Babies, Business and the Bottom Line

Friday, November 3, 2017, 8:00AM – 12:00PM

Made possible through a March of Dimes grant and the Healthy Start Coalition of Orange County

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Florida HEALTH

Healthy Start
Coalition of Orange County
Every baby deserves a healthy start

Nemours. Children’s Hospital
Babies, Business and the Bottom Line – A Call to Action!

AGENDA – Friday, November 3, 2017

7:30 am - 8:15 am  Light Breakfast & Registration

8:15 am - 8:30 am  Welcome and Overview of Today's Program
André Hebra, MD, Chief Medical Officer, Physician-In-Chief
Nemours Children’s Hospital
Karen van Caulil, PhD, President and CEO
Florida Health Care Coalition

8:30 am – 9:00 am  Babies, Business and the Bottom Line – Fighting Prematurity
Cole Greves, MD, Director of Medical Quality – Antepartum and Women’s ICU
Orlando Health, Winnie Palmer Hospital for Women and Babies, and
Assistant Professor and OB/GYN Site Director for Orlando Health
University of Central Florida College of Medicine

8:30 am – 9:00 am  Strategies to Reduce the Impact of Prematurity
Armando Fuentes, MD, MBA, Medical Director and Chairman of Maternal Fetal Medicine
Nemours Children’s Hospital

9:00 am – 9:30 am  Neonatal Abstinence Syndrome
Tricia Romesberg, DNP, MSN, ARNP, CNNP, Neonatal Nurse Practitioner
Nemours Children’s Hospital

9:30 am – 10:15 am  Break

10:15 am – 10:30 am  Maternal and Child Health Challenges in Quality and Cost
Karen van Caulil, PhD, President and CEO
Florida Health Care Coalition

10:30 am – 10:45 am  Local Solutions Panel Discussion from Florida Hospital, Orlando Health, HCA and baby+co
Karen van Caulil, PhD – Moderator
Panelists:
Raj Wadhawan, MD, MMM, Chief Medical Officer, Florida Hospital
Michael Stubee, MHA, Chief Operating Officer, Orlando Health
Ray Morales, MD, MBA, HCA Division Chief Medical Officer, HCA System of Hospitals
Debbie Weems, FACHE, Senior Advisor, baby+co

11:50 am – 12:00 pm  Call to Action & Adjourn
Linda Sutherland, Executive Director
Healthy Start Coalition of Orange County

This event is made possible through a March of Dimes grant to the Healthy Start Coalition of Orange County.

Thank you to our host and sponsors!
SPEAKERS

Cole Douglas Greves, MD, Director of Medical Quality – Antepartum and Women’s ICU Orlando Health, Winnie Palmer Hospital for Women and Babies, and Assistant Professor and OB/GYN Site Director for Orlando Health, University of Central Florida College of Medicine

Dr. Greves is a clinical perinatologist, medical director of the hospital’s antepartum and women’s intensive care unit, and assistant director of medical education. He also serves on the faculty of the University of Central Florida College of Medicine.

Dr. Greves completed his undergraduate degree at the University of Minnesota in Minneapolis and earned his medical degree from the University of North Dakota School of Medicine in Grand Forks, North Dakota. He completed his residency at Orlando Health and a fellowship in maternal fetal medicine at the University of Rochester – Strong Memorial Hospital in Rochester, New York.

Dr. Greves has conducted extensive research during his career. Currently he is the principal investigator on a Cesarean section study and co-investigator on a sepsis study. He also is a frequent presenter at medical conferences and meetings.

Armando Fuentes, MD, MBA, Medical Director and Chairman of Maternal Fetal Medicine, Nemours Children’s Hospital

Dr. Fuentes is a maternal-fetal medicine expert who joined Nemours Children’s Hospital in December 2016, as the Director of the Nemours Center for Fetal Care and Chairman of the Maternal-Fetal Medicine Department. He presently serves as Assistant Professor at the University of Central Florida. His 31-year career includes serving as a perinatologist at Johns Hopkins All Children’s Hospital in St. Petersburg, Fla., clinical assistant professor at Stanford University, director of The Maternal Fetal Center at Valley Children’s Hospital in California, and practicing primary OB/GYN and Perinatology at Arnold Palmer Hospital, Florida Hospital and private practice in the Orlando area.

Tricia Romesberg, DNP, MSN, ARNP, CNNP, Neonatal Nurse Practitioner, Nemours Children’s Hospital

Tricia Romesberg is a Neonatal Nurse Practitioner in the Newborn Intensive Care at Nemours Children’s Hospital (NCH). Tricia was born and raised in New Mexico and spent many years developing and coordinating a Neonatal Palliative Care Program at the University of New Mexico Children’s Hospital. Tricia came to NCH following completion of her Doctor of Nursing Practice degree from the University of North Florida in 2014. In addition to her clinical hours and interest in Neonatal Abstinence Syndrome, Tricia participates in the Hospital Associated Infection Committee, the Bioethics Committee, and she is a board member of the Space Coast Health Foundation and Health Advisory Council in Brevard County.
Ray Morales, MD, MBA, HCA Division Chief Medical Officer, HCA System of Hospitals

Dr. Morales attended Harvard University where he majored in calculus and graduated from the University of California Irvine, School of Medicine with aspirations of becoming a Dermatologist and attending the Dermatology Residency Program at Irvine. After completing a Rotating Internship at Los Angeles County-University of Southern California Medical Center, he entered the Obstetrics and Gynecology Residency at Cedar Sinai Medical Center in Los Angeles. Dr. Morales practiced as an OB/GYN physician in Beverly Hills for 17 years.

Dr. Morales served for four years as Chief Medical Officer at Tower Health Plan in California and Nevada. He received his MBA at the University of Phoenix during his tenure at Wellpoint, Inc. Health Plan. He served as Medical Director of Quality, National Medical Director of Corporate Social Responsibility for the WellPoint Foundation, and VP of National Accounts for the Southeast. In addition, he served as Chief Medical Officer for the Adventist Health System West for three years.

Dr. Morales currently serves as the Division Chief Medical Officer for the North Florida Division, responsible for the clinical excellence strategy to reduce clinical variation and improve outcomes, quality, and clinical oversight of our Florida hospitals.

Michael Stube, MHA, Chief Operating Officer, Orlando Health

Michael Stube is the Chief Operating Officer of Managed Care for Orlando Health, having assumed that role in September 2016. Prior to Orlando Health he was Executive Director of Managed Care for the UF Health system in Gainesville and Jacksonville. His 22-year career in health care has also included positions with HCA, AvMed Health Plan, Florida Eye Clinic, and First Health. He has a Master of Health Administration and a Bachelor of Science in Business Administration, both from the University of Florida.

Raj Wadhawan, MD, MMM, Chief Medical Officer, Florida Hospital

Dr. Wadhawan is the Chief Medical Officer for Florida Hospital for Children. He is also the Medical Director for Neonatology at the Walt Disney Pavilion, Florida Hospital for Children. He holds a faculty appointment as an Associate Professor in the University of Central Florida, Department of Pediatrics. Dr. Wadhawan obtained a Masters in Medical Management degree from Carnegie Mellon University in 2011. He is also board certified in Pediatrics, Neonatal Perinatal Medicine and Medical Management by the Certifying Commission for Medical Management as a Certified Physician Executive (CPE). In his role as Chief Medical Officer, he has oversight of 29 Medical Directors of pediatric programs and is responsible for overseeing the quality of care across the children’s network for Florida Hospital system. He is the primary administrative liaison for medical staff at Florida Hospital for Children. Dr. Wadhawan is also responsible for physician strategy related to growth and expansion of clinical service lines for Florida Hospital for Children.
Debbie Weems, FACHE, Senior Advisor, baby+co

Debbie is a passionate advocate for innovative, affordable and accessible healthcare solutions. Her extensive and diverse background in healthcare management and operations development includes managed care, government policy and regulation, non-profit, community and for profit health systems. She is a proven executive in designing and presenting reimbursement strategies and tactical plans to meet changing needs in the value based purchasing and pay for performance environments.

All speaker presentations will be available on the FLHCC website:

Rate

RACE & ETHNICITY IN FLORIDA

Disparity ratio

Change from baseline

The March of Dimes disparity ratio measures and tracks progress towards the elimination of racial/ethnic disparities in preterm birth. It is based on Healthy People 2020 methodology and compares the group with the lowest preterm birth rate to the average for all other groups. Progress is evaluated by comparing the current disparity ratio to a baseline disparity ratio. A lower disparity ratio is better, with a disparity ratio of 1 indicating no disparity.

No Improvement

In Florida, the preterm birth rate among black women is 49% higher than the rate among all other women.
PRETERM BIRTH: DEFINITION AND SOURCE
Premature or preterm birth is birth less than 37 weeks gestation based on the obstetric estimate of gestational age. Data used in this report card came from the National Center for Health Statistics (NCHS) natality files, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. This national data source was used so that data are comparable for each state and jurisdiction-specific report card. Data provided on the report card may differ from data obtained directly from state or local health departments and vital statistics agencies, due to timing of data submission and handling of missing data. The preterm birth rate shown at the top of the report card was calculated from the NCHS 2016 final natality data. Preterm birth rates in the trend graph are from the NCHS 2007-2016 final natality data. County preterm birth rates are from the NCHS 2015 final natality data. Preterm birth rates for bridged racial and ethnic categories were calculated from NCHS 2013-2015 final natality data. Preterm birth rates were calculated as the number of preterm births divided by the number of live births with known gestational age multiplied by 100.

PRETERM BIRTH DISPARITY MEASURES
The March of Dimes disparity ratio is based on Healthy People 2020 methodology and provides a measure of the differences, or disparities, in preterm birth rates across racial/ethnic groups within a geographic area.¹ The disparity ratio compares the racial/ethnic group with the lowest preterm birth rate (comparison group) to the average of the preterm birth rate for all other groups.

