



The Perinatal Safety Nurse: Exemplar of Transformational Leadership

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Abstract

There is increased attention to the issue of patient safety in the care of pregnant women and their infants. The Joint Commission has issued sentinel event alerts regarding infant and maternal morbidity and mortality. Hospitals and healthcare systems are implementing perinatal patient safety programs to minimize the risk of preventable patient harm. **This article describes the role of the perinatal patient safety nurse as one aspect of a comprehensive initiative to promote patient safety for women who give birth. Nurses and organizations offering perinatal care are encouraged to incorporate the role of perinatal patient safety nurse in their patient safety efforts.**

Key words: Adverse events; Obstetrical liability; Patient safety nurse; Perinatal patient safety; Preventable patient harm.

Keeping patients safe while in the care of nurses is a fundamental component of contemporary obstetrical practice. Increasing numbers of hospitals and healthcare systems are developing perinatal patient safety programs to minimize risk of preventable patient harm. In this article we describe the role of the perinatal patient safety nurse (PSN) as one aspect of a comprehensive initiative to promote patient safety for women who give birth in our facilities.

Review of the Literature

Concern for safety in healthcare is not a new issue. In ancient Greece, Hippocrates included this concern in the Hippocratic Oath when he wrote, “*use regimens for the benefit of the ill in accordance with their ability and judgment, but from (what is) to their harm or injustice keep (them)*” (von Staden, 1996). In the 18th century King Louis XV appointed a midwife, Madame Angelique du Coudray, to lead a public health campaign to improve the safety of the birth process in France (Gelbart, 1998). In the 19th century in *Notes on Hospitals*, Florence Nightingale wrote, “*It may*

seem a strange principle to enunciate as a first requirement in a hospital that it should do the sick no harm.” During the same time period, an obstetrician, Ignaz Semmelweis, challenged his colleagues to prevent puerperal sepsis by simply washing their hands before patient contact, but his efforts were met with disdain (Funk et al., 2009).

Medical literature of the 21st century has numerous examples of the same concern for iatrogenic harm and patient safety specific to perinatal practice. One study suggested the risk of severe adverse events in obstetric patients as 0.7% (Forster et al., 2006). Although this figure may seem small, in the case of obstetrics, one adverse event may actually have an impact on two patients, a mother and her fetus. As researchers in other specialties have found, adverse events in obstetrics are sometimes preventable. A recent review of maternal morbidity and mortality noted that that 40% to 50% of maternal deaths and 30% to 40% of near-miss/severe maternal morbidities may be preventable through changes in patient, healthcare provider, and system fac-

tors (Geller et al., 2007). These authors believe prevention of maternal harm could be achieved with improved quality of care, specifically more timely treatment and decision-making (Geller et al., 2007). A detailed review of obstetric malpractice claims from one large healthcare system found that 70% of cases involved substandard care and preventable injuries (Clark, Belfort, Dildy, & Meyers, 2008). Suggestions for prevention of patient harm included birth in facilities with 24-hour obstetric coverage, adherence to published high-risk medication protocols, a conservative approach to vaginal birth after cesarean birth, and use of standard procedures and documentation in cases of shoulder dystocia (Clark et al., 2008).

Popular media coverage of two Institute of Medicine reports, *To Err Is Human: Building a Safer Health System* (Kohn, Corrigan, & Donaldson, 1999) and *Crossing the Quality Chasm: A New Health System for the 21st Century* (Kohn, Corrigan, & Donaldson, 2001) brought the issue of patient safety to the attention of the U.S. consumer, citing the occurrence of 44,000 to 98,000 preventable deaths annually. The World Health Organization concluded that preventable adverse events occurred in 1 out of every 10 patient hospitalizations in developed countries (Donaldson & Fletcher, 2006).

