Establishing a culture of perinatal safety in a community hospital

By Jeffrey P. Phelan, MD, JD, and Lisa M. Korst, MD, PhD

While unsafe behavior of frontline hospital staff, primarily physicians and nurses, is sometimes the proximal cause of adverse events, the critical importance of system-wide, hospital organizational factors is now being acknowledged.(1,2) These organizational factors create the “safety culture” that influences the occurrence of these proximal failures.(3) The concept of safety culture originated in high-reliability organization theory, which was largely developed by a group of social scientists at the University of California at Berkeley who studied high-risk organizations that have achieved very low accident and error rates, for example, aircraft carrier flight decks, nuclear power plants and air-traffic control systems.(4–6) Safety culture refers to the enduring and shared beliefs and practices of organization members regarding the organization’s willingness to detect and learn from errors.(7)

INTRODUCTION

Four subcultures are believed to be essential for the establishment of a culture of safety: 1) A reporting culture, in which people are prepared to report both accidents and near misses, 2) A just culture, in which management supports and rewards such reporting, 3) A flexible culture, in which authority patterns can reconfigure and respect frontline staff when safety information is being exchanged, particularly in times of emergency, and 4) A learning culture, which is characterized by the “willingness and the competence to draw the right conclusions from its safety information system and the will to implement major reforms when their need is indicated.”(3,8)

The establishment of these four components is believed to result in an informed, safe organization that is highly reliable.

In recent years, a wide variety of approaches to measuring and achieving a culture of safety have been suggested and refined.(9,10) Although childbirth is the number one reason for hospital admission in the United States, at over 4 million births per year,(11) and is clearly associated with significant safety issues for both mother and fetus,(12,13) only a few of these approaches have dealt specifically with perinatal care (e.g., 10,14–21). Monitoring of the quality and safety of hospital childbirth services has only recently begun to be developed and incorporated into benchmarking collaboratives and regulatory requirements, and safety initiatives have been promulgated for specific perinatal concerns such
as postpartum hemorrhage (22) or elective induction of labor,(23) though these efforts are frequently carried out independently from a comprehensive approach to establishing a safety culture. Common operational approaches to establishing a safety culture have included the implementation of short-term quality assurance audits,(14) the hiring of a patient safety nurse,(14) sentinel events reviews,(24) team communication programs,(25) introduction of uniform policies and procedures,(17,26) and the establishment of simulation training and critical events drills.(24,26) In general, these efforts have been directed toward the nursing staff as opposed to the medical staff, largely because of the hospital’s direct control of the nursing staff. Unlike a university program, members of the medical staff in a community hospital are not employees of the hospital.

As compared to an academic or staff-model health maintenance organization (HMO) hospital, in a community hospital the establishment of a patient safety culture may be more complex. Such an undertaking requires a broad understanding of law, medicine, and team communication, and must engage different strategies to secure significant physician involvement. Because multiple physicians care for their own patients, this limits the ability of doctors and nurses to make rounds together, to develop standardized protocols, to improve quality, and to improve teamwork and communication.(27) Below, using the successful experience of Citrus Valley Medical Center (West Covina, California), which has an annual delivery volume in excess of 5,000 births per year and a multiethnic obstetrical staff of 38, we present the key components of this successful program for establishing a culture of perinatal safety (Table 1), and discuss how they can be adapted to the community hospital environment. Over the past 10 years, as this program has been progressively integrated, the frequency of adverse events has significantly declined.(28)

LEADERSHIP

In the 1990s, safety researchers began to shift their attention from the behavior of frontline workers to managers, emphasizing the importance of leadership, that is, the skills required to influence a group to attain organizational goals.(1) In healthcare, as opposed to industry, there is often a less formal structure for leadership, which has been referred to as a “leadership identity crisis in health care.”(1) Organizationally, leaders may be frontline workers, department heads, or senior managers. Each organizational position influences different types of activities (i.e., operational vs. tactical vs. strategic). In a community hospital, the development of leadership with respect to safety can be especially challenging because of rank-and-file physician independence from the organizational structure.