To calculate the disparity ratio, the 2013-2015 preterm birth rates for all groups (excluding the comparison group) were averaged and divided by the 2013-2015 comparison group preterm birth rate. The comparison group is the racial/ethnic group with the lowest six-year aggregate preterm birth rate (2010-2015) among groups that had 20 or more preterm births in all years from 2010-2015. A disparity ratio was calculated for each U.S. state (excluding Maine, Puerto Rico, Vermont, and West Virginia), the District of Columbia, and the total U.S. A lower disparity ratio is better, with a disparity ratio of 1 indicating no disparity.

Progress towards eliminating racial and ethnic disparities was evaluated by comparing the 2013-2015 disparity ratio to a baseline (2010-2012) disparity ratio. Change between time periods was assessed for statistical significance at the 0.05 level using the approach recommended by Healthy People 2020.¹ If the disparity ratio significantly improved because the average preterm birth rate for all other groups got better, we displayed “Improved” on the report card. If the disparity ratio significantly worsened because the lowest group got better or the average of all other groups got worse, we displayed “Worsened” on the report card. If the disparity ratio did not significantly change, we displayed “No Improvement” on the report card.

The report card also provides the percent difference between the racial/ethnic group with the 2013-2015 highest preterm birth rate compared to the combined 2013-2015 preterm birth rate among women in all other racial/ethnic groups. This percent difference was calculated using only the racial/ethnic groups displayed on the state or jurisdiction-specific report card. This difference was calculated for each U.S. state with adequate numbers and the District of Columbia.

CALCULATIONS
All calculations were conducted by the March of Dimes Perinatal Data Center.

If your pregnancy is healthy, it’s best to stay pregnant for at least 39 weeks.

A baby’s brain at 35 weeks weighs only two-thirds of what it will weigh at 39 to 40 weeks.

Other important organs are still developing and growing, too:

- **Lungs and liver.** Babies born too early may have breathing problems and jaundice after birth.
- **Eyes and ears.** Babies born too early are more likely to have vision and hearing problems.
- Your baby also is still learning to **suck and swallow.** Babies born early sometimes can’t do these things.

If your pregnancy is healthy, wait for labor to begin on its own.

More information: marchofdimes.org/39weeks
It begins with an educated employee

Companies that bring wellness into the workplace find that encouraging healthy attitudes, behaviors and lifestyle choices is beneficial to their employees as well as their bottom line. Healthy and happy employees are more motivated and productive and stay with a company longer.

The March of Dimes lets you take your commitment to the well-being of your employees and their families a step further. We offer a free, educational worksite wellness program that promotes a family-friendly work environment. Healthy Babies Healthy Business is easy to manage, implement and promote, and provides your company with a wealth of information to support your employees before, during and after their pregnancy.

Team up with the March of Dimes and offer your employees a chance to make better health decisions and have healthier babies. A small investment in time could save your company thousands of dollars.

Healthy Babies Healthy Business - What you get

**Online**

*My 9 Months®* — customizable, web-based wellness information.

*view demo*

**Print**

Receive a free kit of March of Dimes print materials for your kiosk or lending library with every *My 9 Months* registration.

**Support**

*E-mail access to Health Education Specialists*

*Communities:*

Share Your Story

News Moms Need

Pregnancy & Baby Tips

Bereavement Materials

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ZIKA: THE BASICS OF THE VIRUS AND HOW TO PROTECT AGAINST IT

About Zika
Zika virus spreads to people primarily through the bite of an infected Aedes species mosquito (Ae. aegypti and Ae. albopictus). Zika can also be passed through sex from a person who has Zika to his or her sex partners and it can be spread from a pregnant woman to her fetus. People can protect themselves from mosquito bites and getting Zika through sex. This fact sheet explains who’s most affected and why, symptoms and treatment, and how to protect against Zika.

How Zika Spreads
Protect yourself and your family from mosquito bites all day and night, whether you are inside or outside. A mosquito becomes infected when it bites a person already infected with Zika. That mosquito can then spread the virus by biting more people.

Zika virus can also spread:
- During sex with a person who has Zika to his or her sex partners.
- From a pregnant woman to her fetus during pregnancy or around the time of birth.
- Through blood transfusion (likely but not confirmed).

Zika Symptoms
Many people infected with Zika won’t have symptoms or will only have mild symptoms. The most common symptoms are fever, rash, headache, joint pain, red eyes, and muscle pain. Symptoms can last for several days to a week. People usually don’t get sick enough to go to the hospital, and they very rarely die of Zika. Once a person has been infected with Zika, they are likely to be protected from future infections.

Current Zika Outbreak
Zika outbreaks are currently happening in many countries and territories. The mosquitoes that can become infected with and spread Zika live in many parts of the world, including parts of the United States.

Visit our Areas with Risk of Zika webpage to find out where Zika is spreading.
Why Zika is Risky for Some People
Zika infection during pregnancy can cause fetuses to have a birth defect of the brain called microcephaly. Other problems have been detected among fetuses and infants infected with Zika virus before birth, such as defects of the eye, hearing deficits, and impaired growth. There have also been increased reports of Guillain-Barré syndrome, an uncommon sickness of the nervous system, in areas affected by Zika.

How to Prevent Zika
There is no vaccine to prevent Zika. The best way to prevent diseases spread by mosquitoes is to protect yourself and your family from mosquito bites. Here's how:

• Wear long-sleeved shirts and long pants.
• Stay in places with air conditioning and window and door screens to keep mosquitoes outside.
• Take steps to control mosquitoes inside and outside your home.
• Treat your clothing and gear with permethrin or buy pre-treated items.
• Use Environmental Protection Agency (EPA)-registered insect repellents. Always follow the product label instructions.
• When used as directed, these insect repellents are proven safe and effective even for pregnant and breastfeeding women.
• Do not use insect repellents on babies younger than 2 months old.
• Do not use products containing oil of lemon eucalyptus or para-menthane-diol on children younger than 3 years old.
• Mosquito netting can be used to cover babies younger than 2 months old in carriers, strollers, or cribs to protect them from mosquito bites.
• Sleep under a mosquito bed net if air conditioned or screened rooms are not available or if sleeping outdoors.
• Prevent sexual transmission of Zika by using condoms or not having sex.

What to Do if You Have Zika
There is no specific medicine to treat Zika. Treat the symptoms:

• Get plenty of rest.
• Drink fluids to prevent dehydration.
• Take medicine such as acetaminophen to reduce fever and pain.
• Do not take aspirin or other non-steroidal anti-inflammatory drugs.
• If you are taking medicine for another medical condition, talk to your healthcare provider before taking additional medication.

To help prevent others from getting sick, strictly follow steps to prevent mosquito bites during the first week of illness.
THINKING ABOUT HAVING A BABY?
WARNING: ZIKA IS LINKED TO BIRTH DEFECTS

Plan Your Pregnancy

With the Zika outbreak, planning your pregnancy is more important than ever. There is no vaccine to prevent Zika virus infection.

If you are thinking about having a baby,
your doctor or other healthcare provider can help you plan for a healthy and safe pregnancy. Talk with your doctor about:

• Your plans for having children
• The potential risk of getting Zika during pregnancy
• Your partner’s potential exposures to Zika

If you decide that now is not the right time for you to have a baby, work with your doctor or other healthcare provider to find a birth control method that is safe, effective, and works for you and your lifestyle.

Protect yourselves from getting Zika from mosquito bites

Use insect repellent
• Protect yourself and your family from mosquito bites all day and night, whether you are inside or outside.
• Insect repellent is safe and it works! Read the label and follow the directions.

Cover your skin
• Wear long-sleeved shirts and long pants. For extra protection, treat clothing with permethrin.*

Mosquito-proof your home
• Use screens on windows and doors. Use air conditioning when available. Empty containers with standing water.

Once you’re pregnant, protect yourself from getting Zika from sex

Use a condom
• Use a condom every time you have sex during your pregnancy. To be effective, condoms must be used correctly from start to finish, every time you have sex. This includes vaginal, anal, and oral sex.

OR

Don’t have sex
• Don’t have sex during your pregnancy.

Talk to your healthcare provider
• If you think your partner may have or had Zika, tell your healthcare provider if you had sex without a condom.

For more information: www.cdc.gov/zika

* In some places, such as Puerto Rico, there is widespread permethrin resistance, and it is likely to be ineffective. Contact local authorities or a mosquito control district for more information on pesticides.
The Current Status of Motherhood in America

There are 25.1 million mothers in today’s workplace, and the total number of women in the workforce has increased significantly over the past 60 years. These women are driving leading companies and organizations forward, but we don’t know nearly enough about their motivations, values, and experiences as working mothers.

The Motherhood in America report tells us what women want and value on their journey into motherhood. Because 64% of women decide to leave the workforce before they have their child, companies need to support female talent from the moment these women walk in the door in order to keep their businesses relevant and successful.

64% OF WOMEN DECIDE TO LEAVE THE WORKFORCE BEFORE THEY HAVE THEIR CHILD

There are three low-cost, high-impact strategies that employers — of all shapes and sizes — can adopt now to invest in their long-term success:

1. **Flexible Scheduling**
2. **Benefits Utilization and Manager Training**
3. **Breastfeeding Support**

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Who’s Telling Us Their Story – And Why It Matters

Ovia Health surveyed Ovia Pregnancy users all across the country and received nearly 2,000 responses. The top industries represented in the survey data were (in order): healthcare, education, retail/grocery, and food services. 44% of our respondents worked for an employer with 500+ employees and half (49%) were with their employer for three or more years before giving birth.

