Trajectories

Aim Toward Outcomes

JANUARY 2015 ■ WOMEN'S HEALTH: OBSTETRICS HARM

Key Strategies:

- Increase insurance access to care through innovative models
- Reduce disparities through community collaboration
- Reduce variation in care
- Align goals and incentives, organizational culture, public policy, payers, providers and the community

Trajectories is a monthly publication highlighting Missouri hospital initiatives to improve the health of their communities, and the experience and quality of care provided to their patients, as well as the efficiency of care delivered.

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Achieving the Triple Aim of better health, better care, and lower costs in obstetrical care takes collaborative action among policy developers, providers, payers and the community. Policymakers and payers have focused on payment reform, while providers have implemented targeted practice changes to improve outcomes and reduce disparities. The Missouri HealthNet initiated nonpayment for early elective deliveries without medical necessity for Missouri Medicaid recipients as of Oct. 1.[i] Also underway in Missouri, is an effort to enact perinatal regionalization — a comprehensive, coordinated and geographically-structured approach to ensuring risk-appropriate care to improve birth outcomes, decrease infant mortality rates and achieve higher cost savings. Providers, payers and the community have a role in aligning incentives and coordinating strategies and education to achieve reductions in obstetrical harm. Past and current improvement efforts have focused within the "four walls of the hospital," but health care providers and communities have a greater role in improving the population's overall health through more global strategies to reduce maternal and neonatal harm. This includes a focus on health and health care, with an understanding of how safe care is provided today and how those interventions affect lifetime health and health care spending.

In Missouri, leaders from hospital birthing centers, the Missouri Hospital Association and the March of Dimes have identified and implemented specific changes in practice, resulting in immediate measurable improvements in health outcomes for mothers and babies. Initiatives aimed at decreasing rates of early elective delivery, maternal morbidity, and mortality and disparities demonstrate significant improvement.

Early Elective Delivery

In the last three years, health care has experienced a remarkable decrease in obstetrical harm, particularly in the area of early elective deliveries. An early elective delivery is defined as a non-medically indicated delivery by elective induction or cesarean section of a 37 0/7 to 38 6/7 week gestational newborn. Recent efforts to improve birth outcomes have focused on newborns in the late preterm stage (37-38 weeks gestation). Late preterm infants have significant needs for advanced neonatal services when there is no associated defined medical necessity for the early delivery. A retrospective cohort study by the Consortium on Safe Labor, which included 233,844 births, found that among all infants delivered at 37 weeks of gestation, regardless of indication, there were higher rates of respiratory failure and ventilator use compared with infants delivered at 39 weeks of gestation.[ii] Preterm infants — those born before 37 completed weeks of pregnancy — are at increased risk for infant death and a number of serious health concerns, including intellectual and developmental disabilities, cerebral palsy and visual impairment. Later in life, preterm infants are at increased risk for heart attack, stroke,

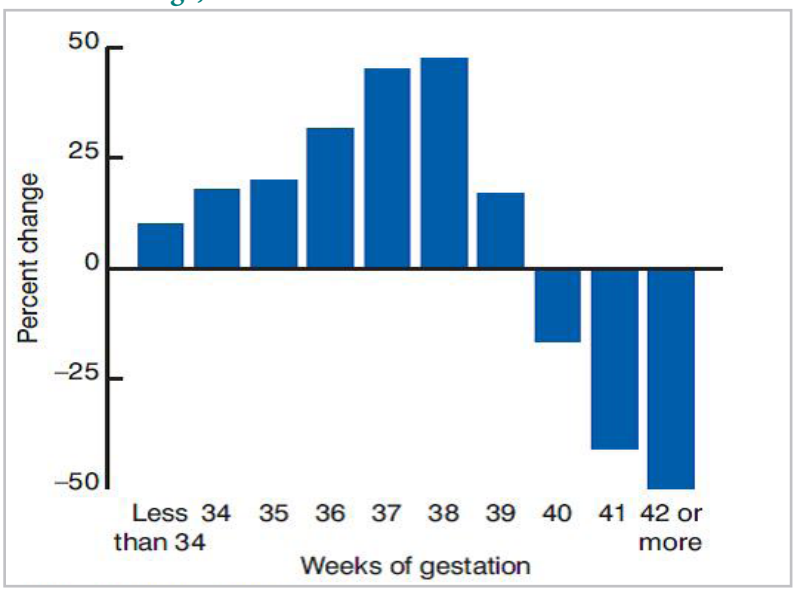
high blood pressure and diabetes.[iii] Figure 1[iv] shows the percent change in infants born by weeks of gestation in 1990 and 2006. While difficult to quantify, the costs of providing care for these health issues, as well as the cost to quality of life for these individuals, must be considered.