The government and private sector established and funded organizations such as the Agency for Healthcare Research and Quality (AHRQ), the Institute for Healthcare Improvement (IHI), the National Patient Safety Foundation (NPSF), and the National Quality Forum (NQF) to improve the

safety of the healthcare system for patients and their families. In 1998, the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) published the first of 45 Sentinel Event Alerts as a call to action to healthcare providers. Alert #30 addressed prevention of infant deaths (JCAHO, 2004) and #44 the prevention of maternal death (TJC, 2010). Other Alerts applicable to perinatal practice address infant abduction, high-alert medications (oxytocin), infusion pumps, kernicterus, surgical fires, and behaviors that undermine the culture of safety.

Economic factors and liability concerns have had an impact on the response from the obstetric community to the problem of patient safety. Litigation related to adverse outcomes in the birthing experience saw increased monetary awards and resultant increased liability costs (Bovbjerg, 2005). Finding themselves in an untenable situation, some medical liability carriers abandoned the medical malpractice business making it difficult to impossible for many healthcare providers to find coverage. Additionally, a survey in 2003 revealed that 46% of respondents had either stopped or intended to stop the practice of obstetrics within 2 years, while another third planned on stopping the practice of complex obstetric care (Studdert et al., 2005).

This was the environment in which the obstetrical patient safety initiative was born. Another high-risk medical specialty group, the American Society of Anesthesiologists, had previously addressed the problem of patient safety in their specialty and realized a reduction in anesthesia mortalities from 2 deaths per 10,000 anesthetics administered to 1 death per 200,000 to 300,000 anesthetics administered (Lanier, 2006). Knowing that it was possible to make a positive impact for patient safety, in October 2003, the American College of Obstetricians and Gynecologists (ACOG) published a committee opinion report charging obstetricians to incorporate elements of patient safety into their practices. These included the

following: development of a committee to encourage a culture of patient safety; implementation of recommended safe medication practices; reduction of the likelihood of surgical errors; improved communication; identification and resolution of system problems; establishment of a partnership with patients to improve safety; and making safety a priority in every aspect of their practice (ACOG, 2004). With this in mind, the goal of the obstetrical safety initiative was to promote an improvement in mother and baby care and consequently decrease claims and liability losses.

Development of the Role of the PSN

In 2001, our malpractice carrier, MCIC Vermont Inc., chose to address perinatal patient safety with the medical and nursing leadership of their shareholder organizations to establish an agenda for action. A comprehensive perinatal patient safety program was developed with input from the perinatal leadership team at each institution, administrators, front-line clinicians, and risk managers. This process was the result of multiple meetings and review of current evidence as well as standards and guidelines from professional associations. Available claims history and cases of preventable harm provided a focus on opportunities for quality improvement in our facilities. It was felt that the success of the program would rely on day-to-day, on-site support for all of the initiative components (Will, Henniecke, Jacobs, O'Neill, & Raab, 2006). It was further realized that patient safety is only one of a myriad number of responsibilities that nurse managers and medical and nursing directors need to concern themselves with while running busy obstetrical services. These realizations led to the creation of the role of the PSN in 2004.

In obstetrics, an interdisciplinary team process with a coordinated, rapid team response is essential to face critical situations and prevent harm

to mother and fetus. The obstetrical patient safety initiative challenges the healthcare team, as stakeholders, to collaboratively identify and adopt evidence-based best practices in the clinical setting; use effective team work and communication; and report safety concerns, adverse events, and near-misses without fear of reprisal. The PSN is the safety champion who assists in driving these efforts forward. The PSN provides daily support, real-time review of patient care, monitoring of clinical outcomes, patient advocacy, and acts as a safety role model for staff. To this end, key job responsibilities were identified and outlined (Table 1).

Patient Safety Advocate/ Clinical Role Model

It is imperative that the PSNs have a strong clinical background as well as an understanding of the principles of safety science. A solid knowledge of current national standards and issues and at least 5 years of clinical experience should be considered as minimum expectations. Additionally, advanced practice preparation or certification in the obstetrical specialty is desirable as is membership in professional organizations. The successful PSN must have the interpersonal skills that will allow them to gain the trust and respect of the entire perinatal care team.

