The National Evaluation of the CHIPRA Quality Demonstration Grant Program

Evaluation Highlight No.12, May 2015

The CHIPRA Quality Demonstration Grant Program

In February 2010, the Centers for Medicare & Medicaid Services (CMS) awarded 10 grants, funding 18 States, to improve the quality of health care for children enrolled in Medicaid and the Children's Health Insurance Program (CHIP). Funded by the Children's Health Insurance Program Reauthorization Act of 2009 (CHIPRA), the Quality Demonstration Grant Program aims to identify effective, replicable strategies for enhancing quality of health care for children. With funding from CMS, the Agency for Healthcare Research and Quality (AHRQ) is leading the national evaluation of these demonstrations.

The 18 CHIPRA quality demonstration States are implementing 52 projects in five general categories:

- Using quality measures to improve child health care.
- Applying health information technology (IT) for quality improvement.
- Implementing provider-based delivery models.
- Investigating a model format for pediatric electronic health records (EHRs).
- Assessing the utility of other innovative approaches to enhance quality.

The CHIPRA quality demonstration began on February 22, 2010, and was scheduled to conclude on February 21, 2015. The national evaluation of the grant program started on August 8, 2010, and is expected to be completed by September 8, 2015.



How are CHIPRA quality demonstration States improving perinatal care?

Authors: Ellen Albritton and Dana Petersen

This *Evaluation Highlight* is the 12th in a series that presents descriptive and analytic findings from the national evaluation of the Children's Health Insurance Program Reauthorization Act of 2009 (CHIPRA) Quality Demonstration Grant Program. In this *Highlight*, we discuss how Florida and Illinois are leveraging CHIPRA quality demonstration funds to improve the quality of perinatal care, defined as health care provided during pregnancy up until a week after birth.

KEY MESSAGES

States may find the experiences of Florida and Illinois useful for developing and implementing initiatives to improve the quality and outcomes of perinatal care. Key messages from Florida and Illinois include the following:

- Participation in the CHIPRA quality demonstration was critical to establishing or expanding perinatal quality collaboratives (PQCs) by using funds to support collaboration between Florida and Illinois and engaging key stakeholders in each State with perinatal expertise, such as the March of Dimes and State hospital associations.
- The PQCs engaged hospitals in data-driven, evidence-based quality improvement (QI) projects that improved rates of catheter-associated bloodstream infections, delivery room management in the first hour after birth, and infant nutrition.
- Florida and Illinois developed tools and resources designed to provide technical assistance to providers to ensure their compliance with evidence-based perinatal care guidelines and to improve women's ability to make appropriate decisions about perinatal care.
- Florida and Illinois used new data systems and linkages to support States and hospitals in targeting, tracking, and improving perinatal quality measures.
- Both States implemented systems-level changes that will continue to enhance the quality of perinatal health care after the CHIPRA quality demonstration concludes. For example, Florida improved the reporting of quality measures, and Illinois added requirements to managed care contracts to improve the transition from one type of perinatal care to another.

Background

Insufficient or inferior perinatal care can result in avoidable complications and poor maternal and infant outcomes. Examples include preterm birth (before 37 weeks of pregnancy), low birth weight (less than 5.5 pounds), and infant death.¹ In addition to improving the health outcomes of women and infants that can have lifelong impact, better perinatal care can translate into significant cost savings. For example, more than 12 percent of Medicaid-covered babies are born preterm, and care for preterm babies costs approximately nine times as much as care for full-term babies.² Medicaid pays for almost 45 percent of all births in the Nation,³ and as a result, the program bears a significant proportion of the excess costs associated with preterm births. Moreover, early elective deliveries (EEDs), which are scheduled from 37 to 39 weeks of pregnancywithout medical indication-are linked to neonatal morbidities and mortalities⁴ and are associated with nearly \$1 billion in health care expenditures per year.5

Perinatal health is a high priority in the United States, as demonstrated by the selection of preterm birth and infant death rates as leading health indicators in Healthy People 2020. The Centers for Medicare & Medicaid Services (CMS) and the Maternal and Child Health Bureau, as well as private foundations such as the March of Dimes, have signaled the importance of perinatal health by prioritizing efforts to develop, track, and improve performance on perinatal quality measures.^{6,7} For example, CMS has developed and uses the Child Core Set and Maternity Core Set measures, both of which include perinatal health indicators.8,9