The Centers for Medicare & Medicaid Services' Partnership for Patients Hospital Engagement Network played an important role in achieving major reductions in early elective delivery rates. As seen in Figure 2, rates of EED in Missouri HEN hospitals declined from a baseline rate of 5.4 percent in 2011 to 2.2 percent by October 2014.[1] Although still over the national benchmark of 2 percent, continued utilization of hard-stop policies and education will improve that rate.

Forty-six hospitals in Missouri providing birthing services participated in the Missouri HEN. Of them, 78 percent report an EED rate of 5 percent, with 61 percent having no EEDs within the last six months.[v] Hospitals are implementing effective strategies in achieving harm reduction related to EEDs, including the following.

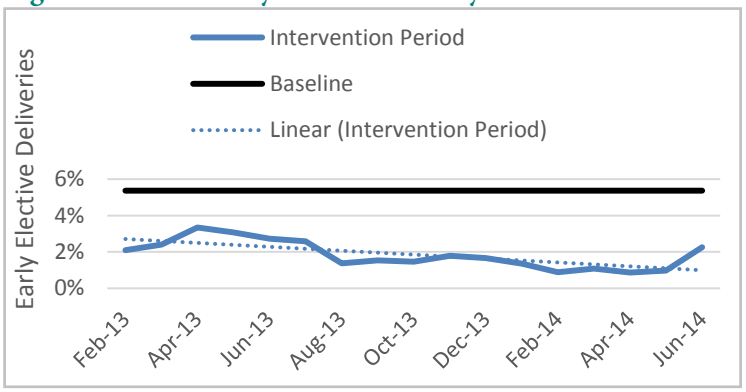
- Ninety-one percent use a hard-stop policy preventing any EEDs from being scheduled
- use of peer education, peer review and provider data transparency
- patient education efforts supported through collaboration with the March of Dimes

Figure 1: Percent Change in the Distribution of Births by Gestational Age, U.S. 1990 & 2006[iii]



Source: Centers for Disease Control and Prevention

Figure 2: Rate of Early Elective Delivery



Source: Missouri Hospital Engagement Network, 2013-2014.

Maternal Morbidity & Mortality

While much focus has centered on neonatal harm and cost of care, the effects of maternal morbidity and mortality continue to increase. The incidence of third and fourth degree perineal lacerations also has risen with associated morbidities of infection, wound breakdown, pain and bowel incontinence.[vi] The overall rate of obstetric intensive care unit admission varies from 0.04 to 4.54 percent, with a recent focus on studying morbidity over mortality and "near-misses" to mitigate the cause prior to care escalation.[vii] Identifying women who experience morbidity and applying a standardized review process should be implemented by all providers and used to inform further quality improvement efforts.[viii] Studies find an increasing prevalence of advanced maternal age, congenital heart disease, obesity, diabetes and hypertension among women who are of childbearing age that may be contributing factors to maternal morbidity and mortality. According to The World Health Organization, the top reasons related to maternal harm are pre-existing medical conditions exacerbated by pregnancy (28 percent), maternal hemorrhage (27 percent), pregnancy-induced high blood pressure (14 percent) and infections (11 percent).[ix]

The work of the obstetrics subgroup of the Missouri HEN focused on reducing harm in the areas of third/fourth degree perineal lacerations, injury to neonates and morbidity/mortality related to preeclampsia. Additional improvement efforts were initiated on

[1] Data included for months reported at 85 percent of reported baseline threshold to achieve consistency. Data are preliminary.

decreasing maternal hemorrhage in 2014. The preliminary results are promising — the rate of third/fourth degree perineal laceration decreased 15 percent from the 2011 baseline (Figure 3).

Intensive care unit days among preeclamptic women have decreased 61 percent since 2011 in Missouri (Figure 4). The overall strategy of readiness, recognition and response is being utilized across Missouri birthing hospitals to improve care management of preeclamptic mothers. Medication kits, protocols and education; use of early warning systems; and drills and simulations are driving the improvement efforts. A recent MHA survey[2] indicated that 86 percent of Missouri HEN hospitals have implemented a protocol for managing severe hypertension to include standing orders.