Knowledge of patient safety organizations, such as AHRQ, IHI, NPSF, the Joint Commission (TJC), and their resources are necessary to be a successful safety advocate. The PSN is also responsible for disseminating safety information from these agencies related to trends and research. The PSN should be seen as the expert source for this information by both the individual employee and department leaders. One approach in use is subscribing to regular electronic newsletters such as those available from AHRQ and the Institute for Safe Medication Practice (ISMP) and disseminating them to the department clinicians and leadership team as appropriate.

The PSN should represent the perinatal department in all patient safety forums on the institution level. These include safety, quality, and event review committees. In this capacity they should present both the unique issues of perinatal patient safety and also considerations for general safety initiatives, such as hand hygiene, and patient verification as they apply to the perinatal arena. They should also communicate the issues and plans back to the department and unit level. This is done through presentations on the unit level or at department grand rounds. To this end comfort in public speaking is another useful skill.

Monitor Clinical Outcomes

Another facet of the PSN role is data collection and maintenance of a database of issues identified and the associated corrective actions revealed through root cause analysis. As a tool for monitoring clinical outcomes, the hospital's event reporting system can assist in collecting and identifying patient outcomes and practice trends. Safety findings and quality metrics are then reported at the appropriate clinical forums.

Our experience has shown that adverse events and near-misses are generally underreported by clinicians. Research suggests that nurses submit all or most event reports. Pharmacists are identified as the next most frequent submitter, and physicians are noted to file few reports (Farley et al., 2008). The PSN educates clinicians on the use of the hospital's event reporting system and encourages them to report events so that they can be tracked and investigated, leading to lessons learned and correction of uncovered defects through collaborating with leadership to formulate improvement plans.

The perinatal nurse has a central role in maintaining safety by scanning for and detecting emerging threats, deflecting them before they reach the patient, and coordinating team communications (Lyndon &

Table 1. Perinatal Patient Safety Nurse

Job Description
<p>Serves as a patient safety advocate and clinical role model in obstetrics:</p> <ul style="list-style-type: none"> • Keeps abreast of changing national standards of clinical practice and safety science literature. Disseminates pertinent safety- and specialty-related information. • Participates in patient safety or administrative walk rounds. • Presents patient and staff safety concerns to appropriate clinical forums. • Participates in and contributes to departmental performance review activities. • Assists and supports the healthcare team with disclosure when an adverse event or untoward outcome occurs.
<p>Monitors clinical outcomes:</p> <ul style="list-style-type: none"> • Encourages staff to identify and report adverse events and near-misses. • Contributes to EFM strip reviews. • Performs collaborative reviews of adverse occurrences and near-misses. • Incorporates findings into educational efforts. • Participates in RCAs. • Maintains a database of records reviewed, issues identified, and plans of correction. • Coordinates briefing, debriefing, and analysis of selected charts with healthcare team members. • Assesses the documentation of charts reviewed and provides feedback to clinicians.
<p>Facilitates interdisciplinary communication and education:</p> <ul style="list-style-type: none"> • Provides regular patient safety and loss prevention educational programs for staff. • Facilitates clinical drills for high-risk situations (e.g., shoulder dystocia, postpartum hemorrhage, emergency cesarean birth, and neonatal resuscitation). • Fosters and promotes participation by all clinicians in educational programs and clinical drills. • Facilitates and supports teamwork-training program for all department members. <ol style="list-style-type: none"> 1. Participates in the "train the trainer" sessions in order to teach teamwork and communication skills to others in the OB department. 2. Coordinates and teaches the educational sessions for staff on the OB unit and as new members join the healthcare team. 3. Coordinates meetings for team-training program. 4. Promotes ongoing reinforcement of teamwork skills. • Promotes the adoption of briefing and debriefing skills across disciplines.
<p>Implements safety and loss prevention initiatives:</p> <ul style="list-style-type: none"> • Safety Attitude Survey—Facilitates administration of pre- and postintervention SAQ. • Collaborates with clinical and administrative leadership to deliver SAQ results to participants. Works with clinical and administrative leadership to address themes and issues identified by the SAQ. • NCC certification—Facilitates staff preparation and administration of the test. Performs periodic follow-up to confirm that required clinicians have taken the test or retest. • Other initiatives as identified by Clinical Leadership.