Effective leaders are attentive to day-to-day practices and monitor performance. They can identify deviations from good performance and recognize conditions that may potentially endanger patients’ safety. To do this, given the complexity of perinatal care and risk management issues, leaders need a thorough understanding of law and medicine, the peer review process, and the importance of learning from misses and near misses. Good communication is also a common thread among effective healthcare leaders, and it is vital to maintaining safety performance.(3,29,30) Because a first step in creating a culture of perinatal safety is a long-term commitment, over many years, individuals in leadership positions must have the ability to engender trust among both the medical and nursing staff. Such trust is essential for the development of a “just” subculture that is key to safety improvement.(31)

**UNIFORM PRACTICES**

Of all the tools for improving safety practices available, the establishment of uniform practices is the easiest to implement and to enforce. The simple provision of guidelines, or policies and procedures, can establish a “standard of care,”(18) but the key question is: to whom do these policies apply and how can they be enforced? Clearly, physician involvement is critical to their implementation. Thus, an important step is to establish the belief within the medical staff that nonuniform practices are antiquated and may result in the communication errors within the nurse/physician team.(17) The value of a single approach to medication administration, such as the administration of oxytocin or magnesium sulfate, is that such an approach significantly reduces the likelihood of an error.

Once the department has bought into the “one way” approach, the department should eliminate the quorum requirement at the department or quality assurance meetings and replace it with a policy that permits a simple majority vote of those physicians present. The net effect will be that many physicians who did not previously attend these meetings will begin to attend more frequently. Subsequently, policies and procedures can be created to establish uniform department practices that are then reviewed and approved by the members of the department. Upon such approval by the department, the medical executive committee, and the board of trustees, compliance with the approved policy and procedure can be tracked and trended by the department. Moreover, “time-outs,”

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**Table 1: The key ingredients to a successful patient safety program**

<table>
<thead>
<tr>
<th>Leadership</th>
<th>Uniform practices</th>
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<tr>
<td>Tracking and evaluation of care</td>
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<tr>
<td>Medical-legal concepts</td>
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<td>Team communication</td>
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<td>Peer review</td>
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<td>Critical events drills</td>
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during which the team pauses to verify the procedure prior to its use, can be employed to ensure compliance.

TRACKING AND EVALUATION OF CARE

In studies of high-reliability organizations, information systems play a key role. These systems collect, analyze, and disseminate information from routine practice, as well as from incidents and near misses. These systems are the foundation of an “informed culture.”(8) Without an infrastructure to track both department and provider-level process and outcome performance measures, patient care cannot be evaluated in a timely manner, if at all.(21)

Without sufficient departmental resources and high-level management interest, ad hoc data collection processes will not be sustained. As tracking of perinatal safety and quality of care becomes more widely disseminated, hospital organizations will place more value on data collection and reporting, and an investment in electronic information systems will allow for performance measures to make a larger contribution to risk management strategies and the establishment of a culture of perinatal safety.

While hospital-level performance measures set the “benchmark” and allow for cross-comparisons of care between hospitals so that underperforming hospitals can recognize their shortcomings, it is important that providers themselves identify and implement strategies by which they can personally improve.(32) For example, directors of quality assurance may alter provider behavior by using a “magnifying glass” or a “spotlight” on the care in question. This “spotlight” relies on the tracking and trending of physician data, and the use of those coded data for purposes of evaluating physician outliers. Systems must be in place to easily examine the data related to the safety concern.(21)

MEDICAL-LEGAL CONCEPTS

Patient safety and medical-legal principles go hand in hand in the clinical setting.(12) Patient safety initiatives are designed to incorporate best practices into routine hospital care in an attempt to ensure favorable patient outcomes and to protect individuals from potential harm. They provide an operational avenue for the implementation of clinical risk management strategies, which are founded on medical-legal principles.