As part of the CHIPRA quality demonstration, Florida and Illinois

pursued projects to improve the quality and outcomes of perinatal care, both in concert with one another and within their respective systems of care. The two States were motivated by their earlier involvement in the March of Dimes "Big 5" initiative—a collaboration among the five States in the Nation with the highest birth rates to explore and promote data-driven QI programs targeted at specific perinatal quality indicators.⁷

Florida and Illinois saw the CHIPRA quality demonstration as an opportunity to integrate existing perinatal improvement activities into more coordinated statewide strategies. For example, Florida wanted to expand the infant health component of its PQC, and Illinois wanted to work with providers to expand their use of performance tools and generally improve the quality of prenatal care. This *Highlight* describes projects that Florida and Illinois have undertaken as part of the CHIPRA quality demonstration that may provide examples of what other States can do if they are interested in improving the quality of perinatal care.

The information in this *Highlight* comes from semi-structured interviews conducted during spring and summer 2012 and fall 2014 with staff from the CHIPRA quality demonstration and collaborating organizations. In addition, we examined the States' semiannual progress reports submitted to CMS and materials prepared by the States' PQCs.

Findings

The demonstration grants helped establish or expand perinatal quality collaboratives

PQCs are networks of hospitals, health care providers, and other stakeholders

in the health care system that work to improve outcomes for pregnant women and newborns through continuous QL¹⁰ With support from the CHIPRA quality demonstration, Florida strengthened its existing PQC, which is called the Florida Perinatal Quality Collaborative (FPQC), and Illinois established the Illinois Perinatal Quality Collaborative (ILPQC).

Florida spread perinatal QI. Established in 2010 and supported in part by the March of Dimes, Florida Department of Health, and Florida Hospital Association, the FPQC worked to improve perinatal quality through various QI projects. With its participation in the CHIPRA quality demonstration, the FPQC was able to continue and expand its efforts by broadening its membership and increasing the number and reach of its QI projects.

The CHIPRA quality demonstration helped reinforce the FPQC's credibility, provided neutral "space" for experts and stakeholders to come together to address critical perinatal issues, and provided structure for ongoing and strengthened collaboration among the FPQC, the State's Medicaid agency, and the Florida Department of Health. Payers (Medicaid and Florida Blue) joined the FPQC for the first time, further expanding its credibility. With demonstration funding, the FPQC sponsored a conference in March 2012, which has become an annual event that is the premier educational meeting for the State's perinatal providers.

CHIPRA quality demonstration funding also extended the FPQC's ability to engage hospitals in QI projects through the use of new data linkages, leadership support, and staff training. For example, the FPQC purchased data on very low birth weight infants from the Vermont Oxford Network (VON).11 VON data allowed the FPQC to examine the variation in perinatal outcomes for extremely low birth weight infants (i.e., less than 2 pounds, 3 ounces) among Florida hospitals. Examination of the data permitted the FPQC to help raise awareness of critical perinatal health issues in the State, identify topics for QI projects, and secure participation in QI projects from hospital leaders. The FPQC also used demonstration funding to pay for FPQC staff time as well as on-site training and ongoing technical assistance for hospitals participating in the collaborative's QI projects.

"We use [VON data] for planning at the collaborative level, but by giving it to hospitals, they know how they're doing compared to the other hospitals, so they can come up with their own planning on where they are out of line."

> Florida Demonstration Staff, November 2014

Illinois established a POC. Illinois's partnership with Florida as part of the CHIPRA quality demonstration, inclusive of start-up funding and dedicated staff time provided by the demonstration, enabled Illinois to create the ILPQC. Staff from the State traveled to Florida to participate in the annual FPQC conference. They met with experts from other States' PQCs and learned firsthand from the FPQC's experiences about how to start and run a PQC. Drawing from Florida's experience, staff in Illinois conducted one-on-one meetings with key stakeholders to secure their buy-in and incorporate their input into the ILPQC's mission, vision, and goals. The ILPQC has received funding and

support from sources in addition to the CHIPRA quality demonstration, such as the March of Dimes, Illinois Hospital Association, and Centers for Disease Control and Prevention.

"It was really the CHIPRA [quality] demonstration and the collaboration with the Florida folks that helped [the ILPQC] get off the ground."