Kennedy, 2010). Event reporting systems are just one way of scanning for threats. Use of daily rounds by the PSN and making contact with the unit managers, charge nurses, and staff and attendance during resident sign-off in academic institutions are methods of identifying issues. Participation in administrative safety walk rounds where clinicians are asked, “How will the next patient be harmed?” is another effective way of identifying safety concerns.

As a clinical expert, the PSN must possess an awareness of actual and potential obstetrical safety concerns and foster trusting relationships with front-line medical and nursing professionals so that they readily share their patient care concerns. Visibility is essential for the PSN in this regard. Being present on the unit routinely and coming in on off-shifts and weekends as needed is essential. Physicians, midwives, and nurses must feel that the PSN is approachable and receptive to their concerns. Under these circumstances, clinicians readily use private conversations, as well as e-mail, texting, and phone messages to relay their concerns. Providing timely feedback is essential to sustain their trust and respect.

As a patient safety advocate, the PSN is available to intervene and assumes 24-hour accountability for investigating all obstetrical adverse events. Knowledge of the process of root cause analysis and debriefing is essential for the PSN to be successful in this regard. Team members involved will assemble to debrief and discuss the case and the PSN is instrumental in facilitating these sessions. As well as current national standards of practice, the PSN must be knowledgeable of the hospital’s policies and practice guidelines. When evaluating a case for team performance and chart documentation, the PSN is required to determine whether the appropriate actions were taken and recorded. As events are investigated and defects discovered, the PSN and the team formulate process changes and make safety recommendations.

Facilitate Interdisciplinary Communication and Education

TJC has identified communication failures as the number one root cause of obstetrical sentinel events. This led to a call to action that included several risk reduction strategies, including the implementation of team training (JCAHO, 2004). The PSN should be trained as a master trainer in a method of teamwork training such as TeamSTEPS, Med Teams, or VHA Training Effective Teams and, along with other trainers, facilitate training sessions for all members of the perinatal team. These programs offer curriculum for providing team members with the tools of effective team communication, conflict resolution, and other teamwork skills to improve patient outcomes. Teamwork training may be done as a didactic experience or in conjunction with a simulated scenario.

The PSN facilitates simulation training and real-time drills using birthing manikins, pelvic models, and human-simulated patients to recreate routine and critical events. These types of drills enable team members to practice and perfect multidisciplinary, high-risk, obstetrical scenarios and apply team training concepts, clinical skills, and communication techniques (Merién, van de Ven, Mol, Houterman, & Oei, 2010). Participants attend debriefing sessions to critique individual and team performance. The authors have facilitated shoulder dystocia, postpartum hemorrhage, and STAT cesarean drills at their institutions using an interdisciplinary simulation approach.

The PSN may also provide annual safety presentations to interdisciplinary groups of new employees. In some of our institutions, new nurses and resident physicians in training jointly attend the AWHONN 2-day Intermediate Fetal Monitoring Course and the PSN may participate as an instructor in this process. The PSN may also conduct patient safety presentations as part of the departmental grand rounds series.

Implement Safety and Loss Prevention Initiatives

In spite of all the safeguards and measures to ensure error reduction, errors still occur (TJC, 2010). The PSN role includes implementation of safety and loss prevention projects as needed by the department and institution. These may be done preemptively as the result of evidence-based research or department gap analysis or reactively as the result of adverse outcomes.

Fetal heart rate (FHR) pattern interpretation, communication, and documentation are common areas of allegation in litigation related to the birth process. It has been recommended that institutions adopt and universally use one common language for all professional communication and medical record documentation in relation to FHR patterns obtained via electronic fetal monitoring (EFM) (Simpson & Knox, 2003). Our institutions have chosen the language proposed by the National Institute of Child Health and Human Development (NICHD) of the National Institutes of Health (NIH) (Macones, Hankins, Spong, Hauth, & Moore, 2008). The PSN may be responsible for educating clinicians on the language used by the department and assuring that the language is consistently used. This is done through medical record review and real-time observation.