Just over one-third (34%) of women did not return to their job once they had a baby. 11% of those women went back to work for a new employer, and of the women who did return to their job, the majority did it for financial reasons (73%). Only 12.5% of the women who returned to work said that they did so because they loved their job.

This is where the problems lie for today’s employers. 60% of millennials consider themselves open to new professional opportunities, and they change jobs more frequently than previous generations.³ This means that working women who are becoming mothers today are a flight-risk: they’re open to change and actively pursue it. If employers fail to become female and family-friendly by making deliberate and thoughtful changes to their policies, practices, and culture, they will lose the top talent they already have and risk undermining the recruitment of new talent.

Across women who returned to work, 23% felt unsupported by their employer’s postpartum schedule flexibility, and almost half (43%) of women who left their job felt that their employer could have done things differently to keep them in the workforce, such as providing support via flexibility.

77% of women cited flexible scheduling (e.g., gradual return to work postpartum, modified hours, consistent breaks, option to work remotely, and the ability to shift hours to accommodate childcare conflicts) as something that they wanted — and needed — from their employers.

Respondents shared examples of ways in which their employers’ flexibility made working motherhood possible. One explained that her employer let her “come back part time for nine months” to ease the transition back into the office. Another benefited from short-term flexibility when her employer “provided flexible hours when I didn’t [yet] have full time daycare.” Similarly, many women who didn’t return to work said that a modified work schedule (“being able to ease into full-time work”) and flexible hours to accommodate childcare would have greatly impacted their decision to remain in the workforce.

Enabling women to work on their own terms can cultivate both efficiency and loyalty — or, in other words, help mitigate a woman’s flight-risk.
Only one-fifth (19%) of survey respondents who left their job described their workplace as a “good place for new mothers.” 28.6% of respondents said that they were unsatisfied with their support from employee benefits, and approximately one-third (30%) were dissatisfied with their coaching/guidance about returning to work. 43% of respondents placed top value on employer programming to help navigate the maternal health system.

Improving communication saves more than feelings: it saves dollars. The cost of a new hire can range up to 200% of the departing employee’s salary. Managers who are trained to communicate proactively with their employees about the company’s benefits and resources — both before an employee shares news of her pregnancy and afterwards — are showing employees that their wellbeing matters in the workplace. One respondent said that simply learning about her “health insurance and a dependent FSA” helped her stay in the workforce.

Another company tried to recruit me away but I’m staying put because I love the benefits at my company.
70% of respondents wanted better support for breastfeeding and almost one-third (29%) of women who returned to work felt “not at all supported” by their employer’s nursing/lactation facilities. In fact, one respondent said that “they cut my pay for pumping breast milk.”

Breastfeeding a baby is one of the best choices a mother can make for her baby’s health, as well as her own. Being at work almost always puts physical distance between women and their children, making breastfeeding a logistical challenge. When an employer makes it easier for women to breastfeed, it sends a clear message to all employees that the workplace values both their health and the health of their family.

**Employer Tip**
Create a dedicated Mother’s Room, where women can pump (or nurse). The room should be objectively comfortable, private, easy to reserve and have access to electricity. Nursing mothers also need a sink to clean pump pieces, as well as refrigeration for their expressed milk.

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What Working Mothers Want

The workforce is changing, and women are the future of business. This survey was designed to help employers identify policies and practices that will strongly resonate with working mothers, such as flexible scheduling and breastfeeding support. Additionally, employers may experience a greater return on investment when they train managers to communicate in a clear and supportive way about company resources and benefits. Keeping women and mothers on board can be as simple as ensuring they understand all that your company has to offer.

At Ovia Health, our mission is to improve the lives of women and families — and creating family-friendly workplaces is integral to that work. We believe that organizations will succeed if they make more woman- and family-centered decisions, and we are partnering with leading employers to help put this change into motion.

To truly create family-friendly workplaces, we need your help. Join us by visiting oviahealth.com to learn more about our work and our personalized maternity benefits solution.
About Ovia Health

Ovia Health supports women, from preconception and pregnancy through postpartum and parenthood, as they navigate their most important health and life decisions. We partner with leading employers to provide a personalized maternity benefits solution that prevents healthcare costs and creates a family-friendly workplace. We also help brands connect with women who are making daily decisions to improve the wellbeing of both themselves and their families.

Ovia Health was founded in 2012 to improve the world for women and families by reimagining and enhancing the relationship that women and families have with the healthcare system, the workplace, each other, and themselves. Our co-founder and CTO, Alex Baron, created the data-driven algorithm that powers our solutions when he and his wife were trying to start a family. His algorithm, powered by machine learning, was successful for both his own family, as well as the millions of women we’ve helped on their journey to parenthood.
Member Guide: Selecting and Implementing A Maternity-Focused Patient Engagement Tool

January 2016
The information contained in this report was produced for Members of the Pacific Business Group on Health and Silicon Valley Employers Forum. As this is a living document, please visit pbgh.org/maternity for the most up-to-date version of this guide.

For additional information, including vendor contact information, tool demos, and evaluation criteria, please contact Brynn Rubinstein, Senior Manager of PBGH’s Transform Maternity Care program.

For other maternity resources, such as a recorded webinar highlighting four of the tools included in this guide and analysis of the variation in NTSV C-section rates among California hospitals, visit pbgh.org/maternity.

For more information, contact:
Brynn Rubinstein, MPH
Senior Manager
Transform Maternity Care
brubinstein@pbgh.org
1. Introduction

Employers can play a proactive role in reducing unwarranted C-sections and promoting high-value maternity care. Maternity-focused patient engagement tools encourage expectant mothers and their spouses/partners to learn about treatment options during birth. Preliminary research suggests that use of these tools deepens the involvement of parents during pregnancy, helping to identify problems sooner and prevent unnecessary, costly procedures, such as C-sections. Ultimately, by deploying these resources, employers help to improve pregnancy-related health outcomes and increase patient satisfaction.

To facilitate a large employer’s selection and implementation of a maternity-focused patient engagement tool, the Pacific Business Group on Health (PBGH) conducted an extensive market assessment of available tools to develop this guide. PBGH Members can use this guide to learn more about the tools PBGH considers most effective and determine which best suits the organization’s budget, time constraints, and culture.

Section 4 outlines nine acceptable or recommended maternity-focused patient engagement tools. The chart also provides a summary of factors to consider when selecting any patient-engagement tool.

2. Importance of Patient Engagement in Maternity

Many health plans and physicians overlook the support needed by the 85-90% of women who have low-risk pregnancies. Maternity-focused patient engagement tools can help these women take active roles in their pregnancy-related care to improve its quality and reduce their risk for undergoing a C-section. Such resources are particularly important in maternity given significant differences in quality among delivery providers, even within small geographical areas.

Often, pregnancy serves as a woman’s first prolonged interaction with the healthcare system and the first time she is making decisions regarding potential medical interventions and care. Because new mothers often become the primary healthcare decision makers for their household, providing them with useful guidance as they navigate the system for the first time ultimately helps women establish habits and preferences that impact future provider engagements. Furthermore, supporting new mothers during this important time demonstrates an employer’s commitment to the health of employees and their partners.

Until recently, however, few tools or resources existed to guide women as they make critical health decisions for themselves and their families. The increasing availability of maternity quality data in combination with the recent surge in funding for women-focused digital health tools has started to fill this gap.

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1 Health and cost concerns associated with unwarranted C-sections are explained in PBGH’s NTSV C-section Report.
3 Research indicates that women make 80% of household healthcare decisions.
4 See Amino’s C-section predictor and Leapfrog’s hospital C-section data reporting.
3. Patient-Engagement Approaches

Most tools utilize one of four different approaches to patient engagement: 1) public education campaigns, 2) self-tracking and interactive mobile tools, 3) shared decision-making, and 4) enhanced prenatal care. Each strategy differs in the methods used to organize content, deliver information, and engage the consumer. They also vary significantly in the amount of resources, such as time and money, required to implement. Ultimately, the tools included in this guide range from those that are turnkey and inexpensive to those that offer customization and health plan integration for a fee.

The four approaches are explained below and ordered based on the extent to which the approach can be tailored (through tracking, personal health data, or interactive features) to maximize patient engagement. Although all tools referenced in this guide are effective and of high caliber, those that are interactive and consider the varying needs and perspectives of the patient (approaches #3 and #4 below) are more likely to produce an informed decision and preferred action.

1. Public Education Campaigns
   These materials provide general education about pregnancy and raise awareness about medical issues and health concerns that women may encounter while pregnant. Often presented as a library of online articles and short videos, public education campaigns have minimal outreach features as compared to other approaches.

2. Self-Tracking and Interactive Mobile Tools
   These interactive tools incorporate some personalized details, such as a woman’s due date, to provide moderately tailored educational content as well as timely referrals to other relevant services. Frequently configured as mobile applications, these tools deliver convenient, targeted information to a woman’s email or phone and utilize regular alerts to keep her referring back to the tool throughout her pregnancy.

3. Shared Decision-Making
   Shared decision-making is a collaborative approach that allows patients and their physician to make healthcare decisions together, taking into account the best available scientific evidence, as well as the patient’s values and preferences. These tools help a woman come to a decision about a particular intervention when multiple treatment options are presented and prepare her for a constructive discussion with her provider.

4. Enhanced Prenatal Care
   Enhanced prenatal care offers women a collaborative extension of standard prenatal care led by a nurse or health educator, in person, in a group or by phone. Typically offered as a resource through a health plan, these coaching programs provide a handheld experience for pregnant women, often integrating elements of shared decision-making.

4. Acceptable & Recommended Tools

The chart on page 4 includes nine tools that PBGH identified as either acceptable or recommended. The chart also captures each tool’s key features, including time necessary for launch, regulatory complexity, number of existing users, references from employers using the tool, and cost, if relevant.

