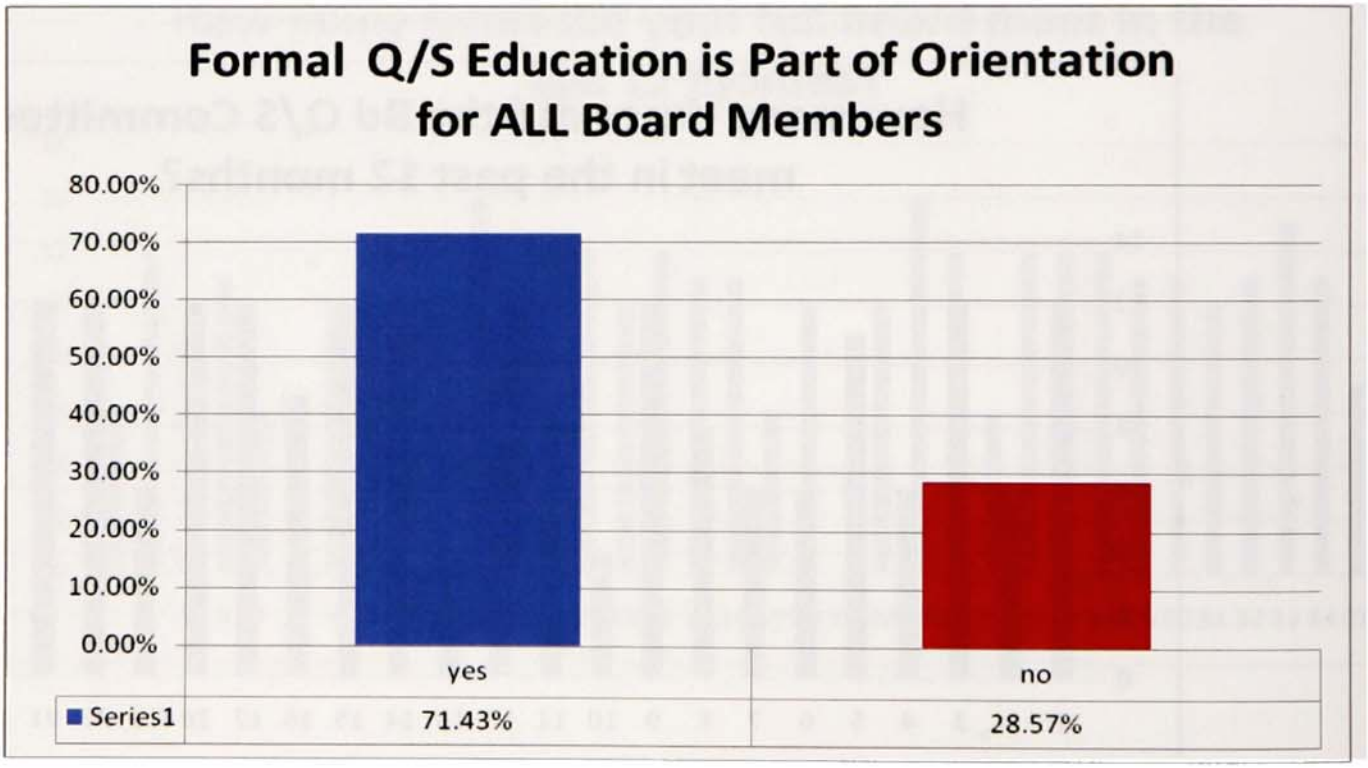

Total Number of Board Members
30
25
20
15
10
5
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35


How many times did your full board meet in the last 12 months?
16
14
12
10
8
6
4
2
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35

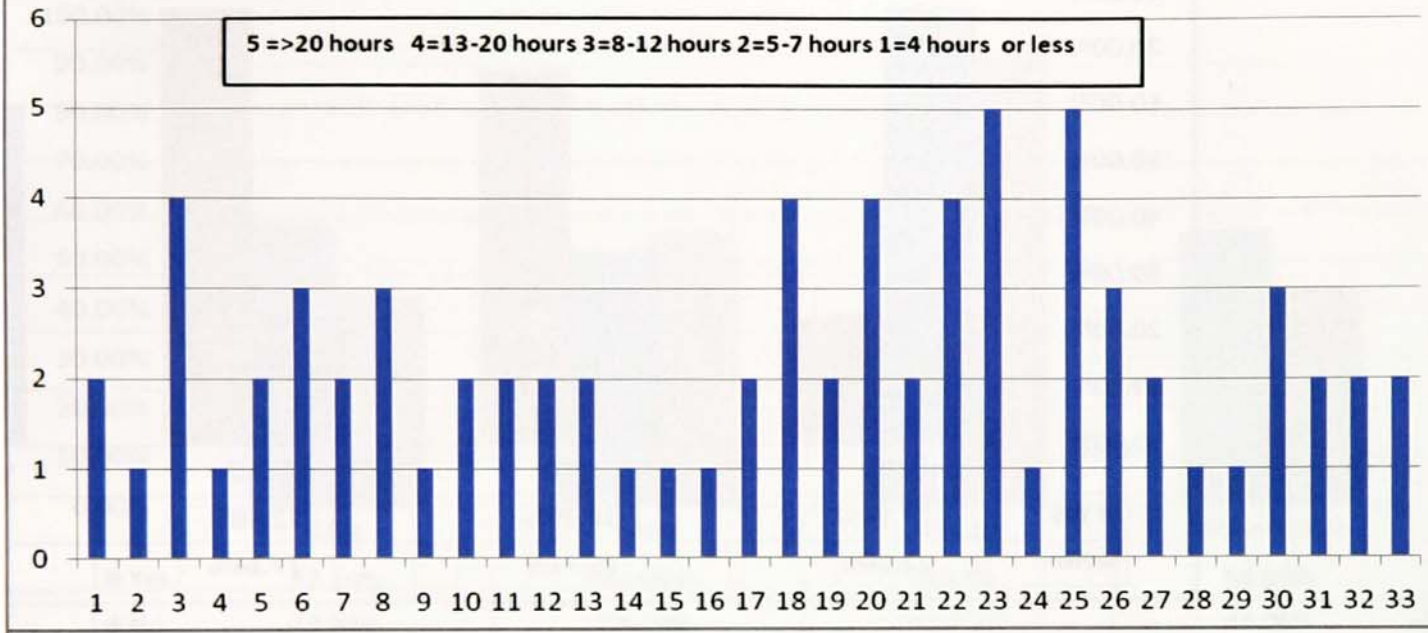

Board Has Separate Q/S Committee
80.00%
70.00%
60.00%
50.00%
40.00%
30.00%
20.00%
10.00%
0.00%
yes
no
Series1
71.45%
28.57%


How many times did the Bd Q/S Committee meet in the past 12 months?
14
12
10
8
6
4
2
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

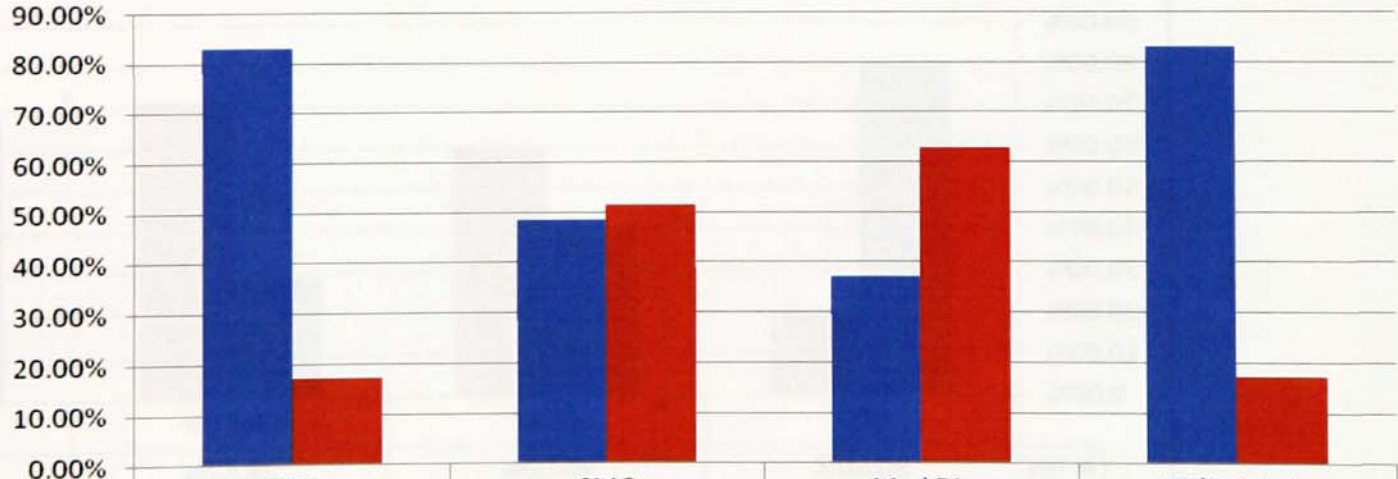

Full Board Reviews Q/S Reports at Every Meeting
70.00%
60.00%
50.00%
40.00%
30.00%
20.00%
10.00%
0.00%
yes
no
Series1
62.86%
37.14%


Formal Q/S Education is Part of Orientation for ALL Board Members
80.00%
70.00%
60.00%
50.00%
40.00%
30.00%
20.00%
10.00%
0.00%
yes
no
Series1
71.43%
28.57%

Total annual hours Q/S education per board member

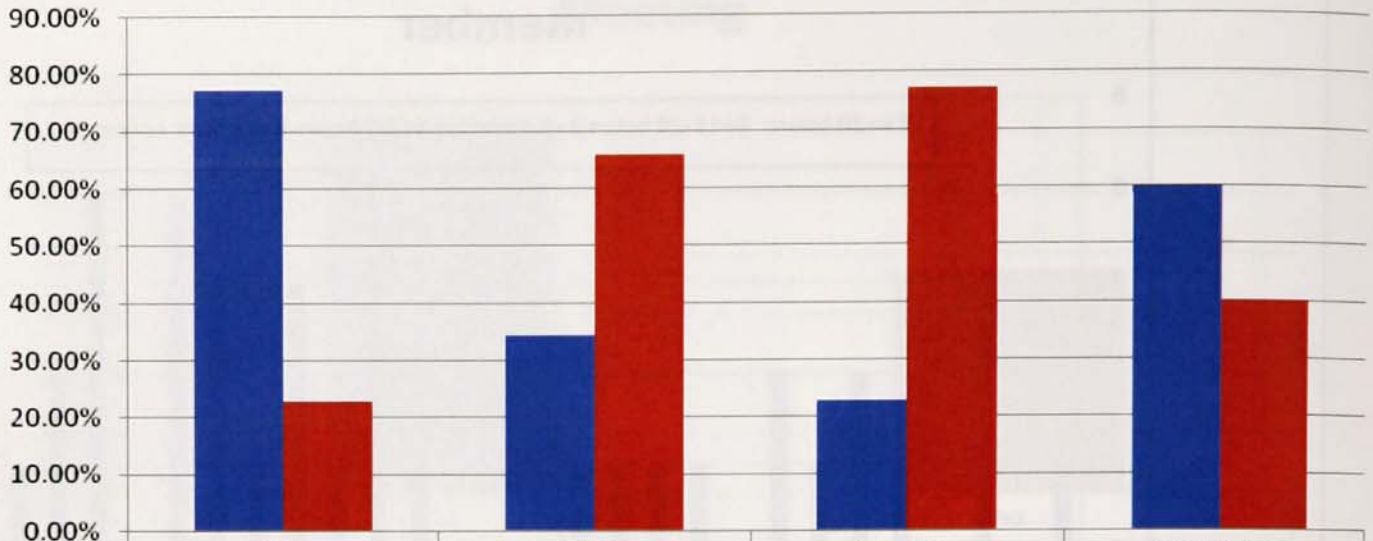


Q/S Performance is Part of Formal Performance Review



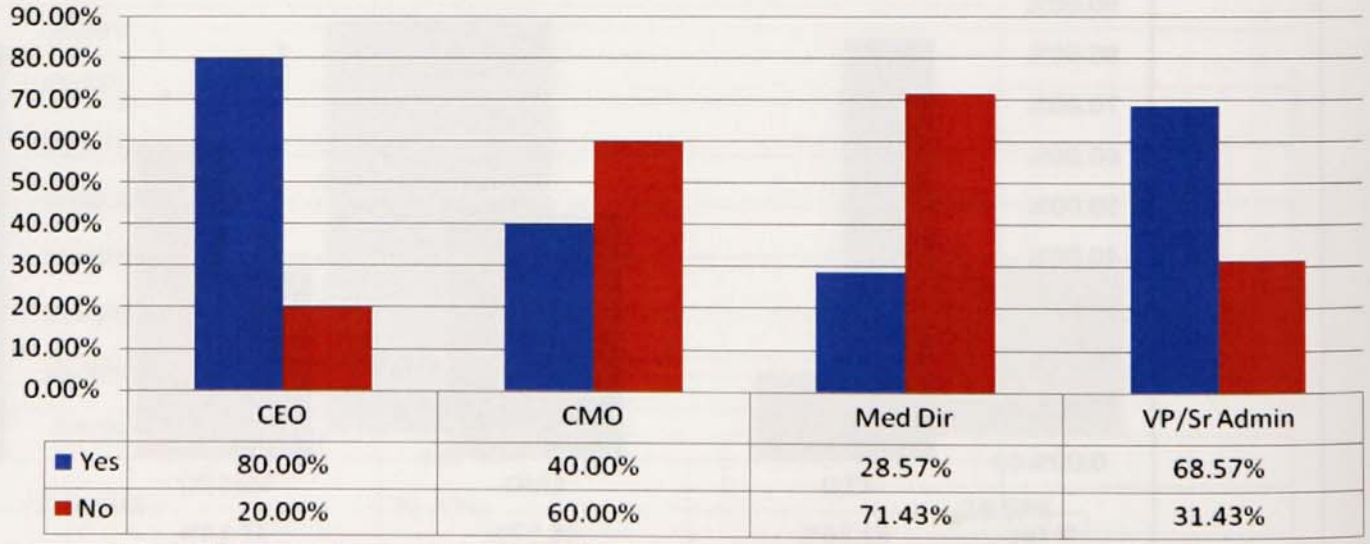
	CEO	CMO	Med Dir	VP/Sr Admin
Yes	82.86%	48.57%	37.14%	82.86%
No	17.14%	51.43%	62.68%	17.14%

Board is Involved in Setting Performance Targets

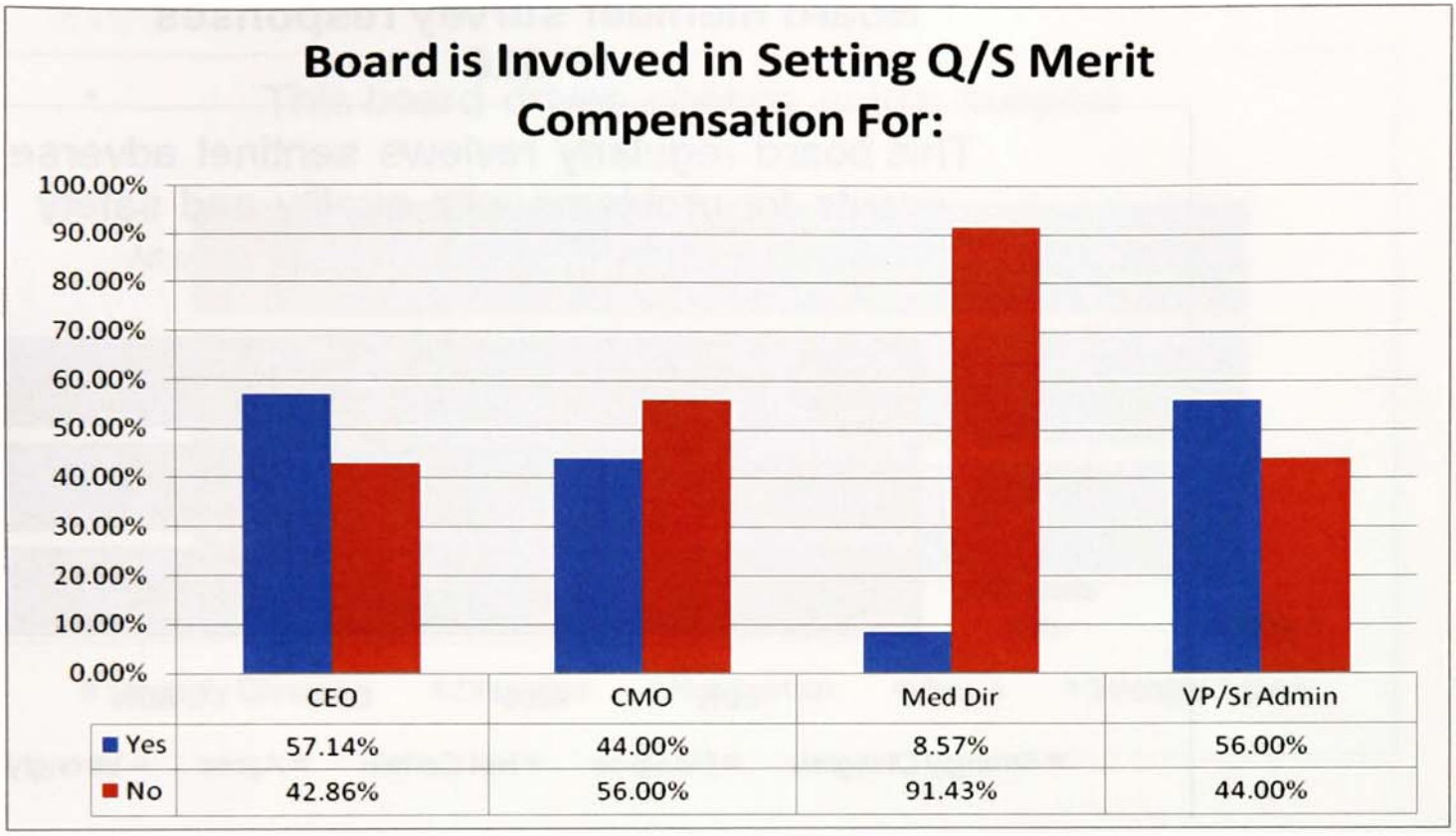


	CEO	CMO	Med Dir	VP/Sr Admin
Yes	77.14%	34.29%	22.86%	60.00%
No	22.86%	65.71%	77.14%	40.00%

Q/S Performance is a Factor in Determining Compensation

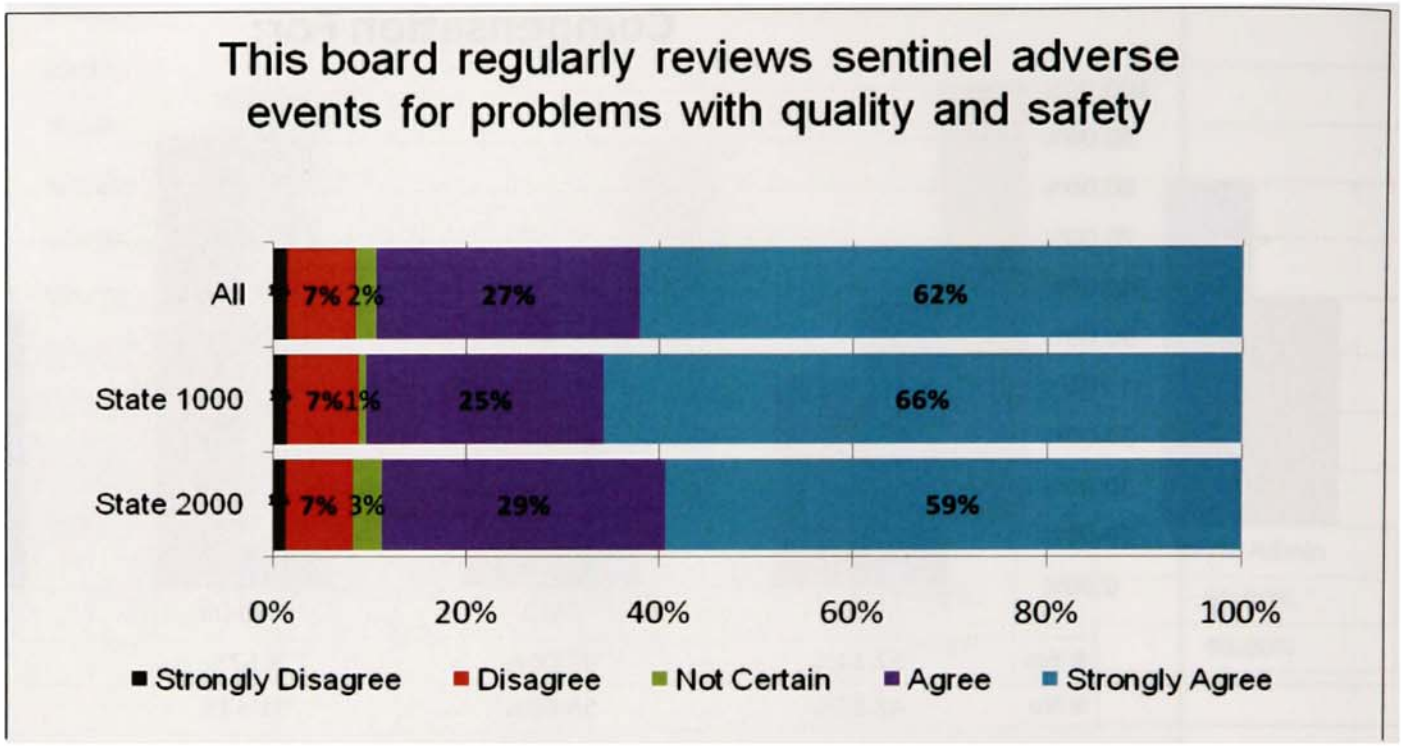


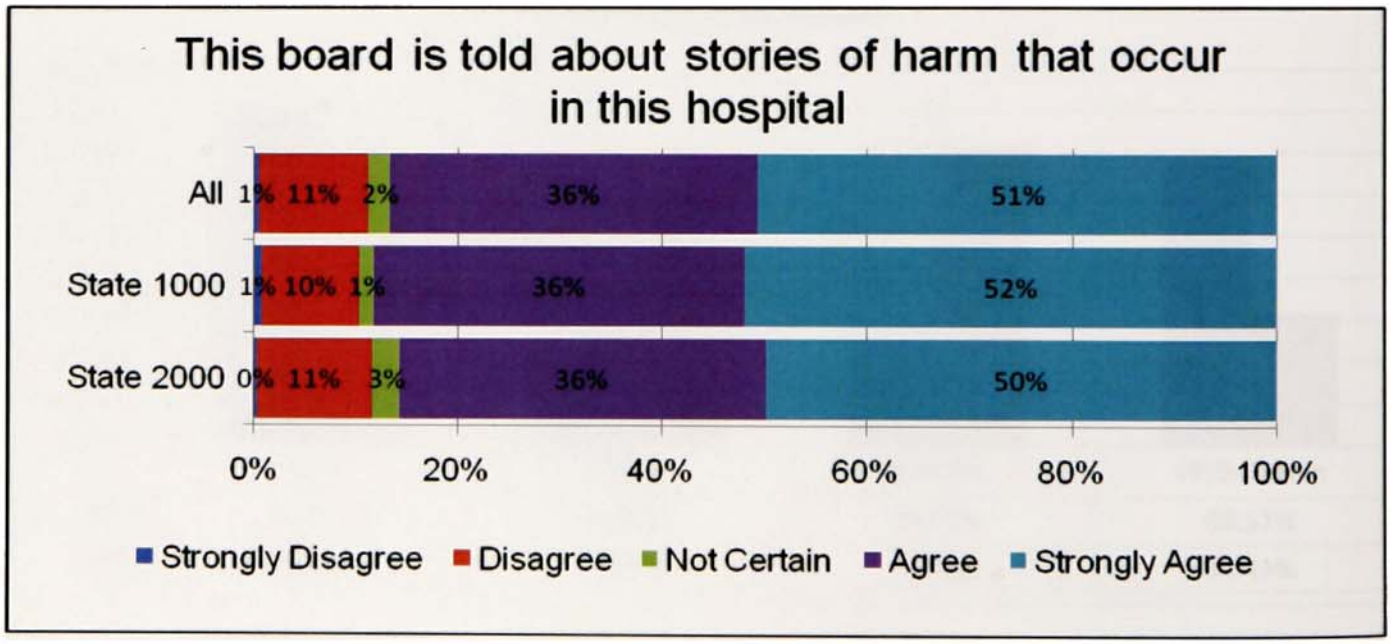
	CEO	CMO	Med Dir	VP/Sr Admin
Yes	80.00%	40.00%	28.57%	68.57%
No	20.00%	60.00%	71.43%	31.43%

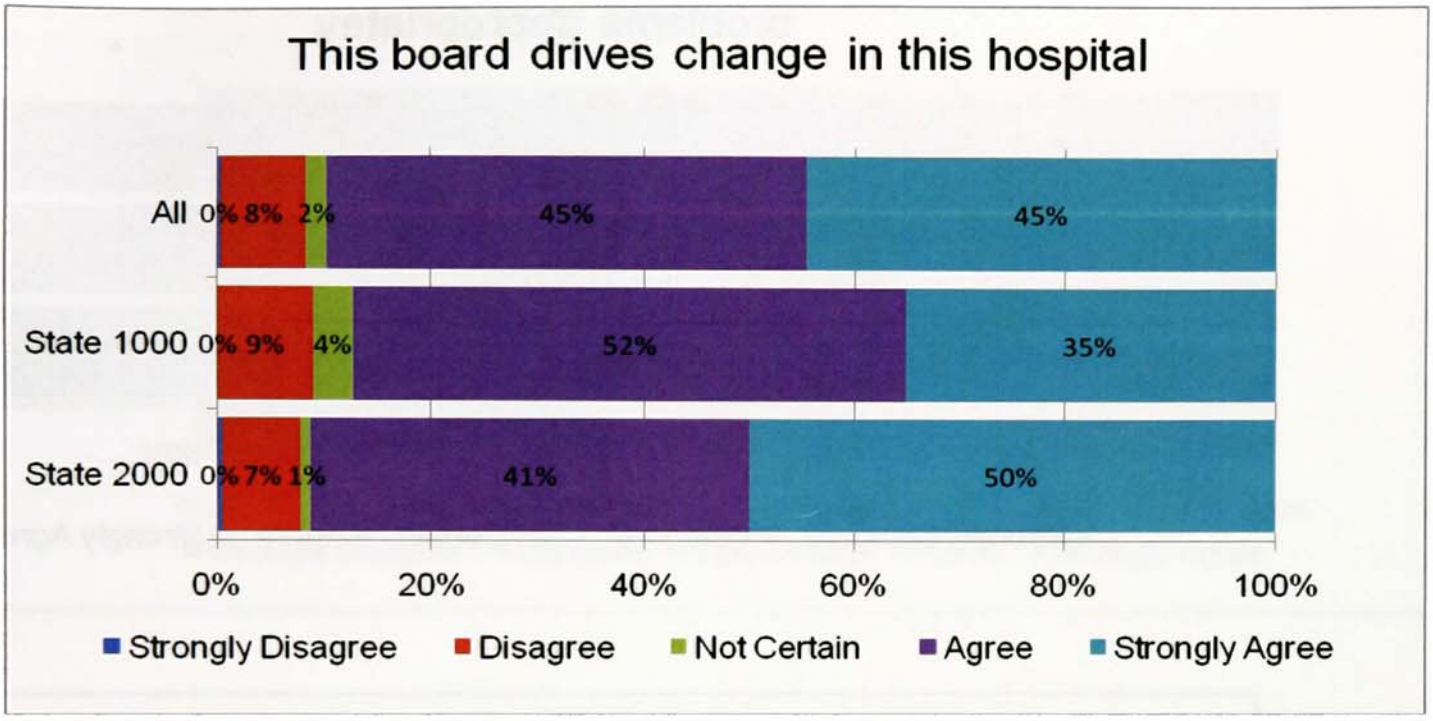


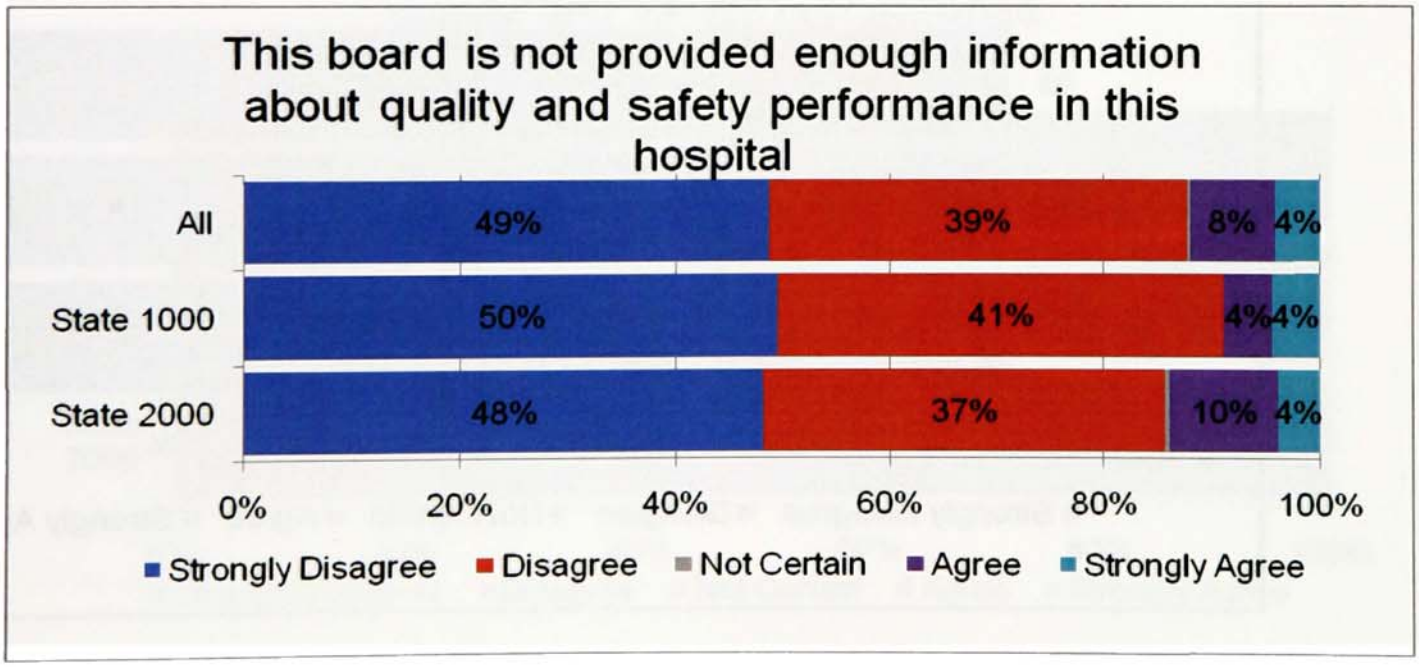
	CEO	CMO	Med Dir	VP/Sr Admin
Yes	57.14%	44.00%	8.57%	56.00%
No	42.86%	56.00%	91.43%	44.00%