> — Illinois Demonstration Staff, November 2014

In November 2013, the ILPQC held its inaugural annual conference on obstetric (OB) and neonatal quality of care. The second annual conference, in 2014, drew more than 200 physicians, nurses, and hospital quality personnel from across Illinois. As of January 2015, approximately 67 hospital teams were participating in ILPQC QI projects. Before launching its first formal OB QI project on EEDs, the ILPQC delivered a series of three virtual "OB boot camps" by Webinar to increase provider knowledge of perinatal topics and QI. Between 40 and 80 hospitals participated in each Webinar.

The ILPQC has since embarked on four additional QI projects focused on neonatal nutrition, improving the accuracy of Illinois birth certificate data, maternal hypertension, and neonatal resuscitation at delivery. Overall, CHIPRA quality demonstration staff and stakeholders in Illinois feel that the ILPQC has engaged stakeholders and hospital teams across the State and has provided a collaborative learning infrastructure, data reporting system, and QI expertise that supports perinatal care quality initiatives statewide.

The PQCs used hospital-based QI projects to facilitate improvements in the delivery of care

One of the functions of both the FPQC and the ILPQC is to engage hospitals in evidence-based and data-driven QI projects intended to improve the quality of perinatal care and outcomes for pregnant women and newborns. The projects generally involve (1) educating hospital teams on how to improve specific care processes, (2) training teams to measure and track performance and quality indicators, and (3) providing hospital teams with timely reports that compare their own indicators with those of other participating hospitals.

Florida reported lower rates of health care–associated infections in newborns.

In an effort involving nine States, the FPQC participated in the Neonatal Central Line-Associated Blood Stream Infections (NCLABSI) program to reduce potentially fatal central lineassociated infections in newborns.12 Sixteen Florida neonatal intensive care units (NICUs) that provide care for infants with severe illness or complex conditions joined the effort. The FPQC used demonstration funds to support the Florida NICUs' participation in the program's second phase. Using a variety of methods such as hospitalspecific data monitoring and review, monthly Webinars, ongoing technical assistance, and site visits with handson training, the FPQC helped hospitals establish and institutionalize practices proven to reduce infection, including strict catheter insertion protocols and techniques for maintaining a sterile environment. In Figure 1, we present outcomes from the initiative as reported by the FPQC.¹³

Continued

Figure 1. Grantee-Reported Outcomes from NCLABSI in 16 Florida Hospitals

From December 2011 to August 2013, the 16 participating NICUs:

- Reduced the central line infection rate by 58 percent, which is equivalent to 150 avoided infections.
- Averted an estimated 18 deaths from central line infections.
- Reduced the length of hospital stays, avoiding approximately 1,200 inpatient days.

Note: Data reported by the Florida Perinatal Quality Collaborative¹³ and not independently validated.

Florida also reported improvements in care delivered during the "golden hour"

after birth. Given that events during the first hour after birth in particular are related to short- and long-term health outcomes for premature infants,¹⁴ the FPQC launched a QI project in September 2013 called the Golden Hour initiative that brings together nine NICUs to improve delivery room management during the "golden hour." The QI project aims to attain better outcomes for infants born before 31 weeks gestational age or with very low birth weight (less than 3 pounds, 5 ounces). To achieve this goal, the FPQC and the NICUs are implementing evidence-based practices, such as improving temperature regulation by putting a hat on the baby and wrapping the baby in polyethylene within 2 minutes of birth, activating a warming mattress before delivery, and paying attention to ambient room temperature.

The FPQC used CHIPRA quality demonstration funding to provide participating hospitals with individualized on-site training and to host group Webinars on QI methods related to delivery room management. The FPQC also provided monthly, hospital-specific data reports, followed by conference calls with the hospitals to review the reports, address issues, and develop an action plan to improve results. In Table 1, we present preliminary data on process and outcome measures for the FPQC Golden Hour initiative.¹⁵

Illinois reported improvements in infant feeding and nutrition practices. The goal of the ILPQC's first QI project— Improving Neonatal Nutrition Initiative—is to improve the nutrition and growth of preterm babies, who often grow more slowly after birth than they would have if they had remained in the womb.¹⁶ Specifically, the initiative aims to reduce the percentage of "growth-restricted" infants discharged from the NICU from 45 to 30 percent. The initiative began in January 2014 with 18 participating hospitals, representing 84 percent of all NICU beds in the State.