Because pregnancy-related patient engagement tools can have many different goals, PBGH based its assessment on tools that met the following two criteria: a) content includes accurate, unbiased information about the decision points that affect a woman’s C-section risk and b) tool is reasonable for a large employer to implement. Furthermore, the highlighted tools in this guide were limited to those that are available now or will be released within the next six months.

In compiling this assessment, PBGH reviewed over twenty different maternity patient engagement resources (full list is in Section 6. PBGH conducted interviews and collected materials from health plans, integrated delivery systems, publically available education, industry tools and mobile applications based on the criteria discussed above.

Given the growth of patient engagement as a new field and the proliferation of consumer-focused digital health tools, the availability and quality of meaningful maternity-focused patient engagement tools is expected to increase significantly in the years ahead. This assessment will be updated based on new offerings.

5. Considerations for Successful Implementation

Delivering these tools to an expectant mother or spouse/partner in a timely manner presents a significant challenge to employers and health plans. The window to implement these tools is relatively small (less than nine months). Furthermore, women’s reluctance to disclose pregnancies to their employers and delays in access to health plans’ claims data that can identify pregnant beneficiaries further shrinks the timeframe to deliver these tools. Therefore, developing an implementation strategy that ensures a tool’s use and sustained adoption is critical to its success.

From discussions with tool vendors and patient engagement experts, the following dissemination strategies were identified and can be utilized to promote use of these tools:

A. **Develop a campaign.** Incorporate into employee handbooks and internal maternity leave education resources, distribute in on-site clinics, and promote through all levels of the organization.

B. **Market digitally.** Use multiple means to distribute tools including email, intranet, and benefits platform, if applicable.

C. **Use incentives.** Promote tools with cost-effective incentives such as co-pay subsidies.

D. **Engage partners and family.** Don’t forget about spouses / partners! Engage spouses / partner as they play a critical role in passing on resources to pregnant dependents.

E. **Leverage health plan relationship.** Push your health plans to offer patient engagement tools with decision support components to ensure women have access to these resources from multiple avenues.

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8 For more information about how you can promote patient engagement tools in your organization, we suggest Castlight Health’s White Paper *Creating healthcare consumers: 5 best practices for driving employee engagement*
### Acceptable and Recommended Maternity-Focused Patient Engagement Tools

**Legend:**
- [ ] Acceptable
- [ ] Recommended
- [ ]

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Childbirth Connection: “What Every Pregnant Woman Needs To Know About Cesarean Section”</td>
<td>Public Education Campaign</td>
<td>Web Page/No</td>
<td>No</td>
<td>Available immediately</td>
<td>None</td>
<td>No</td>
<td>NA</td>
<td>No</td>
<td>Free</td>
<td>Low</td>
</tr>
<tr>
<td>March of Dimes: “Healthy Babies, Healthy Businesses”</td>
<td>Public Education Campaign</td>
<td>Web Portal/No</td>
<td>No</td>
<td>Available immediately</td>
<td>None</td>
<td>No</td>
<td>13,000</td>
<td>Yes</td>
<td>Free</td>
<td>Low</td>
</tr>
<tr>
<td>Consumer Reports: “Safe Pregnancy Hub”</td>
<td>Public Education Campaign</td>
<td>Web Portal/No</td>
<td>No</td>
<td>Available immediately</td>
<td>None</td>
<td>No</td>
<td>NA</td>
<td>No</td>
<td>Free</td>
<td>Low</td>
</tr>
<tr>
<td>Zero to Three/Voxiva: “Text4baby”</td>
<td>Public Education Campaign</td>
<td>Text Message Campaign/Yes</td>
<td>No</td>
<td>3-4 weeks</td>
<td>None</td>
<td>No</td>
<td>940,000</td>
<td>Yes</td>
<td>Free</td>
<td>Low</td>
</tr>
<tr>
<td>Lamaze International: “Pregnancy to Parenting”</td>
<td>Self-tracking and Interactive Mobile Tool</td>
<td>Mobile application/Yes</td>
<td>No</td>
<td>Available immediately</td>
<td>None</td>
<td>No</td>
<td>8,000+</td>
<td>No</td>
<td>Free</td>
<td>Low</td>
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<tr>
<td>Maternity Neighborhood: “Care Guide”</td>
<td>Self-tracking and Interactive Mobile Tool</td>
<td>Web Portal &amp; Mobile Application/Yes</td>
<td>Yes</td>
<td>6 weeks</td>
<td>None</td>
<td>Yes</td>
<td>75,000</td>
<td>No</td>
<td>Varies by size/program</td>
<td>Medium</td>
</tr>
<tr>
<td>Wildflower Health: “Due Date Plus”</td>
<td>Self-tracking and Interactive Mobile Tool</td>
<td>Mobile Application/Yes</td>
<td>Yes</td>
<td>6 weeks</td>
<td>Business associate agreement required if program includes an eligibility feed</td>
<td>Yes</td>
<td>50,000</td>
<td>Yes</td>
<td>Up to $.25 PEPM</td>
<td>Medium</td>
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<tr>
<td>Healthwise: “PregnantMe”</td>
<td>Shared Decision Making</td>
<td>Web Modules/Yes</td>
<td>Yes</td>
<td>3 months</td>
<td>Consent required for sending PHI information via non-secure email</td>
<td>Yes</td>
<td>750</td>
<td>Yes</td>
<td>$.03 PEPM</td>
<td>High</td>
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<tr>
<td>Anthem: “Future Moms”</td>
<td>Enhanced Prenatal Care</td>
<td>Phone-Based Coaching/No</td>
<td>Yes</td>
<td>3 months</td>
<td>None</td>
<td>Yes</td>
<td>15,000</td>
<td>Yes</td>
<td>$.09-.25 PMPM</td>
<td>Medium</td>
</tr>
</tbody>
</table>

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8 Overall Implementation Effort: a summary of effort required for an employer to implement a tool from launch to maintaining employee use over time.

9 Maternity Neighborhood incorporates member experience surveys to capture women’s experiences during pregnancy, labor and postpartum and is expanding their offering of shared decision making support aids.

10 Pricing is tiered based on size of the employer but is $0.03 PEPM for a medium-large employer plus a $5,500 one-time implementation fee, depending on the integration required.
### 6. List of Additional Tools and Resources

In addition to the tools identified as acceptable or recommended, PBGH reviewed the following tools and resources. Primarily, these tools were not highlighted in this guide due to lack of content on C-section reduction levers, readiness, feasibility of employer distribution/implementation, or user-friendliness.

<table>
<thead>
<tr>
<th>Organization</th>
<th>Tool Name</th>
<th>Patient Engagement Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kaiser</td>
<td>Healthy Beginnings Newsletter</td>
<td>Public Education Campaign</td>
</tr>
<tr>
<td>Baby Center</td>
<td>Baby Center: Expert Advice (website)</td>
<td>Public Education Campaign</td>
</tr>
<tr>
<td>Childbirth Connection</td>
<td>Childbirth Connection Website</td>
<td>Public Education Campaign</td>
</tr>
<tr>
<td>Lamaze International</td>
<td>Healthy Birth Practices Resources</td>
<td>Public Education Campaign</td>
</tr>
<tr>
<td>Mayo Clinic</td>
<td>Mayo Clinic Guide to a Health Pregnancy</td>
<td>Public Education Campaign</td>
</tr>
<tr>
<td>Alt12</td>
<td>Baby Bump</td>
<td>Self-tracking and Interactive Tool</td>
</tr>
<tr>
<td>iBirth</td>
<td>iBirth</td>
<td>Self-tracking and Interactive Tool</td>
</tr>
<tr>
<td>Mayo Clinic</td>
<td>Mayo Clinic on Pregnancy Application</td>
<td>Self-tracking and Interactive Tool</td>
</tr>
<tr>
<td>Blue Cross Blue Shield</td>
<td>My Pregnancy Assistant</td>
<td>Self-tracking and Interactive Tool</td>
</tr>
<tr>
<td>WebMD</td>
<td>WebMD Pregnancy</td>
<td>Self-tracking and Interactive Tool</td>
</tr>
<tr>
<td>Glow</td>
<td>Glow Nurture</td>
<td>Self-tracking and Interactive Tool</td>
</tr>
<tr>
<td>Geisinger</td>
<td>MyGeisinger</td>
<td>Self-tracking and Interactive Tool/Enhanced Prenatal Care</td>
</tr>
<tr>
<td>Doula Spot</td>
<td>Doula Spot</td>
<td>Enhanced Prenatal Care</td>
</tr>
</tbody>
</table>
This Action Guide outlines four strategies that employers can use to decrease C-section rates.

1. Meet with local hospitals to express concerns about high C-section rates
   Meet with local hospitals to express your concern over high costs, mediocre outcomes and unwarranted C-sections. Your local business coalition can provide you with talking points and data for this meeting.

2. Eliminate providers’ financial incentives for C-sections in health plan contracts
   Ask your health plans to:
   > Deny payment for medically inappropriate care
     Successfully implemented for early elective deliveries in South Carolina, Texas and New York, denial of payment is an effective way to ensure that your beneficiaries do not receive unnecessary care that does not adhere to clinical guidelines.
   > Reimburse the same for C-sections and vaginal births
     A blended case rate reimburses hospitals and physicians the same amount whether a mother delivers vaginally or by C-section, removing any financial incentives that affect how the hospital and providers deliver care.
> Pay one bundled fee for prenatal, delivery and postpartum care

A comprehensive episode-based bundle reimburses one payment to facilities and providers for all prenatal, birth and postpartum services.

3. Review benefit coverage to encourage beneficiaries’ access to high value services

- **Midwives** provide prenatal and birth care for low-risk pregnancies and are associated with improved outcomes, lower costs and higher patient satisfaction. Ensure that your health plan adequately covers and reimburses for midwifery services and care provided at accredited birth centers.