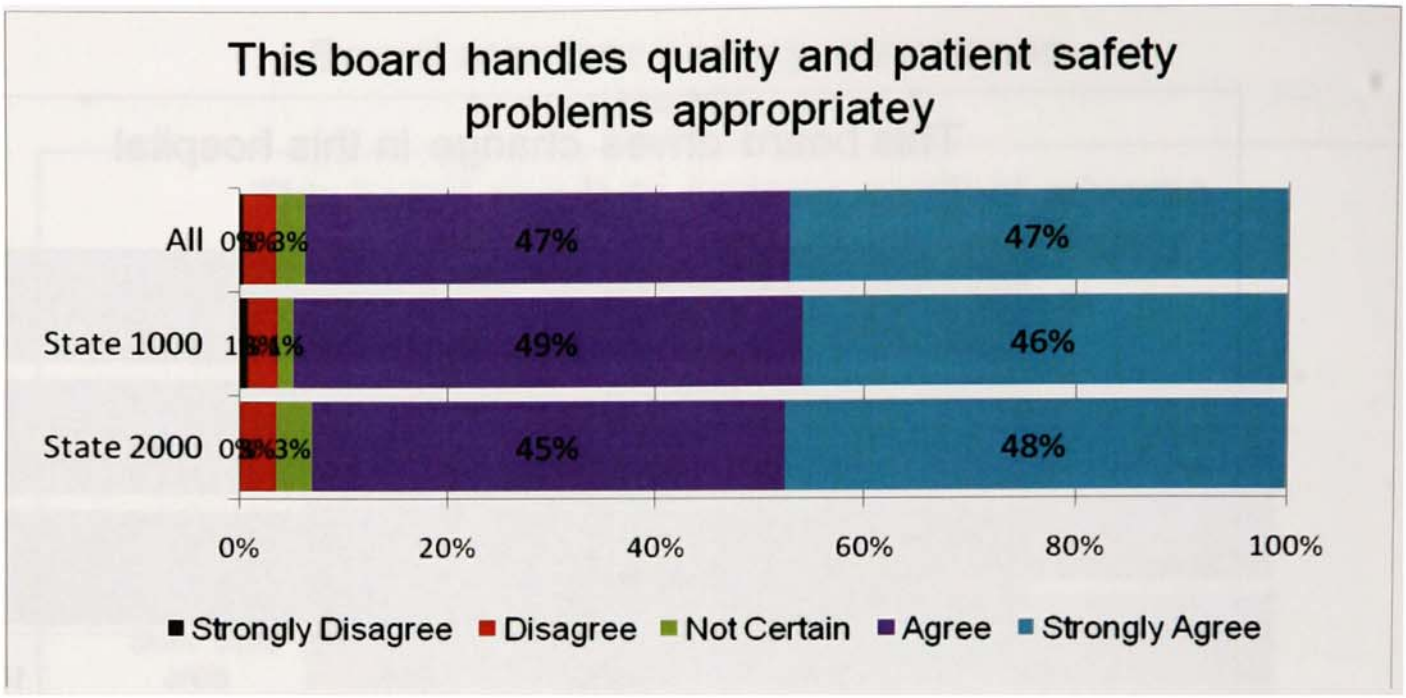
Board member survey responses
N=366

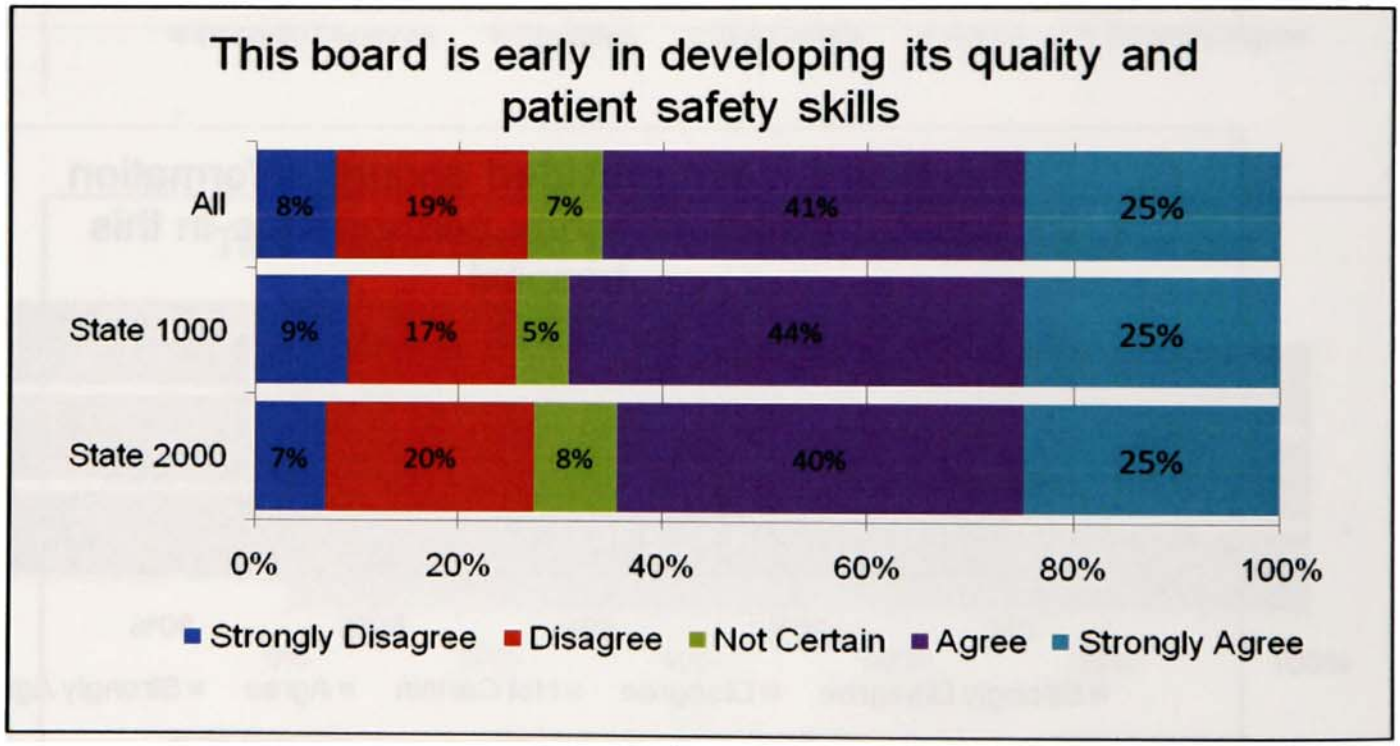


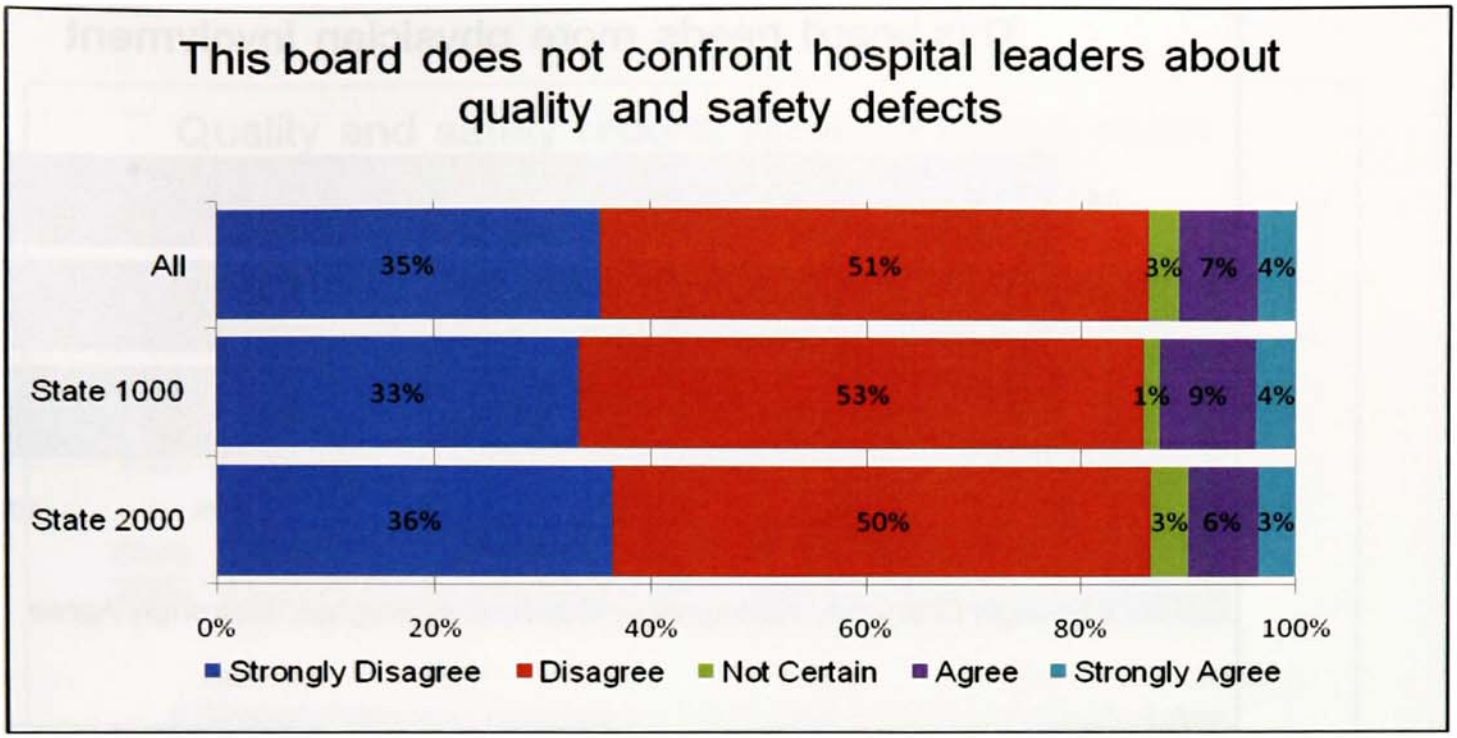


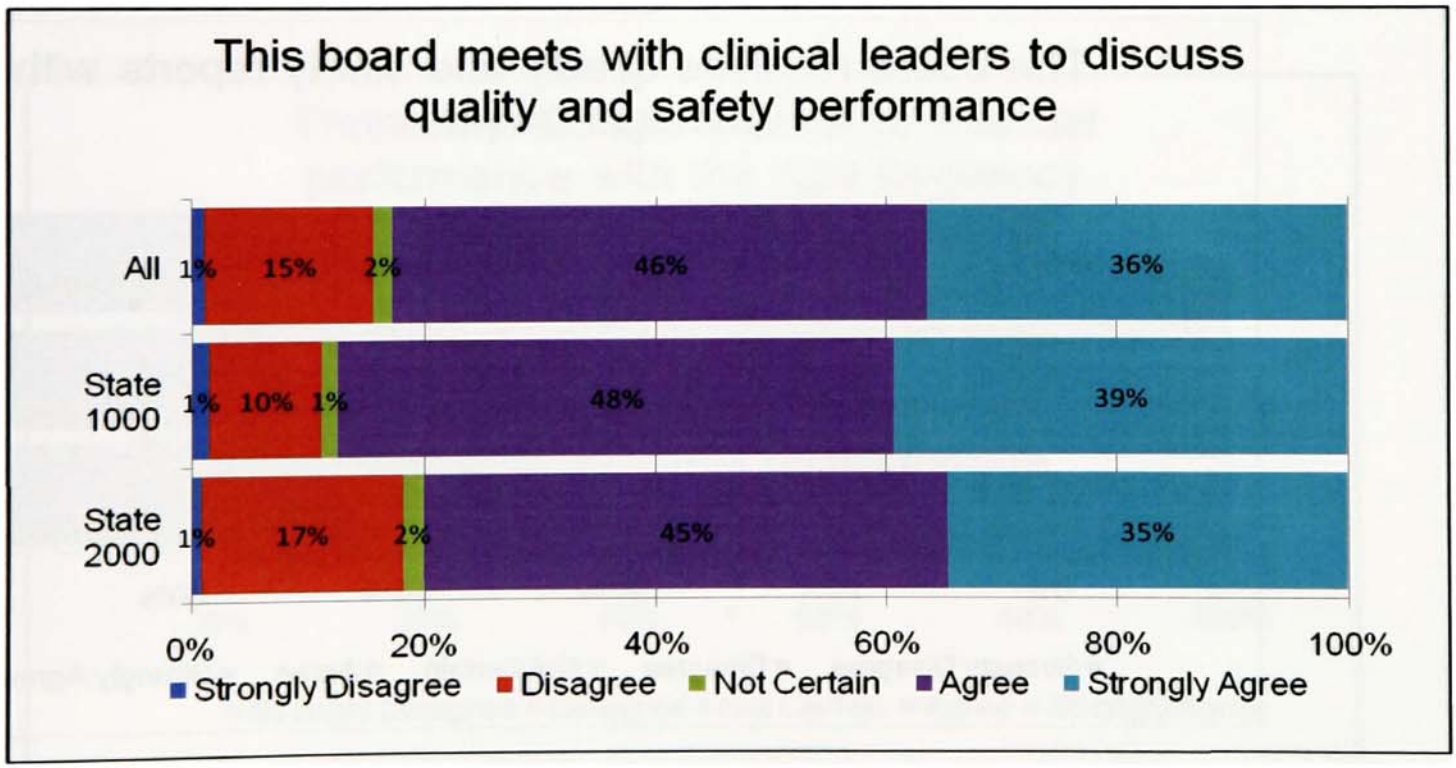

This board drives change in this hospital
All
State 1000
State 2000
0%
8%
2%
45%
45%
0%
9%
4%
52%
35%
0%
7%
1%
41%
50%
0%
20%
40%
60%
80%
100%
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

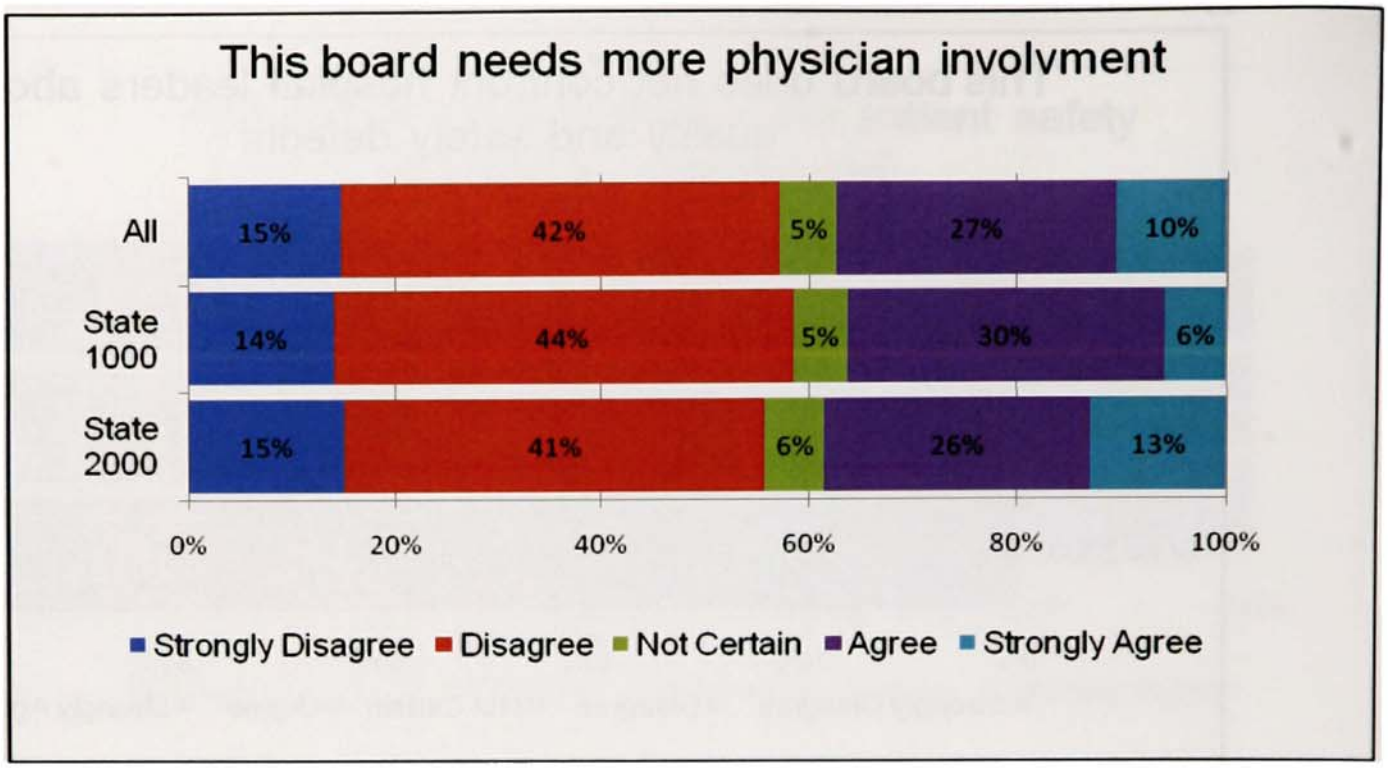

This board is not provided enough information about quality and safety performance in this hospital
All
State 1000
State 2000
49%
39%
8%
4%
50%
41%
4%
4%
48%
37%
10%
4%
0%
20%
40%
60%
80%
100%
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

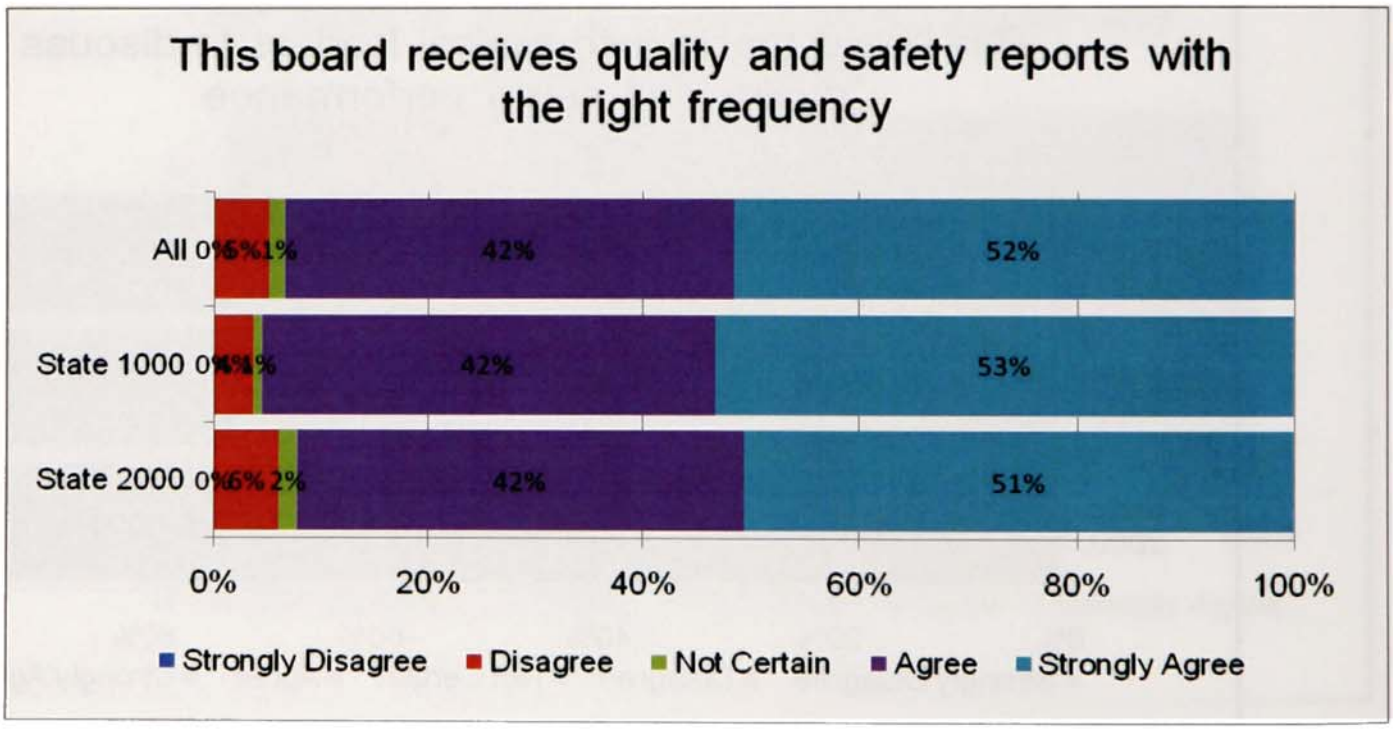

This board handles quality and patient safety problems appropriatey
All
State 1000
State 2000
47%
47%
49%
46%
45%
48%
0%
20%
40%
60%
80%
100%
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

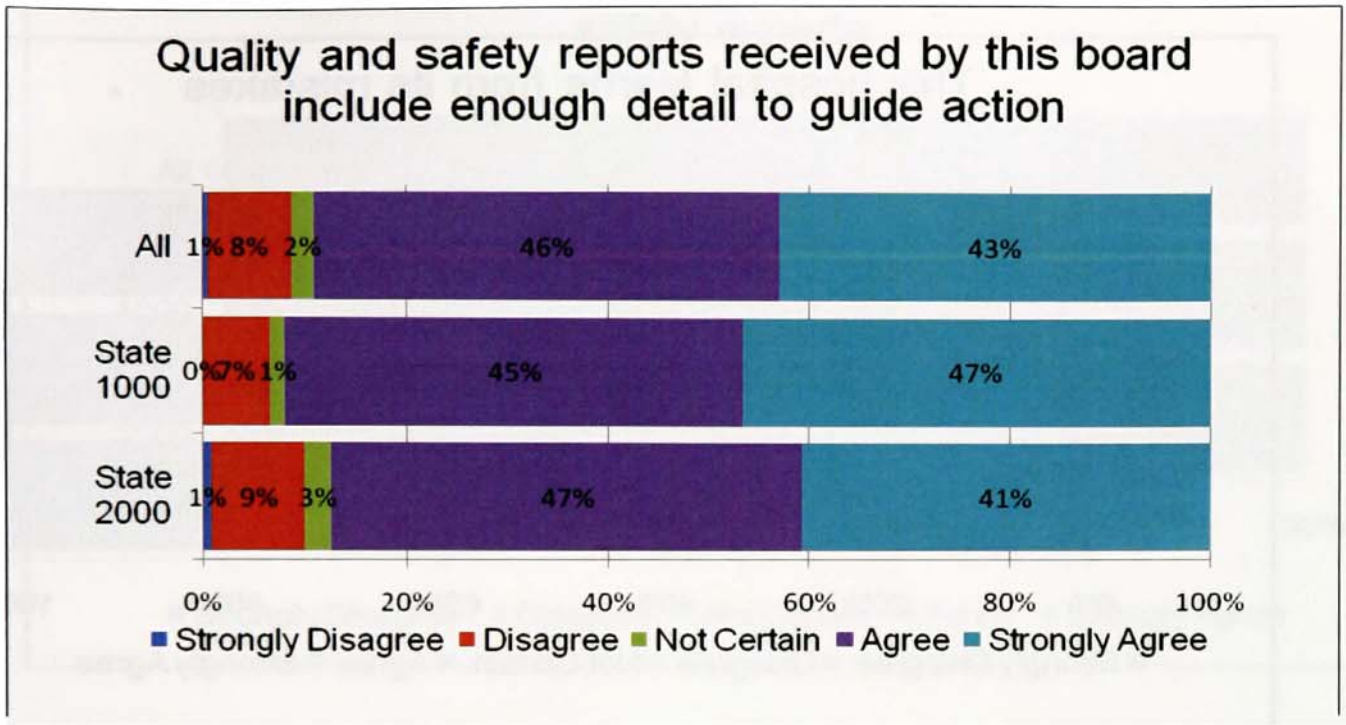

This board is early in developing its quality and patient safety skills
All
State 1000
State 2000
8%
19%
7%
41%
25%
9%
17%
5%
44%
25%
7%
20%
8%
40%
25%
0%
20%
40%
60%
80%
100%
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

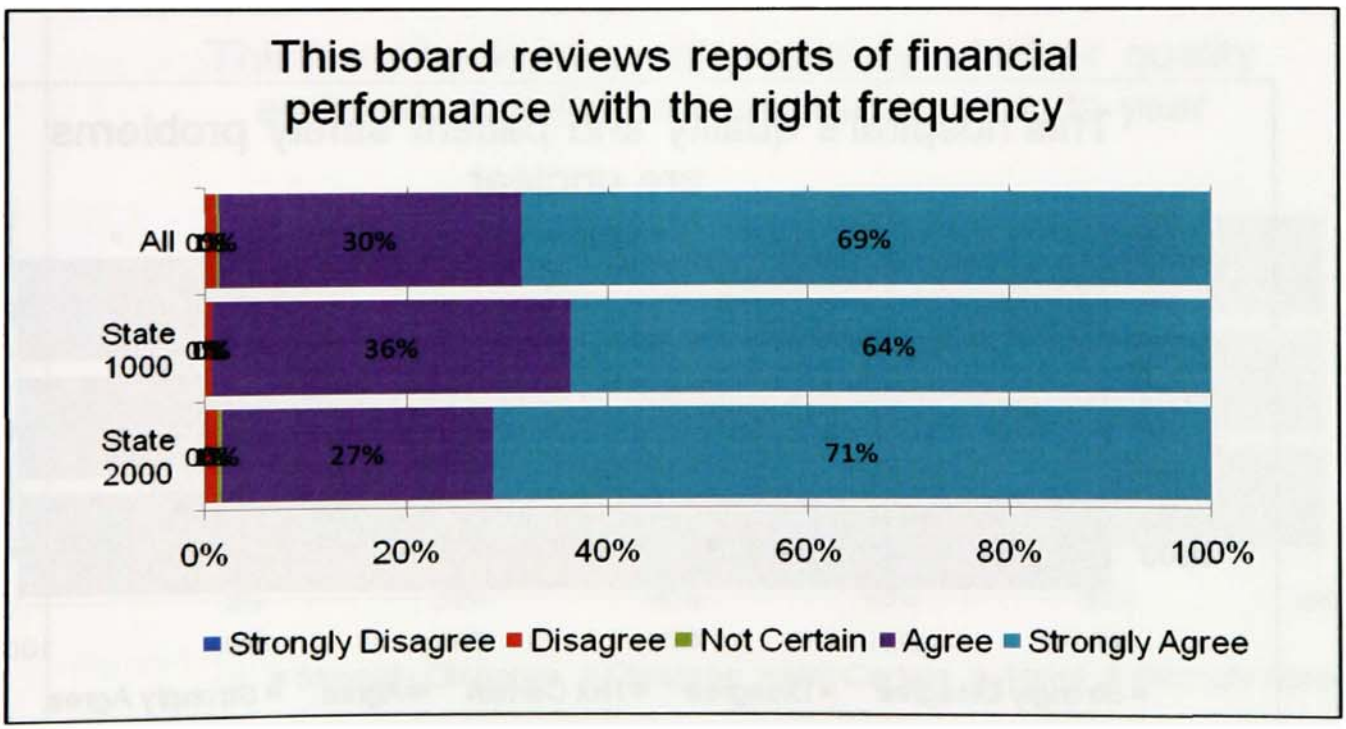

This board does not confront hospital leaders about quality and safety defects
All
State 1000
State 2000
35%
51%
3%
7%
4%
33%
53%
1%
9%
4%
36%
50%
3%
6%
3%
0%
20%
40%
60%
80%
100%
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

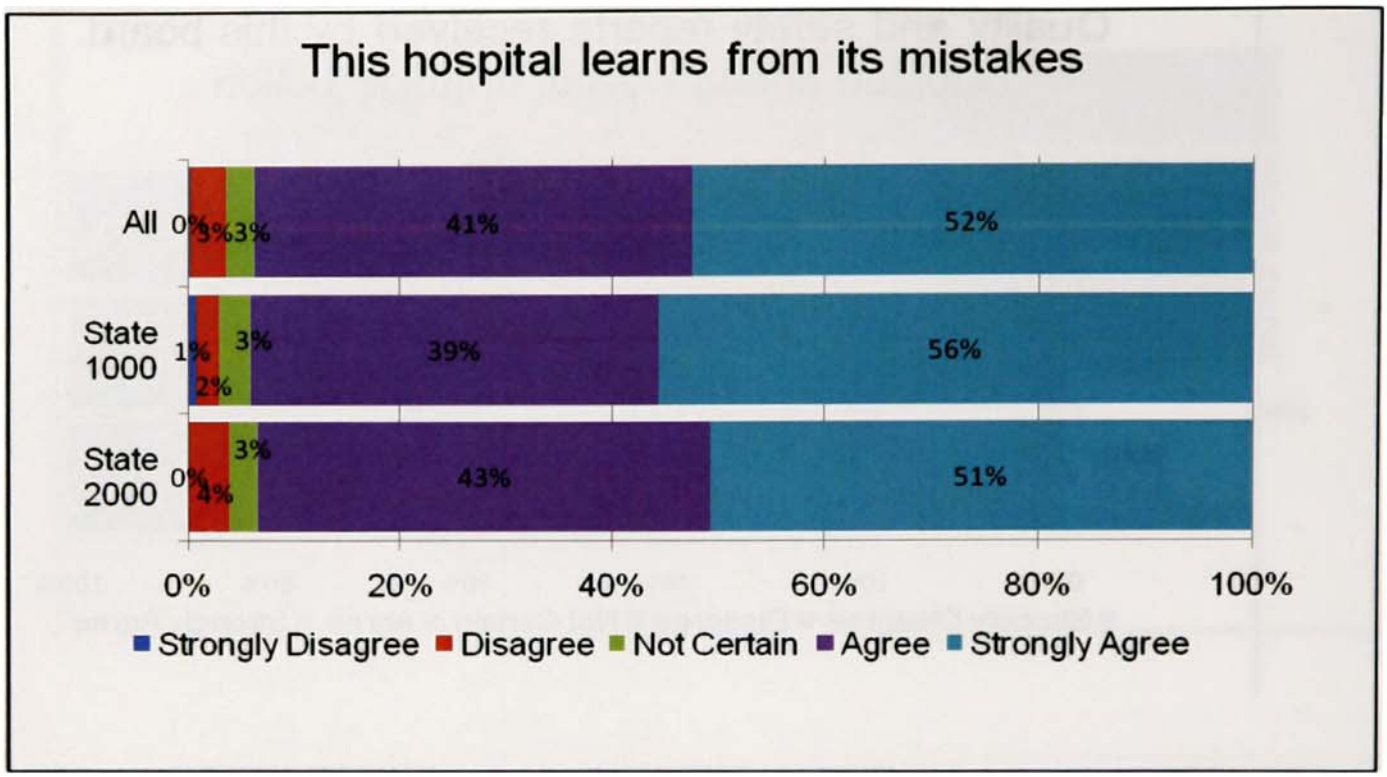

This board meets with clinical leaders to discuss quality and safety performance
All
State 1000
State 2000
1%
15%
2%
46%
36%
1%
10%
1%
48%
39%
1%
17%
2%
45%
35%
0%
20%
40%
60%
80%
100%
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