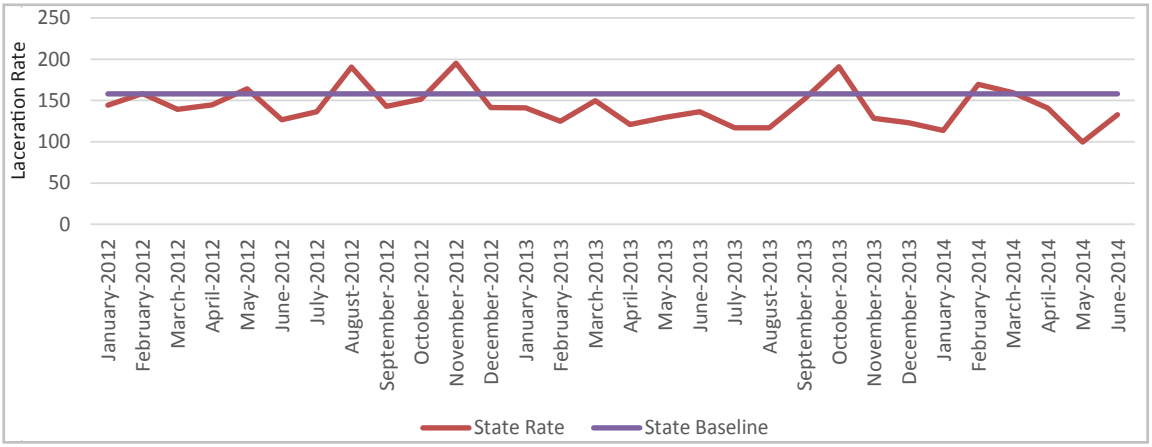
Eliminating Disparities

Achieving the Triple Aim is more than increasing the quality and safety of health care — it also is about improving the health of communities. Policymakers, providers, payers and community organizations and leaders must collaborate to eliminate disparities.

Studies continue to document evidence of disparities in obstetrical care and outcomes. A study published in the *Journal of Perinatology*, found that among maternal demographic factors, race/ethnicity was the strongest predictor for maternal death or near-miss.[x] Additional studies on disparities, such as age, race and socioeconomic conditions, note an increase in neonatal intensive care unit admission among black/non-Hispanics over age 35 and among all race/ethnicities receiving government-funded access to care as compared to privately insured patient populations.

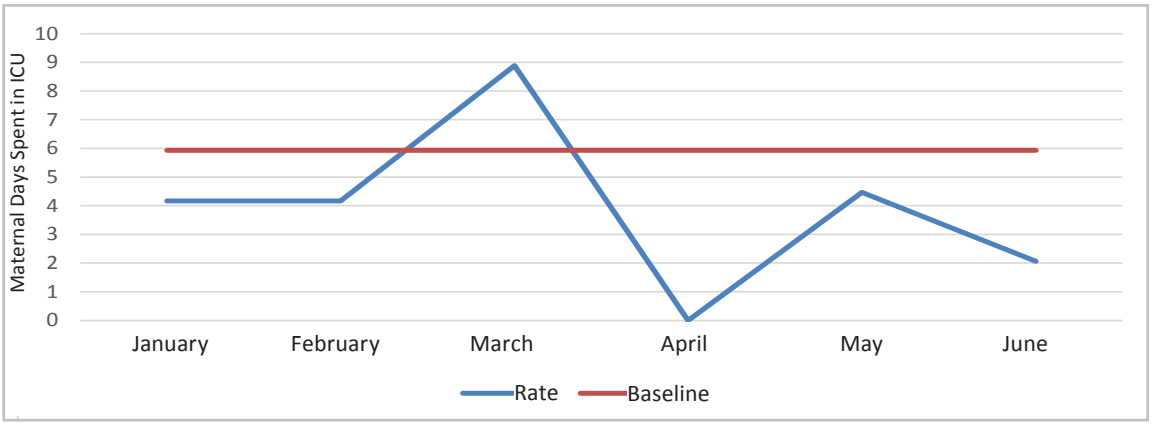
Pregnancy Risk Assessment Monitoring System data supported by the March of Dimes notes a two-fold increase in the rate of black infant mortality versus other races when comparing Missouri to the U.S. average (Figure 5).

Figure 3: Missouri Rate of Third/Fourth Degree Perineal Laceration



Source: HIDI Claims Data, 2012-2014.