- **Birth assistants** (often called doulas) can improve outcomes, increase patient satisfaction, and decrease unwarranted medical intervention. Reimburse beneficiaries for part or all of the costs of a birth assistant.

4. Drive beneficiaries to high value services and providers

Provide employees with information and incentives to seek care from high-performing facilities by:

- Utilizing tiered or narrow networks
- Linking to hospital C-section rates in online provider directories
- Implementing reference pricing
- Distributing patient engagement materials and tools

For more information, please email PVNinfo@pbgh.org or visit [www.PVNetwork.org](http://www.PVNetwork.org).

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OVERVIEW

The Health Care Payment Learning & Action Network (LAN) recently released a white paper entitled, Accelerating and Aligning Clinical Episode Payment Models, to help speed the adoption of alternative payment models (APMs) in the health care community. This white paper contains recommendations on designing and implementing clinical episodes, including coronary artery disease, maternity care, and elective joint replacement. APMs are a key strategy in health care payment reform, helping to shift focus from quantity to quality in health care.

WHAT ARE CEP MODELS?

Clinical Episode Payment (CEP) models are a specific type of APM in which providers accept accountability for patients over a set period of time and across multiple care settings. This course of care is known as the clinical episode. The episode can focus on specific medical conditions, such as maternity care, or on procedures, such as elective joint replacement. CEP models can also be designed so that different types of procedures, such as bypass surgery, are nested within broader condition-based episodes, such as coronary artery disease.

IMPORTANCE

Similar to population-based payment (PBP) models, CEP models offer an alternative approach for payers and providers to advance their payment reform efforts. By focusing on specific clinical areas, CEP models can help improve the quality of health care, promote smarter spending, and improve outcomes for patients resulting in better coordination and less fragmentation across the medical system.

THE WHITE PAPER

The white paper highlights the importance of fostering greater alignment around CEP models, with the goal of lowering barriers to acceptance and adoption. Specifically, the white paper focuses on three detailed clinical areas: elective joint replacement, maternity care, and coronary artery disease (CAD).

CLINICAL AREAS

- Elective Joint Replacement
- Maternity Care
- Coronary Artery Disease
Currently, the cost of maternity care varies significantly by payer (commercial or Medicaid), by type of birth (vaginal or cesarean section), and by setting (hospital or birth center). Too often, significant resources are spent on maternity care, but they are not resulting in optimal outcomes for women. Part of this is due to the fact that prenatal care, labor and birth, and postpartum care are often payed for and delivered as three distinct periods, when in reality, they are all three phases of one episode in a woman’s life. Episode payment is a lever to incentivize coordination across practitioners and settings where the full spectrum of maternity services are provided, with the goals of improving patient care, increasing coordination across services and providers, and lowering health care costs. The LAN’s maternity care episode payment recommendations are built around accelerating the use of episode payment for maternity care in a way that could have a significant impact on both the short- and long-term health of women and children across the U.S.

### Episode Definition
Defined as maternity care, including prenatal care, labor and birth, and post-partum care for women and newborns.

### Episode Timing
Begin 40 weeks before birth and end 60 days postpartum (for women) and 30 days post-birth (for infants).

### Patient Population
The population is women and newborns who are lower risk.

### Services
Include all services provided during pregnancy, labor and birth, and postpartum for women and newborns.

### Episode Price
Strike a balance between provider-specific and multi-provider/regional utilization history.

### Type and Level of Risk
The goal should be to utilize both upside reward and downside risk.

### Quality Metrics
Prioritize use of metrics that support the goals of the episode, including measures of clinical outcomes and patient reported outcomes, for use in payment, accountability, quality scorecards, and other tools to communicate with and engage patients and other stakeholders.

For a full list of recommendations and additional resources go to: [https://hcp-lan.org/groups/cep/maternity-final](https://hcp-lan.org/groups/cep/maternity-final)

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The LAN white paper reflects the latest thinking from leading experts in the field of health care payment and offers recommendations for developing CEP models. The paper serves as an important resource for providers, payers, employers, patients, consumer groups, health experts, and state and federal government agencies taking action on APMs nationwide. These recommendations encourage greater alignment in the field to increase adoption toward the goals of tying 30% of U.S. health care payments to APMs by the end of 2016 and 50% by 2018.

### ABOUT THE LAN

#### PURPOSE
The Health Care Payment Learning & Action Network (LAN) aims for:

- **Better Care**
- **Smarter Spending**
- **Healthier People**

#### MISSION
To accelerate the health care system’s transition to alternative payment models (APMs) by combining the innovation, power, and reach of the private and public sectors.
MODEL HEALTH PLAN CONTRACT LANGUAGE ON PAYMENT REFORM
IMPROVING VALUE THROUGH PAYMENT REFORM

This Agreement is made and entered into this _ day of __________, 2012, by and between [health plan name], hereinafter called "Administrator," and [health care purchaser name], hereinafter called "Company."

I. Introduction. Company sponsors a group health plan ("Plan") under which eligible Company employees and their eligible dependents can enroll in health plan coverage. Company sponsors the Plan to ensure that Plan Participants have coverage for and access to comprehensive, high-quality health care. Administrator provides third-party Plan administration services to Company which are described in the Administrative Services Agreement entered into between the parties effective on [fill in effective date of ASA here]. To improve the delivery of health care, including its quality, efficiency, safety, patient-centeredness, coordination, and outcomes, there must be significant changes in existing payment structures and methodologies as well as the environment in which payments are made. This Agreement outlines Company's expectations for how Administrator shall facilitate progress in both areas:

A. Value-Oriented Payment: Administrator shall design and implement payment methodologies with its network Providers that are designed either to cut waste or reflect value. For the purposes of this agreement, payments that cut waste are those that by their design reduce unnecessary payment (e.g. reference pricing) and unnecessary care (e.g. elective cesarean deliveries). Value is defined as the level of the quality of care for the amount of money paid to the Provider. Payments designed to reflect value are those that are tied to Provider performance so that they may rise or fall in a predetermined fashion commensurate with different levels of performance assessed against standard measures.

B. Transparency: In order for those who buy health care to judge its value, Administrator shall make available to Company and Plan Participants the information they need to understand and compare the quality, cost, patient experience, etc., among Providers in the network.

C. Market Competition and Consumerism: Administrator shall design contracting methodologies and payment options and administer Company’s benefit plans in a manner that enhances competition among Providers and reduces unwarranted price and quality variation. To stimulate Provider competition further, Administrator shall establish programs to engage Plan Participants to make informed choices and to select evidence-based, cost-effective care.

These contractual commitments are included to support and advance Plan initiatives to develop a health care market where (a) payment increasingly is designed to improve and reflect the effectiveness and efficiency with which Providers deliver care, and (b) consumers are engaged in managing their health, selecting their Providers, and sensitive to the cost and quality of services they seek. The Administrator will use best efforts to ensure that these commitments and initiatives apply to all benefits offered under the Plan and administered by the Administrator.
Once implemented, they should also apply across Administrator's book of business (insured and self-insured).

Company will develop benefit designs that support the initiatives and commitments described in this Agreement.

For the purposes of this Agreement, the term "Provider" shall refer to physicians, hospitals, and integrated systems of care (e.g., Accountable Care Organizations). In addition, the term "Plan Participant" shall refer to Company's employees, dependents and retirees who are eligible to receive their health benefits under the Plan.

Unless otherwise specifically provided for herein, Administrator shall comply with the obligations set forth in this Agreement in accordance with the timelines established for each initiative described in this Agreement. Failure of the Administrator to meet these commitments by the applicable dates set forth in this Agreement will be considered grounds for non-renewal or termination of the Agreement.

II. Obligations of Administrator. To advance the objectives stated above, Administrator shall promptly take the following actions on or before the dates described below.

A. VALUE-ORIENTED PAYMENT

Administrator shall implement payment strategies that tie payment to value or reduce waste, as those terms are defined herein. In doing so, Administrator shall, on or before DATE, provide Company with its strategy to make 20% of aggregate net payments to Providers value-oriented by 2020 (calculated in the format and with the methodology in tabs 3-7 of CPR's health plan RFI: http://www.catalyzepaymentreform.org/RFI.html).

Such strategies shall include the following:

1. Pay Providers differentially according to performance (and reinforce with benefit design). On or before DATE, Administrator shall pilot, evaluate, and implement successful programs to differentiate Providers who meet or exceed national standards for quality and efficiency. Compensation paid to effective and efficient Providers should reflect their performance and result in market efficiencies and savings to purchasers and payers.

At a minimum, Administrator shall align payments to hospitals with the approach being taken by Medicare, in which an increasing proportion of reimbursements is tied to performance, including performance on (as relevant to the commercial market):

a. Hospital-Acquired Conditions;

b. Readmissions; and,

c. The other measures in the Value-Based Purchasing program.
2. **Design approaches to payment that cut waste while not diminishing quality, including reducing unwarranted payment variation.** On or before DATE, Administrator shall pilot, evaluate and implement successful approaches to payment that automatically cut waste out of the system (e.g., rather than relying on payments tied to performance measurement to create incentives for hospitals to reduce cesarean deliveries, reduce or reverse the payment differential between vaginal and cesarean deliveries). Administrator shall explore and implement, as appropriate, programs that utilize reference and value pricing (more below), RFPs for specific services, non-payment or lower payment for undesired services, warranties on discharges for patients with procedures, as well as other approaches further described below.