All healthcare professionals whose responsibilities include EFM interpretation must demonstrate competence in interpretation of the electronic fetal heart tracing. Our institutions have chosen to require that all healthcare providers become credentialed in EFM through the National Certification Corporation’s (NCC) examination process. The PSN facilitates this process and maintains proof of certification. Ongoing competence is also required. Some PSNs facilitate this through arranging interdisciplinary FHR tracing rounds that are conducted and co-led by a physician and nurse. Other methods of maintaining ongoing competence may be mandated and include completion of

perinatal educational programs that include a fetal monitoring component, such as Peri-FACTS or successful completion of tests developed by the institution.

TJC has noted that although leaders can and should support defenses and interventions to reduce risk, this is not enough; a culture of safety must be established. A safety culture must be built into the fabric of a healthcare system, “in the beliefs, attitudes and values of an organization’s employees” with the goal to obtain the highest level of safety possible (TJC, 2009). In our institutions the PSN was responsible for administering the Safety Attitude Questionnaire (SAQ) (Sexton et al., 2006), as a baseline, preinitiative measurement of the department culture of safety. The survey is administered at 1- to 2-year intervals to monitor changes in the staff perception of the department safety culture and evaluate the success of implemented measures.

Increasing the numbers of nationally certified nurses supports safety initiatives as certified nurses must remain current with evidence-based practice. Working in conjunction with nurse educators, the PSN may also encourage and support nursing development by offering the NCC national nursing certification examinations in conjunction with the EFM certification.

Institutions may identify other safety and loss initiatives based on their own assessment of their practice environment. Some of these areas of consideration may include infant security and safety, compliance with national patient safety goals, standardization of the obstetrical operative suite to the level of the perioperative suites, management of second stage of labor, management of oxytocin and tachysystole, management of shoulder dystocia, and issues related to the use of telephone triage.

Cultural Change Agent

One definition of a change agent is someone or something that brings about, or helps to bring about, change. As a transformational leader,

it is vital for the change agent to have an appreciation and sensitivity for existing systems and the participants as they are guided through change. This is the essence of the PSN role.

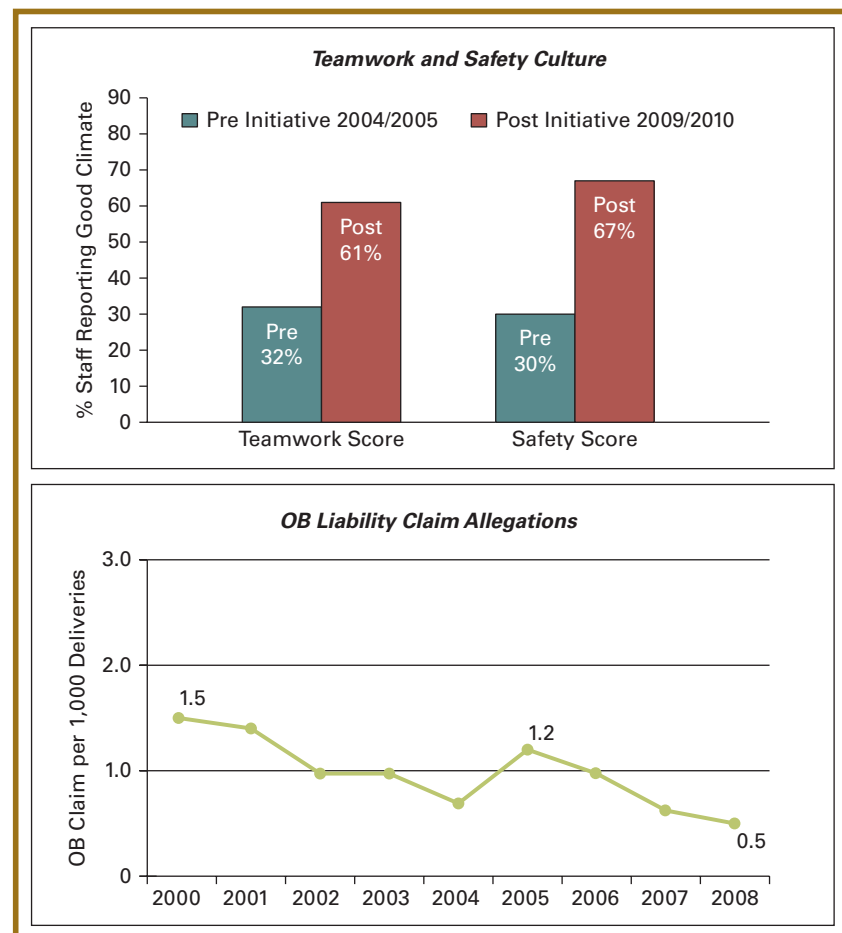
It is important to acknowledge that the PSN is by definition a nurse. Concern has been raised as to how physicians, who have traditionally been at the head of the hierarchy in hospitals, react to a nurse leading this initiative. Some may feel “this is meant for everyone else but me.” However, most medical providers realize that a safer patient environment is also to their advantage, especially as it relates to litigation. The successful PSN uses the ability to articulate a vision and set an agenda that works to the advantage of the entire team to build relationships and move the ini-