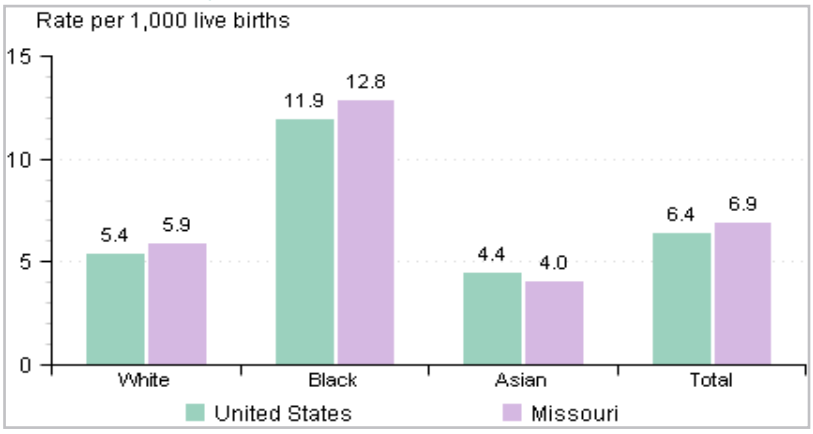
Figure 4: Rate of ICU Days for Diagnosed Preeclamptic Women Compared to Baseline in 2014



Source: MO HEN data, 2014. All data are preliminary.

[2] MHA survey results are preliminary.

Figure 5: U.S. and Missouri Infant Mortality Rates by Race, 2008-2010 Average



Source: March of Dimes Peristats[xi]

Organizations, such as Centering Pregnancy©,[xii] which uses a group health care model, are looking to reduce these disparities and empower women to better manage their own health — before, during, and after pregnancy — thereby, decreasing the rates of preterm birth and low birth weight infants. Missouri's Task Force on Prematurity and Infant Mortality's January 2014 report notes not only racial disparities, but also medical coverage and access disparities. From 2008-2013, Missouri's uninsured rate grew 14.6 percent.[xiii] Provisions in the Affordable Care Act consider prenatal, maternal and newborn care as part of the "essential health benefits" package that insurers must include in individual and small-group plans. The successful expansion of Medicaid in Missouri would provide more women with coverage for obstetrical care. The ACA also expands maternal, infant and early childhood home visiting programs for high-risk communities, including funds for postpartum depression research and treatment.[xiv] Missouri's Task Force also calls for development of a maternal child health home model of delivery for implementation of a biopsychosocial set of interventions leading to better communication, patient engagement and coordinated care transitions.

The ACA also may address provider shortages by raising Medicaid reimbursement rates and by making midwives and birth centers more accessible, particularly in medically underserved communities.

Socioeconomic factors of access to quality education, nutrition, safe housing and employment also affect birth outcomes and need to be considered in collaboration with community resource groups.

The magnitude in variation of maternal-child outcomes across health care providers, despite managing for case-mix index, indicates a clear need for quality improvement and standardization. Although the reported incidence of maternal pregnancy-related mortality is low (14.5 per 100,000 live births), the rate of obstetric complications is nearly 13 percent, and differs widely when comparing low and high performing hospitals and providers.[xv]

Conclusion

In a recent article, John Lantos made the following observation about neonatal intensive care units. "Neonatal intensive care is one of the triumphs of modern medicine. Babies who inevitably would have died a few decades ago routinely survive today. But, the success of NICUs should not lead us to see them as the only solution to infant mortality or as an adequate moral response to our children's health needs. We should constantly remind ourselves that the need for so much intensive care for so many babies is a sign of political, medical and moral failure in developing ways to address the problems that sustain an epidemic of prematurity."[xvi]

Daily NICU costs exceed $3,500 per infant, and it is not unusual for costs to top $1 million for prolonged stay. Significant changes have been seen through recent process improvement efforts focused on reducing obstetric harm. Continued incidence of neonatal and maternal injuries and mortality provides cause and emphasizes the need to accelerate efforts and widen the scope of managing harms prevention. Evidence-based strategies exist for prevention of maternal and neonatal harms. The focus needs to center around organizational culture and implementation; management of the process to ensure spread and sustainability; variation reduction; and collaboration of policy makers, providers, payers and the community to align goals and incentives and reduce disparities. Each of these neonatal and maternal harms has significant potential to have lifetime negative health outcomes for the population, while substantially increasing the costs of care.

Infant Mortality:
What Makes the Difference

Breastfeeding support
Immunizations
Safe housing
Nutrition
Food
Income
Prenatal care
Quality health care
Healthy environment

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MISSOURI HOSPITAL ASSOCIATION

P.O. Box 60
Jefferson City, MO 65102-0060

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