3. **Payments designed to encourage adherence to clinical guidelines.** On or before DATE, Administrator shall pilot the linkage of adherence to clinical guidelines to payments for maternity care. Company believes that maternity care presents a powerful first opportunity to use payment to drive adherence to clinical guidelines. While consumer and Provider education, Provider policy changes, and benefit design are also powerful tools to push maternity care to be more evidence-based, payment is an underutilized vehicle. Administrator will take the following steps with regard to payment for and evaluation of maternity care services:

   a. **Change incentives.** Administrator shall pilot, evaluate and implement approaches to payment with Providers that remove the established financial incentives for medically unnecessary intervention in labor and delivery, including unnecessary labor induction and cesarean deliveries, and create incentives for adherence to clinical guidelines. In addition, Administrator could require hospitals and physicians to implement a "hard stop" policy on elective deliveries prior to 39 weeks.

   b. **Measure and report results.** Administrator shall provide Company and Plan Participants with information on the quality of maternity care across individual physicians and midwives, their group practices, and the hospitals in Administrator’s network using National Quality Forum (NQF)-endorsed maternity quality metrics when available or, in measurement areas where NQF has no endorsed measure, measures that are endorsed by national accrediting organizations, federal agencies, or come from medical specialty society guidelines.

   c. **Educate network.** Administrator shall educate Plan Participants, network physicians, and hospitals about what constitutes high-quality, safe, cost-effective maternity care.

If the Administrator determines that the linkage between payment and adherence to clinical guidelines results in meaningful improvement in value and clinical outcomes, the Administrator shall report to Company 1)
plans to expand initiatives in the short term (1 year) and longer term (3-5 years); and, 2) other clinical areas where current payment approaches create financial incentives to provide care that is not evidence-based and where a change in payment methodology could instead provide incentives for evidence-based care.

4. **Payment strategies to reduce unwarranted price variation, such as reference or value pricing.** For the purposes of this section, reference pricing is defined as an approach to pricing that establishes a standard price for a drug, procedure, service or bundle of services, and generally requires that health Plan Participants pay any allowed charges beyond this amount. Value pricing builds on reference pricing by adding a threshold of quality performance into the identification of Providers of a procedure, service or bundle of services that are able or willing to provide care at the reference price.

   a. **Analyze prices.** On or before DATE, Administrator shall conduct an analysis of price variation among its network Providers by procedure and service types and share information with Company indicating those regions or other market segments with the widest variation and greatest cost savings opportunities through a reference or value pricing scheme.

   b. **Pilot value pricing programs.** On or before DATE, Administrator shall develop value pricing pilots in procedure or service areas with the greatest potential savings for Company, implement and evaluate the pilots, and share results with Company.

   c. **Encourage consumer value-based purchasing.** In support of such pilots, on or before DATE, Administrator shall support Company in developing and introducing new benefit designs that engage Plan Participants to be active shoppers while also helping them to identify the highest-value Providers and limit out-of-pocket exposure. Administrator shall manage and maintain and/or make available to Company data and tools for consumers to enable price and quality comparisons among Providers.

   d. **Center of excellence pricing.** On or before DATE, Administrator shall explore development of a value pricing program for episodes of care utilizing and based on its existing centers of excellence.

5. **Rebalance payment between primary and specialty care.** On or before DATE, Administrator shall develop, pilot and implement successful strategies to improve payment for primary care services, including strategies to reduce payment discrepancies between primary and specialty care. Delivery system pilot programs (e.g., Medical Homes, Accountable Care Organizations), irrespective of reimbursement method,
should be structured to focus on improving quality of care while also reducing overall health care costs.

B. TRANSPARENCY

1. Quality and Efficiency

a. Allow for meaningful comparison of Providers. On or before DATE, Administrator shall develop and implement a strategy to report the comparative performance of Providers, using the most current nationally-recognized or -endorsed measures of hospital and physician performance. Information delivered through Administrator's Provider ranking programs should be meaningful to Plan Participants and reflect a diverse array of Provider clinical attributes and activities. Information available to Plan Participants should include, but not be limited to, Provider background, quality performance, patient experience, volume, efficiency, price of services, etc., and should be integrated and accessible through one forum providing Plan Participants with a comprehensive view.

i For physicians, the scope of the program should encompass, at a minimum, the elements outlined in the "Patient Charter" (http://www.rwitorg/files/research/disclosurepatientcharter.pdf).

ii For hospitals, the scope of the program should promote and advocate to Plan Participants and Providers the value and benefit of utilizing Provider performance measures and identifying variations in quality including, but not limited to, NQF-endorsed measures, the Leapfrog Group's patient safety and quality practices, as well as the measures Medicare is using for reporting and payment purposes.

2. Price

a. Fully disclose prices to facilitate cost comparisons of Providers by Company and Plan Participants. On or before DATE, Administrator shall make Plan- and any Company-specific price information for all services transparent and available, including full disclosure of the prices it is paying to Providers, for use by Company and its Plan Participants, including those in consumer-directed plans and those seeking out-of-network services in a network-based platform. The disclosed information shall include the contracted price of specific procedures and services including, without limitation, reasonable and customary estimates to facilitate Plan Participants' informed choice of treatment and care decisions.

b. Combine projected cost information with Plan Participants' account balances. On or before DATE, Administrator shall integrate tools
providing information about the price of specific services with information about the benefit design, including deductibles, coinsurance, balance of account-based plans, etc.

c. **Progress in all markets.** On or before DATE, Administrator shall implement a strategy to make pricing information available to Plan Participants in all markets in which Administrator operates.

d. **Phase out Provider contracts with gag clauses.** On or before DATE, Administrator shall implement a strategy so that 100% of network Provider contracts permit the ability to publish prices either directly or to provide data to a third-party vendor.

3. **Third-Party Data Use**

a. At Company’s request, Administrator shall provide the necessary data in a usable format to any third-party vendor contracted by Company to provide Company with comparative reports on Provider quality, efficiency and price/payment as outlined in sections 1.a., 2.a. and 2.b.

4. **Consumer Tools and Incentives**

a. **Make quality, efficiency and price comparisons of Providers accessible.** On or before DATE, for all service areas, Administrator shall integrate Provider information from sections 1 and 2 above into a comprehensive display to provide Plan Participants with "user friendly" support in selection of higher-value Providers. Provider comparisons shall seek to incorporate quality, efficiency and price information among all Providers for all services in all markets in which Administrator operates. Information shall be displayed in such a way that makes relevant information both obvious and coherent to the Plan Participants, regardless of search level. Information shall be available through web, all mobile devices, print, or other Provider directories and other consumer decision support tools.

b. **Support Plan Participant selection of higher-value Providers.** On or before DATE, Administrator shall develop and implement incentives to support Plan Participants’ selection of higher-value Providers via one or more of the following methods:

i. Identification and promotion of higher-value Providers, selection/de-selection of Providers, and enrollment freezes;

ii. Economic incentives that vary Plan Participant out-of-pocket costs; and,

iii. Easy access to scheduling appointments, such as online capability.
C. COMPETITION

1. Measure Provider competition. On or before DATE, Administrator shall measure and monitor the magnitude of competition among Providers in the top 10 markets in which Administrator operates.

2. Evaluate effects of Provider competition. On or before DATE, Administrator shall evaluate the effects of Provider competition on price within the top 10 markets in which Administrator operates. Administrator will also evaluate its current approaches to payment for their potential impact on competition among Providers.

3. Reform payment to encourage competition. On or before DATE, Administrator shall consider Provider competition in the development of its new approaches to payment and, where possible, implement approaches to payment that enhance competition. In doing so, Administrator shall have processes in place to measure and monitor competition among Providers in the top 10 markets where the Administrator operates. Approaches may include, but are not limited to:

   a. Offering tiered networks;

   b. Offering narrow networks;

   c. Increasing transparency about Provider costs and quality;

   d. Allowing for comparison of Providers within Accountable Care Organizations at the individual Provider level;

   e. Allowing Accountable Care Organizations to reap savings only if they meet quality standards;

   f. Regional Centers of Excellence for specific services; and,

   g. Issuing RFPs for specific services.

4. Report to Company. Administrator shall report to Company no less than annually and in no event later than each July 1st the following:

   a. Assessment of the impact of competition levels on overall cost to Company during the prior calendar year; and,

   b. Administrator's strategies to ensure competition for the current calendar year.
D. EVALUATING RESULTS

1. **Report to Company.** Administrator shall provide annually to Company not later than each [July 1] a report on its efforts to achieve the objectives of this Agreement, including without limitation:

   a. Yearly report on the progress with and impact of value-based payment initiatives imputed to the Company’s annual spend for the preceding calendar year using the format and calculation methodology in tabs 3-7 of CPR’s health plan RFI [http://www.catalyzepaymentreform.org/RFI.html].

   b. Company utilization of the most effective and efficient Providers in the network as designated by Administrator and quantifying by specialty the dollar variances on an episode basis between physicians designated high-quality and efficient compared to all others in the associated specialties in the Administrator’s network.

   c. Administrator's longer-term strategic plan (3-5 year horizon) with respect to movement toward value-based payment, as aligned with CPR’s 2020 goals, as well as Administrator's longer-term payment strategies that Administrator will employ to reduce waste.