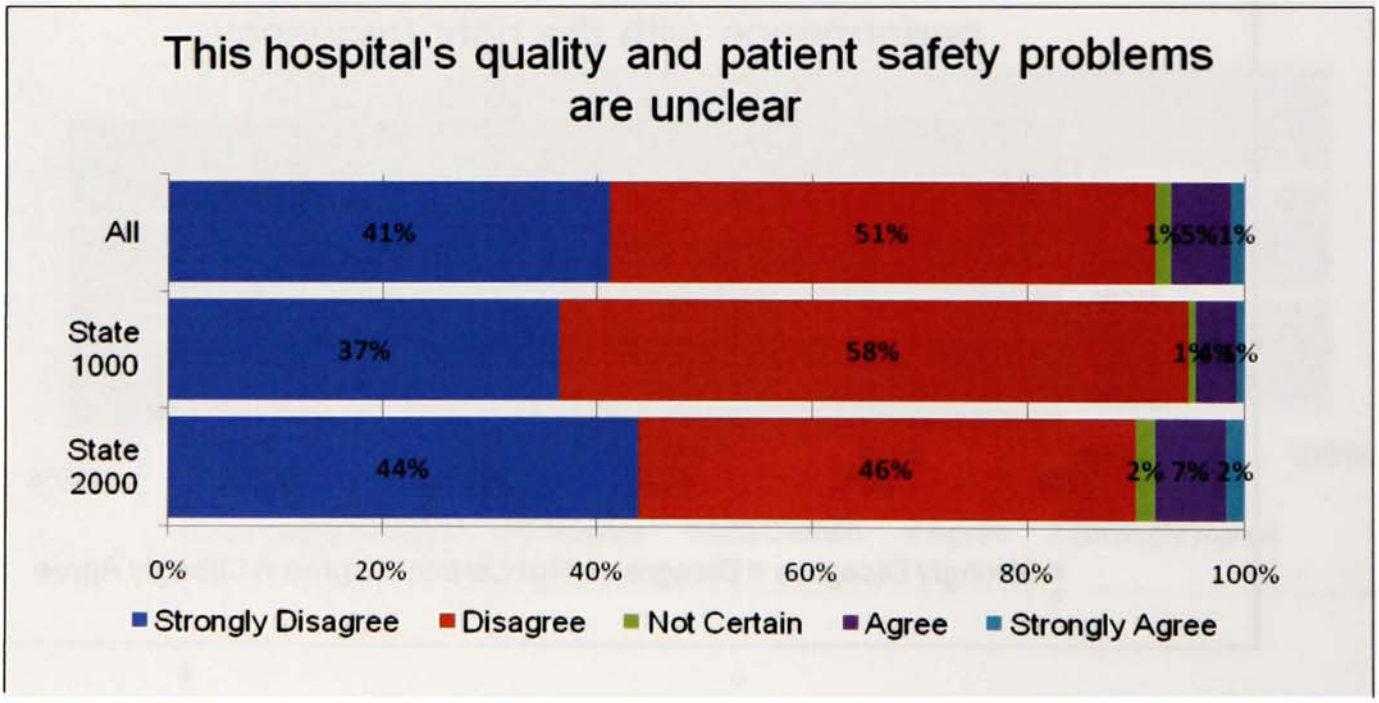

This board needs more physician involvment
All
State 1000
State 2000
15%
42%
5%
27%
10%
14%
44%
5%
30%
6%
15%
41%
6%
26%
13%
0%
20%
40%
60%
80%
100%
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree


This board receives quality and safety reports with the right frequency
All
State 1000
State 2000
42%
52%
42%
53%
42%
51%
0%
20%
40%
60%
80%
100%
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

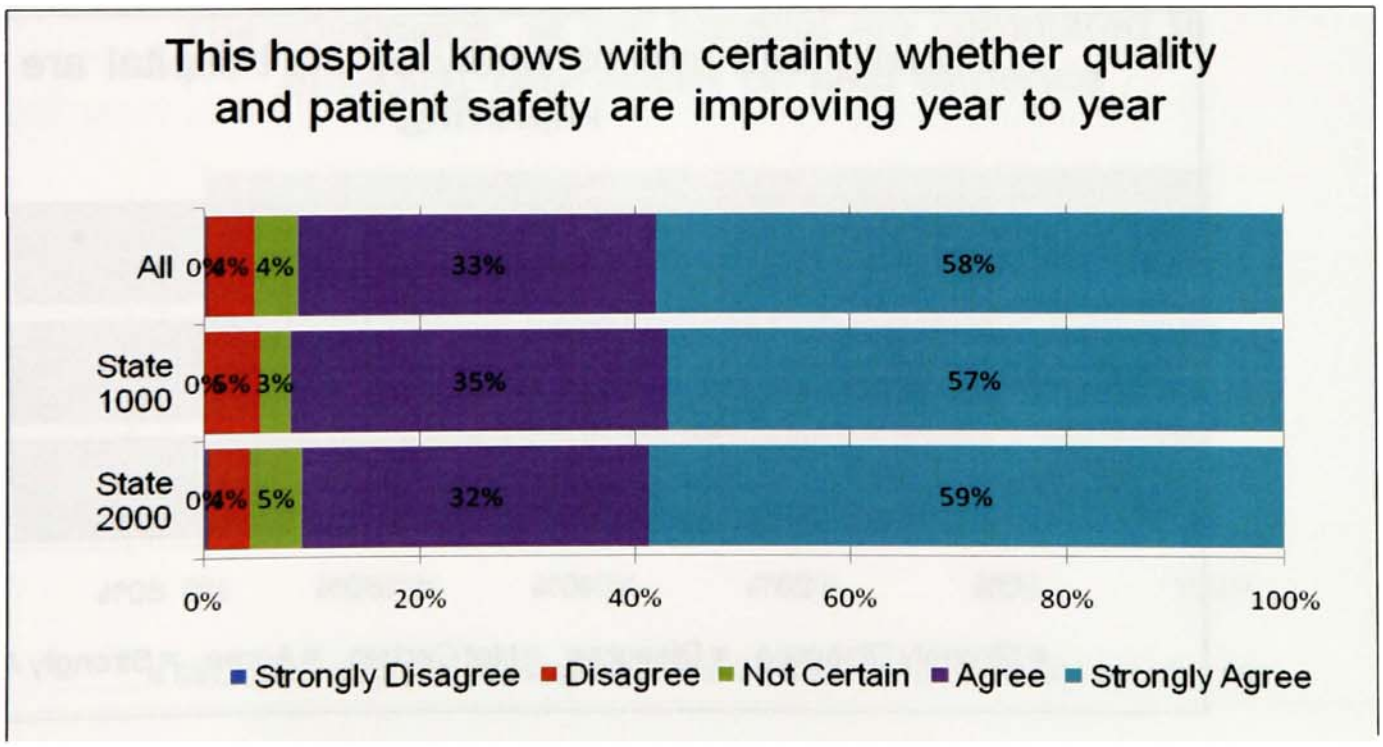

Quality and safety reports received by this board include enough detail to guide action
All
State 1000
State 2000
1%
8%
2%
46%
43%
0%
7%
1%
45%
47%
1%
9%
3%
47%
41%
0%
20%
40%
60%
80%
100%
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

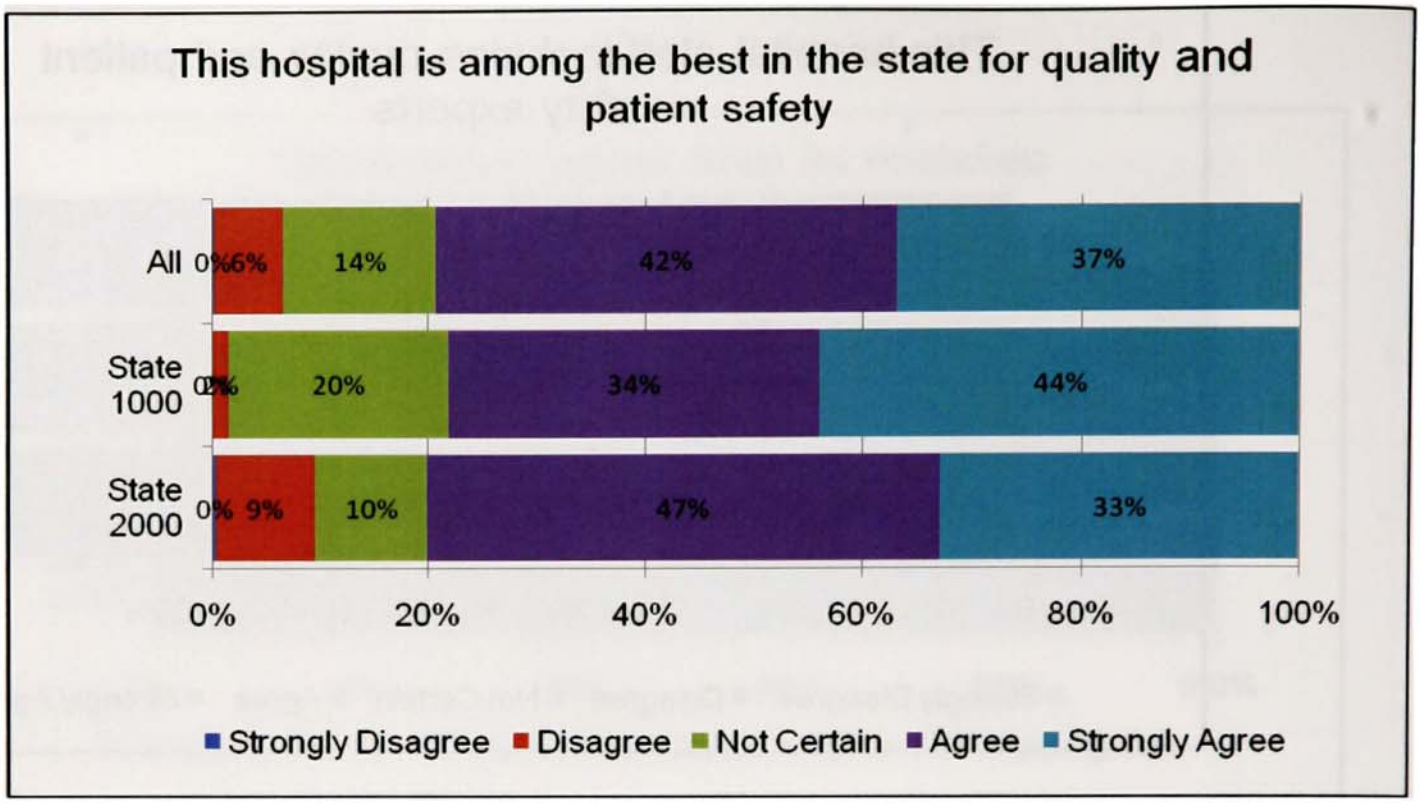

This board reviews reports of financial performance with the right frequency
All
State 1000
State 2000
30%
69%
36%
64%
27%
71%
0%
20%
40%
60%
80%
100%
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

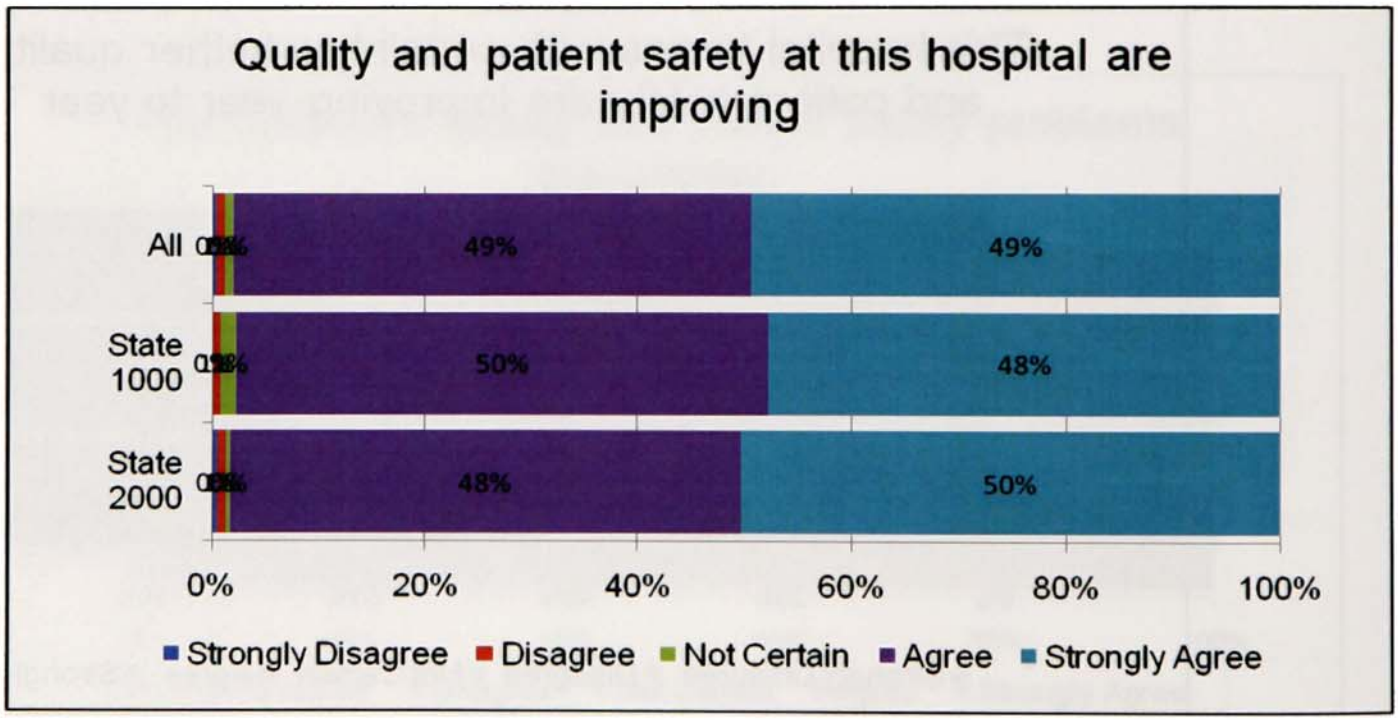

This hospital learns from its mistakes
All
State 1000
State 2000
0%
3%
3%
41%
52%
1%
2%
3%
39%
56%
0%
4%
3%
43%
51%
0%
20%
40%
60%
80%
100%
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

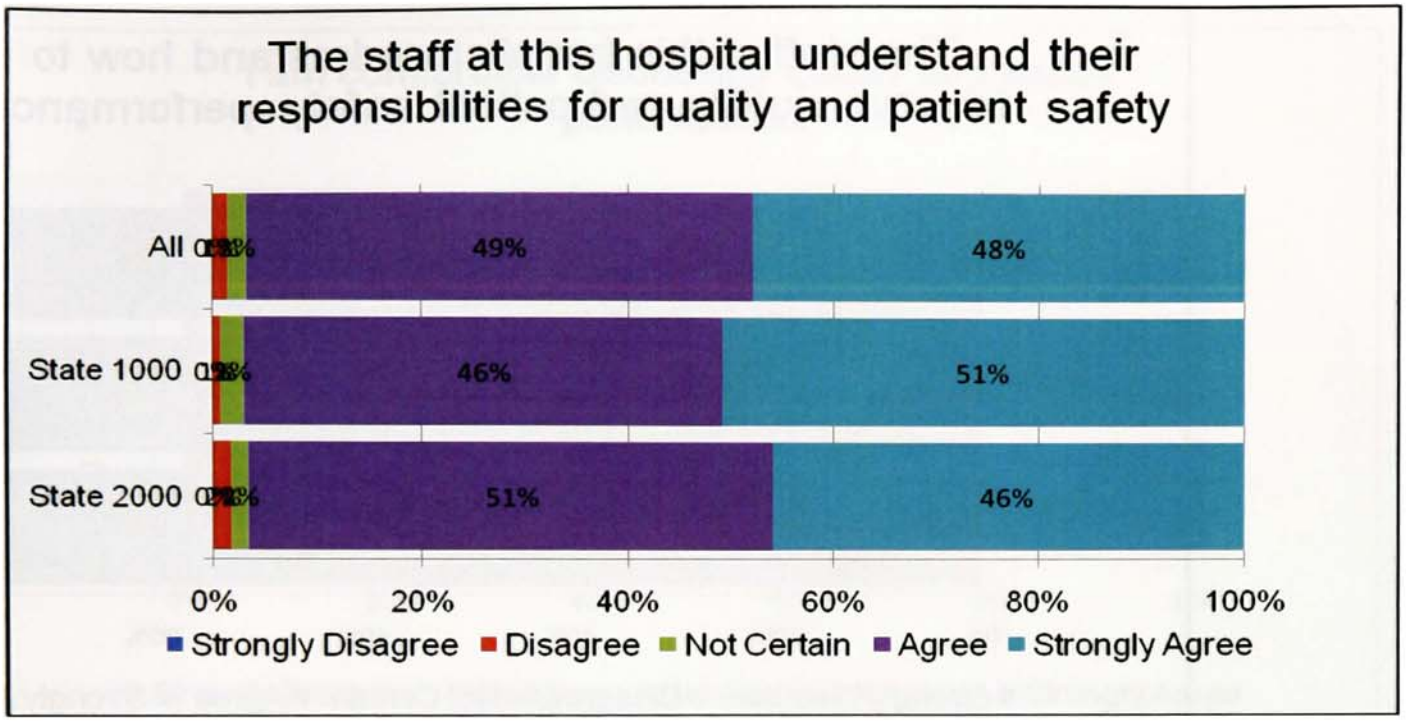

This hospital's quality and patient safety problems are unclear
All
State 1000
State 2000
41%
51%
1%
5%
1%
37%
58%
44%
46%
2%
7%
2%
0%
20%
40%
60%
80%
100%
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

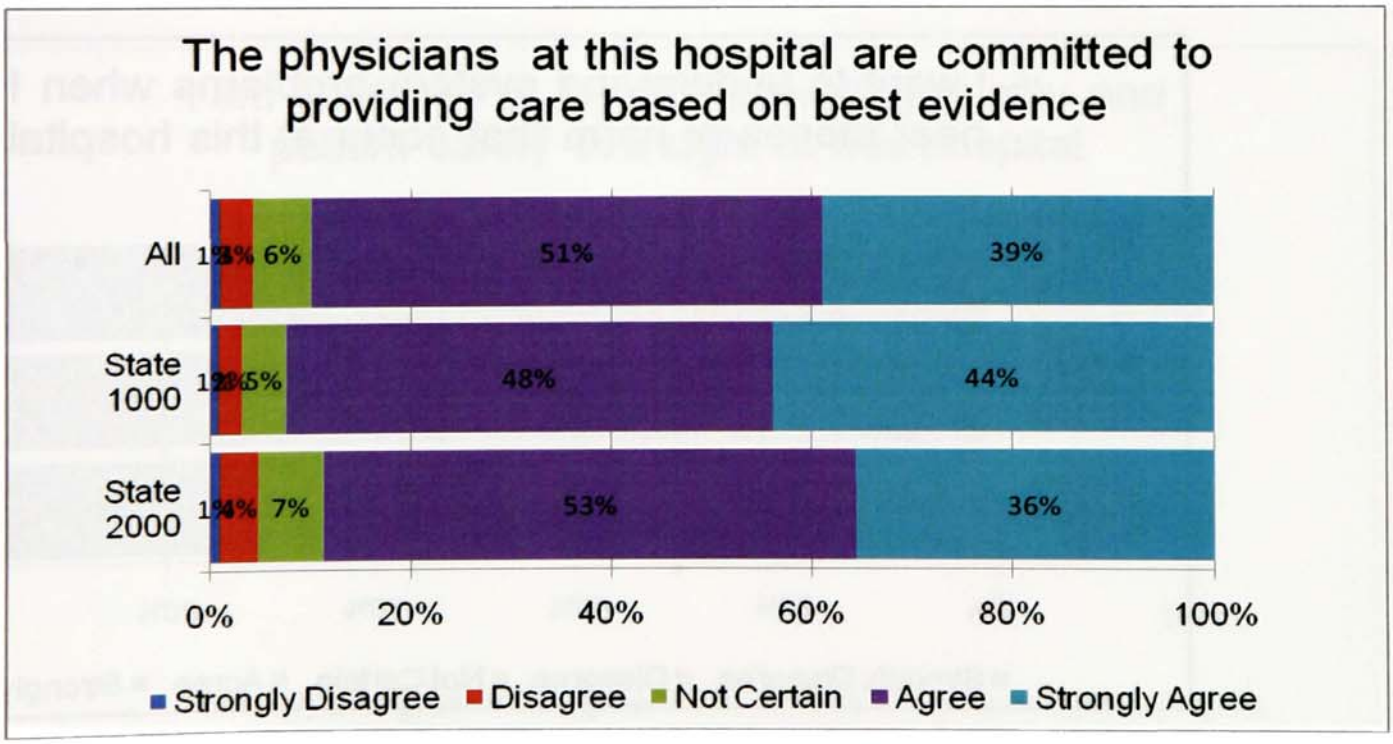

This hospital staff includes quality and patient safety experts
All
State 1000
State 2000
0%
20%
40%
60%
80%
100%
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree


This hospital knows with certainty whether quality and patient safety are improving year to year
All
State 1000
State 2000
0%
20%
40%
60%
80%
100%
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

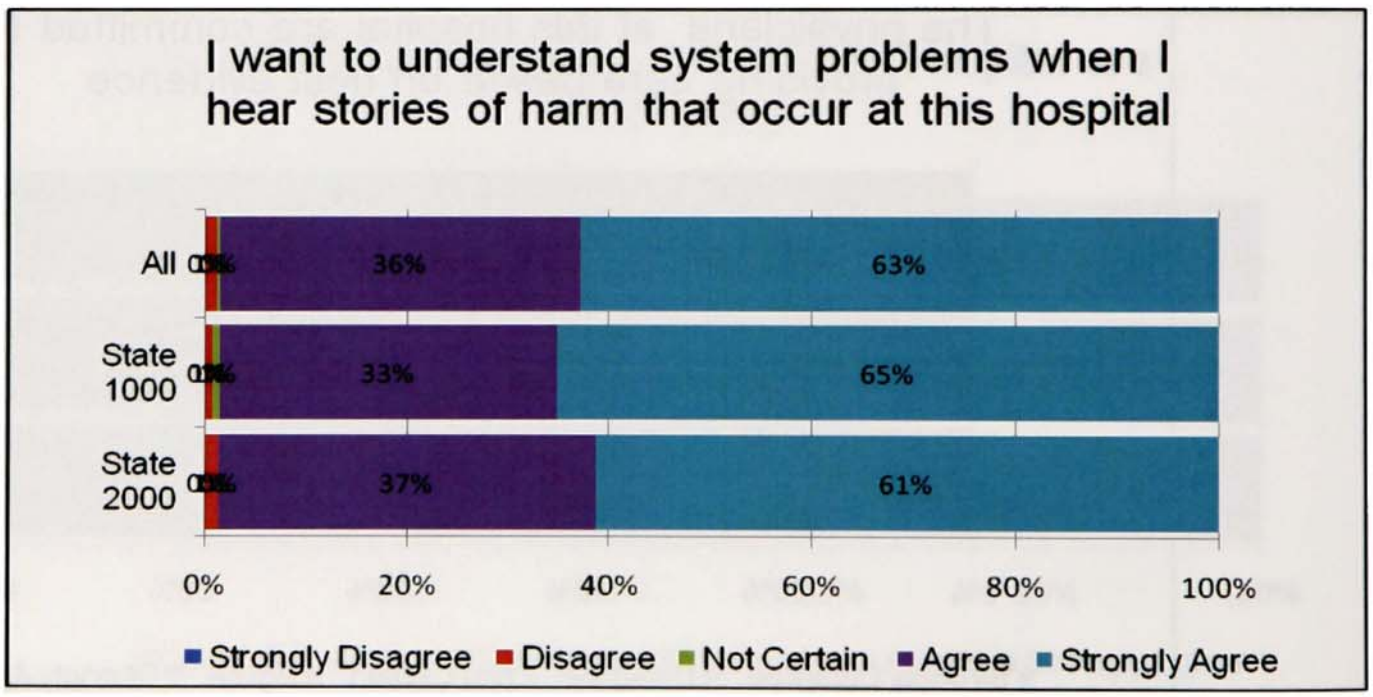

This hospital is among the best in the state for quality and patient safety
All
State 1000
State 2000
0%
6%
14%
42%
37%
2%
20%
34%
44%
9%
10%
47%
33%
0%
20%
40%
60%
80%
100%
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

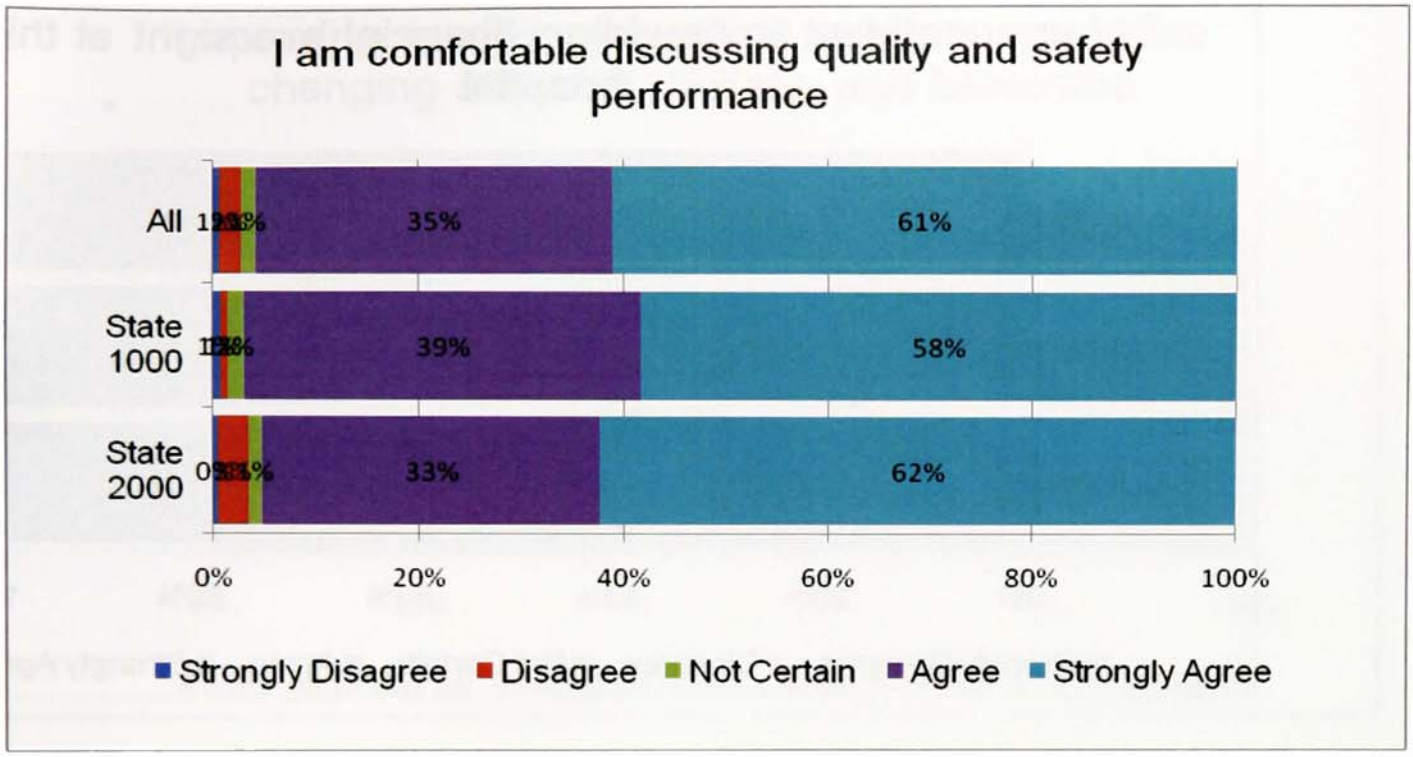

Quality and patient safety at this hospital are improving
All
State 1000
State 2000
49%
49%
50%
48%
48%
50%
0%
20%
40%
60%
80%
100%
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree


The staff at this hospital understand their responsibilities for quality and patient safety
All
State 1000
State 2000
49%
48%
46%
51%
51%
46%
0%
20%
40%
60%
80%
100%
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

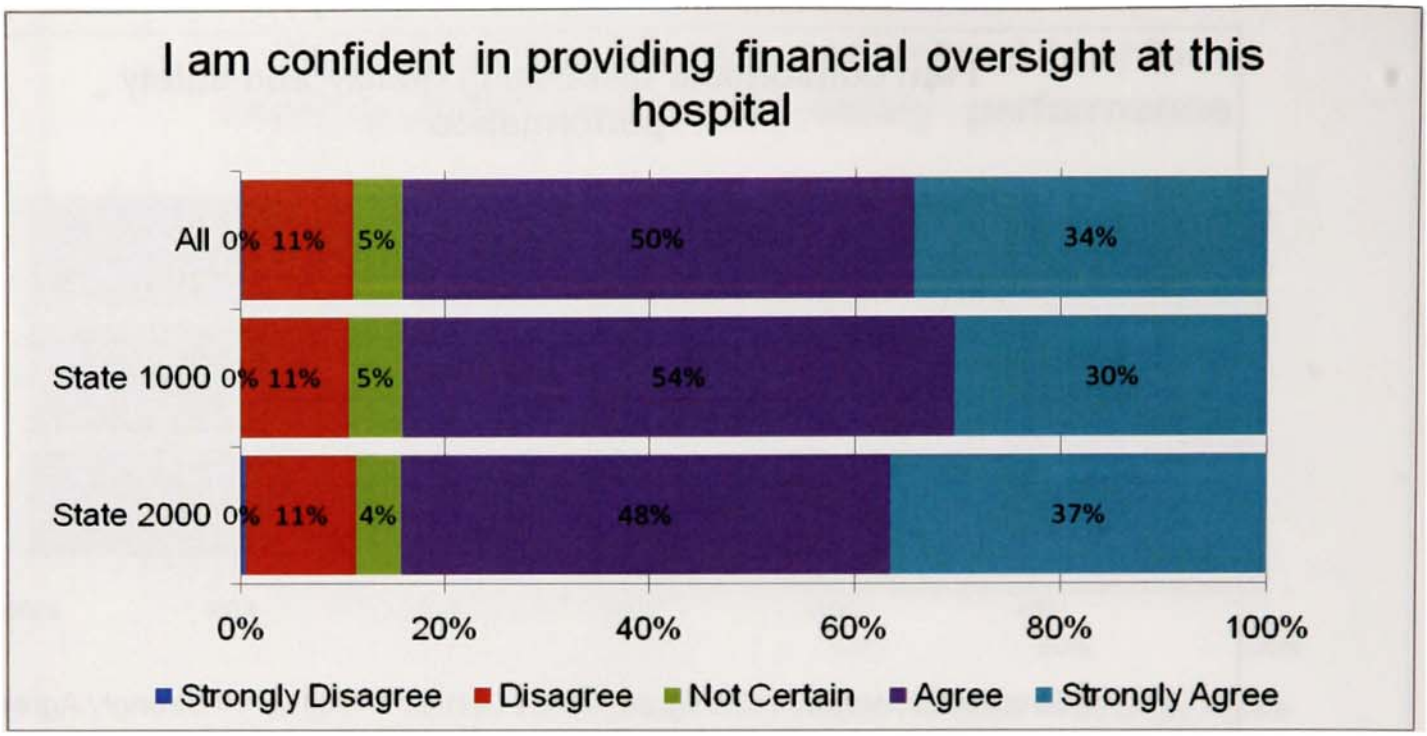

The physicians at this hospital are committed to providing care based on best evidence
All
State 1000
State 2000
6%
51%
39%
5%
48%
44%
4%
7%
53%
36%
0%
20%
40%
60%
80%
100%
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