Because of the importance of familiarizing department members with these medical-legal principles, hospital committees charged with safety and quality assurance should have as a resource an attorney who is skilled in medical malpractice and/or healthcare law. Such advice may be difficult to implement because most community hospitals do not have attorneys on their medical staff.

However, an attorney resource could assist such a committee by having an understanding of clinical practice and being able to teach the medical-legal concepts illustrated in Table 2 in a manner consistent with an opportunity to improve rather than an opportunity to punish. Since many of the medical-legal concepts do not arise on a scheduled basis, ideally, the attorney could be available in person or by phone at each quality assurance meeting to ensure proper instruction and understanding of these concepts. This medical-legal instruction is a critical facet of the hospital’s learning culture that is often ignored. It provides frontline staff with an understanding of the link between their behaviors and administrative risk management goals.

TEAM COMMUNICATION

Team communication is a key component of effective patient care.(10) As demonstrated by the Joint Commission’s review of reporting for Sentinel Event Alert #30 (Preventing Infant Death and Injury in Delivery), (24) team communication was the most common source of error resulting in a maternal and perinatal death. Unfortunately, in many institutions, team communication has been relegated to a “nursing responsibility” to communicate more effectively with physicians without the imposition of a similar standard on the medical staff. Most of all, nurses deserve a greater respect and recognition of their professional status. Since hospitalists and residents are not usually present, the community hospital is often solely dependent on the bedside nurse to be the eyes and ears of the physician for purposes of identifying and notifying the physician of an abnormality or a change in the patient’s status. It cannot be overemphasized: the bedside nurse has an independent duty to the patient, as does the physician.

As such, team communication or communication between the nurse and the physician must be a two-way street. Using the example of the air traffic controller speaking to the pilot scenario, the nurse is required to repeat all verbal orders back to the physician. Additionally, the technique known under the acronym of SBAR (situation-background-assessment-recommendation) has been introduced to help manage hand-offs and to provide a communication formula for nurse-to-nurse and nurse-to-physician communication. Yet, contrary to what is done between a pilot and air traffic control personnel, there is often no requirement

Table 2: Medical-legal concepts commonly encountered during quality assurance meetings

<table>
<thead>
<tr>
<th>Medical-legal concept</th>
<th>Description</th>
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<tbody>
<tr>
<td>Foreseeability of harm</td>
<td>Negligence</td>
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<tr>
<td>Chain of command</td>
<td>Duty to warn</td>
</tr>
<tr>
<td>Informed consent</td>
<td>Respondeat superior doctrine</td>
</tr>
<tr>
<td>Doctor-patient</td>
<td>Employer-employee relationship</td>
</tr>
<tr>
<td>relationship</td>
<td></td>
</tr>
<tr>
<td>Ostensible agency</td>
<td>Medical staff—hospital relationship</td>
</tr>
<tr>
<td>Due process rights</td>
<td>Sexual harassment</td>
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<tr>
<td>Hostile work environment</td>
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on the part of the physician to restate what the nurse told the physician about the patient.

Seeking a physician consult on a patient can also be fraught with communication gaps. Often, the nurse rather than the physician initiates the call for a consult. This practice assumes that the nurse knows the underlying basis for the consult and will appropriately relay this issue to the potential consultant. However, the correct reason for the consult is not always relayed to the consultant. Thus, one approach to reducing communication errors in the absence of an emergency is to require that all consultations be doctor to doctor. A simple way to ensure compliance in this setting is to track and trend consultation requests.