tiative forward. Developing physician partners for the various measures being implemented can be used to get “buy in” from others. It is important for the PSN to look not only to the early adopters among the physician group but also to those who tend to be opinion setters among their peer group.

Support Systems

Our liability carrier has provided us with two key elements for a PSN support system. They maintain a list-serve for all PSNs, including those in the Perinatal, Perioperative and Emergency Departments, working within their shareholder institutions. As the perinatal department incorporates all three specialties: Perinatal—Childbirth, Perioperative—Cesarean

Figure 1. NYP-WCMC and Yale New Haven Hospital OB Data



Suggested Clinical Implications

- In obstetrics, an interdisciplinary team process with a coordinated, rapid team response is essential to prevent harm to mother and fetus.
- Economic factors and liability concerns have an impact on the response from the obstetric community to the issue of patient safety.
- Nursing has a central role in maintaining perinatal patient safety.
- The Advanced Practice Nurse or Clinical Nurse Leader is ideally suited to lead the perinatal patient safety initiative.

births, and Emergency Department—Triage, they share similar concerns and issues when it comes to patient safety. This listserv is regularly used to gain information, support, and insight.

Each PSN specialty group also has the services of a director at MCIC Vermont who facilitates regularly scheduled conference calls and face-to-face meetings at their offices in New York City. The Perinatal PSNs have three meetings annually, addressing issues specific to the perinatal patient safety initiative. A fourth meeting is designated as an educational session for the development of everyone in the PSN role, with topics being decided through a learning needs assessment of the entire group.

An important third support for the PSN is having the backing and championship of a committed team of physician and nurse leaders, as well as a dedicated healthcare system. Together they must be committed to the expenditure of the time and resources (personnel and financial) necessary to implement and sustain team achievements and provide ongoing commitment to evolve and grow as new challenges arise. Ongoing measurement of the initiative's impact related to clinical outcomes is key to guarantee goals are met, remain relevant and benefit our patient population.

If success of a perinatal patient safety initiative can be measured by decreased obstetric adverse events, decreased liability claims, and an increased perception of the culture of safety, the experience over the 5 years of the initiative at Yale—New Haven Hospital and New York Presbyterian Weill Cornell Medical Center can be deemed successful (Figure 1). The

SAQ was administered at both institutions prior to initiating the PSN role. When the same survey was administered 5 years later, there was increased perception of good teamwork climate and safety climate. Additionally, liability claims allegations fell over that period.