2. **Provide data** to CPR's National Scorecard on Payment Reform and National Compendium on Payment Reform

   a. **National Scorecard.** The Administrator shall provide information about its approaches to paying hospitals and doctors to CPR to support the implementation of its National Scorecard on Payment Reform, hereinafter called "Scorecard." The Scorecard will provide a view of progress on payment reform at the national level and then at the market level as the methodology and data collection mechanisms allow.

   b. **National Compendium.** The Administrator shall provide data to CPR to support the implementation of its National Compendium on Payment Reform, hereinafter called "Compendium." The Compendium will be an up-to-date resource regarding payment reforms being tested in the marketplace and their available results. The Compendium will be publicly available for use by all health care stakeholders working to increase value in the system.

   c. **Data Submission for Scorecard and Compendium.**

      i. Data provided by Administrator would be de-identified, unless specifically agreed to otherwise and only as permitted by applicable law.
ii CPR will work with recognized experts in Provider payment and performance measurement to develop 5-10 specific metrics (e.g., percent of payment tied to value, penetration of specific payment models, etc.) for the Scorecard as well as to develop the Compendium. CPR will consult with health plans regarding the feasibility of the metrics and data submission.

iii As the Scorecard will be produced annually, Administrator will provide data each February 1st for the contract period running from October 1 of the immediately preceding calendar year to September 30 of the current calendar year. (For example, for the 2012 reporting period, report data from October 2010 through September 2011).

iv As the Compendium will be kept up-to-date, Administrator will provide updates on a regular basis, no less than by February 1st for the contract period running from October 1 of the immediately preceding calendar year to September 30 of the current calendar year. (For example, for the 2012 reporting period, report data from October 2010 through September 2011). If Administrator implements new payment reform initiatives, it may submit information about those initiatives on an ongoing basis.

E. Acknowledgement [OPTIONAL SECTION. Include if the ASA does not address this issue generally.]

Administrator acknowledges that the Company is relying on Administrator’s experience and expertise in providing the evaluative and analytic information described in this Agreement and that Administrator represents that it will use its best efforts to achieve the objectives set forth in this Agreement. Administrator and Company agree that Administrator has full and complete responsibility for negotiation, execution and maintenance of the contracts governing its Provider network and that the Company has no authority with respect to or control over the terms of such contracts, including methods and rates of payment and evaluation of Provider performance.

Disclaimer:

This document is provided for informational purposes only. Before you make any decision as to whether to use this document in whole or in part and to understand the legal implications of doing so, you should consult with a qualified legal professional for specific legal advice tailored to your situation.
Among privately insured women ages 19-44, childbirth accounts for the majority of all U.S. hospitalizations. As a result, the quality of maternity care mothers receive is critically important to employers, who are responsible for much of the cost of childbirth for women under employer-sponsored health plans, and who want to ensure the health and well-being of their employees and dependents.

This report examines U.S. hospital performance in three key areas of maternity care measured on the 2016 Leapfrog Hospital Survey: NTSV (Nulliparous, Term, Singleton, Vertex) C-sections, early elective deliveries, and episiotomies.

**REPORT HIGHLIGHTS**

- Rates of early elective deliveries have reached a remarkable low, a win for mothers and babies
- While rates of C-sections and episiotomies are at their lowest since Leapfrog began reporting these metrics, significant progress is still needed to reach Leapfrog’s target rates
- Eastern and southern states have higher rates of C-Sections than western states
- There is little variance in quality between teaching and non-teaching hospitals, or urban and rural hospitals
- More transparency and quality improvement are still needed

**FIGURE 1**

**MATERNITY CARE HOSPITAL QUALITY STANDARDS MEASURED IN THIS REPORT**

<table>
<thead>
<tr>
<th>WHAT IS IT</th>
<th>ASSOCIATED COMPLICATIONS</th>
<th>LEAPFROG’S TARGET RATE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NTSV C-SECTION</strong></td>
<td>C-Section delivery for a first-time mother of a single baby at term (at least 37 weeks gestation) in the head-down position</td>
<td>Mothers: Increased risk of infection and blood clots, longer recoveries, difficulty with future pregnancies, and chronic pelvic pain</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Babies: Breathing difficulties, increased risk of developing chronic childhood diseases (e.g. asthma, diabetes)</td>
</tr>
<tr>
<td><strong>EARLY ELECTIVE DELIVERY</strong></td>
<td>Scheduled C-Sections or medical inductions performed prior to 39 completed weeks gestation without medical necessity</td>
<td>Babies: Risk of respiratory diseases, pneumonia, or even, in rare cases, death</td>
</tr>
<tr>
<td><strong>EPISIOTOMY</strong></td>
<td>An incision made in the perineum to widen the birth canal during childbirth</td>
<td>Mothers: Linked to worse perineal tears, loss of bladder or bowel control, and pelvic floor defects</td>
</tr>
</tbody>
</table>
Hospitals across the country have been making steady progress in meeting national maternity care standards. The rate of early elective deliveries reached an all-time low in 2016, falling to 1.9% from 17% when Leapfrog first began reporting this metric in 2010. Early elective deliveries are those performed by induction or Cesarean section prior to 39 completed weeks with no medical indication, and carry risks affecting both mothers and babies. Leapfrog recommends they be performed in no more than 5% of all low-risk deliveries (Figure 1). As noted below, transparency in public reporting and subsequent collaboration amongst stakeholders was the spark that ignited this rapid reduction and success story. While episiotomies also dropped in 2016, to 9.6% from 13.0% in 2012, this average rate is still significantly higher than Leapfrog’s target of 5.0%. Evidence has shown that episiotomies are only recommended in a narrow set of cases due to the associated risk of complications for women. Hospitals should continue striving for the reduction of these often unnecessary interventions.

The state a mother lives in affects how likely she is to have a C-section

Nationwide, the average rate of NTSV C-sections was 25.8%, representing only minimal improvement from the rate of 26.4% in 2015 when Leapfrog first began reporting this data. A closer look at hospitals’ performance on the NTSV C-section measure reveals significant variation across the country. A map of average C-section rates by state shows a general pattern of higher rates across eastern and southern states compared with western states. Rates varied from as low as 17.1% in New Mexico to 32.1% in Louisiana (Figure 3).
Leapfrog’s target for NTSV C-sections is 23.9% or below, aligned with the goals of Healthy People 2020.

Despite the wide variance in C-Section rates across states, most mothers with a low-risk pregnancy can reduce their odds of receiving an unnecessary C-section by using Leapfrog’s publicly reported results to choose the hospital for their child’s birth. Leapfrog Hospital Survey data shows that hospital maternity care quality varies significantly even within the same city.

“**This year’s Leapfrog data underscores that many of the conventional assumptions for how to pick a ‘good’ hospital do not bear out.**”

~ Dr. Neel Shah, MD
ASSOCIATE PROFESSOR
HARVARD MEDICAL SCHOOL

**LITTLE VARIANCE BETWEEN TEACHING VS. NON-TEACHING HOSPITALS, URBAN VS. RURAL HOSPITALS**

Data from the 2016 Leapfrog Hospital Survey shows that some of the most common assumptions of what makes a “good” hospital for maternity care appears to have little evidence to back it. Teaching hospitals, for example, are often assumed by the public to deliver higher quality care than non-teaching hospitals, yet this year’s survey results show maternity care performance for these different types of hospitals to be nearly identical. Rural hospitals reported nearly the same rates of early elective deliveries, episiotomies, and C-sections as urban hospitals. In fact, a greater percentage of rural hospitals fully met Leapfrog’s standards for episiotomies and C-sections than their urban counterparts (Figure 4). A similar lack of variance for these quality measures was also seen when comparing teaching hospitals to non-teaching hospitals.

According to Dr. Neel Shah, MD, Associate Professor at Harvard Medical School, “this year’s Leapfrog data underscores that many of the conventional assumptions for how to pick a ‘good’ hospital do not bear out--rates among teaching hospitals that may care for “sicker” patients are similar to those at non-teaching hospitals. Rates at urban hospitals are similar to those at rural hospitals. There is a tremendous opportunity to better understand what is happening at hospitals that have high rates of these procedures and learn from those that are able to keep rates low for appropriate women.”

**MORE TRANSPARENCY AND QUALITY IMPROVEMENT ARE STILL NEEDED**

Despite the continuing improvements made in quality across these key maternity care measures,
the majority of reporting hospitals still fall short of meeting Leapfrog’s targets for C-sections and episiotomies. Only 45% of hospitals are currently meeting the target for episiotomies, and only 37% are meeting the target for C-sections. Yet 89% of reporting hospitals now fully meet Leapfrog’s standard for early elective deliveries, representing tremendous progress from when Leapfrog first reported this measure in 2010. Leapfrog’s public reporting spurred policymakers and hospitals to take steps to reduce early elective deliveries, and many other organizations have since collaborated to achieve results in this area. Continued public reporting of C-section and episiotomy rates can lead to similar success across other areas of maternity care, improving health for mothers and babies.

Unfortunately, some hospitals declined to report their data at all. Without Leapfrog’s independent, evidence-based survey, there would be limited national data by hospital on maternity care measures and other critical information on hospital safety and quality. An increase in the number of hospitals reporting to the Leapfrog Hospital Survey can enable patients to make more informed decisions when seeking maternity care, and can help bring more advocacy to improving these performance measures nationwide. Research has shown that once hospitals formally target key quality measures, those measures tend to improve as a result of better documentation and processes. Women and families across the country deserve no less.

METHODS

The Leapfrog Group annually invites all adult general acute care and free-standing pediatric hospitals in the United States to voluntarily report on topics such as high-risk procedures, maternity care, hospital-acquired infections, medication safety, nursing safety, and never events through its annual hospital survey. In 2016, 1,859 hospitals submitted a survey, representing 49% of hospitals nationwide. This report uses final hospital data from the 2016 Leapfrog Hospital Survey (data submitted through December 31, 2016).

The Leapfrog Hospital Survey includes measures that are endorsed by the National Quality Forum (NQF) and/or aligned with those of other significant data collection entities, including the Centers for Medicare & Medicaid Services (CMS) and The Joint Commission. Leapfrog partners with the Armstrong Institute for Patient Safety and Quality at Johns Hopkins Medicine to review survey measures and standards, and updates them annually to reflect the latest science. Additionally, panels of volunteer experts meet regularly to review the survey measures and recommend performance standards for each subject area covered in the Leapfrog Hospital Survey. The full list of survey measures included in the 2016 survey is available at www.leapfroggroup.org/survey.