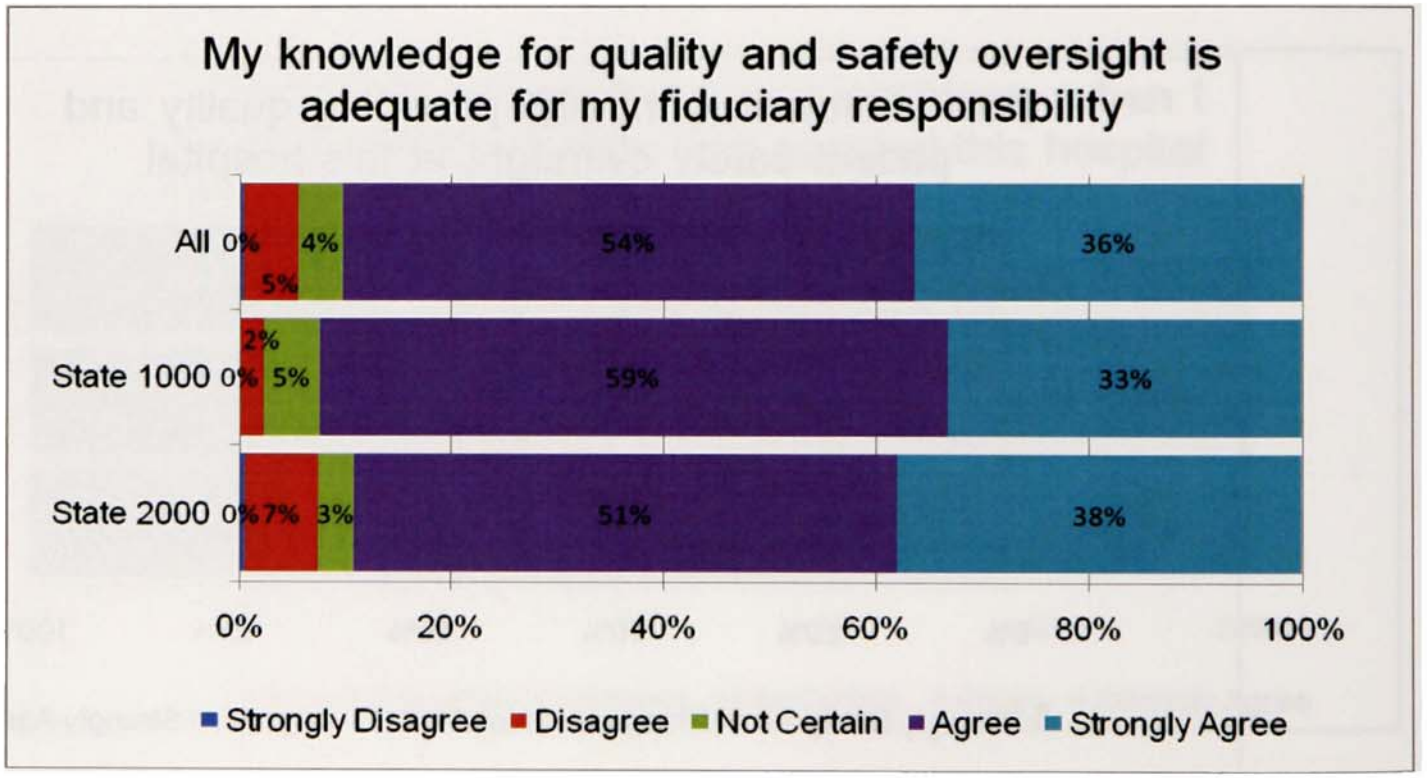

The staff at this hospital understand how to improve qualtiy and patient safety performance
All
State 1000
State 2000
6%
53%
39%
5%
53%
39%
6%
54%
39%
0%
20%
40%
60%
80%
100%
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

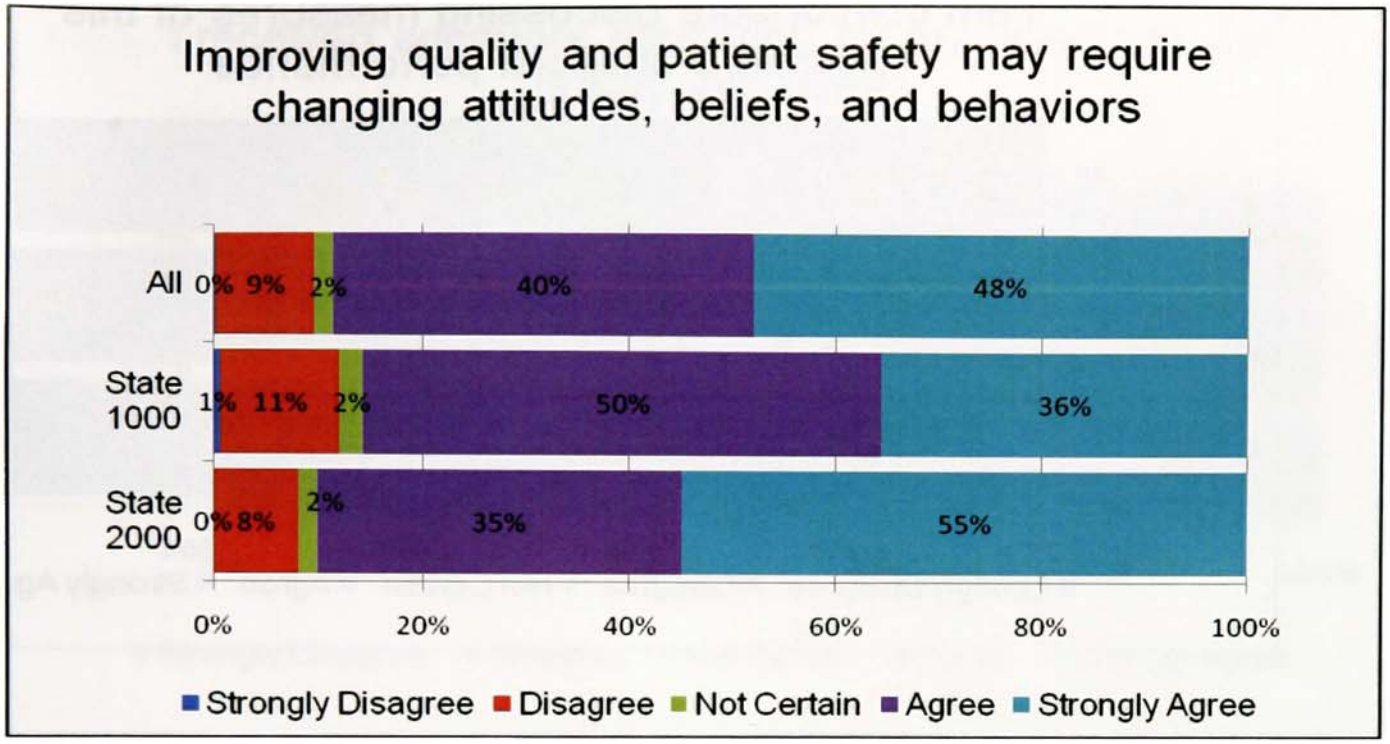

I want to understand system problems when I hear stories of harm that occur at this hospital
All
State 1000
State 2000
36%
63%
33%
65%
37%
61%
0%
20%
40%
60%
80%
100%
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

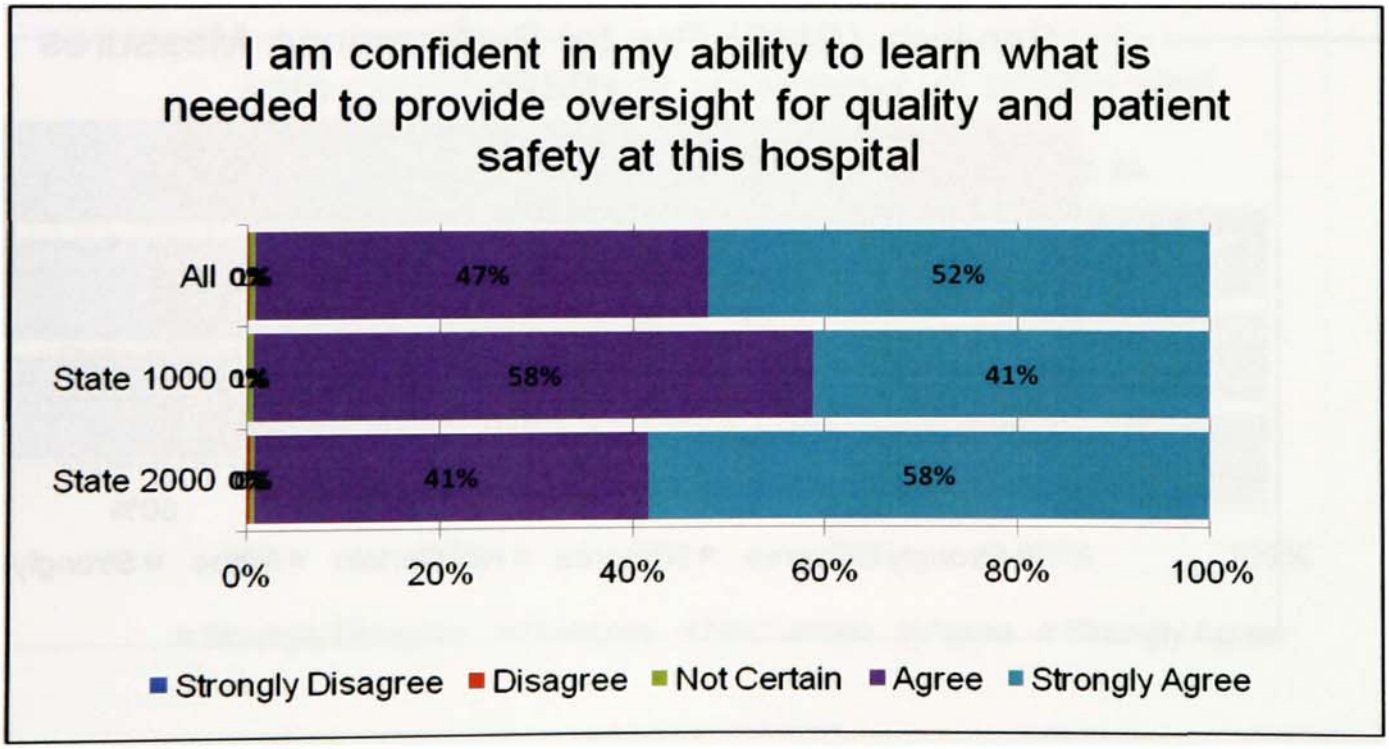

I am comfortable discussing quality and safety performance
All
State 1000
State 2000
35%
61%
39%
58%
33%
62%
0%
20%
40%
60%
80%
100%
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

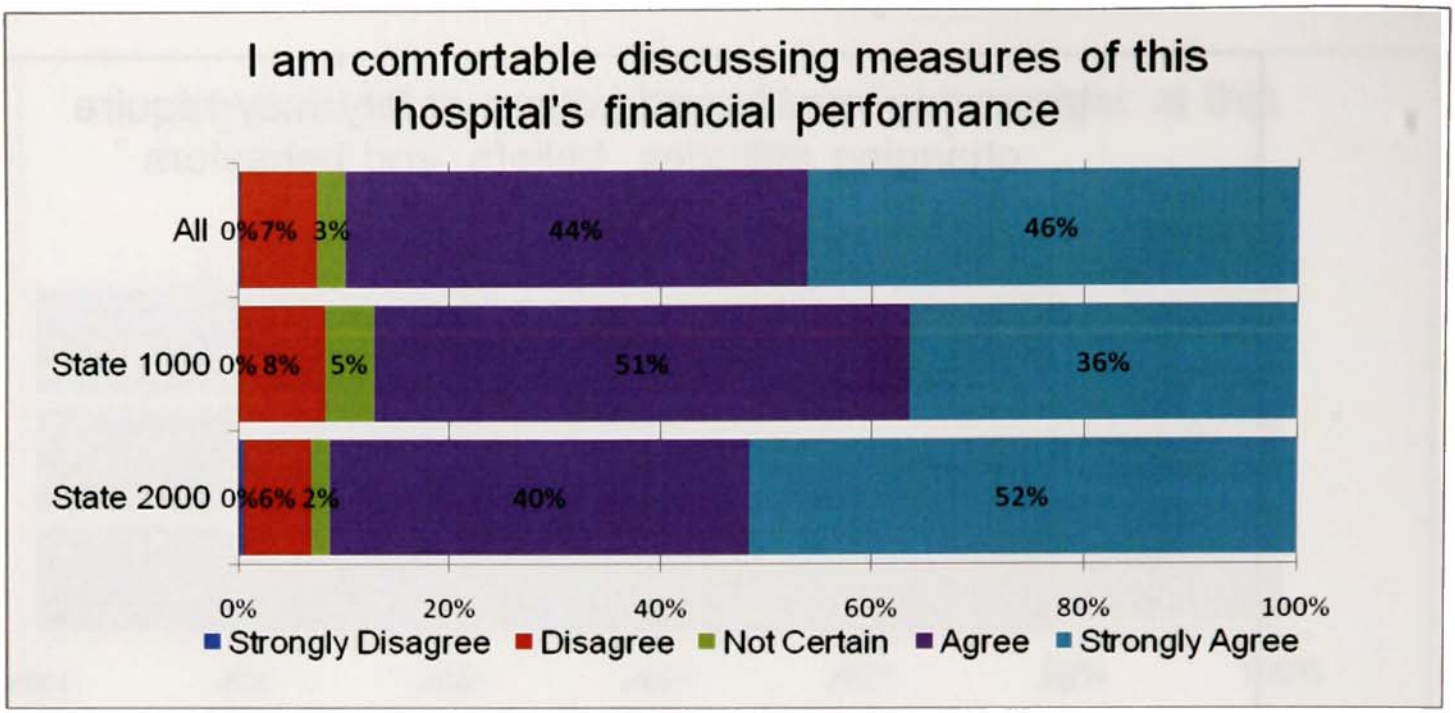

I am confident in my skill providing quality and patient safety oversight at this hospital
All
State 1000
State 2000
1%
9%
5%
44%
42%
0%
6%
6%
49%
39%
1%
10%
5%
41%
43%
0%
20%
40%
60%
80%
100%
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

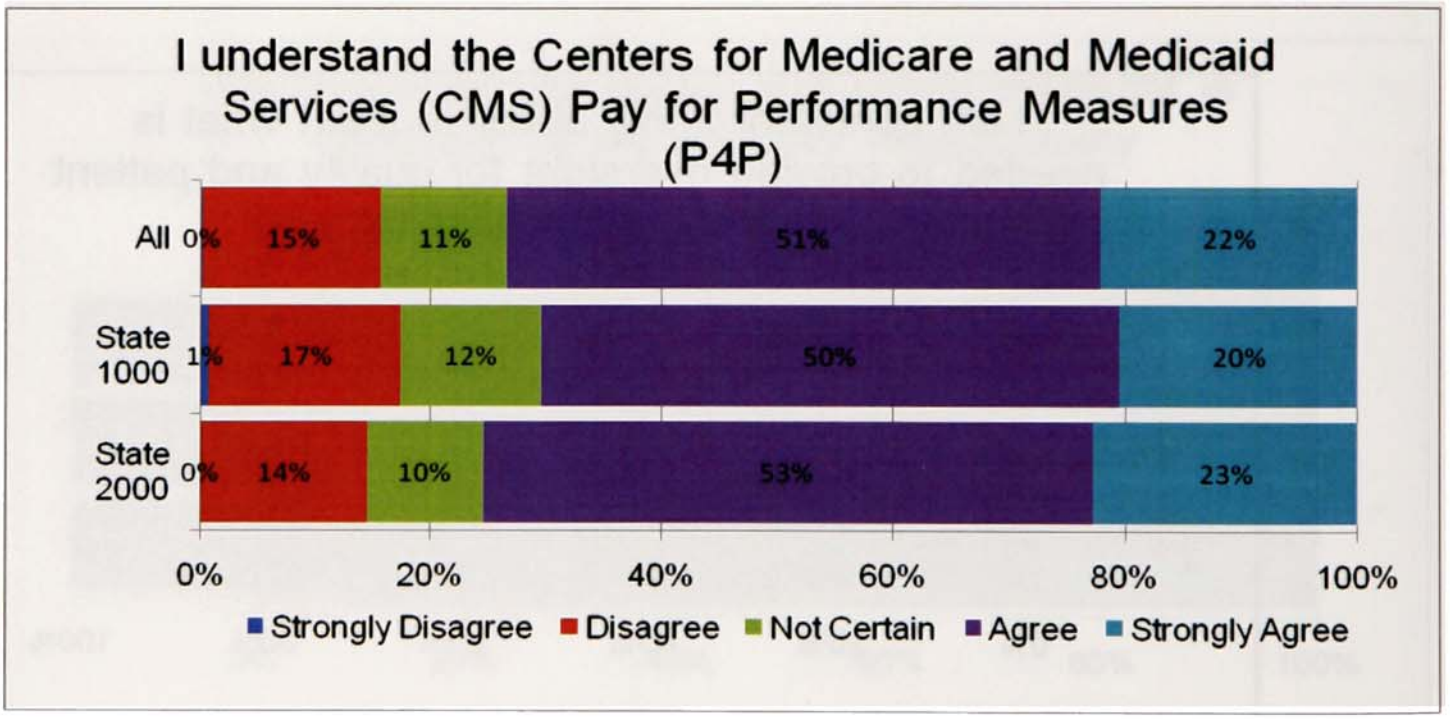

I am confident in providing financial oversight at this hospital
All
State 1000
State 2000
0%
11%
5%
50%
34%
0%
11%
5%
54%
30%
0%
11%
4%
48%
37%
0%
20%
40%
60%
80%
100%
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

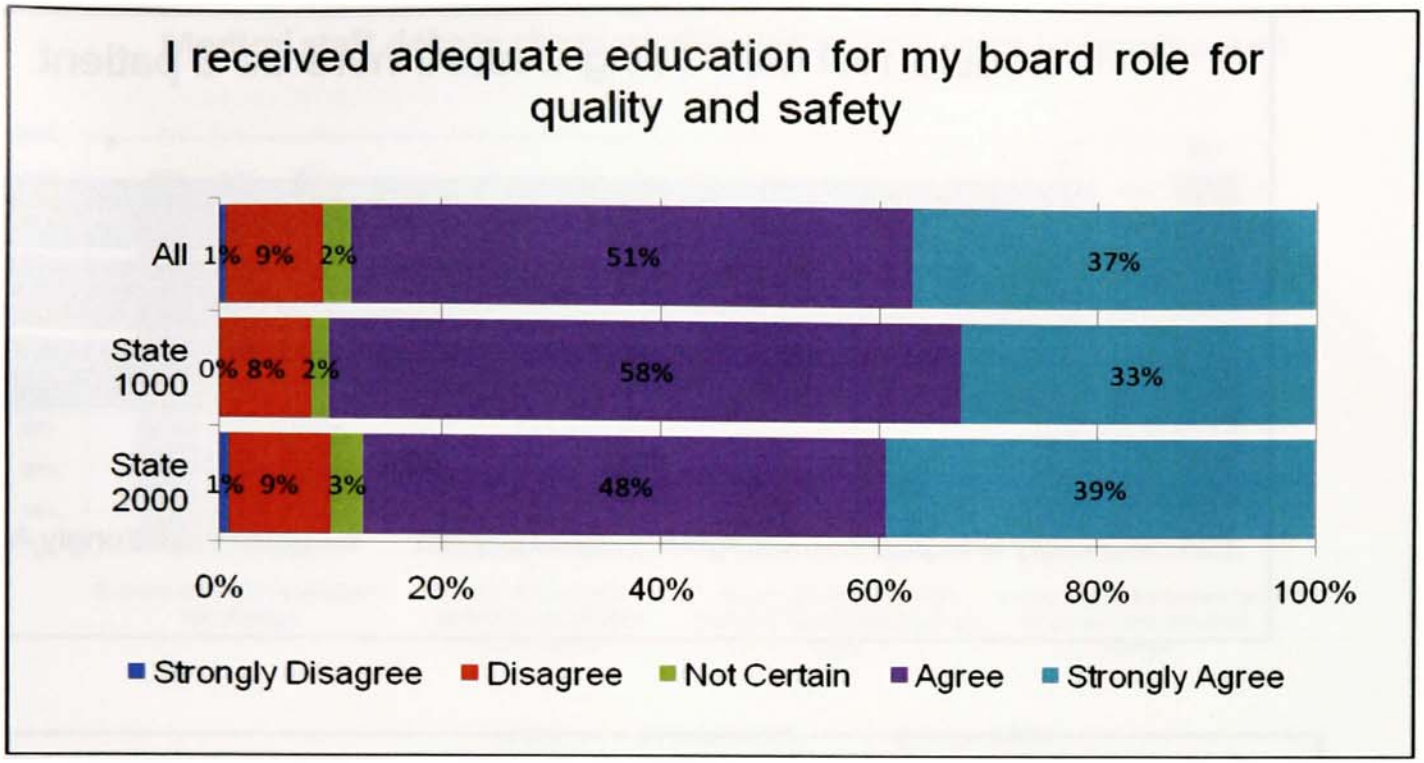

My knowledge for quality and safety oversight is adequate for my fiduciary responsibility
All
State 1000
State 2000
0%
5%
4%
54%
36%
2%
0%
5%
59%
33%
0%
7%
3%
51%
38%
0%
20%
40%
60%
80%
100%
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

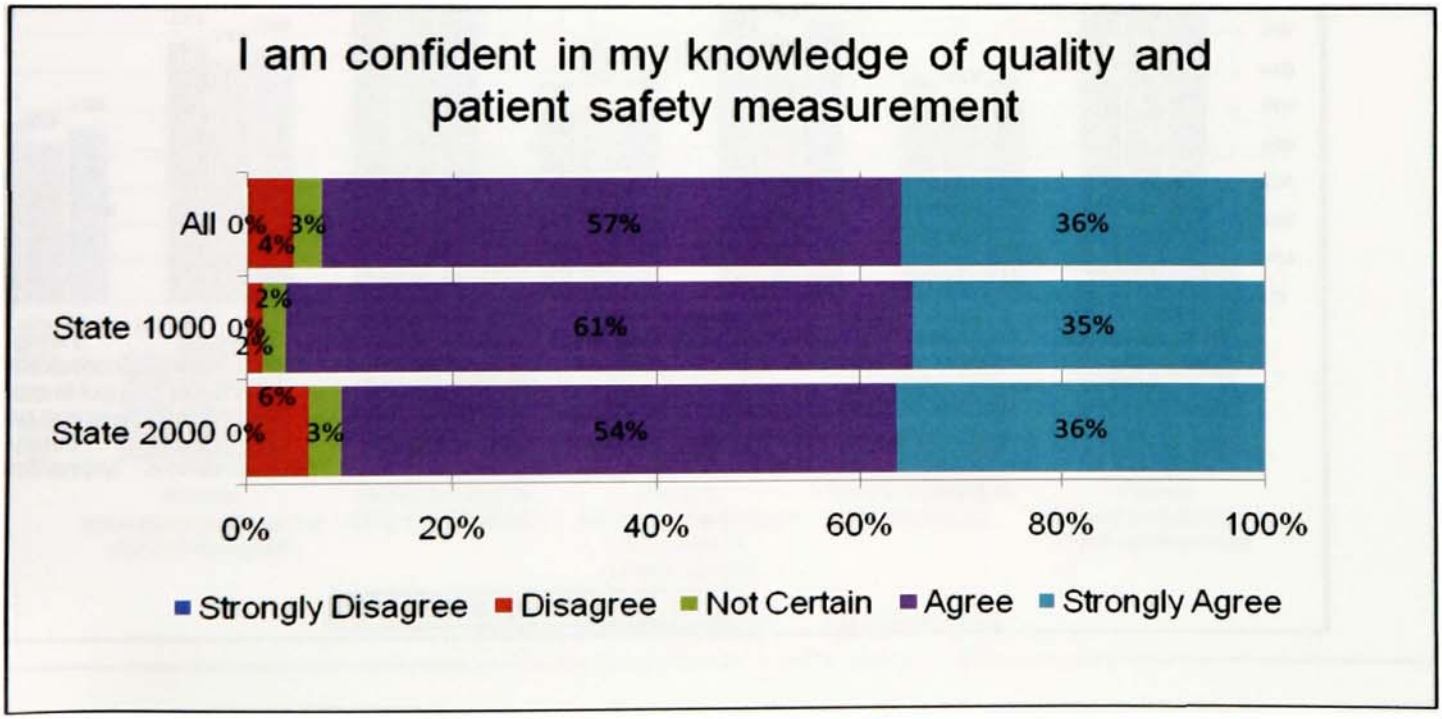

Improving quality and patient safety may require changing attitudes, beliefs, and behaviors
All
State 1000
State 2000
0%
9%
2%
40%
48%
1%
11%
2%
50%
36%
0%
8%
2%
35%
55%
0%
20%
40%
60%
80%
100%
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

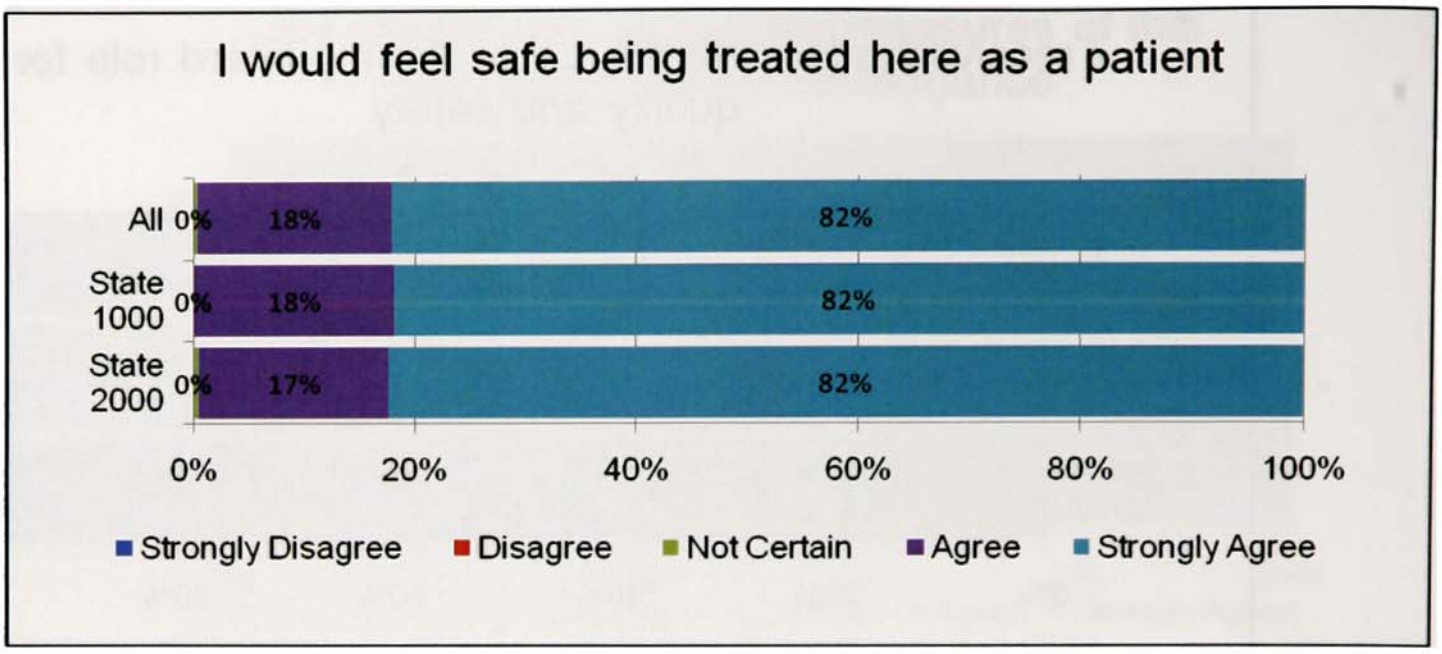

I am confident in my ability to learn what is needed to provide oversight for quality and patient safety at this hospital
All
State 1000
State 2000
47%
52%
58%
41%
41%
58%
0%
20%
40%
60%
80%
100%
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

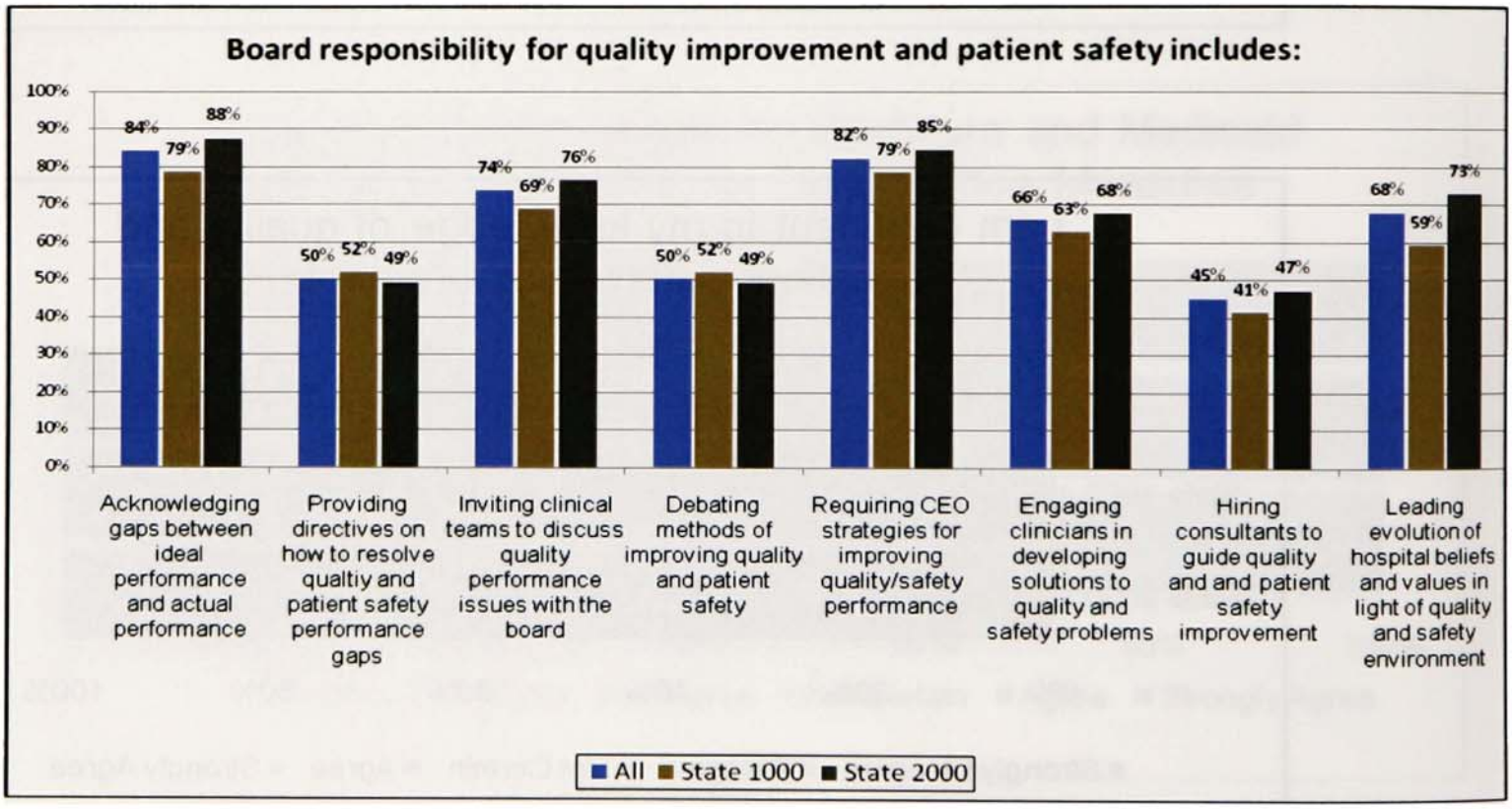

I am comfortable discussing measures of this hospital's financial performance
All
State 1000
State 2000
0%
7%
3%
44%
46%
0%
8%
5%
51%
36%
0%
6%
2%
40%
52%
0%
20%
40%
60%
80%
100%
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