To disseminate evidence-based strategies for improving newborn nutrition, the ILPQC developed a toolkit to help NICUs achieve the initiative's goal. The strategies include earlier administration of nutrition both intravenously and through a feeding tube and increased use of breast milk. The initiative is supported by a Web-based data system developed in collaboration with Northwestern University. The system allows hospitals to enter data in a secure portal and produces customized reports detailing a hospital's progress over time relative to other participating hospitals.

Porcont of Infante

Golden Hour Quality Measures	Target	for Whom the Target Was Achieved (as of February 2014)
NICU admission temperature of 36.5°C to 37.5°C	Above 75% of infants	72
Compliance with oxygen targets of neonatal resuscitation programs (85 to 95%) at 10 minutes of life	Above 50% of infants	51
Delayed cord clamping for 30 to 60 seconds	Above 50% of infants	72
Assigned predefined roles (airway, circulation, team leader, and scribe)	Above 50% of deliveries	Above 55 for each role
Team debriefing conducted within 4 hours of delivery	Above 50% of deliveries	55

Table 1. Grantee-Reported Measures in Nine Florida Hospitals for FPQC Golden Hour Initiative

Note: Data reported by the Florida Perinatal Quality Collaborative¹⁵ and not independently validated.

According to the ILPQC, as of January 2015, participating hospitals have demonstrated improvements in many areas, such as earlier initiation of nutrition—both intravenously and by feeding tube—and a reduction in the percentage of growth-restricted infants discharged from the NICU.

Education strategies targeted obstetric providers

FPQC leaders and CHIPRA quality demonstration staff in Illinois developed educational tools that amplified the work of the PQCs' QI projects by reaching additional obstetric providers and women statewide.

A Florida campaign educated obstetricians

about EEDs. After a successful QI initiative supported by the FPQC to reduce EEDs prior to the CHIPRA quality demonstration, approximately one-third of Florida hospitals still had an EED rate above the generally accepted national standard of 5 percent. To enable further progress, the FPQC used demonstration funds to educate obstetricians about the importance of avoiding EEDs. The campaign consisted of "grand rounds" conferences that reached approximately 225 obstetricians, a resource newsletter distributed to all 116 maternity hospitals in the State, and 700 educational packets distributed to physician offices. It also included quarterly email newsletters distributed via the State chapters of obstetric provider organizations. The newsletters summarized the latest evidence-based literature, Webinars, video interviews with obstetric experts, and checklists for talking with patients about the potential risks associated with EEDs.

Illinois developed a tool to increase the delivery and documentation of recommended prenatal care. A study conducted by the University of Illinois at Chicago and the State Medicaid program from 2004 to 2007 found a correlation between insufficient documentation of recommended prenatal care and poor birth outcomes. To help address the issue, the CHIPRA quality demonstration team, with assistance from the State's external quality review organization (EQRO) and other stakeholders, developed the Prenatal Care Quality Tool (PCQT) to reduce variability in and improve the overall content of prenatal care.

Based on the recommendations of the American Congress of Obstetricians and Gynecologists, the PCQT identifies the minimum core clinical services, laboratory tests, health education, and referrals that should be provided at all prenatal and postpartum visits. Physicians may use the tool, which also identifies criteria for high-risk referrals, as either a checklist or a template incorporated into an electronic health record. Illinois is pilot testing the tool with two obstetric practices to determine its usefulness and whether it improves quality.

Illinois developed an educational toolkit to help providers educate women about reproductive health. The Illinois CHIPRA quality demonstration team and EverThrive Illinois developed a toolkit for use by obstetric providers, health care organizations, and community organizations to educate and engage women in decisions about their reproductive health. For example, the toolkit includes checklists for prenatal and postpartum care that women may use to prepare for visits. The tools emphasize the importance of the visits, including the expected content of the visits, and provide suggested topics for discussion with providers.

The toolkit also includes health communication and social marketing materials (for example, images and messages) that providers and other stakeholders may use to spread the word about the importance of reproductive health care. The materials may be adapted for billboards, other types of advertising, posters in examination rooms, or handouts. For example, one local health department used images and messages from the toolkit about spacing between pregnancies for posting on public buses. Hospitals, community health centers, and local health departments in two regions of the State are pilot testing the materials.

