

What Is New in Patient Safety?

Best Articles From the Past Year

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This month, we focus on current research in patient safety. Dr. Pridjian discusses four recent publications, and each is concluded with a “bottom line” that is the take-home message. The complete reference for each can be found in Box 1 on this page, along with direct links to the abstracts.

(*Obstet Gynecol* 2014;0:1–2)
DOI: 10.1097/AOG.0000000000000291

Paradoxical Trends and Racial Differences in Obstetric Quality and Neonatal and Maternal Mortality

The authors use seven Agency for Healthcare Research and Quality (AHRQ)¹ obstetric-related quality and safety indicators from 2000 to 2009 to trend inpatient maternal and neonatal mortality in various U.S. regions, paying particular attention to black and white differences. Over the 9-year study period, obstetric trauma with instrumentation, obstetric trauma without instrumentation, and birth trauma or injury to the neonate improved for both white and black women. Primary cesarean delivery rates increased, yet risk-adjusted cesarean delivery rates were higher for black women than for white; vaginal birth after cesarean delivery declined, but more rapidly for white women. Despite improvements in AHRQ inpatient safety indicators, inpatient maternal and neonatal mortality did not change.

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Financial Disclosure

The author did not report any potential conflicts of interest.

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ISSN: 0029-7844/14

Box 1. Abstracts Discussed in This Commentary

1. Howell EA, Zeitlin J, Hebert P, Balbierz A, Egorova N. Paradoxical trends and racial differences in obstetric quality and neonatal maternal mortality. *Obstet Gynecol* 2013;121:1201–8. Available at: <http://dx.doi.org/10.1097/AOG.0b013e3182932238>.
2. Wang Y, Eldridge N, Metersky ML, Verzier NR, Meehan TP, Pandolfi MM, et al. National trends in patient safety for four common conditions, 2005–2011. *N Engl J Med* 2014;370:341–51. Available at: <http://dx.doi.org/10.1056/NEJMsa1300991>.
3. Maxfield DG, Lyndon A, Kennedy HP, O’Keeffe DF, Zlatnik MG. Confronting safety gaps across labor and delivery teams. *Am J Obstet Gynecol* 2013;209:402–8. Available at: <http://dx.doi.org/10.1016/j.ajog.2013.07.013>.
4. Iriye BK, Huang WH, Condon J, Hancock L, Hancock JK, Ghamsary M, et al. Implementation of a laborist program and evaluation of the effect upon cesarean delivery. *Am J Obstet Gynecol* 2013;209:251. Available at: <http://dx.doi.org/10.1016/j.ajog.2013.06.040>.
5. Chambliss LR, Clark SL. Paper gestational age wheels are generally inaccurate. *Am J Obstet Gynecol* 2014;210:145. Available at: <http://dx.doi.org/10.1016/j.ajog.2013.09.013>.

Bottom Line: The AHRQ safety indicators for obstetrics that were studied are not related to inpatient maternal and neonatal mortality and do not explain continued racial disparities in these outcomes. These indicators likely are not primary drivers for the preventable fraction of maternal and neonatal mortality. Better quality measures relative to pregnancy outcomes and reflective of racial disparities are needed.

National Trends in Patient Safety for Four Common Conditions, 2005–2011

The authors perform a retrospective study of 61,523 hospitalized patients using the Medicare Patient Safety Monitoring System data abstracted from medical records. Twenty-one adverse-event indicators developed by federal agencies and private health care organizations were categorized in four areas: myocardial infarction,



congestive heart failure, pneumonia, and conditions requiring surgery. From 2005 through 2011, among patients with acute myocardial infarction, the rate of occurrence of adverse events declined significantly from 5.0% to 3.7%, the proportion of patients with one or more adverse events declined from 26.0% to 19.4%, and the number of adverse events per 1,000 hospitalizations declined from 401.9 to 262.2. A similar magnitude of decline for congestive heart failure was observed. There was no decrease in adverse-event rates in those with pneumonia or conditions associated with surgery.

Bottom Line: National efforts focused on patient safety have made some improvements. Although this study does not address gynecologic patients specifically, the findings are applicable. Lack of improvement in surgical adverse events indicates a continuing challenge and identifies an important target for further patient-safety initiatives.

Confronting Safety Gaps Across Labor and Delivery Teams

Through surveys sent to four professional organizations whose members practice obstetrics (American College of Obstetricians and Gynecologists, American College of Nurse-Midwives, the Association of Women's Health Obstetric and Neonatal Nurses, and the Society for Maternal-Fetal Medicine), the authors assessed the occurrence of four safety concerns among labor and delivery teams: dangerous shortcuts, missing competencies, disrespect, and performance problems. The authors found a clear problem with obstetric teams. Overall, 92% of physicians, 93% of midwives, and 98% of nurses observed one or more of the four concerns within the prior year. Only 9% of physicians, 13% of midwives, and 13% of nurses spoke directly to the person on each occasion and shared their full concern. Reasons for silence included fear of retaliation or a more difficult work environment and fear of confrontation, particularly in front of a patient.

Bottom Line: Organizational silence can undermine a team's ability to improve quality and safety in labor and delivery. Improvement methods might consist of a formal safety program with team training and simulated voicing of concerns, a reporting tree for patient safety and quality concerns, and increasing personal ability and comfort in reporting concerns. All of us

might consider our role regarding patient safety in labor and delivery.

Implementation of a Laborist Program and Evaluation of the Effect Upon Cesarean Delivery

The authors perform a retrospective study in a tertiary care hospital to assess the effect of laborists on cesarean delivery rates. The authors compare the cesarean delivery rate from three time periods from 2006 to 2011: the first 16 months without a laborist; the next 14 months with an in-house community physician laborist; and, finally, 24 months with a full-time, in-house hospital laborist. Cesarean delivery rates were 39.2% for traditional care, 38.7% for community physician care, and 33.2% for full-time laborists.

Bottom Line: A dedicated full-time laborist might lower cesarean delivery rates and accompanying maternal morbidity and mortality as well as health care costs. More research is needed in this area.

Paper Gestational Wheels are Generally Inaccurate

The authors perform a simple but revealing study of various paper gestational wheels to determine estimated date of delivery. They sampled obstetric providers regarding their paper wheel type and found 31 different types. The authors used January 1, 2013, as a last menstrual period and found that the estimated date of delivery from each of the 31 paper wheels ranged from October 5, 2013, to October 12, 2013, a difference of a week. In comparison, the authors calculated the estimated date of delivery with 20 common electronic applications for estimated date of delivery; all of them gave the identical estimated date of delivery that followed the 280-day rule.

Bottom Line: Paper gestational age wheels could be so inaccurate that clinical decision making might be misguided; early-term deliveries (less than 39 weeks) and maternal serum screening false-positive results might increase. Obstetricians should use an electronic gestational age calculator for a more accurate estimated date of delivery.

REFERENCE

1. Agency for Healthcare Research and Quality (AHRQ). Available at: <http://www.ahrq.gov/>. Retrieved March 20, 2014.