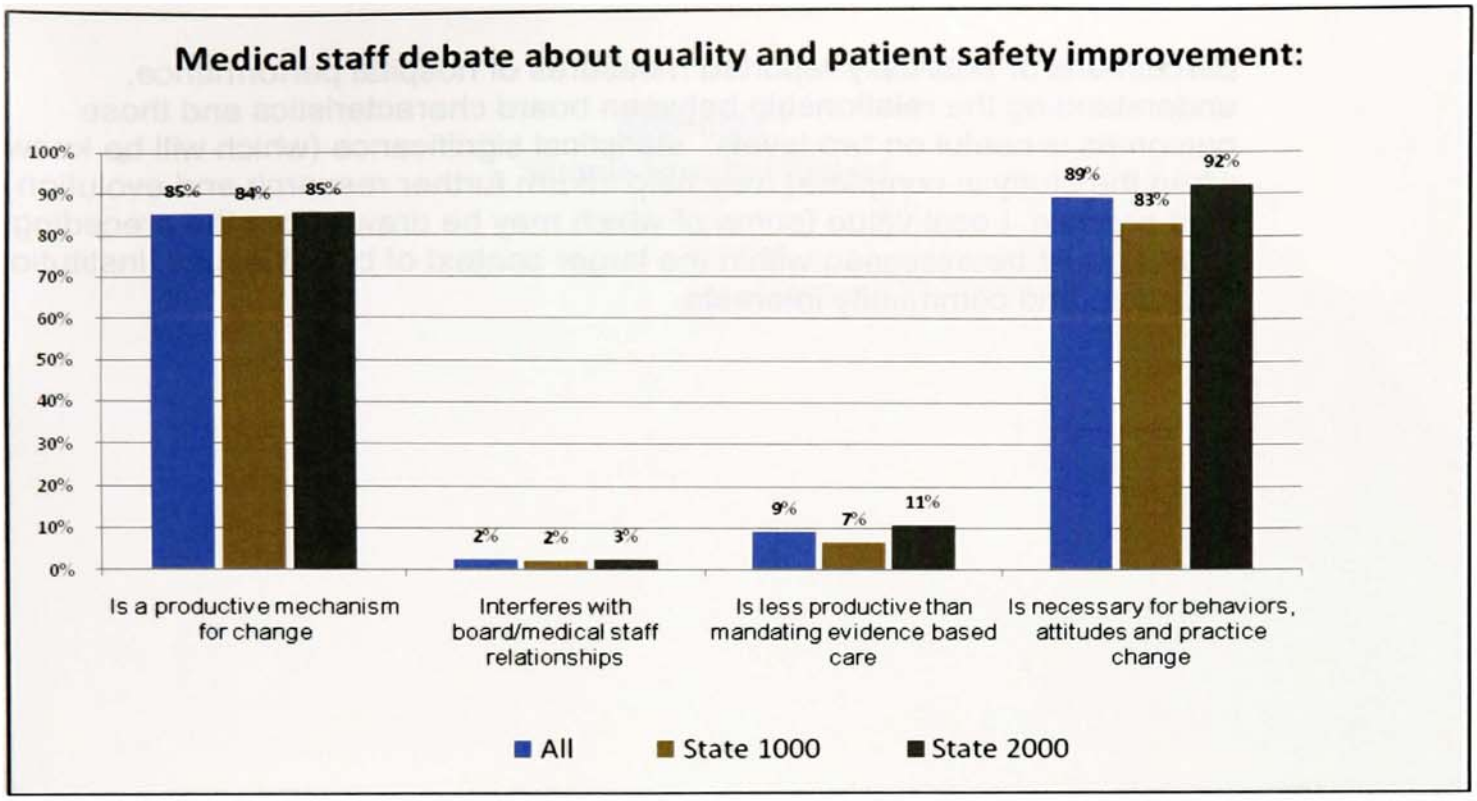

I understand the Centers for Medicare and Medicaid Services (CMS) Pay for Performance Measures (P4P)
All
State 1000
State 2000
0%
15%
11%
51%
22%
1%
17%
12%
50%
20%
0%
14%
10%
53%
23%
0%
20%
40%
60%
80%
100%
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

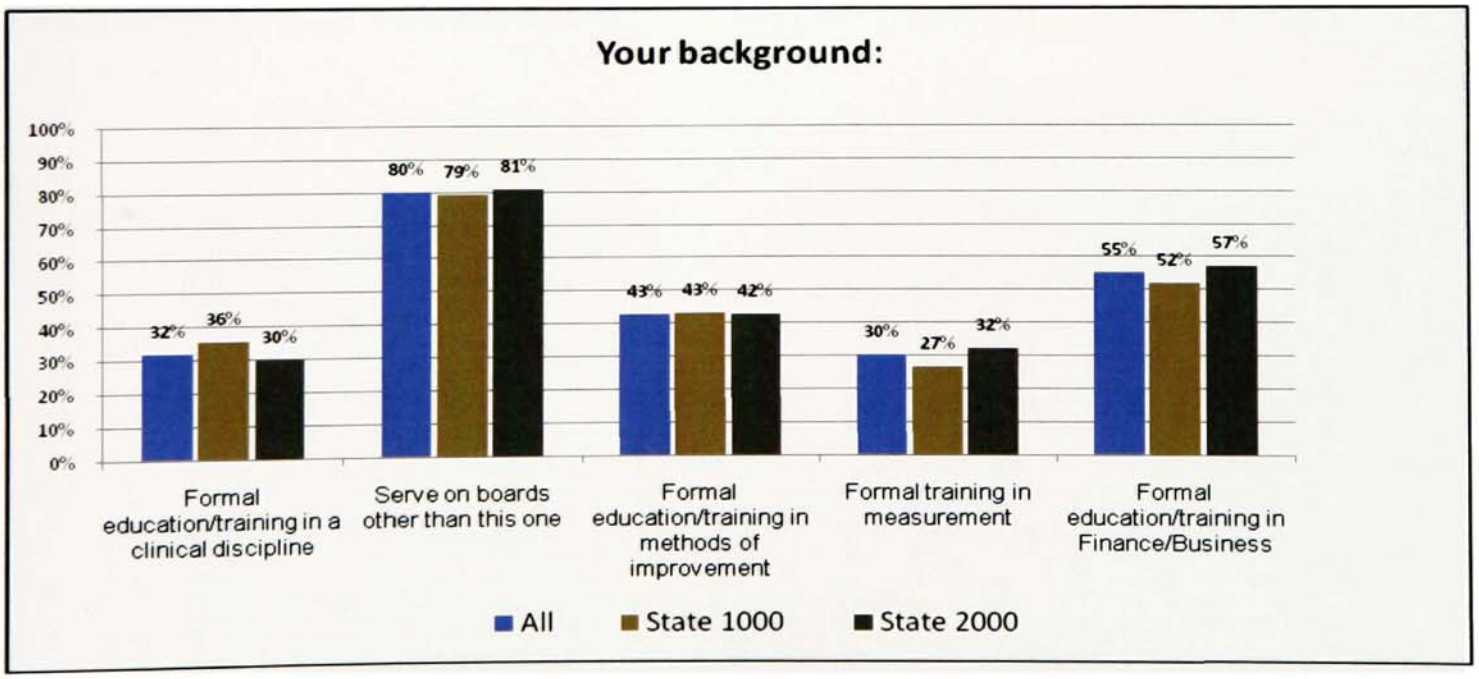

I received adequate education for my board role for quality and safety
All
State 1000
State 2000
1%
9%
2%
51%
37%
0%
8%
2%
58%
33%
1%
9%
3%
48%
39%
0%
20%
40%
60%
80%
100%
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree


I am confident in my knowledge of quality and patient safety measurement
All
State 1000
State 2000
0%
4%
3%
57%
36%
0%
2%
2%
61%
35%
0%
6%
3%
54%
36%
0%
20%
40%
60%
80%
100%
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree


I would feel safe being treated here as a patient
All
State 1000
State 2000
0%
18%
82%
0%
18%
82%
0%
17%
82%
0%
20%
40%
60%
80%
100%
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree


Board responsibility for quality improvement and patient safety includes:
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
84% 79% 88%
50% 52% 49%
74% 69% 76%
50% 52% 49%
82% 79% 85%
66% 63% 68%
45% 41% 47%
68% 59% 73%
Acknowledging gaps between ideal performance and actual performance
Providing directives on how to resolve qualtiy and patient safety performance gaps
Inviting clinical teams to discuss quality performance issues with the board
Debating methods of improving quality and patient safety
Requiring CEO strategies for improving quality/safety performance
Engaging clinicians in developing solutions to quality and safety problems
Hiring consultants to guide quality and and patient safety improvement
Leading evolution of hospital beliefs and values in light of quality and safety environment
All
State 1000
State 2000



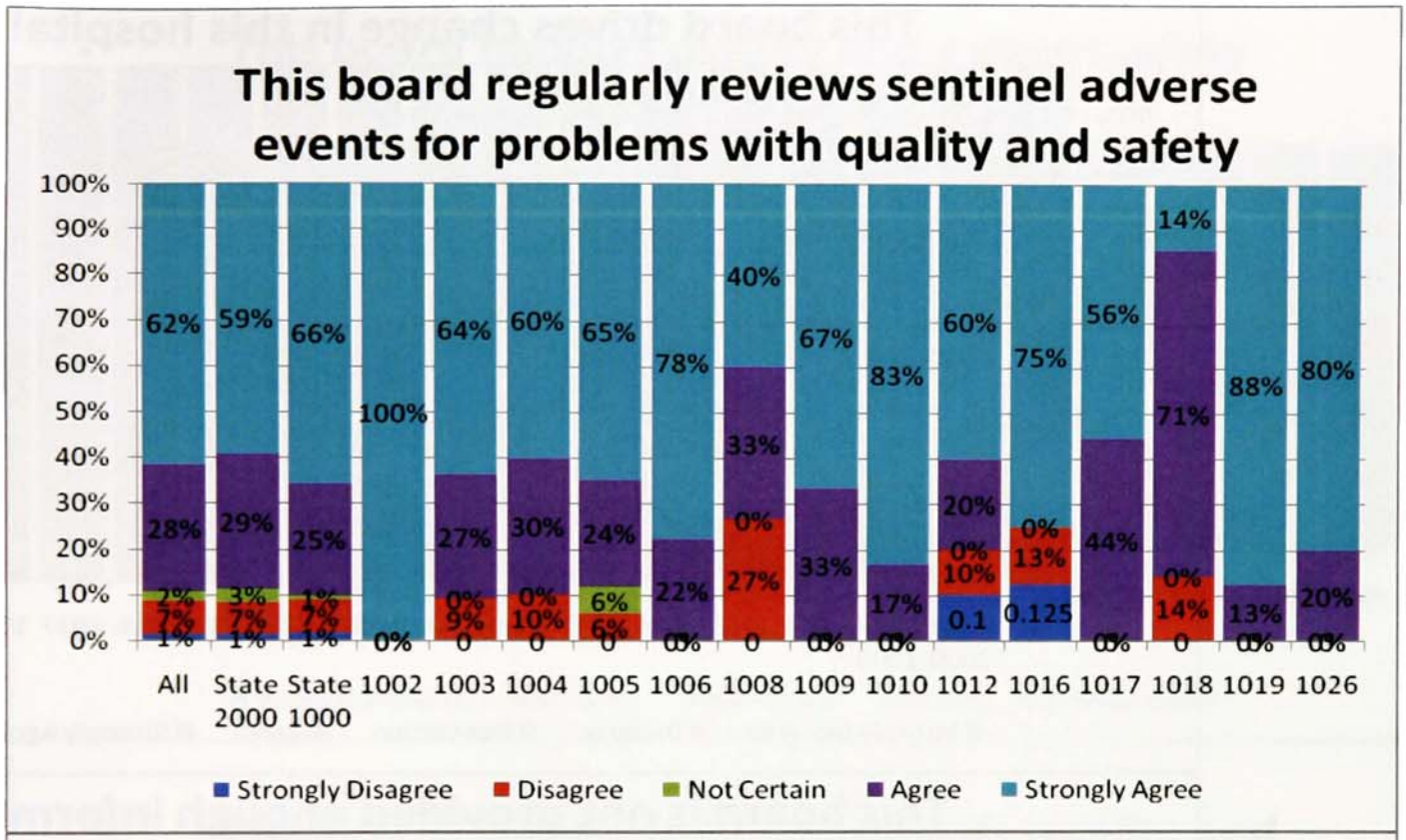


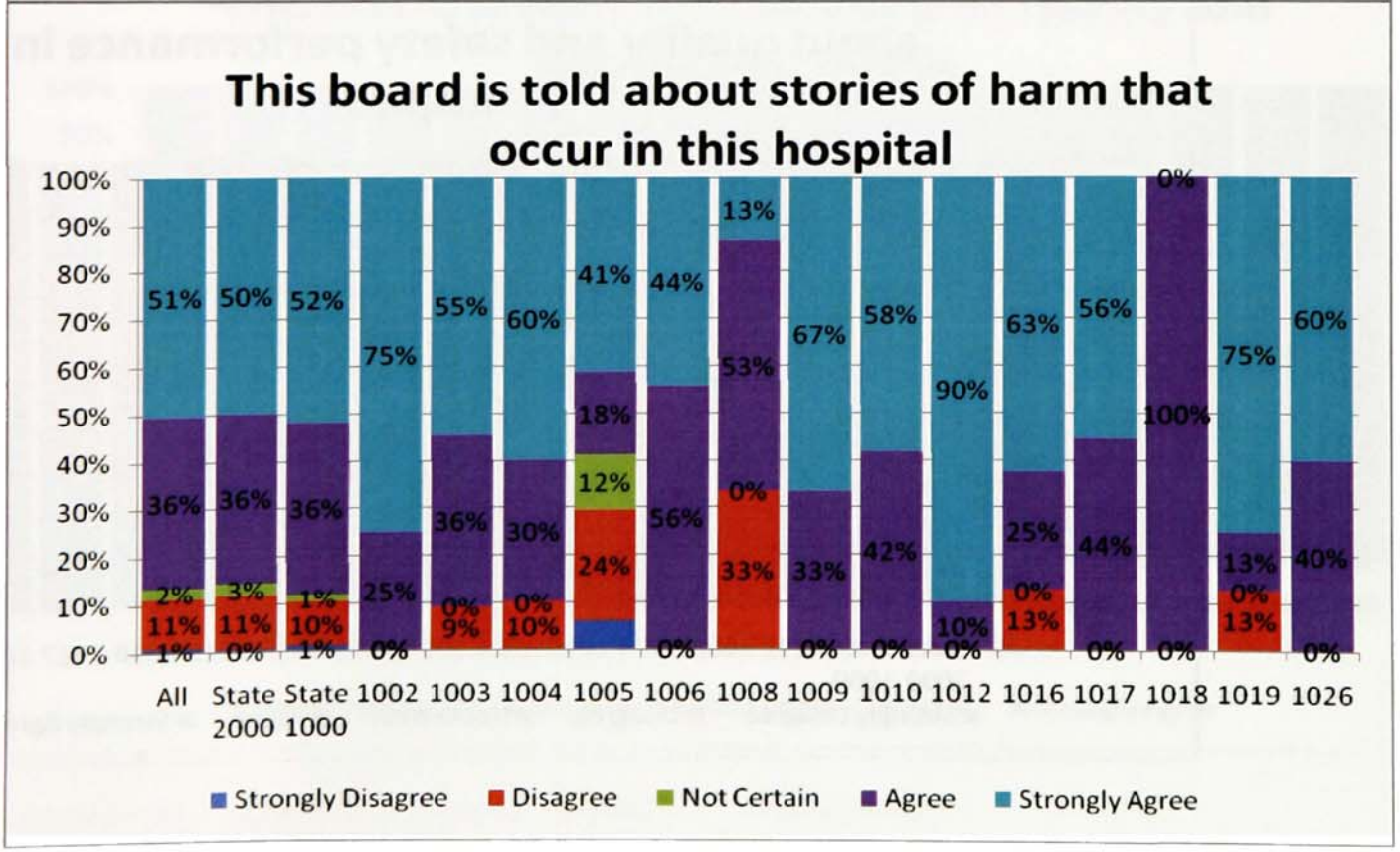
Next Steps

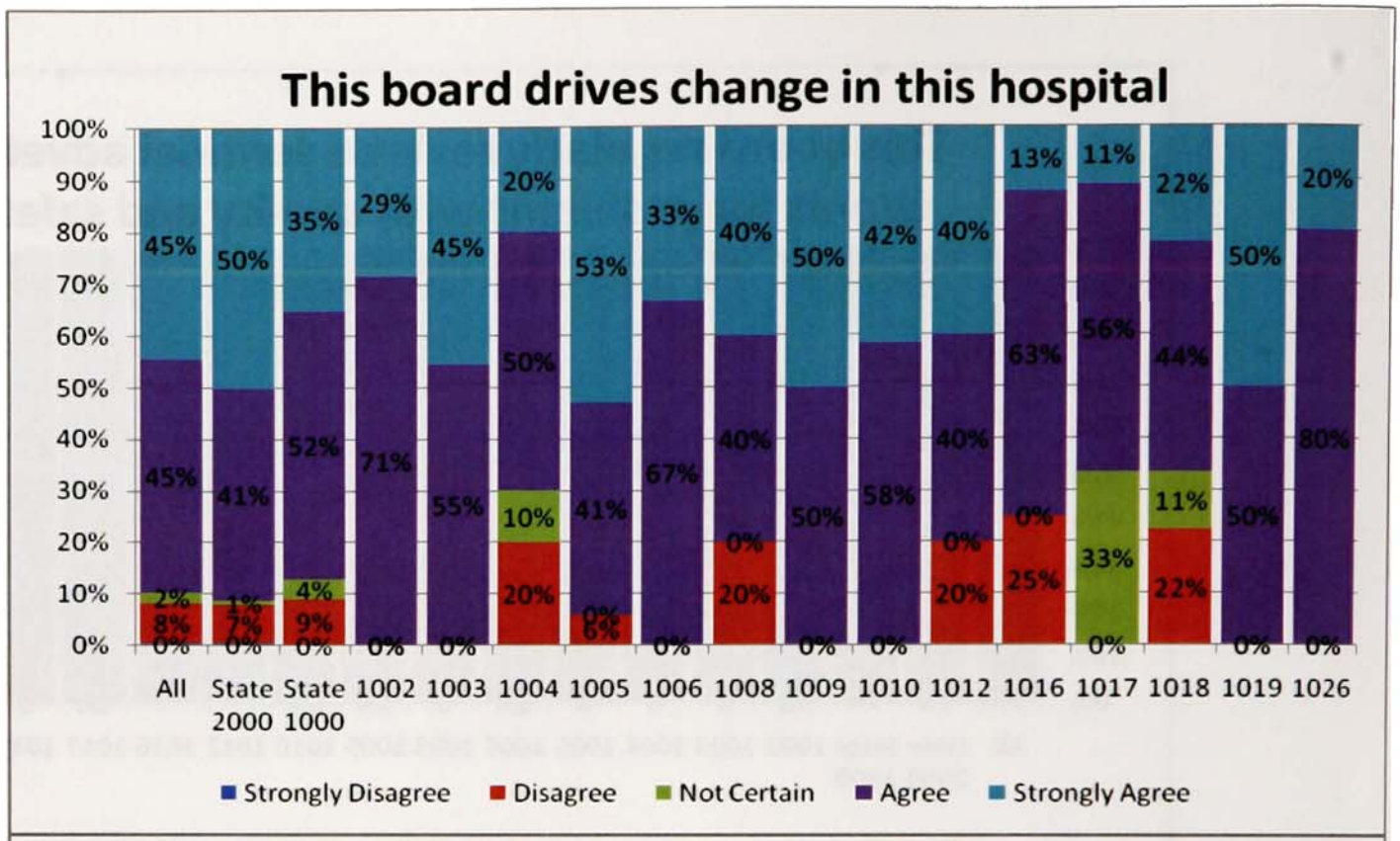
Though aggregate data for many of these questions look similar from state to state and thus across the study, in fact at an individual hospital level there were some wide variations in response. In addition, even at the aggregate level, opportunities emerge. Whether the outcome of interest is board member

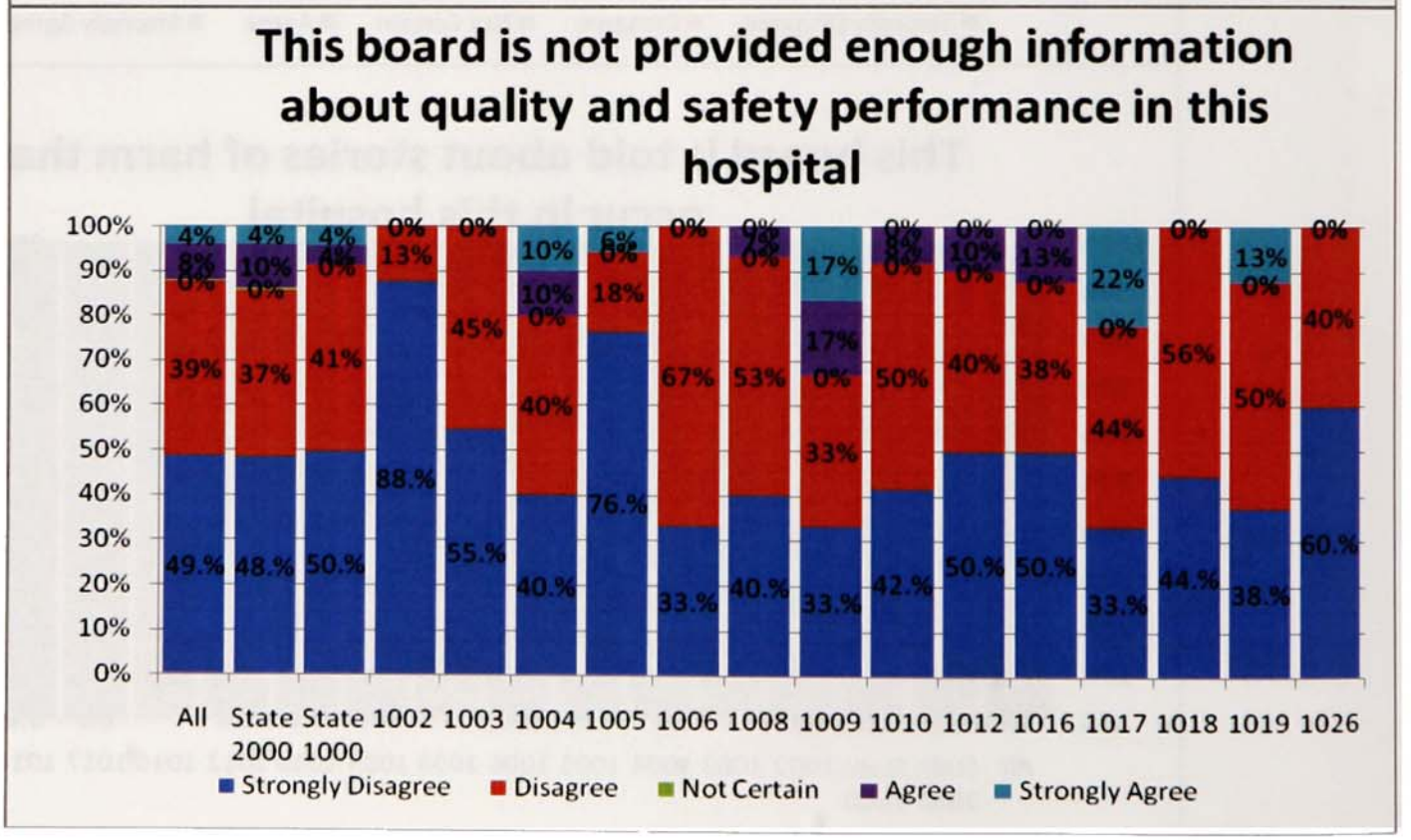
perceptions or publically reported measures of hospital performance, understanding the relationship between board characteristics and those outcomes is useful on two levels: statistical significance (which will be known when the study is complete) may help inform further research and evolution of best practice. Local value (some of which may be drawn from the preceding charts) must be assessed within the larger context of board issues, institutional priorities, and community interests.

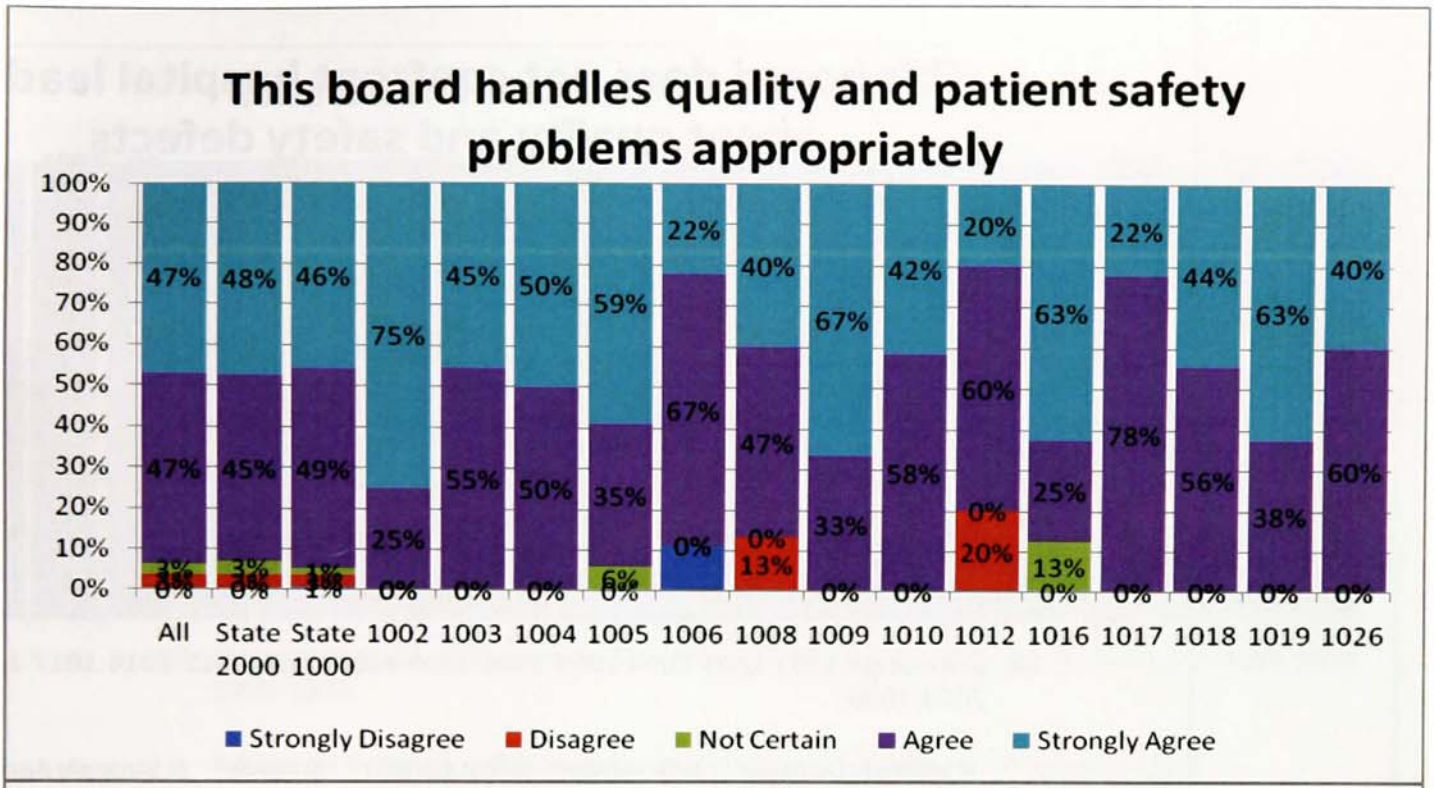
Appendix 7
Sample Hospital Report

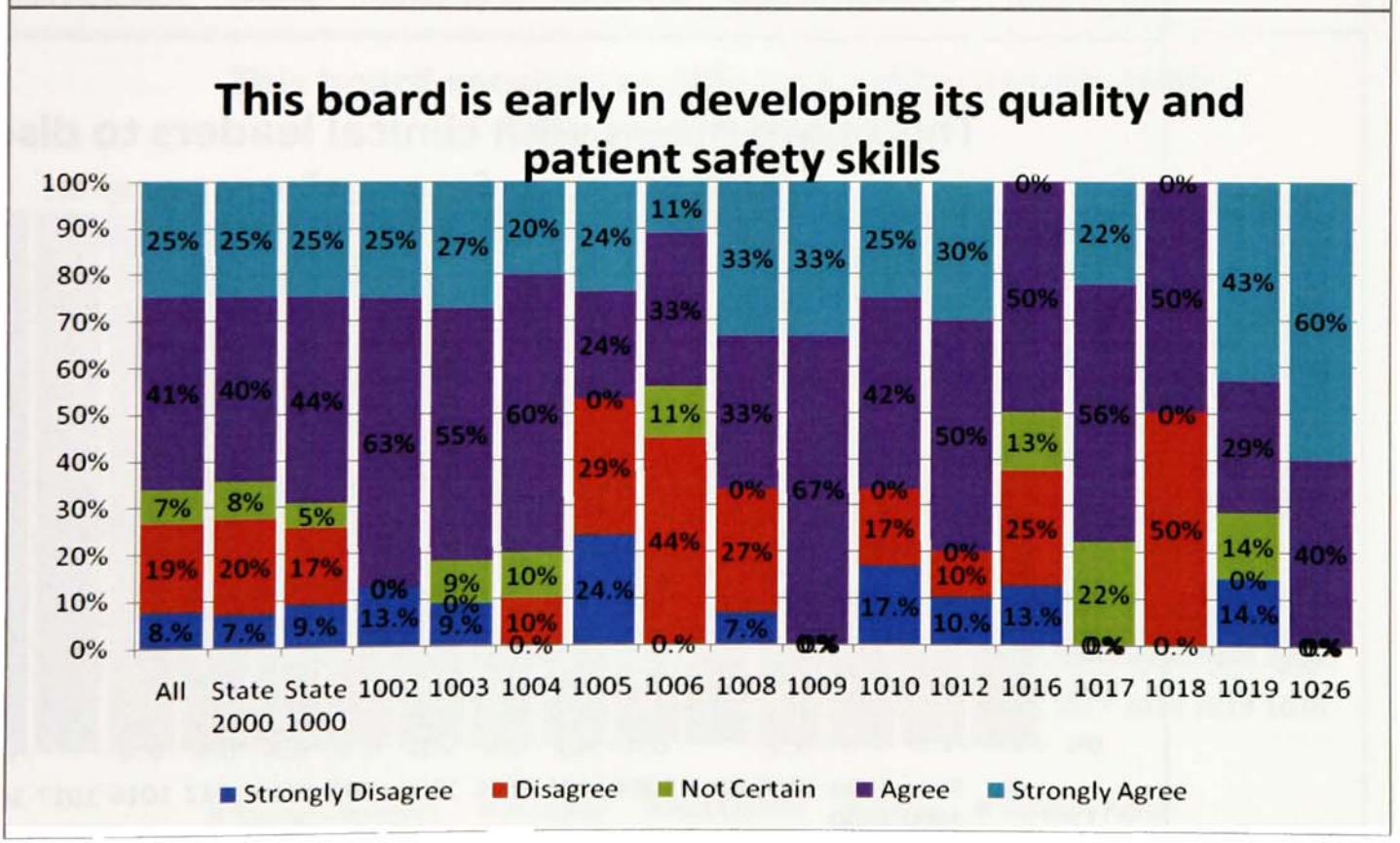

This board regularly reviews sentinel adverse events for problems with quality and safety
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
All
State 2000
State 1000
1002
1003
1004
1005
1006
1008
1009
1010
1012
1016
1017
1018
1019
1026
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