1. 2014 Health Care Cost and Utilization Report, Health Care Cost Institute, October 2015
For many women and families, childbirth marks one of life’s most important milestones. As a result, the quality of care mothers and babies receive in the hospital is critically important—especially when it comes to the most vulnerable newborns. Sometimes an expectant mother has a medical condition that puts her at risk of a premature delivery; other times the baby may have a health problem for which early delivery would be beneficial. In these cases, it’s essential that a mother be able to choose a hospital with the experienced staff and specialized resources to ensure she and her baby receive the best care.

This report examines U.S. hospital performance in providing maternity care for high-risk deliveries as measured on the 2016 Leapfrog Hospital Survey.

**REPORT HIGHLIGHTS**

- Significant improvement is needed—3 in 4 US hospitals that report electively delivering high-risk very-low birth weight babies do not fully meet Leapfrog’s standard
- NICU volume, a key indicator of experience with high-risk deliveries, can vary dramatically even within the same city
- More hospitals are reporting on the measure, but most of those newly reporting are far from meeting Leapfrog’s standards

**FIGURE 1**

**HIGH-RISK DELIVERY STANDARDS MEASURED IN THIS REPORT**

<table>
<thead>
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<th>ASSOCIATED COMPLICATIONS</th>
<th>LEAPFROG’S STANDARD</th>
</tr>
</thead>
</table>
| Delivery of very-low birth weight babies* | Low oxygen levels, breathing problems, difficulty feeding and gaining weight, trouble controlling body temperature, neurologic or gastrointestinal issues, sudden infant death syndrome (SIDS)¹ | • Must have an on-site or co-located neonatal intensive care unit (NICU)  
• Admit at least 50 very-low birth weight babies annually or maintain a better-than-expected standardized morbidity ratio for very-low birth weight babies  
• Ensure that at least 80% of mothers at-risk for premature delivery receive antenatal steroids prior to delivery |

Note: Vermont Oxford Network’s (VON) volume for the death or morbidity measure only includes infants that are 501 to 1500 grams. Leapfrog’s volume measure is slightly different in that it includes infants that are 500 - 1499 grams.
BABIES AT RISK: 3 IN 4 US HOSPITALS ELECTIVELY DELIVER HIGH-RISK BABIES DESPITE SUB-OPTIMAL ENVIRONMENT TO DO SO

When babies are born weighing less than 1500 grams (3 pounds, 4.91 ounces), they should be cared for in a neonatal intensive care unit (NICU). Research shows that highly vulnerable, very-low birth weight babies are more likely to survive and thrive in a hospital with an experienced NICU on-site or co-located. Leapfrog recommends that mothers at-risk for a premature delivery deliver their babies at hospitals that care for at least 50 very-low birth weight babies per year in an on-site or co-located NICU or at a hospital that maintains a better-than-expected standardized morbidity ratio for very-low birth weight babies, as measured by the Vermont Oxford Network. In both cases, the hospital should ensure that at least 80% of mothers at risk for premature delivery receive antenatal steroids prior to delivery.

In 2016, there were far too few hospitals that fully met Leapfrog’s standards for high-risk deliveries—only 23% of the hospitals that electively deliver these very-low birth weight babies met the standard. Every state across the country has vast room for improvement. Alabama, Georgia, Indiana, and Kansas were 2016’s top-performing states for high-risk delivery with 40% of their hospitals fully meeting Leapfrog’s standard. Oregon, South Carolina, and Utah were the worst-performing states for high-risk delivery, with no hospital electively performing these deliveries fully meeting Leapfrog’s standards. States with less than five hospitals reporting that they electively deliver very low birth weight babies were excluded from this state analysis.

THE HOSPITAL YOU CHOOSE MATTERS: NICU EXPERIENCE CAN VARY DRAMATICALLY EVEN WITHIN THE SAME CITY

A hospital’s level of experience can significantly alter the risk of mortality or complications for very-low birth weight infants, who have perinatal mortality rates up to 6x higher than other newborns. Very-low birth weight infants are more likely to survive and prosper when they are delivered in a hospital that has an experienced NICU on-site or co-located. The transfer of these fragile infants to another hospital, even one across the street, has been shown to put their health at-risk. The Leapfrog standard calls for these NICUs to care for at least 50 very-low birth weight babies annually or maintain a better-than-expected standardized morbidity ratio for very-low birth weight babies.

Data from the 2016 Leapfrog Hospital Survey found that annual NICU volume can vary dramatically among hospitals even in the same metro area. In Chicago, for example, the number of very-low birth weight infants cared for in the NICU in 2016 ranged from just 14 infants at one hospital to 849 infants at another hospital less than 10 miles away. Mothers across the country can ensure they receive optimal care for themselves and their babies by using Leapfrog’s publicly reported results to identify a hospital with a vast amount of high-risk delivery experience.
MORE HOSPITALS ARE REPORTING, BUT MOST OF THOSE NEWLY REPORTING ARE FAR FROM MEETING LEAPFROG STANDARDS

In 2016, 571 hospitals that electively admitted high-risk deliveries reported on their experience with high-risk deliveries, an increase of 6% over the 537 hospitals that reported they performed these deliveries in 2015. However, of the hospitals that reported in 2016 and did not report in 2015, a smaller proportion of them are meeting Leapfrog’s standards. Only 17% of these newly reporting hospitals met Leapfrog’s standards, compared to an overall rate of 23%.

CONCLUSION

An expectant mother facing a potentially high-risk delivery deserves a hospital team with the NICU experience and resources to provide quality care for her and her baby. This year’s Leapfrog Hospital Survey shows there’s still considerable room for improvement—not only in increasing hospitals’ experience with high-risk deliveries, but also in encouraging more reporting from non-responding hospitals. Fortunately, in many parts of the country, mothers can use publicly reported data from the Leapfrog Hospital Survey to choose a hospital that’s well-qualified to admit high-risk deliveries—leading to better outcomes.

METHODS

The Leapfrog Group annually invites all adult general acute care and free-standing pediatric hospitals in the United States to voluntarily report on topics such as high-risk procedures, maternity care, hospital-acquired infections, medication safety, nursing safety, and never events through its annual hospital survey. In 2016, 1,859 hospitals submitted a survey, representing 49% of hospitals nationwide. This report uses final hospital data from the 2016 Leapfrog Hospital Survey (data submitted through December 31, 2016).

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FIGURE 3
A HOSPITAL’S NICU VOLUME FOR VERY-LOW BIRTH WEIGHT BABIES VARIES WITHIN CITIES

Note: This analysis represents the highest and lowest volume hospitals in the NY, LA, and Chicago metro areas within 20 miles among those reporting at least 1 very-low-weight birth.
ENDNOTES

About the Leapfrog Hospital Survey High-Risk Deliveries Measure

*High-Risk Deliveries Electively Admitted*

Includes deliveries with:

- expected birth weight <1500 grams; or
- gestational age at least 22 weeks but <32 weeks

Not all women at risk for delivery of babies with these conditions are known beforehand to be at risk. Therefore, deliveries in which these high-risk conditions were unknown prior to admission are not considered electively admitted high-risk deliveries.

Hospital that admit deliveries where these conditions are known prior to admission are considered to electively admit high-risk deliveries.

About the Vermont Oxford Network (VON) Death or Morbidity Measure

The Vermont Oxford Network (VON) Death or Morbidity Standardized Morbidity Ratio indicates whether the infant died before discharge or had one or more of the following morbidities: severe intraventricular hemorrhage; chronic lung disease; necrotizing enterocolitis; pneumothorax; bacterial or fungal infection after day 3 from birth; or cystic periventricular leukomalacia. It is calculated as observed/expected. The standardized morbidity ratio is adjusted for the following: gestational age in completed weeks and its squared term; small for gestational age, defined as being in the 10th percentile or less for birth weight; major birth defect; multiple gestation; APGAR score at 1 minute; infant sex; mode of delivery (vaginal or Cesarean); and birth location (inborn or outborn). The ratio is shrunk to adjust for center volume.

“Better-than-expected” refers to a SMR with upper and lower bounds less than 1.

Vermont Oxford Network is a nonprofit voluntary collaboration of health care professionals working together as an interdisciplinary community to improve the quality and safety of medical care for newborn infants and their families through a coordinated program of research, education, and quality improvement projects.

1. Lucile Packard Children’s Hospital Stanford
2. Phibbs, CS; Bronstein, JM; Buxton, E; Phibbs, RH. The effects of patient volume and level of care at the hospital of birth on neonatal mortality. JAMA. 1996; 276:1054-9.

About The Leapfrog Group: Founded in 2000 by large employers and other purchasers, The Leapfrog Group is a national nonprofit organization driving a movement for giant leaps forward in the quality and safety of American health care. The flagship Leapfrog Hospital Survey collects and transparently reports hospital performance, empowering purchasers to find the highest-value care and giving consumers the lifesaving information they need to make informed decisions. The Leapfrog Hospital Safety Grade, Leapfrog’s other main initiative, assigns letter grades to hospitals based on their record of patient safety, helping consumers protect themselves and their families from errors, injuries, accidents, and infections.

About Castlight Health: Our mission is to empower people to make the best choices for their health and to help companies make the most of their health benefits. We offer a health benefits platform that engages employees to make better healthcare decisions and guide them to the right program, care, and provider. The platform also enables benefit leaders to communicate and measure their programs while driving employee engagement with targeted, relevant communications. Castlight has partnered with enterprise customers, spanning millions of lives, to improve healthcare outcomes, lower costs, and increase benefits satisfaction.

For more information, visit [www.castlighthealth.com](http://www.castlighthealth.com) and connect with us on [Twitter](https://twitter.com) and [LinkedIn](https://.linkedin.com) and [Facebook](https://facebook.com).