To enhance team communication in a perinatal setting and to familiarize physicians with the concept of the chain of command, one can track and trend unattended deliveries. (33) In this clinical scenario, the patient is about to deliver—which in and of itself constitutes an emergency—and the primary physician is unavailable. The potential risks to the patient include delivery by the nurse, who does not possess the training, skill, or experience of an obstetrician, and the delivery could result in a shoulder dystocia or a postpartum hemorrhage. While most unattended births do not result in an adverse maternal or fetal outcome, the unattended birth is an easy way to enhance team communication and physician understanding of the chain of command. It also brings in the concept of the “Good Samaritan.” (34) In the unattended birth scenario, the nurse is confronted with the potential for ongoing maternal or fetal jeopardy and the unavailability of the primary obstetrician. The nursing options are to get a second obstetrician, who could be a hospitalist, the back-up obstetrician, an obstetrician-in-house, or, in the event no obstetricians are immediately available, the nurse can do the delivery. Whenever the Good Samaritan obstetrician does the delivery, a letter is placed in his file acknowledging his good behavior. At the same time, the primary nurse gets a letter of commendation for initiating the chain of command and for protecting the patient from potential harm. Upon arrival, the tardy primary obstetrician must write a note in the chart that says as follows: “At [Time], I was notified and told that [Patient] had the following [Problems]. Upon my arrival at [Time], I found the following: [Problems]; and decided to do [Problems].” (33) This note may reflect a difference of opinions in some circles, especially when one factors in the current litigation climate and the particular Community Hospital. Notwithstanding the latter perception, we have found over the past 10 years the benefits of this type of note clearly outweigh the potential downside legal risks for the following reasons:

• While unattended births are usually not a true emergency, they do teach the primary physician how to document in the event of a true emergency or an adverse outcome.

• This type of note is a factual note by the person responsible for the patient care. In the end we have three parties’ views of what did transpire.

• In our experience, incident reports are not the best approach to deal with this issue because it is the nurse pointing the finger at the primary physician. One has to remember that the goal of the note and the “drill” are to change behavior for when it does count.

• Finally, our hospital has been doing this for over 10 years without major physician concerns about the note requirement.

Before implementing this program at your hospital, the risk manager should consult competent legal counsel with expertise in medical malpractice and medical staff issues. Assuming that the Good Samaritan obstetrician arrives in a timely manner, the failure on the part of the primary obstetrician to include such a note makes the primary obstetrician’s care subject to peer review. In the end, the team learns and masters effective communication and proper documentation in the event that a true emergency arises in the future. Team communication can also be jump-started dramatically when key members of the nursing staff are made a part of the department’s peer review committee. For example, the Citrus Valley Medical Center quality assurance committee’s approach incorporated the director of Maternal/Child Health, the clinical nurse specialist, the Mother/Baby director, and the day charge nurse when available. The purpose of this approach was to enhance physician/nurse communication. While there was considerable and justifiable hesitancy on the part of the physician members of the Department at Citrus Valley Medical Center due to their concerns of the nurses knowing about their “mistakes,” this was easily dispelled by reminding them that the nursing staff was already aware of those mistakes. Routinely focusing on what is best for the patient can diminish arguments between nurses and physicians and return the focus to improving their communication. With these key nurses on the committee, the department was finally able to view perinatal care in a 360-degree manner. By so doing, the committee was able to identify recurring problems in a timely fashion and to implement patient care strategies to reduce and/or eliminate patient errors and make it safer for the patients.

**PEER REVIEW**

In addition to incorporating nursing input within the peer review process, considerable instruction is necessary to ensure proper peer review of clinical care. First, the peer review committee should be opened up to all members of the department to enhance physician education on patient errors and
to provide increased transparency. When all members of the department are involved, their collective wisdom becomes a great teacher and motivator to improve patient care. Second, an objective analysis of a case requires an unbiased and an apolitical assessment of the events. This means that physicians learn from the mistakes of others. Third, to satisfy the due process rights of the physicians, the clinical care of all providers is subject to review, and is based primarily on currently used departmental performance measures, for example, those from the Joint Commission, National Quality Forum, and the Leapfrog Group or published composite measures such as the Adverse Outcomes Index and provider-level tracking and trending of patient care data. As an example, components of the Adverse Outcomes Index are illustrated in Table 3.