The experience at Yale—New Haven Hospital, in decreasing obstetric adverse events, through implementation of a comprehensive patient safety strategy, including the role of the PSN, has previously been described (Pettker et al., 2009). With implementation of a combination of evidence-based standardization, improved communication strategies, and appointment of a dedicated patient safety nurse, a statistically significant decrease in the quarterly composite obstetrical adverse event rate was realized. Additionally, there has been significant improvement in both teamwork culture and safety culture as measured by the sequential administration of the SAQ at both institutions. Other MCIC Vermont shareholders whose administrators and clinicians have positively received the role of the PSN have had similar experiences. Organizations that value perinatal patient safety are encouraged to incorporate the role of PSN in their patient safety efforts. ❖

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References

- American College of Obstetricians and Gynecologists. (2004). Patient safety in obstetrics and gynecology. ACOG Committee Opinion No. 286. *International Journal of Gynecology & Obstetrics*, 86, 121-123. doi:10.1016/s0020-7292(04)00178-x
- Bovbjerg, R. R. (2005). Malpractice crisis and reform. *Clinics in Perinatology*, 32, 203-233. doi:10.1016/j.clp.2004.11.003
- Clark, S. L., Belfort, M. A., Dildy, G. A., & Meyers, J. A. (2008). Reducing obstetric litigations through alterations in practice patterns. *Obstetrics and Gynecology*, 112(6), 1279-1283. doi:10.1097/AOG.0b013e31818da2c7
- Donaldson, L. J., & Fletcher, M. G. (2006). The WHO World Alliance for Patient Safety: Towards the years of living less dangerously. *Medical Journal of Australia*, 184(10 suppl), S69-S72.
- Farley, D. O., Haviland, A., Champagne, S., Jain, A. K., Battles, J. B., Munier, W. B., & Loeb, J. M. (2008). Adverse-event-reporting practices by US hospitals: Results of a national survey. *Quality and Safety in Health Care*, 17, 416-423. doi:10.1136/qshc.2007.024638
- Forster, A. J., Fung, I., Caughey, S., Oppenheimer, L., Beach, C., Shojania, K. G., & van Walraven, C. (2006). Adverse events detected by clinical surveillance on an obstetric service. *Obstetrics & Gynecology*, 108, 1073-1083. doi:10.1097/01.AOG.0000242565.28432.7c
- Funk, D. J., Parrillo, J. E., & Kumar, A. (2009). Sepsis and septic shock: A history. *Critical Care Clinics*, 25, 83-101. doi:10.1016/j.ccc.2008.12.003
- Gelbart, N. R. (1998). *The king's midwife: A history and mystery of Madame du Coudray*. Berkeley and London: University of California Press.
- Geller, S. E., Adams, M. G., Kominiarek, M. A., Hibbard, J. U., Endres, L. K., Cox, S. M., & Kilpatrick, S. J. (2007). Reliability of a preventability model in maternal death and morbidity. *American Journal of Obstetrics and Gynecology*, 196(1), 57e1-57e6. doi:10.1016/j.ajog.2006.07.052
- Kohn, L. T., Corrigan, J. M., & Donaldson, M. S. (1999). *To err is human: Building a safer health system*. Washington, DC: National Academy Press.
- Kohn, L. T., Corrigan, J. M., & Donaldson, M. S. (2001). *Crossing the quality chasm: A new health system for the 21st century*. Washington, DC: National Academy Press.
- Lanier, W. L. (2006). A three-decade perspective on anesthesia safety. *The American Surgeon*, 72(11), 985-989.
- Lyndon, A., & Kennedy, H. P. (2010). Perinatal safety: From concept to nursing practice. *Journal of Perinatal & Neonatal Nursing*, 24, 22-31. doi:10.1097/JPN.0b013e3181cb9351
- Macones, G. A., Hankins, G. D., Spong, C. Y., Hauth, J., & Moore, T. (2008). The 2008 NICHD workshop report on EFM: Update on definitions, interpretation, and research guidelines. *Journal of Obstetric, Gynecologic, & Neonatal Nursing*, 37, 510-515. doi:10.1111/j.1552-6909.2008.00284.x
- Meriën, A. E., van de Ven, J., Mol, B. W., Houterman, S., & Oei, S. G. (2010). Multidisciplinary

team training in a simulation setting for acute obstetric emergencies: A systematic review. *Obstetrics and Gynecology*, 115, 1021-1031. doi:10.1097/AOG.0b013e3181d9f4cd