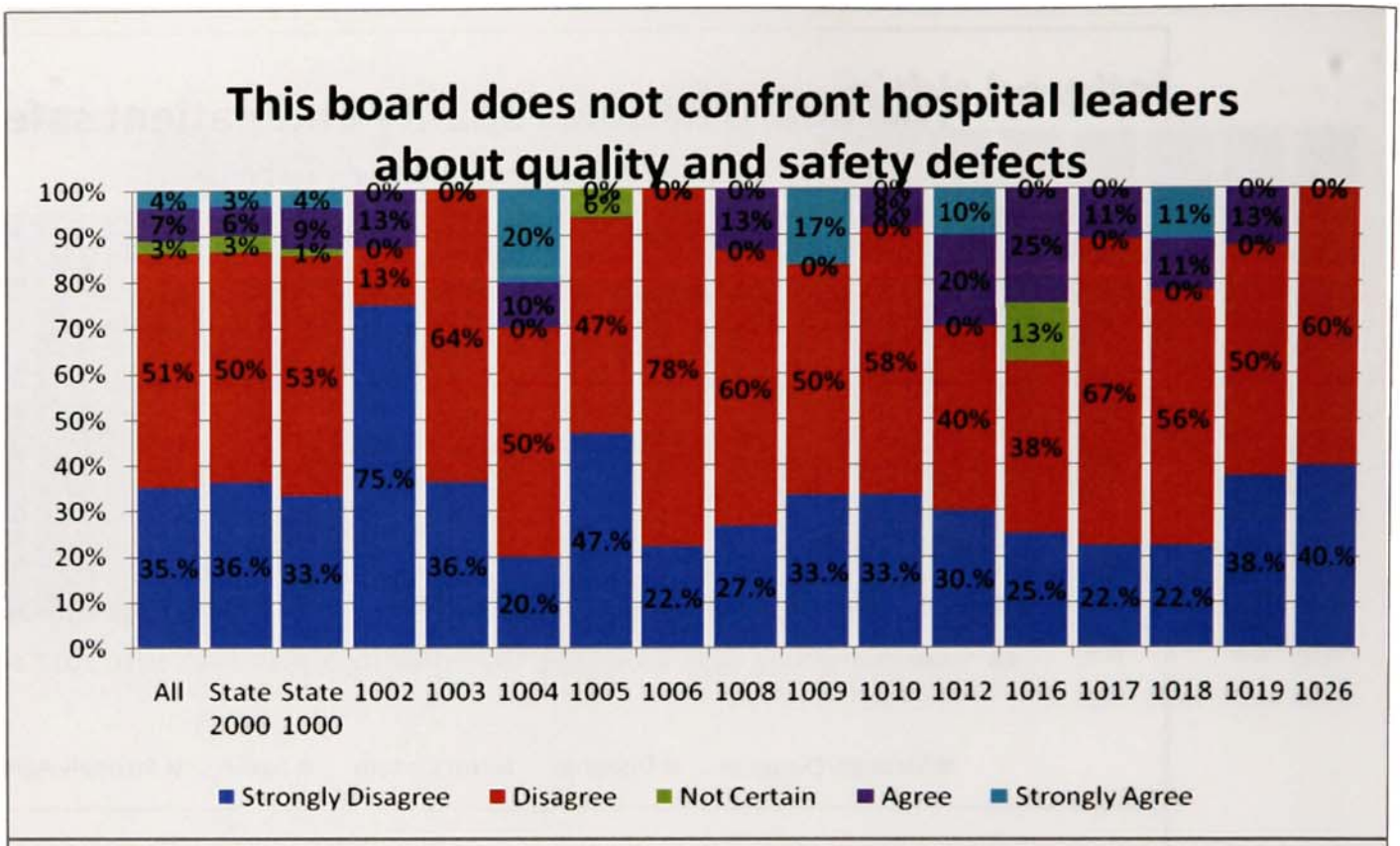

This board is told about stories of harm that occur in this hospital
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
All
State 2000
State 1000
1002
1003
1004
1005
1006
1008
1009
1010
1012
1016
1017
1018
1019
1026
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

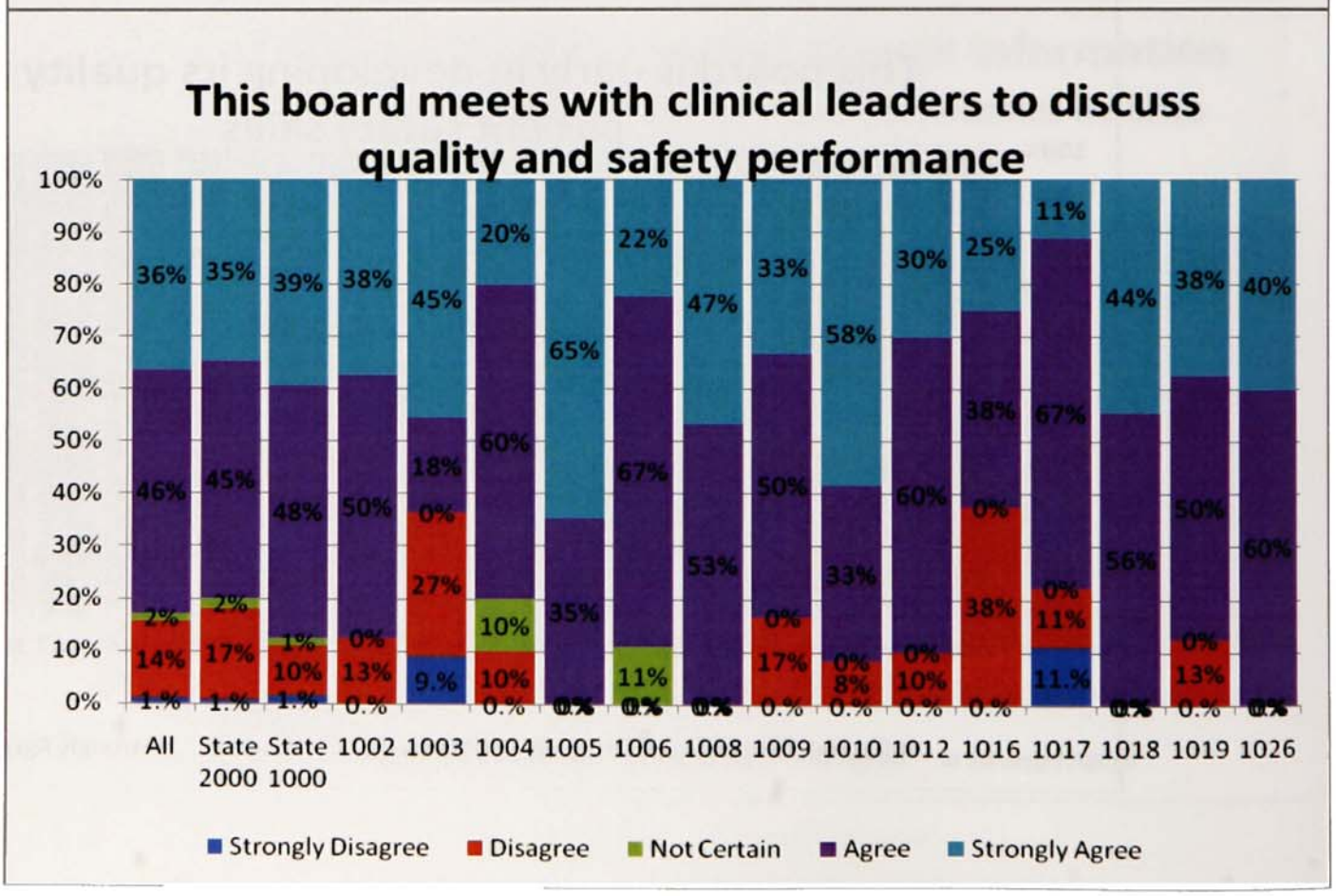

This board drives change in this hospital
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
All
State 2000
State 1000
1002
1003
1004
1005
1006
1008
1009
1010
1012
1016
1017
1018
1019
1026
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

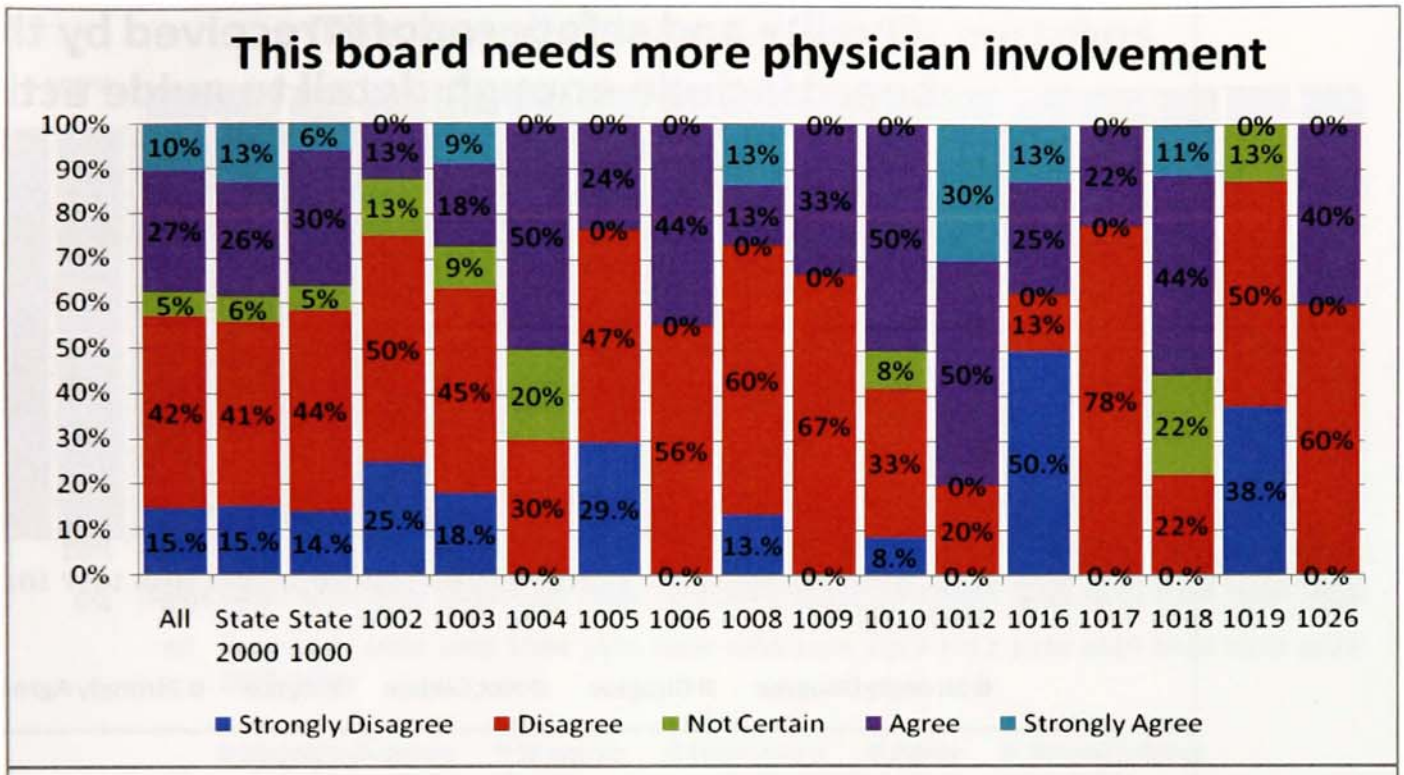

This board is not provided enough information about quality and safety performance in this hospital
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
All
State 2000
State 1000
1002
1003
1004
1005
1006
1008
1009
1010
1012
1016
1017
1018
1019
1026
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

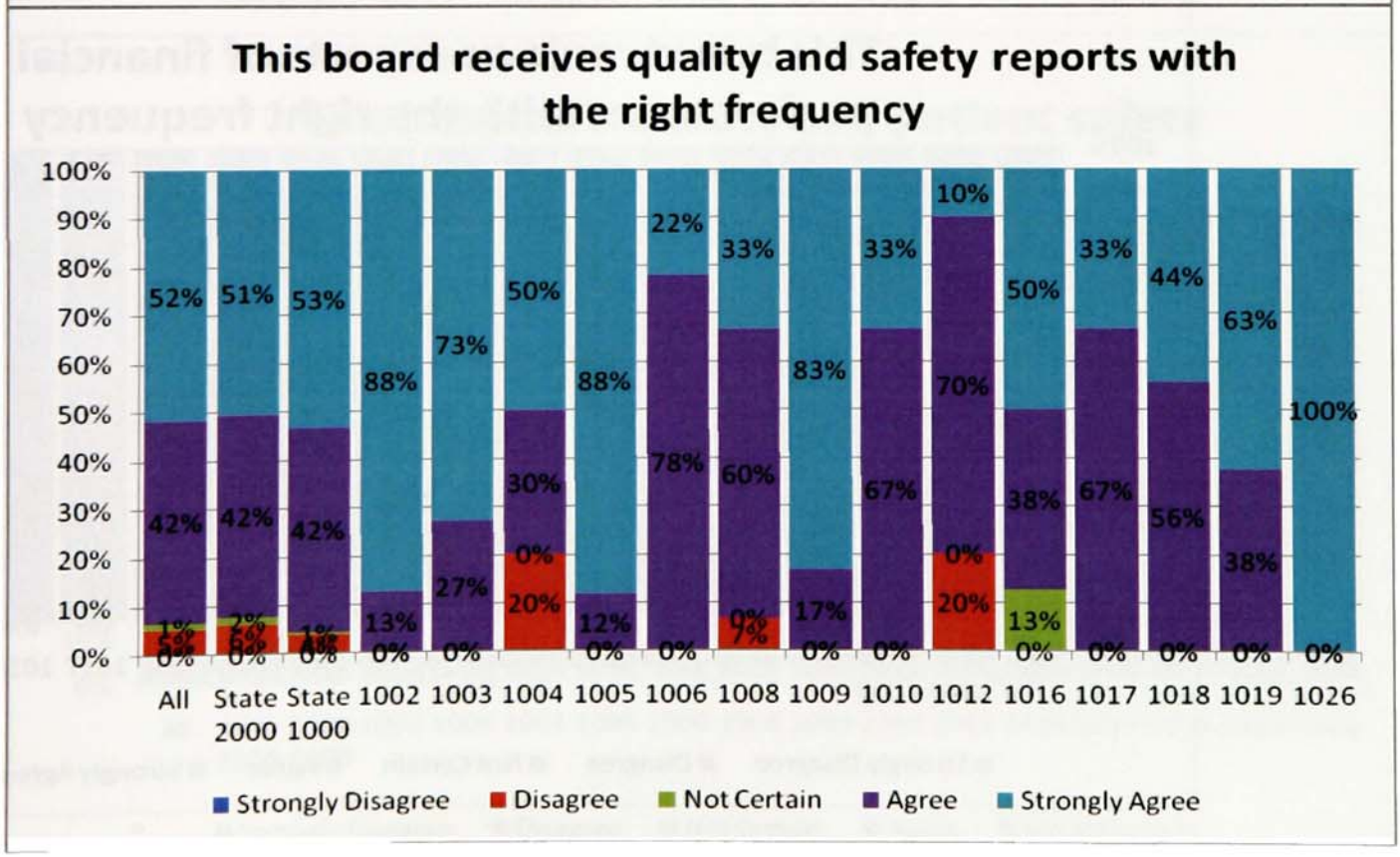

This board handles quality and patient safety problems appropriately
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
All
State 2000
State 1000
1002
1003
1004
1005
1006
1008
1009
1010
1012
1016
1017
1018
1019
1026
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

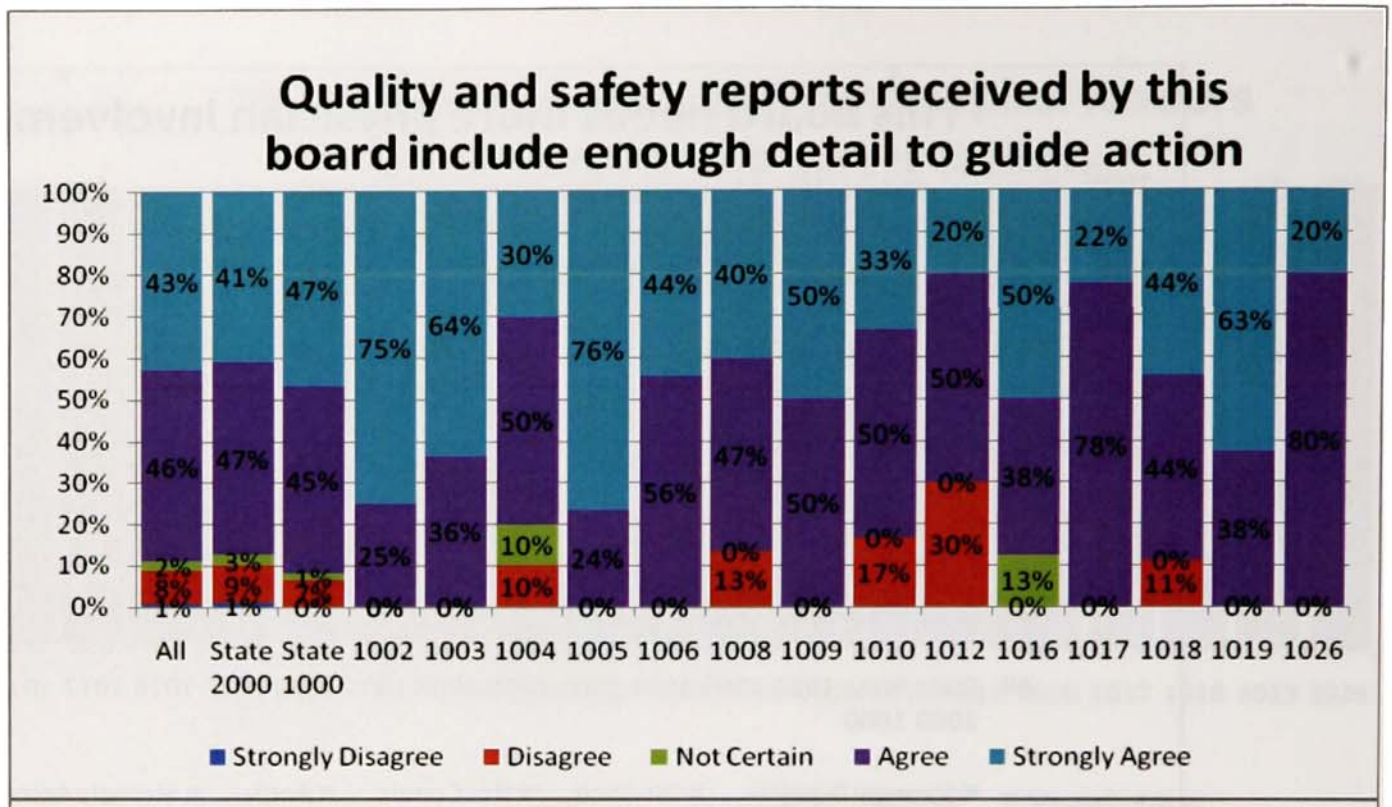

This board is early in developing its quality and patient safety skills
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
All
State 2000
State 1000
1002
1003
1004
1005
1006
1008
1009
1010
1012
1016
1017
1018
1019
1026
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

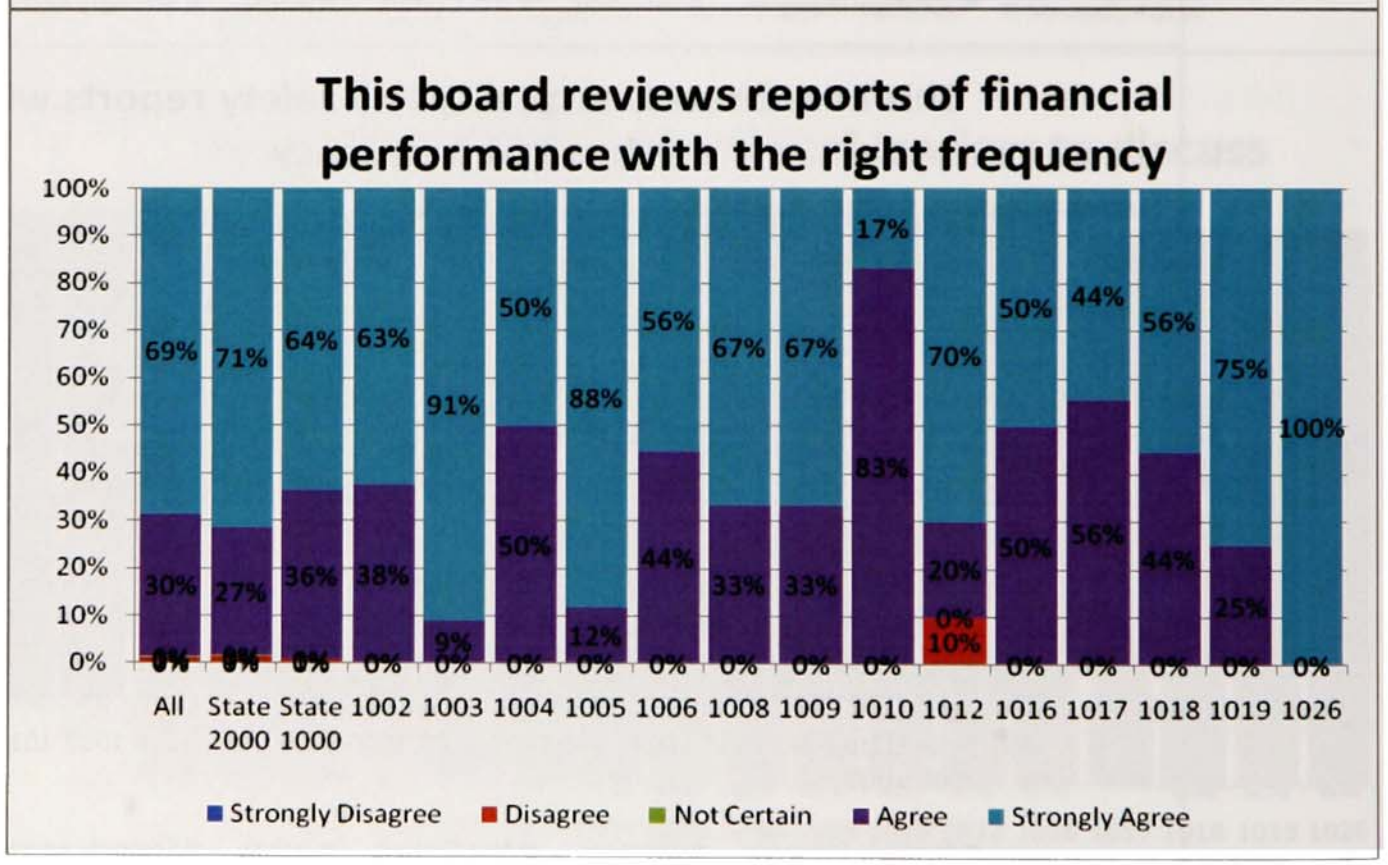

This board does not confront hospital leaders about quality and safety defects
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
All
State 2000
State 1000
1002
1003
1004
1005
1006
1008
1009
1010
1012
1016
1017
1018
1019
1026
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

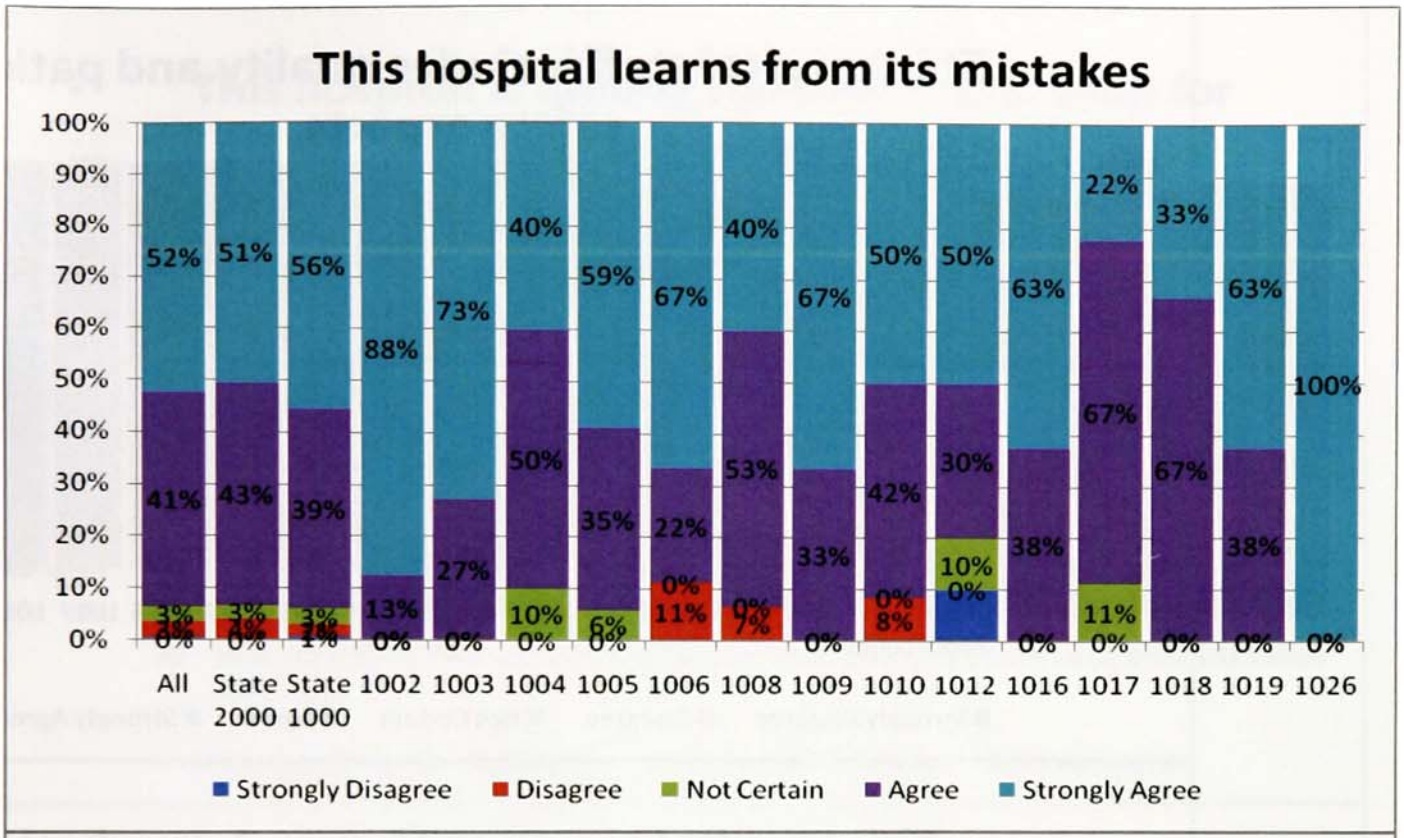

This board meets with clinical leaders to discuss quality and safety performance
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
All
State 2000
State 1000
1002
1003
1004
1005
1006
1008
1009
1010
1012
1016
1017
1018
1019
1026
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

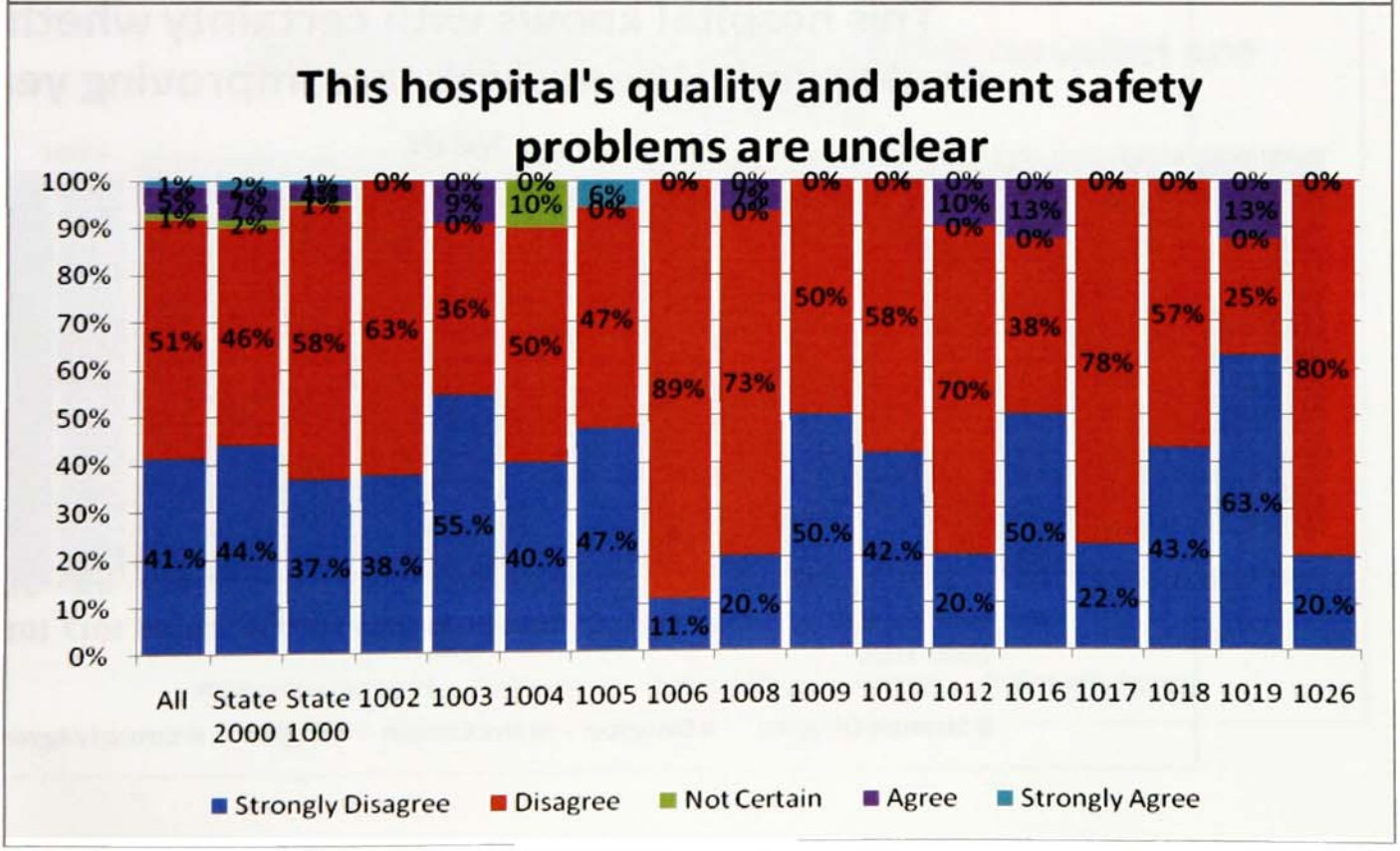

This board needs more physician involvement
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
All
State 2000
State 1000
1002
1003
1004
1005
1006
1008
1009
1010
1012
1016
1017
1018
1019
1026
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