In comparison, examples of performance measures to be tracked at the provider level include unattended births, informed consent for induction of labor at an appropriate gestational age with a maternal or fetal indication for delivery, operative vaginal delivery with preuse documentation of station and delivery indication and postuse documentation of the delivery itself, and terbutaline usage in cases of intrapartum “fetal distress.” In the case of an induction, a “time-out” can also be used prior to the start of the induction to ensure all the requirements are satisfied. If all the induction requirements are not satisfied, the induction cannot begin until the missing information has been documented. In the circumstances of an elective induction of labor, the patient must be no less than 39 weeks gestation before the induction can be started. If the induction goes forward without the appropriate documentation, the care is reviewed by committee. All provider-level tracking and trending data is codified for each physician, with outliers evaluated as indicated by the performance measure.

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**Table 3: The adverse outcome scoring system**

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Points</th>
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</thead>
<tbody>
<tr>
<td>Maternal death</td>
<td>750</td>
</tr>
<tr>
<td>I/P or neonatal death &gt;2,500 grams</td>
<td>400</td>
</tr>
<tr>
<td>Uterine rupture</td>
<td>100</td>
</tr>
<tr>
<td>Maternal ICU admit</td>
<td>65</td>
</tr>
<tr>
<td>Birth trauma</td>
<td>60</td>
</tr>
<tr>
<td>Return to OR</td>
<td>40</td>
</tr>
<tr>
<td>NICU admit &gt;2,500 grams and for &gt;24 hours</td>
<td>35</td>
</tr>
<tr>
<td>Apgar &lt;7 at 5 minutes</td>
<td>25</td>
</tr>
<tr>
<td>Blood transfusion</td>
<td>20</td>
</tr>
<tr>
<td>Third- or fourth-degree laceration</td>
<td>5</td>
</tr>
</tbody>
</table>

I/P, intrapartum; ICU, intensive care unit; OR, operating room; NICU, neonatal intensive care unit

and near misses is a key ingredient to improving the patient safety culture. The incorporation of this concept into peer review, as outlined in the article by Phelan, Martin, and Korst,(33) enables the department members to better comprehend and objectively analyze patient care and, at the same time, to better assess whether the outcome was potentially preventable. The analysis of care using foreseeability of harm as a guideline requires a “two-prong” analysis of the care. As such, the care is divided between whether the physician/nursing team was on “notice” of an adverse clinical event, that is, whether the patient’s signs and symptoms provided a warning to the caregivers, and then on how well the team handled the emergency. (33) This analytical approach evaluates the “conduct” of the team and the role of each member. By dissecting the care in this manner, the committee is in a better position to identify areas of clinical improvement. In the absence of notice, the team is evaluated solely on how well they handled the emergency. In evaluating the emergency, the physician/nursing team care is dissected minute by minute for purposes of understanding how each member handled the emergency. Using this approach, the providers can more readily identify misses, near misses, and areas for potential clinical improvement.

**CRITICAL EVENTS DRILLS**

In 2004, the Joint Commission recommended the establishment and implementation of mock critical events drills for hospitals. (24) In anticipation of their implementation by the Joint Commission, the Department of Obstetrics and Gynecology at the Citrus Valley Medical Center established critical events drills for shoulder dystocia and crash cesarean deliveries for physicians and nurses. To ensure physician involvement in the critical events drills, the department made the drills mandatory by making them a condition of reappointment to the medical staff. This meant that all department members were required to participate in the drills with the nursing staff at some time during the reappointment period. If a physician failed to perform the drills during the reappointment period, the physician was voluntarily resigned from the medical staff. To also augment physician participation, continuing education credits were provided. Since the introduction of these drills in 2005, additional critical events drills dealing with key obstetrical issues have been developed and implemented. Moreover, since the implementation of mock drills, the Medical Center has witnessed a significant reduction in transient and permanent brachial plexus injuries and obstetrical claims.(28) In summary, the experience at the Citrus Valley Medical Center is a successful example of the implementation of the preceding strategies in the establishment of a perinatal safety culture in a community hospital. As community hospitals make up the majority of U.S. hospitals, such strategies are highly relevant to national efforts to improve perinatal safety and quality of care.
REFERENCES


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