States pursued systems-level changes to increase the likelihood of sustaining improvements in perinatal care

Florida laid the groundwork for future QI efforts with a project to improve perinatal quality reporting. Using birth certificate data linked with hospital discharge data on mothers, members of an FPQC workgroup are collaborating with the March of Dimes, Florida Department of Health, and State Medicaid program to develop more timely and accurate perinatal outcome information for all mothers and infants in the State. As part of the project, the FPQC engaged seven hospitals to develop and track indicators of maternal and infant health care, such as cesarean births among low-risk women, nonmedically indicated inductions, induction failures, and steroid use during pregnancy. To support the hospitals' efforts, the project provides the hospitals with resources that define the indicators, their importance, measure specifications, and strategies for improving performance on the indicators. In exchange for identifying

a contact to receive training in understanding and using the perinatal quality reports and participating in one data quality initiative per year, hospitals may access quality reports that show their performance on the indicators compared with that of other hospitals. By improving the tracking and measurement of these indicators across the State, the FPQC hopes to identify areas for future hospital-driven QI projects.

Illinois included new requirements for perinatal care transitions in Medicaid managed care contracts. A CHIPRA quality demonstration work group wrote recommendations for new requirements for Illinois's Medicaid managed care contracts. The State agreed to some of the recommendations and, for example, has inserted language into the quality assurance portion of a model contract that requires health plans to establish processes for (1) ensuring a smooth and appropriate transition from delivery to postpartum care and (2) reconnecting mothers to ongoing primary and interconception care in medical homes. The workgroup is collaborating with the State's EQRO to assess the degree to which health plans have these processes in place and to develop a performance improvement plan that addresses care transitions and postpartum care.

Conclusion

The partnership between Florida and Illinois, born of the CHIPRA quality demonstration, made it possible for PQCs in both States to improve the delivery of care in hospitals involved in the States' QI projects. The projects focused on the use of timely, accurate data as well as on training and technical assistance to improve the quality and outcomes of perinatal care. CHIPRA quality demonstration workgroups also developed and disseminated educational material to increase providers' capacity to deliver high-quality perinatal care and help them raise women's awareness about its importance. Statewide improvements in perinatal care included the development of new quality indicator systems and the strengthening of the requirements in Medicaid managed care contracts that govern perinatal care transitions.

Coordination between the two States' CHIPRA quality demonstration teams helped each team not only combine and otherwise leverage several funding sources but also build on existing efforts in their States to implement their projects. Ongoing partnerships between perinatal stakeholders will help expand further and sustain their work after the CHIPRA quality demonstration concludes.

Implications

States interested in improving the quality of perinatal care can benefit from the experiences of Florida and Illinois and may want to consider the following approaches:

- Explore ways to secure and combine funding from several sources. Join forces with other public and private entities to improve the quality of perinatal care. A PQC is one model worthy of consideration.
- Create new collaboratives or fund existing ones that bring together providers, hospitals, State agencies, and payers for the purpose of implementing perinatal QI projects. Collaboratives can increase the visibility and credibility of projects and provide a neutral "space" in which stakeholders can convene and coordinate their efforts.
- Develop or acquire longitudinal and comparative data sources. Allowing hospitals to see their own data and compare themselves with other hospitals can raise their awareness of perinatal issues, secure buy-in from hospital leaders and staff, and focus their QI projects on critical perinatal issues. The data also can draw the attention of perinatal care leaders to issues affecting the entire State.
- Launch multifaceted change efforts targeting providers, hospitals, health care systems, and women of childbearing age to increase the likelihood that improvements in perinatal care are sustained. Examples include simultaneously supporting hospitalbased QI projects, conducting educational campaigns directed at women, modifying managed care organizations' and other payers' contract language, and leveraging EQRO activity.

LEARN MORE

Additional information about the national evaluation and the CHIPRA quality demonstration is available at http://www.ahrq.gov/chipra/demoeval/.

Use the tabs and information boxes on the Web page to:

- Find out about the 52 projects being implemented in the 18 CHIPRA quality demonstration States.
- Get an overview of projects in each of the five CHIPRA quality demonstration grant categories.
- View reports that the national evaluation team and the State evaluation teams have produced on specific evaluation topics and questions.
- Learn more about the national evaluation, including its objectives, evaluation design, and methods.
- Sign up for email updates from the national evaluation team.