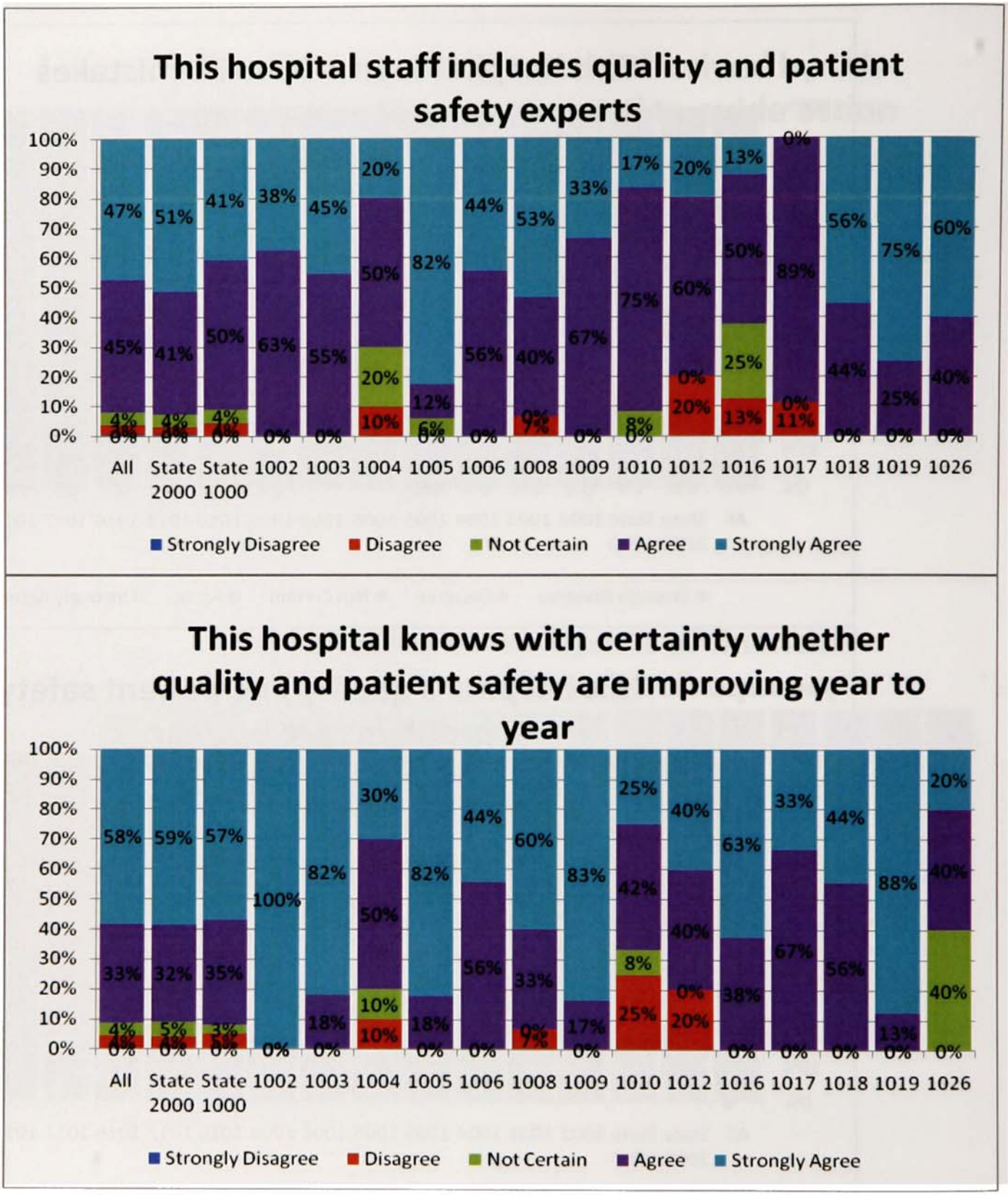

This board receives quality and safety reports with the right frequency
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
All
State 2000
State 1000
1002
1003
1004
1005
1006
1008
1009
1010
1012
1016
1017
1018
1019
1026
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

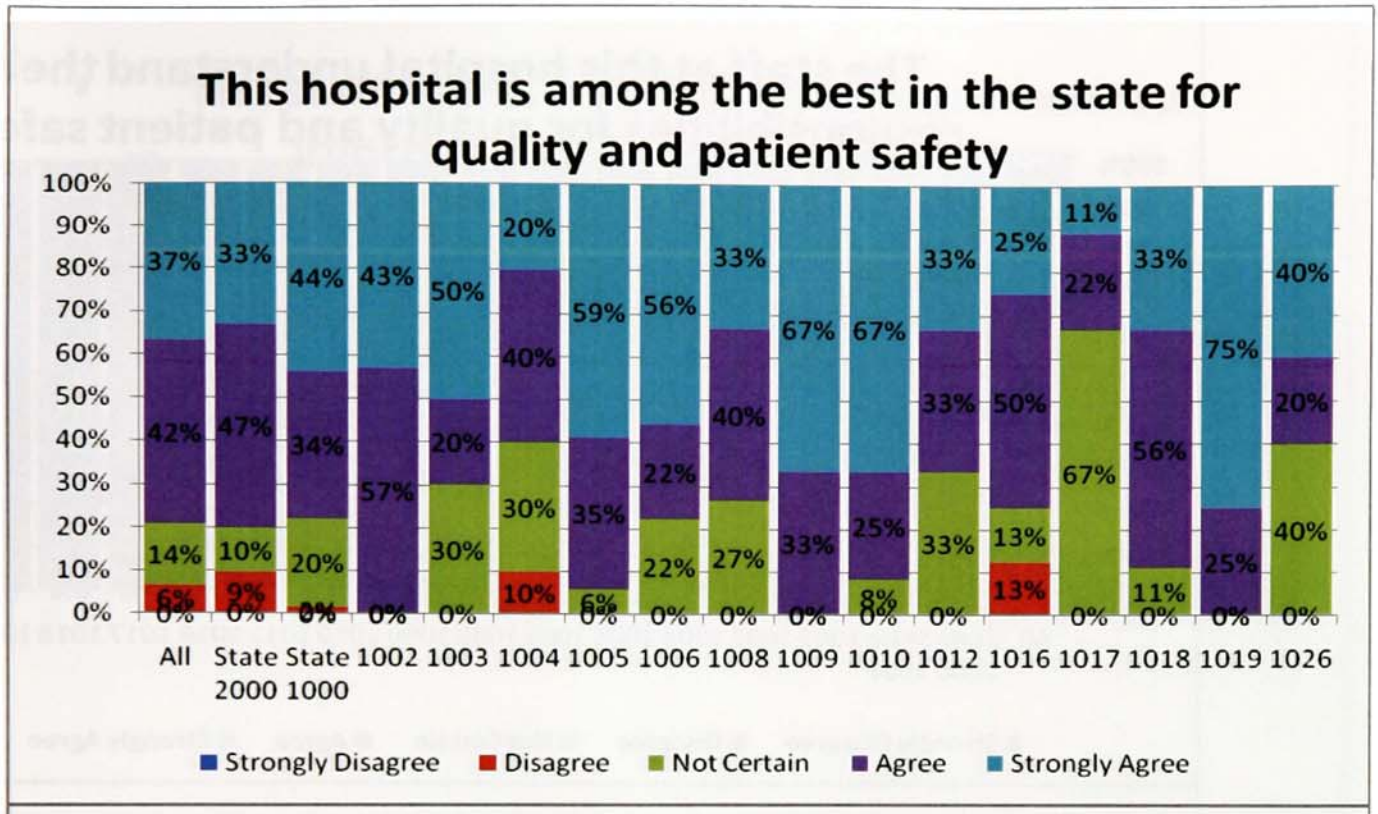

Quality and safety reports received by this board include enough detail to guide action
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
All
State 2000
State 1000
1002
1003
1004
1005
1006
1008
1009
1010
1012
1016
1017
1018
1019
1026
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

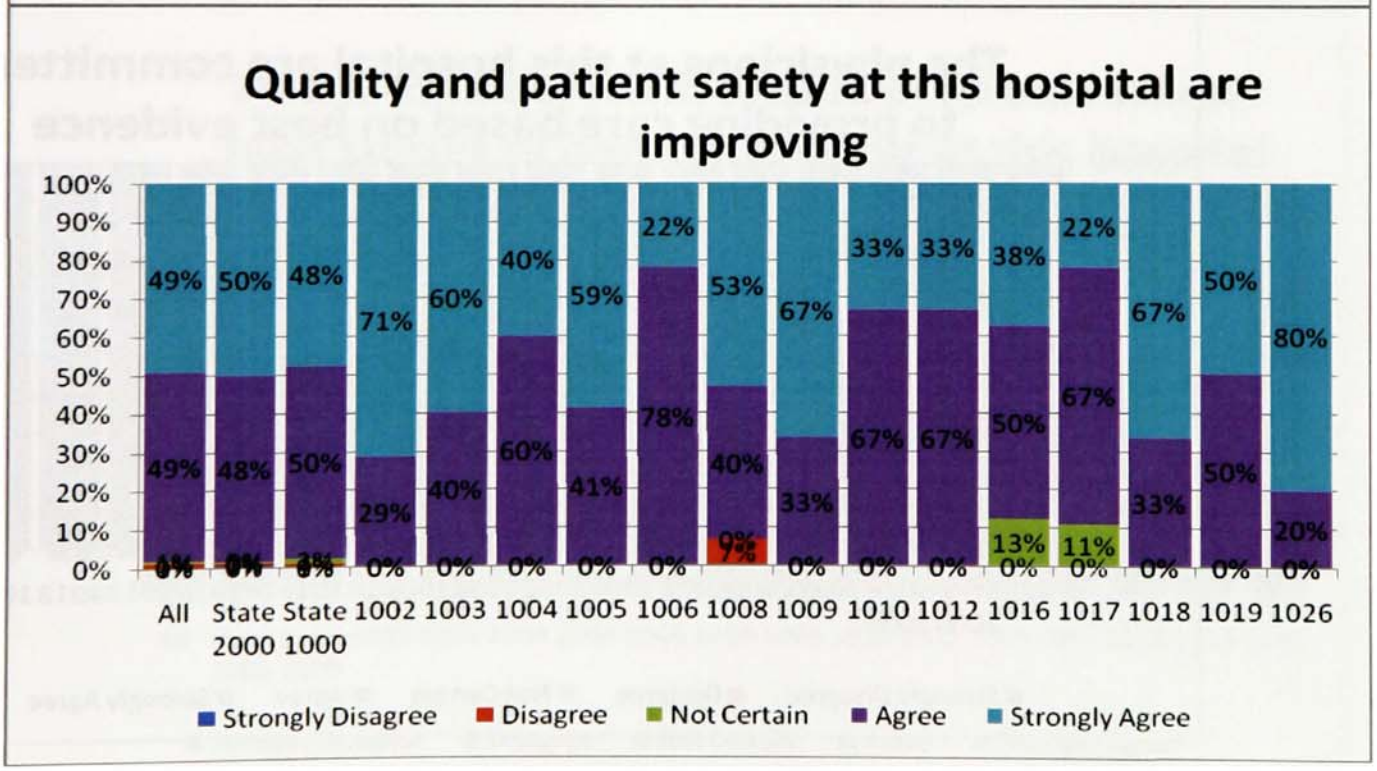

This board reviews reports of financial performance with the right frequency
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
All
State 2000
State 1000
1002
1003
1004
1005
1006
1008
1009
1010
1012
1016
1017
1018
1019
1026
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

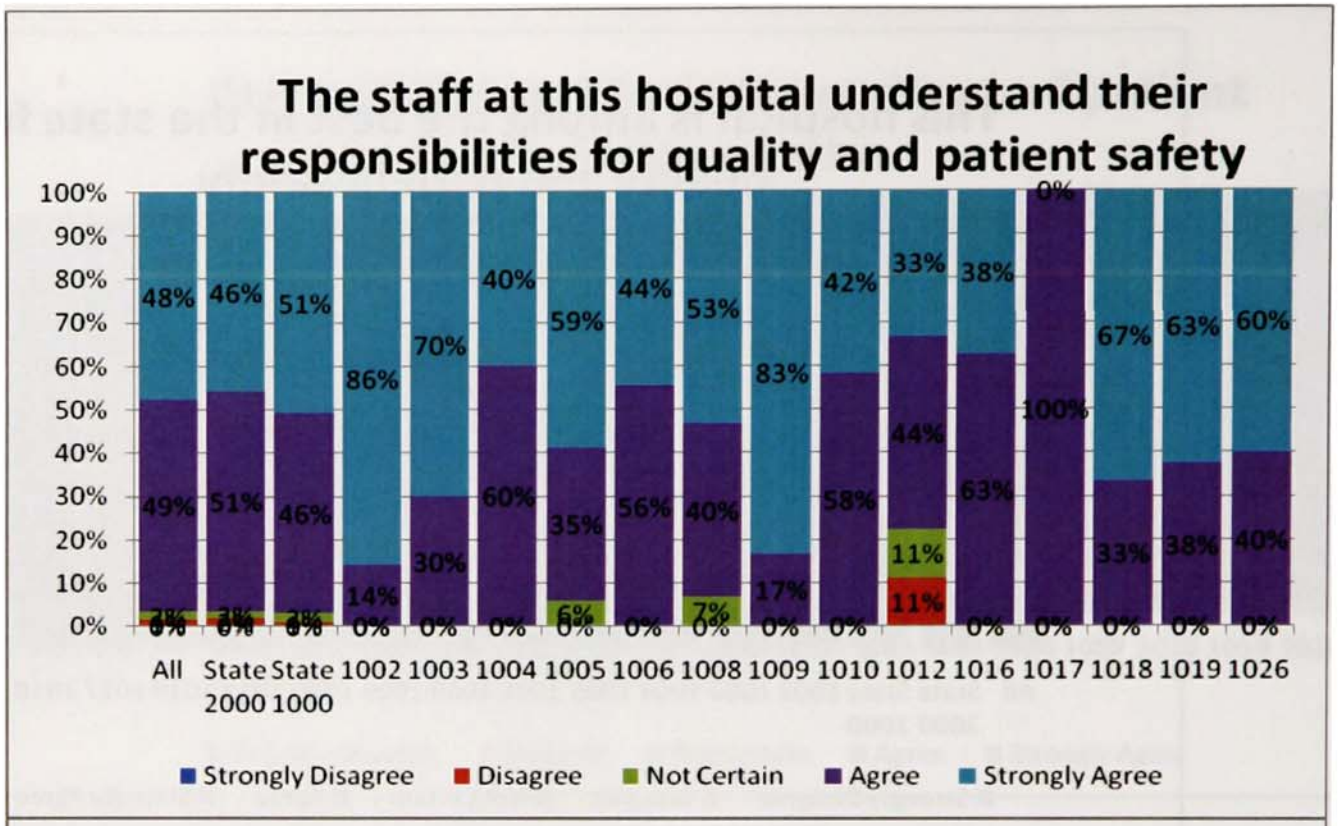

This hospital learns from its mistakes
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
All
State 2000
State 1000
1002
1003
1004
1005
1006
1008
1009
1010
1012
1016
1017
1018
1019
1026
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

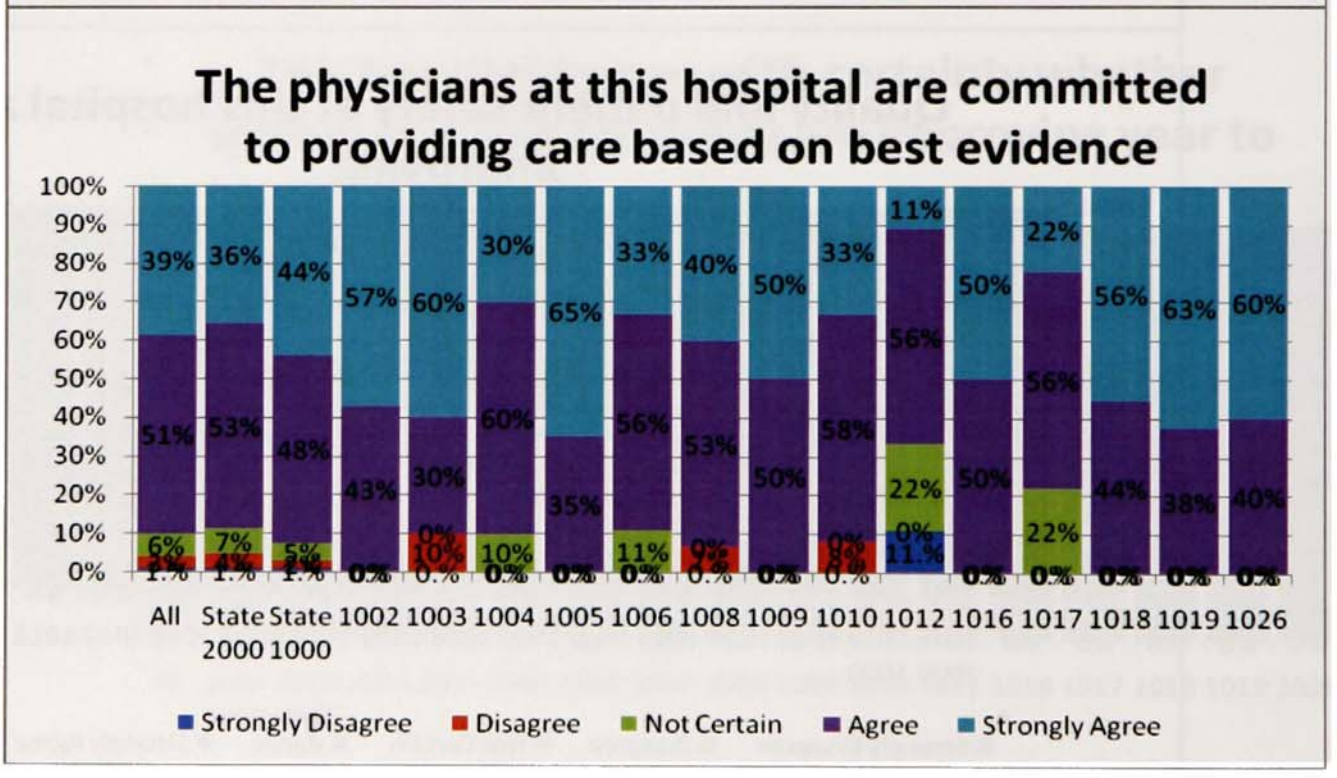

This hospital's quality and patient safety problems are unclear
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
All
State 2000
State 1000
1002
1003
1004
1005
1006
1008
1009
1010
1012
1016
1017
1018
1019
1026
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

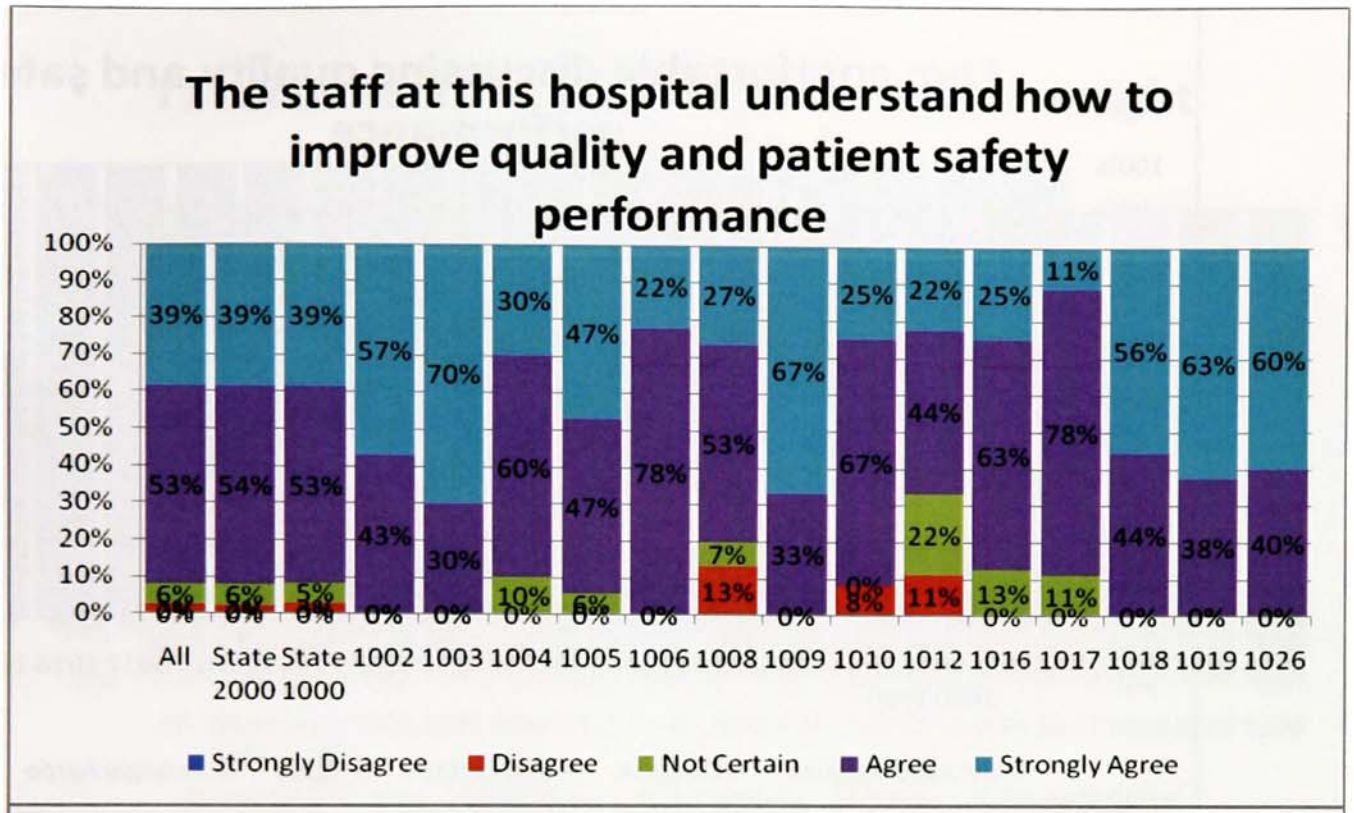

This hospital staff includes quality and patient safety experts
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
All
State 2000
State 1000
1002
1003
1004
1005
1006
1008
1009
1010
1012
1016
1017
1018
1019
1026
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree
This hospital knows with certainty whether quality and patient safety are improving year to year
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
All
State 2000
State 1000
1002
1003
1004
1005
1006
1008
1009
1010
1012
1016
1017
1018
1019
1026
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

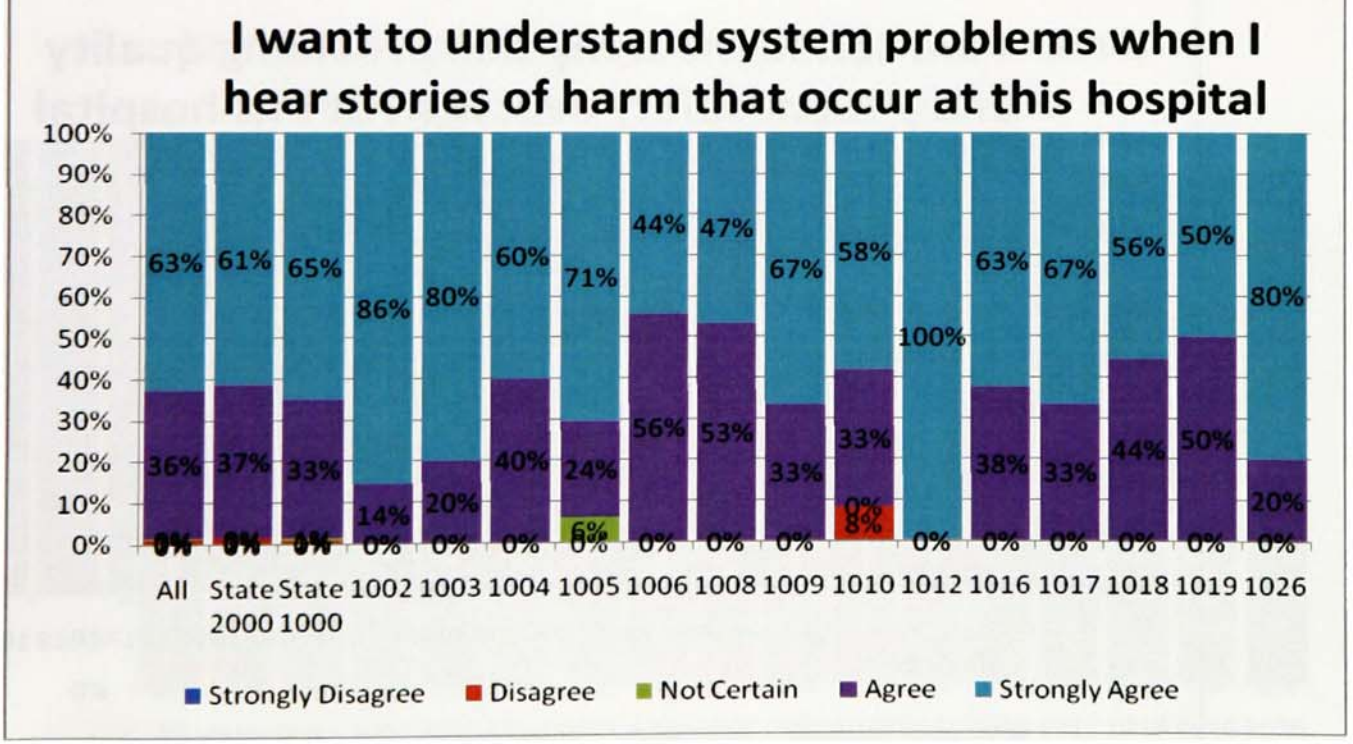

This hospital is among the best in the state for quality and patient safety
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
All
State 2000
State 1000
1002
1003
1004
1005
1006
1008
1009
1010
1012
1016
1017
1018
1019
1026
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

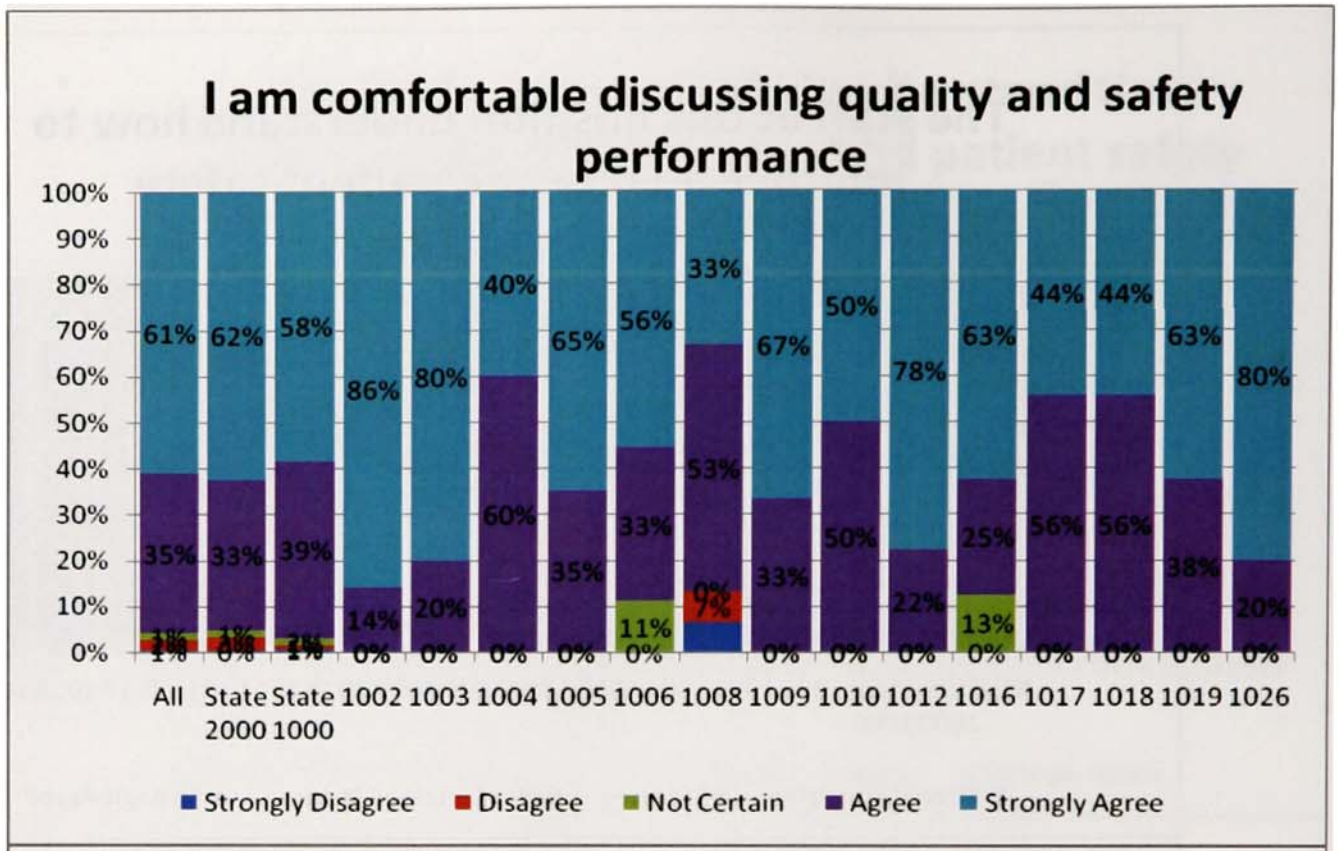

Quality and patient safety at this hospital are improving
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
All
State 2000
State 1000
1002
1003
1004
1005
1006
1008
1009
1010
1012
1016
1017
1018
1019
1026
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

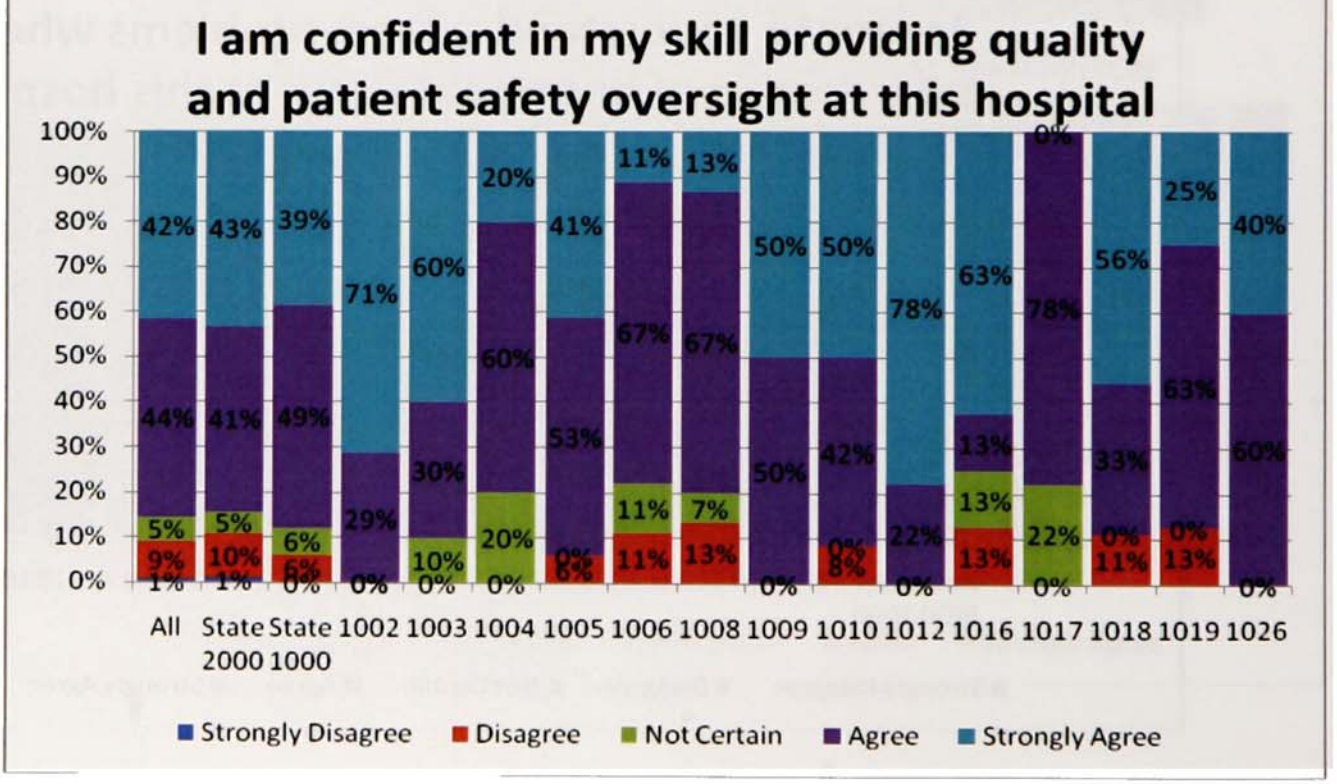

The staff at this hospital understand their responsibilities for quality and patient safety
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
All
State 2000
State 1000
1002
1003
1004
1005
1006
1008
1009
1010
1012
1016
1017
1018
1019
1026
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