Pettker, C. M., Thung, S. F., Norwitz, E. R., Buhimschi, C. S., Raab, C. A., Copel, J. A., ..., Funai, E. F. (2009). Impact of a comprehensive patient safety strategy on obstetric adverse events. *American Journal of Obstetrics and Gynecology*, 200, 492.e1-492.e8. doi:10.1016/j.ajog.2009.01.022

Sexton, J. B., Helmreich, R. L., Neilands, T. B., Rowan, K., Vella, K., Boyden, J., ..., Thomas, E. J. (2006). The Safety Attitude Questionnaire: Psychometric properties, benchmarking data, and emerging research. *BMC Health Services Research*, 6, 44. doi:10.1186/1472-6963-6-44

Simpson, K. R., & Knox, G. E. (2003). Common areas of litigation related to care during labor and birth: Recommendations to promote patient safety and decrease risk exposure. *Journal of Perinatal & Neonatal Nursing*, 17(2), 110-125.

Studdert, D. M., Mello, M. M., Sage, W. M., DesRoches, C. M., Peugh, J., Zappert, K., & Brennan, T. A. (2005). Defensive medicine among high-risk specialist physicians in a volatile malpractice environment. *Journal of the American Medical Association*, 293, 2609-2617. doi:10.1001/jama.293.21.2609

The Joint Commission. (2009). *Leadership committed to safety*. Sentinel Event Alert No. 43. Oakbrook Terrace, IL: Joint Commission on Accreditation of Healthcare Organizations. Retrieved from http://www.jointcommission.org/sentinel_event_alert_issue_43_leadership_committed_to_safety/

The Joint Commission. (2010). *Preventing maternal death*. Sentinel Event Alert No. 44. Oakbrook Terrace, IL: Joint Commission on Accreditation of Healthcare Organizations. Retrieved from http://www.jointcommission.org/sentinel_event_alert_issue_44_preventing_maternal_death/

The Joint Commission on Accreditation of

Healthcare Organizations. (2004). *Preventing infant death during delivery*. Sentinel Event Alert No. 30. Oakbrook Terrace, IL: Joint Commission on Accreditation of Healthcare Organizations. Retrieved from http://www.jointcommission.org/sentinel_event_alert_issue_30_preventing_infant_death_and_injury_during_delivery/

Von Staden, H. (1996). Personal and professional conduct in the Hippocratic Oath.

Journal of the History of Medicine and Allied Sciences, 51, 406-408. doi:10.1093/jhmas/51.4.404

Will, S. B., Henniske, K. P., Jacobs, L. S., O'Neill, L. M., & Raab, C. A. (2006). The perinatal patient safety nurse: a new role to promote safe care for mothers and babies. *Journal of Obstetric, Gynecologic and Neonatal Nursing*, 35, 417-423. doi:10.1111/j.1552-6909.2006.00057.x

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American Congress of Obstetricians and Gynecologists
www.acog.org/departments/dept_web.cfm?recno=28

Association of Women's Health, Obstetric and Neonatal Nurses
www.awhonn.org/awhonn/content.do?name=05_HealthPolicyLegislation/5H_PositionStatements.htm

Centers for Disease Control and Prevention
www.cdc.gov

Institute for Healthcare Improvement
www.ihl.org

Institute for Safe Medication Practices
www.ismp.org

The Joint Commission
www.jointcommission.org

National Patient Safety Foundation
www.npsf.org

National Quality Forum
www.qualityforum.org

World Health Organization
www.who.int/patientsafety/en/