Endnotes

- 1. National Quality Forum. Perinatal and reproductive health endorsement maintenance: Technical report. Washington, DC: National Quality Forum, June 2012. Available at http://www.qualityforum. org/Publications/2012/06/Perinatal_ and_Reproductive_Health_Endorsement_ Maintenance.aspx. Accessed October 28, 2014.
- Institute of Medicine Committee on Understanding Premature Birth and Assuring Healthy Outcomes; Behrman RE, Butler AS, editors. Societal costs of preterm birth. In: Preterm Birth: Causes, Consequences, and Prevention. Washington, DC: National Academies Press; 2007:chapter 12. http://www.ncbi.nlm.nih.gov/books/ NBK11358/#a20012272ddd00317. Accessed January 12, 2015.
- http://kff.org/medicaid/state-indicator/ births-financed-by-medicaid/. Accessed November 23, 2014.
- 4. http://www.39weeksfl.com/wp-content/ uploads/2014/08/NQF-Maternity-Action-Team-Playbook-2014.pdf. Accessed December 9, 2014.
- http://www.ilpqc.org/docs/ILPQC-EarlyElectiveDeliveryInitiaitve.pdf. Accessed October 28, 2014.
- http://mchb.hrsa.gov/infantmortality/ coiin/index.html. Accessed November 8, 2014.

- Berns S. March of Dimes Big 5 state prematurity collaborative. Pulse: A monthly newsletter from the Association of Maternal and Child Health Programs. November 2009. Available at http://www.amchp. org/AboutAMCHP/Newsletters/Pulse/ Archive/2009/November%202009/Pages/ Feature1.aspx. Accessed November 8, 2014.
- http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/ Quality-of-Care/CHIPRA-Initial-Core-Setof-Childrens-Health-Care-Quality-Measures. html. Accessed March 4, 2015.
- 9. http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Qualityof-Care/Maternal-and-Infant-Health-Care-Quality.html. Accessed March 4, 2015.
- 10. Henderson ZT, Suchdev DB, Abe K, et al. Perinatal quality collaboratives: improving care for mothers and infants. J Womens Health 2014 May;23(5):368-72.
- 11. https://public.vtoxford.org/about-us/. Accessed October 28, 2014.
- 12. For more information on NCLABSI, including specific information about the protocol, see http://www.ahrq.gov/professionals/ quality-patient-safety/cusp/clabsi-neonatal/ clabsineonatal.pdf. Accessed November 8, 2014.
- 13. Florida Perinatal Quality Collaborative. Neonatal Cather-Associated Blood Stream

Acknowledgments

The national evaluation of the CHIPRA Quality Demonstration Grant Program and the Evaluation Highlights are supported by a contract (HHSA29020090002191) from the Agency for Healthcare Research and Quality (AHRQ) to Mathematica Policy Research and its partners, the Urban Institute and AcademyHealth. Special thanks are due to Cindy Brach and Linda Bergofsky at AHRQ, Barbara Dailey and Elizabeth Hill at CMS, and our colleagues for their careful review and many helpful comments. We particularly appreciate the help received from CHIPRA quality demonstration and PQC staff in Florida and Illinois for the time they devoted to answering many questions during our site visits and telephone calls and to reviewing an early draft. The observations in this document represent the views of the authors and do not necessarily reflect the opinions or perspectives of any State or Federal agency.

Infections (NCABSI) initiative: Where we were, where we've come and where we're going. Neonatal Focused Meeting. September 27, 2013. Available at http:// health.usf.edu/NR/rdonlyres/FADDF4C2-297D-4B4A-ADA1-A5F2E8D259C2/46654/ NCABSIUpdateAugust2013.pdf. Accessed November 8, 2014.

- 14. Balakrishnan M. Golden Hour part I: Delivery room management. FPQC Neonatal Meeting. October 2013. Available at http:// health.usf.edu/NR/rdonlyres/7B3A0414-74D3-4192-94DC-FBDE9C088C76/46813/ FPQCGoldenHourPartI_10152014.pdf. Accessed November 8, 2014.
- Florida Perinatal Quality Collaborative. Golden Hour part I: Delivery room management newsletter. April 2014. Available at http://health.usf.edu/ NR/rdonlyres/2690D2C1-9AA5-4384-93EB-78A5E5575257/48638/ FPQCGoldenHournewsletter42014web.pdf. Accessed November 8, 2014.
- Clark RH, Thomas P, Peabody J. Extrauterine growth restriction remains a serious problem in prematurely born neonates. Pediatrics 2003 May;111(5):986-90.
- Oshiro BT, Kowalewski L, Sappenfield W. A multistate quality improvement program to decrease elective deliveries before 39 weeks of gestation. Obstet Gynecol 2013 May;121(5):1025-31