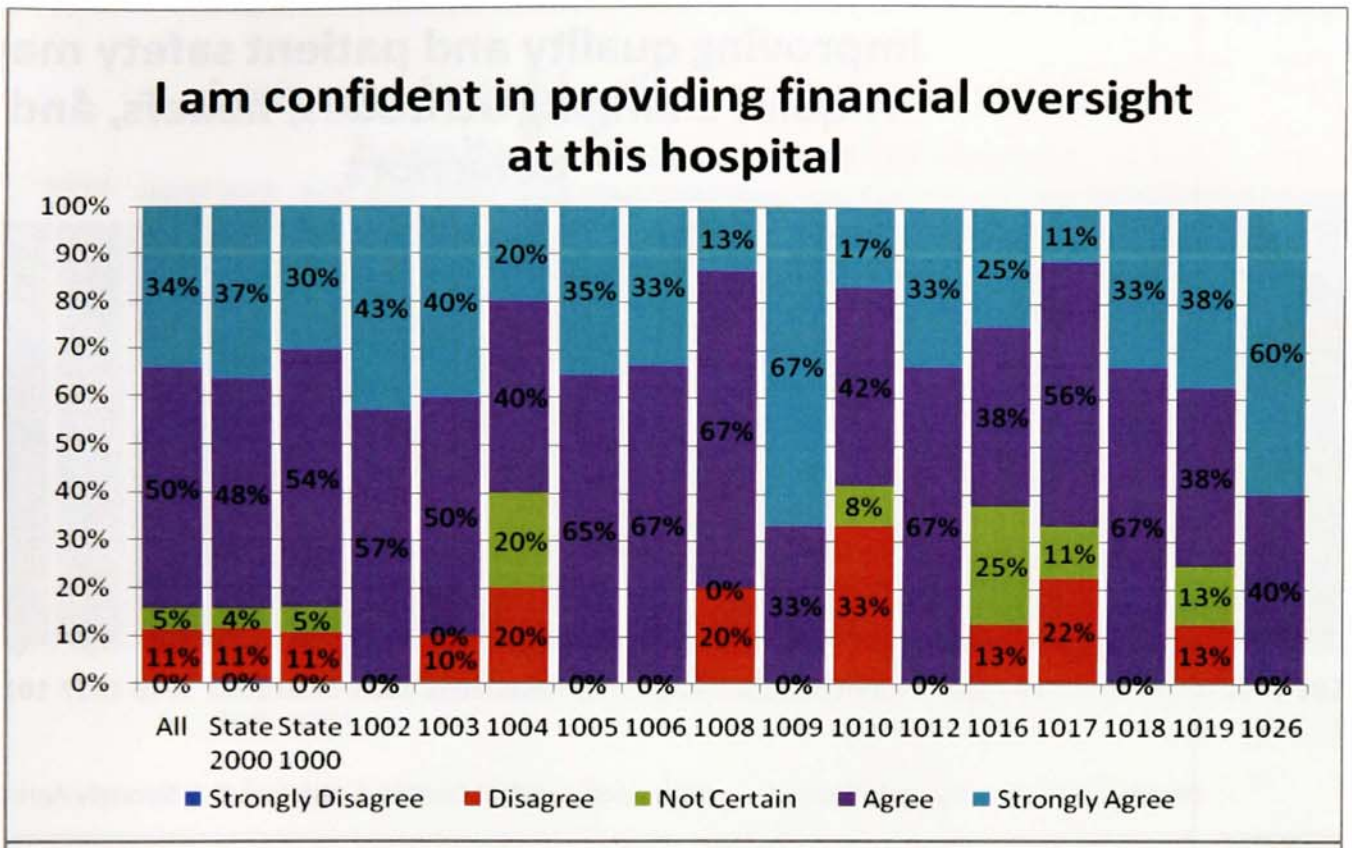

The physicians at this hospital are committed to providing care based on best evidence
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
All
State 2000
State 1000
1002
1003
1004
1005
1006
1008
1009
1010
1012
1016
1017
1018
1019
1026
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

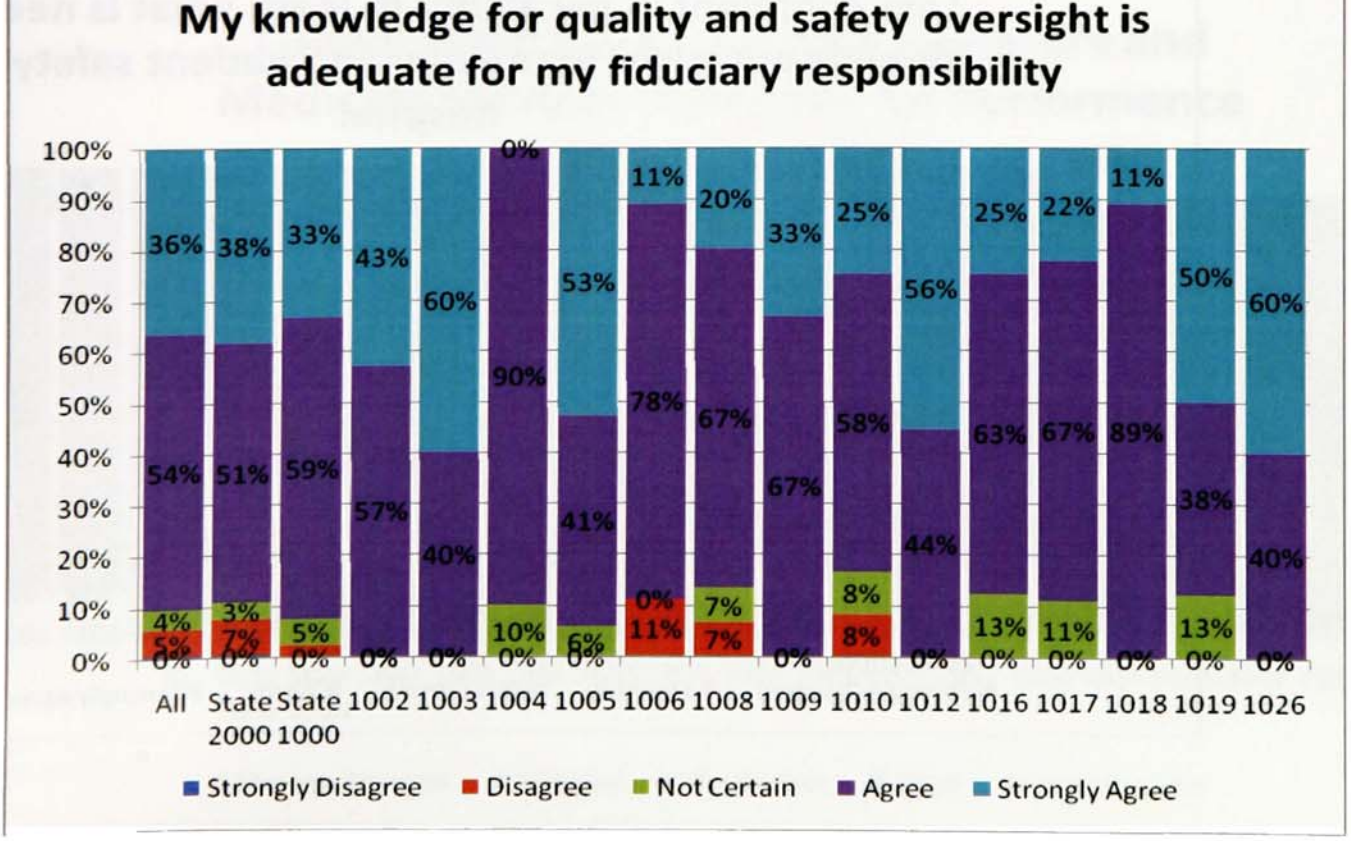

The staff at this hospital understand how to improve quality and patient safety performance
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
All
State 2000
State 1000
1002
1003
1004
1005
1006
1008
1009
1010
1012
1016
1017
1018
1019
1026
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree


I want to understand system problems when I hear stories of harm that occur at this hospital
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
All
State 2000
State 1000
1002
1003
1004
1005
1006
1008
1009
1010
1012
1016
1017
1018
1019
1026
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

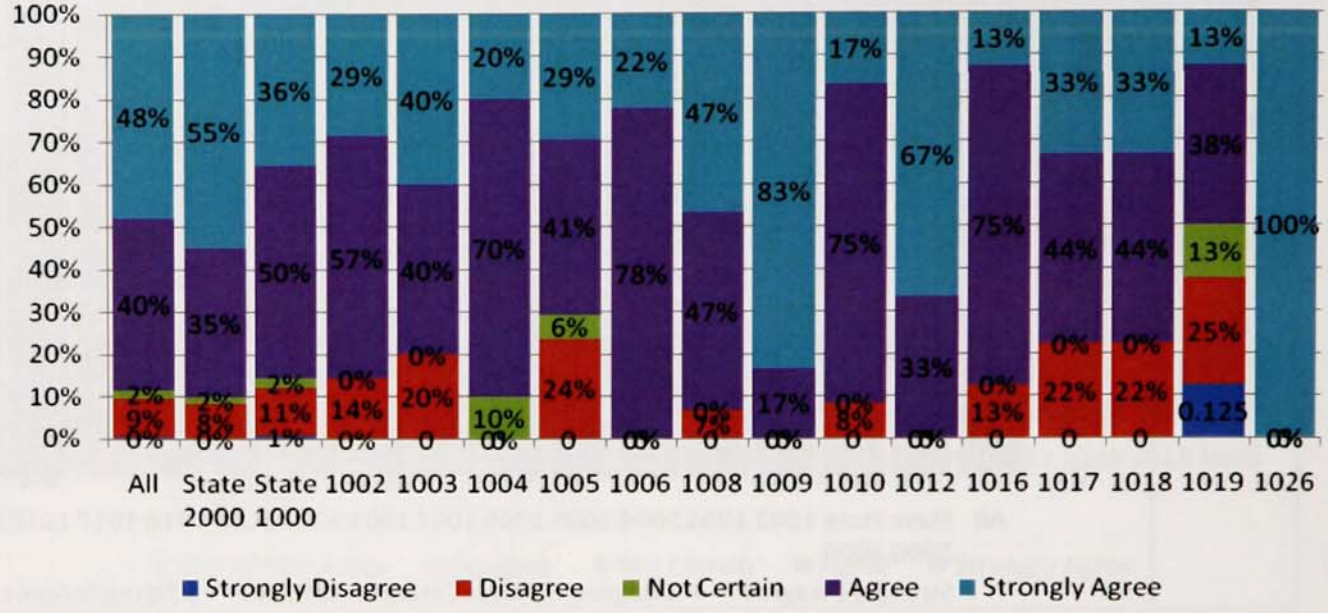

I am comfortable discussing quality and safety performance
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
61% 62% 58% 86% 80% 40% 65% 56% 33% 67% 50% 78% 63% 44% 44% 63% 80%
35% 33% 39% 14% 20% 60% 35% 33% 53% 33% 50% 22% 25% 56% 56% 38% 20%
0% 11% 7% 13%
All State 2000 State 1000 1002 1003 1004 1005 1006 1008 1009 1010 1012 1016 1017 1018 1019 1026
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree


I am confident in my skill providing quality and patient safety oversight at this hospital
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
42% 43% 39% 71% 60% 20% 41% 11% 13% 50% 50% 78% 63% 78% 56% 25% 40%
44% 41% 49% 29% 30% 60% 53% 67% 67% 50% 42% 13% 78% 33% 63% 60%
5% 5% 6% 20% 11% 7% 13% 22% 13% 22% 0% 11% 13%
9% 10% 6% 10% 6% 11% 13% 8% 22% 13% 0% 11% 13%
1% 1% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%
All State 2000 State 1000 1002 1003 1004 1005 1006 1008 1009 1010 1012 1016 1017 1018 1019 1026
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

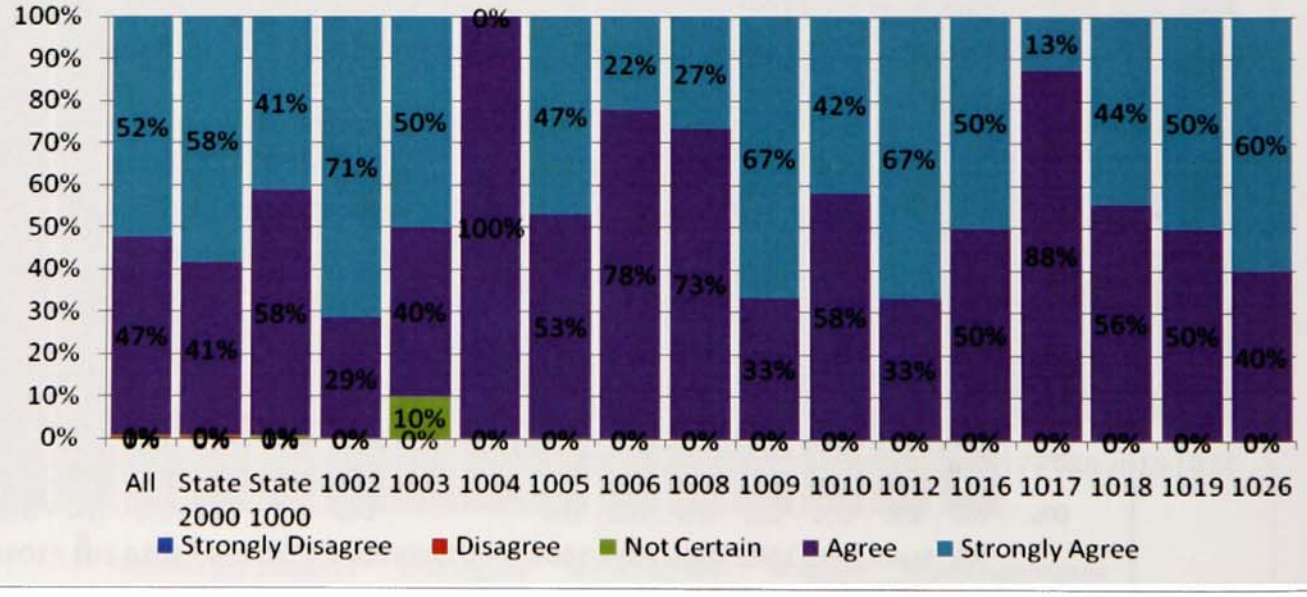

I am confident in providing financial oversight at this hospital
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
34% 37% 30% 43% 40% 20% 35% 33% 13% 17% 33% 25% 11% 33% 38% 60%
50% 48% 54% 57% 50% 40% 65% 67% 67% 42% 67% 38% 56% 67% 38% 40%
5% 4% 5% 0% 0% 20% 0% 0% 0% 8% 0% 25% 11% 0% 13% 0%
11% 11% 11% 0% 10% 20% 0% 0% 20% 33% 0% 13% 22% 0% 13% 0%
0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%
All State 2000 State 1000 1002 1003 1004 1005 1006 1008 1009 1010 1012 1016 1017 1018 1019 1026
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

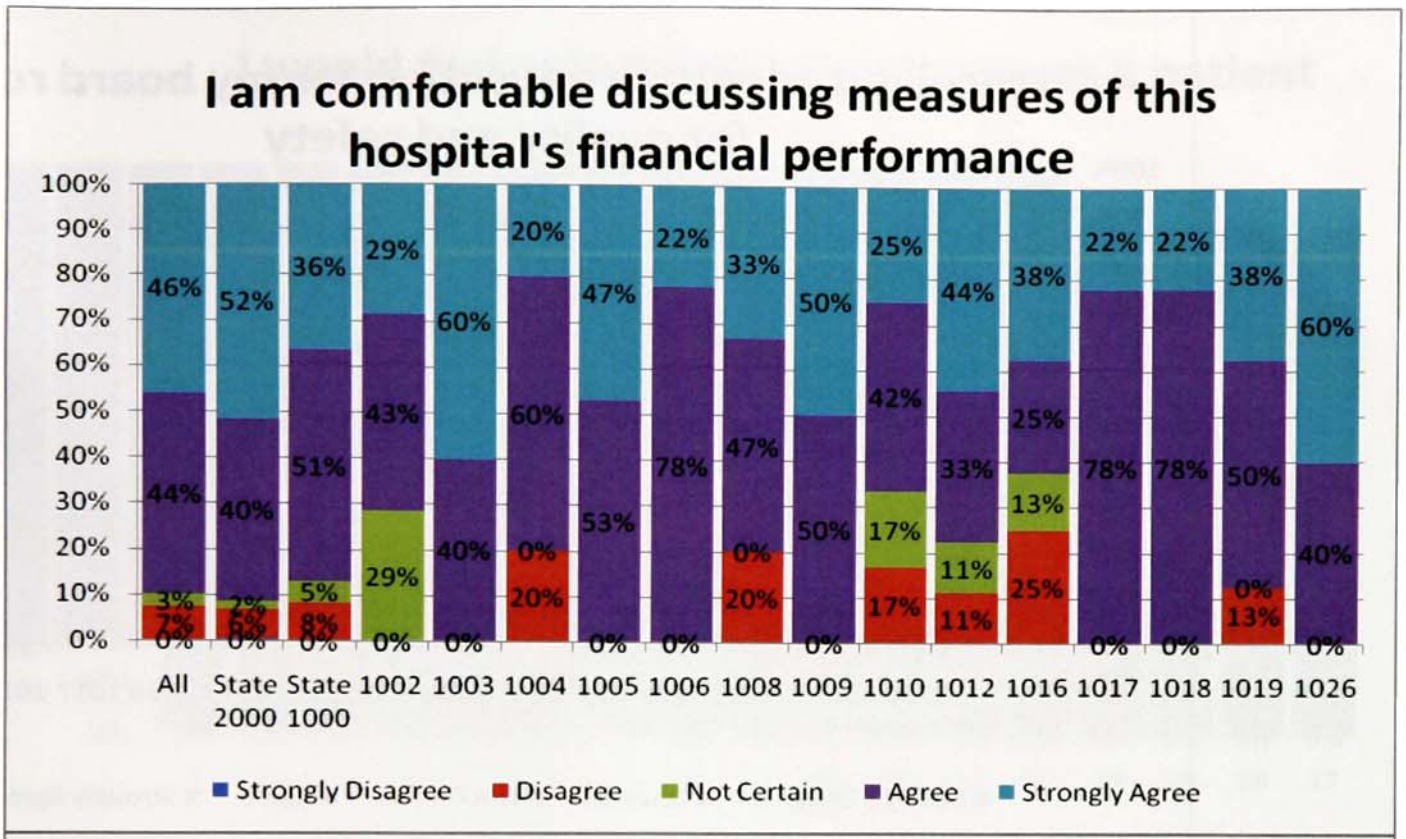

My knowledge for quality and safety oversight is adequate for my fiduciary responsibility
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
36% 38% 33% 43% 60% 0% 53% 11% 20% 33% 25% 56% 25% 22% 11% 50% 60%
54% 51% 59% 57% 40% 90% 41% 78% 67% 67% 58% 44% 63% 67% 89% 38% 40%
4% 3% 5% 0% 0% 10% 6% 0% 7% 0% 8% 0% 13% 11% 0% 13% 0%
5% 7% 0% 0% 0% 0% 0% 11% 7% 0% 8% 0% 0% 0% 0% 0% 0%
All State 2000 State 1000 1002 1003 1004 1005 1006 1008 1009 1010 1012 1016 1017 1018 1019 1026
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree

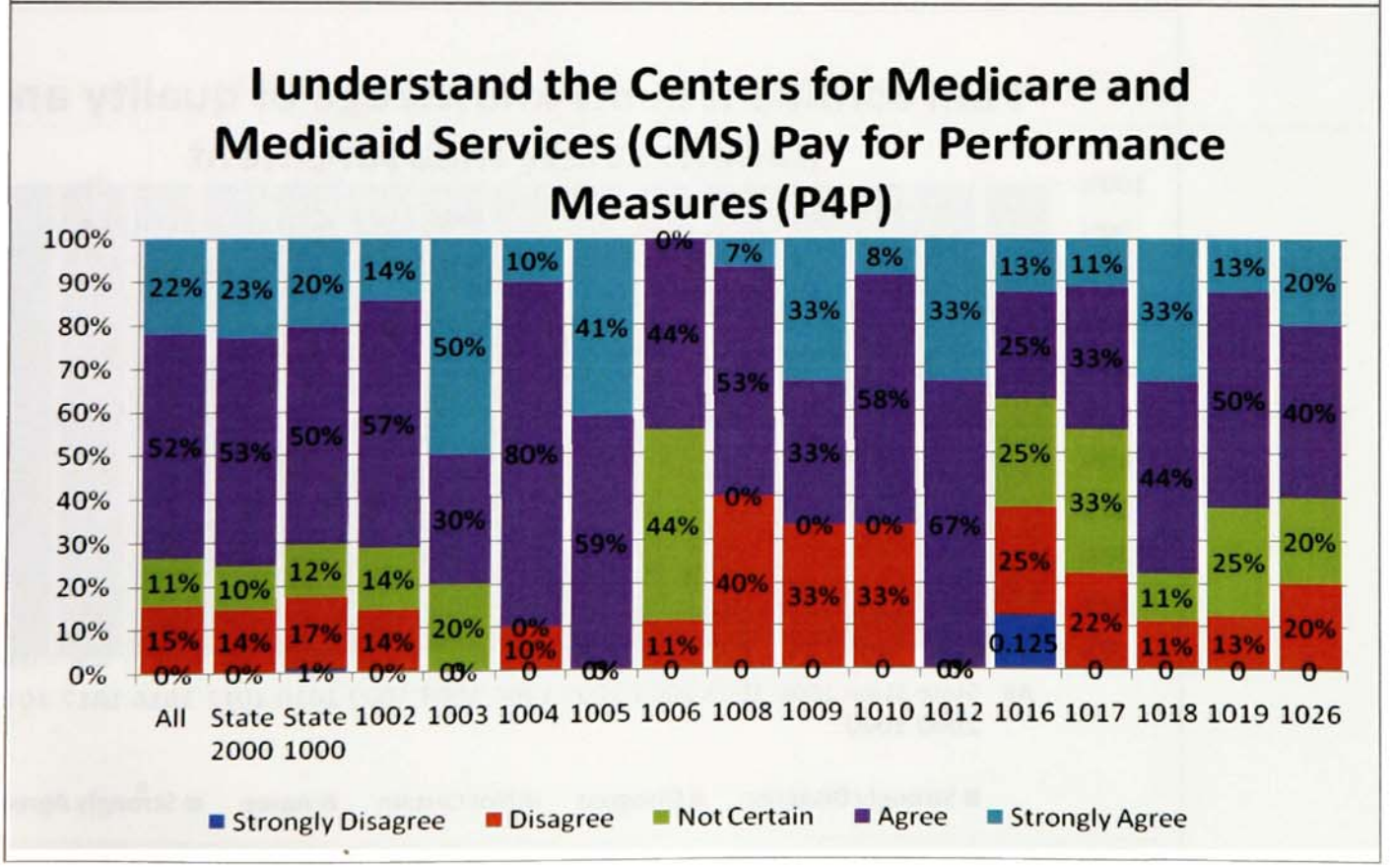
Improving quality and patient safety may require changing attitudes, beliefs, and behaviors

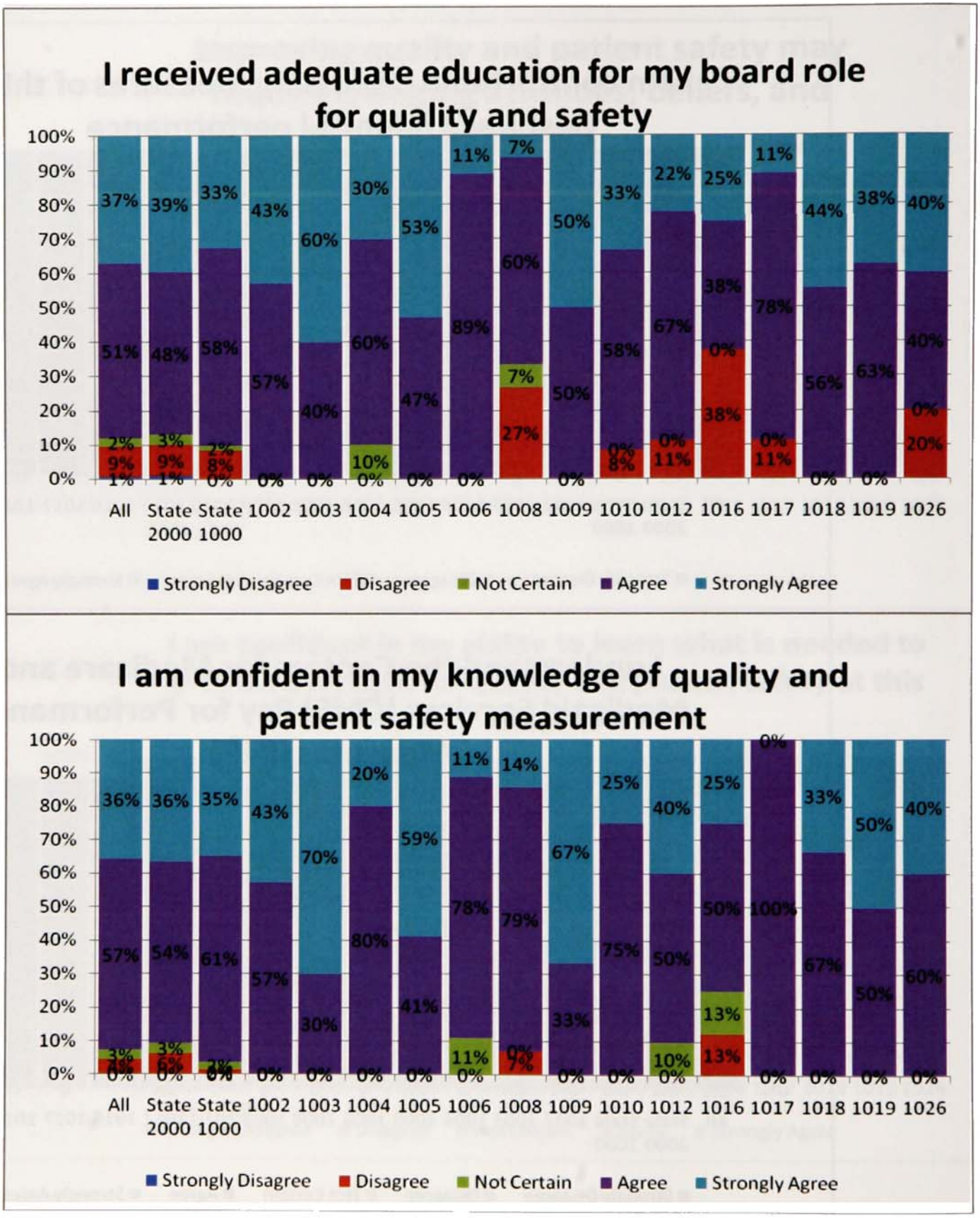


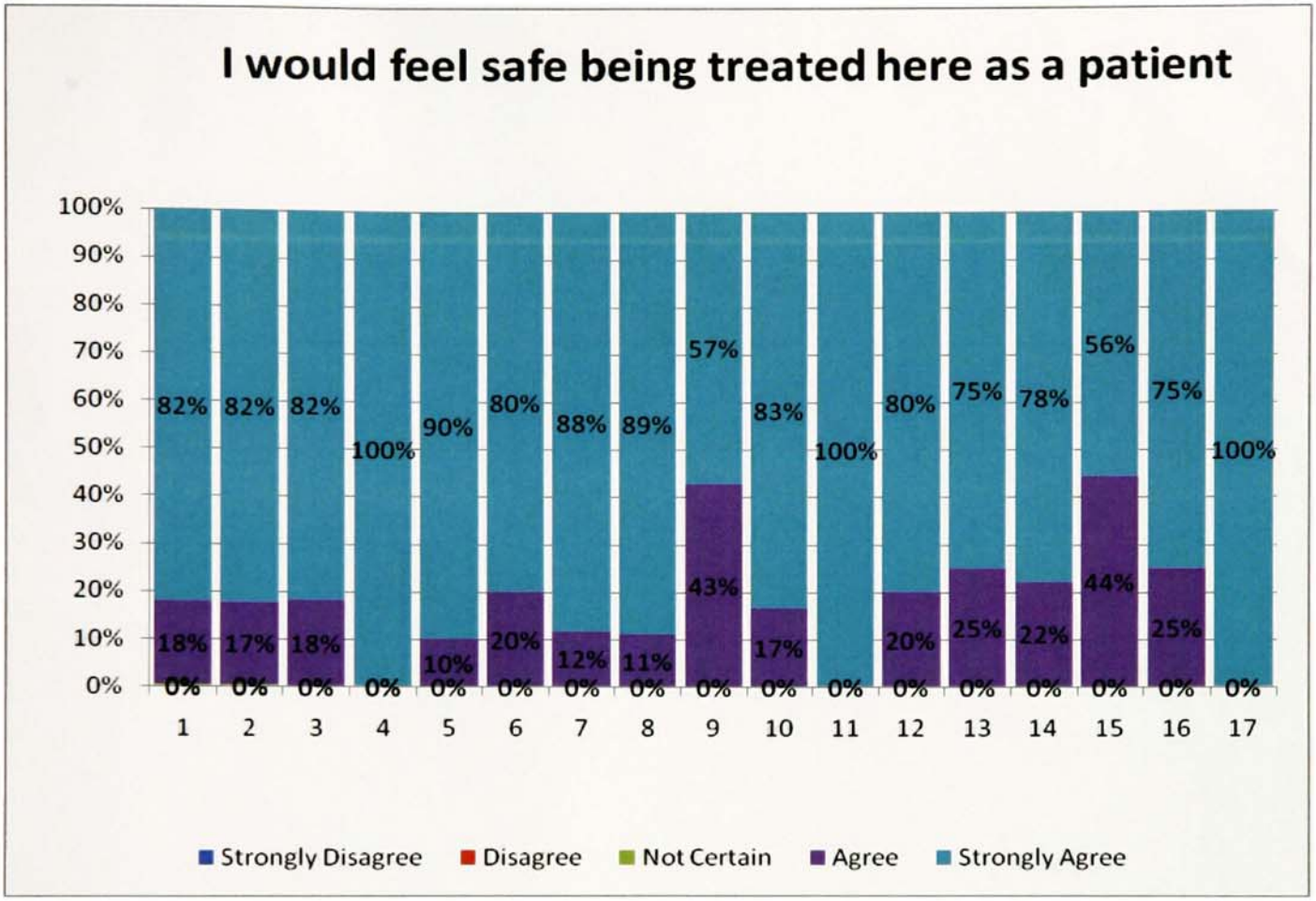
I am confident in my ability to learn what is needed to provide oversight for quality and patient safety at this hospital




I am comfortable discussing measures of this hospital's financial performance
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
All
State 2000
State 1000
1002
1003
1004
1005
1006
1008
1009
1010
1012
1016
1017
1018
1019
1026
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree


I understand the Centers for Medicare and Medicaid Services (CMS) Pay for Performance Measures (P4P)
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
All
State 2000
State 1000
1002
1003
1004
1005
1006
1008
1009
1010
1012
1016
1017
1018
1019
1026
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree


I received adequate education for my board role for quality and safety
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
All
State 2000
State 1000
1002
1003
1004
1005
1006
1008
1009
1010
1012
1016
1017
1018
1019
1026
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree
I am confident in my knowledge of quality and patient safety measurement
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
All
State 2000
State 1000
1002
1003
1004
1005
1006
1008
1009
1010
1012
1016
1017
1018
1019
1026
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree


I would feel safe being treated here as a patient
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
82% 82% 82% 100% 90% 80% 88% 89% 57% 83% 100% 80% 75% 78% 56% 75% 100%
18% 17% 18% 0% 10% 20% 12% 11% 43% 17% 0% 20% 25% 22% 44% 25% 0%
0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0%
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
Strongly Disagree
Disagree
Not Certain
Agree
Strongly Agree