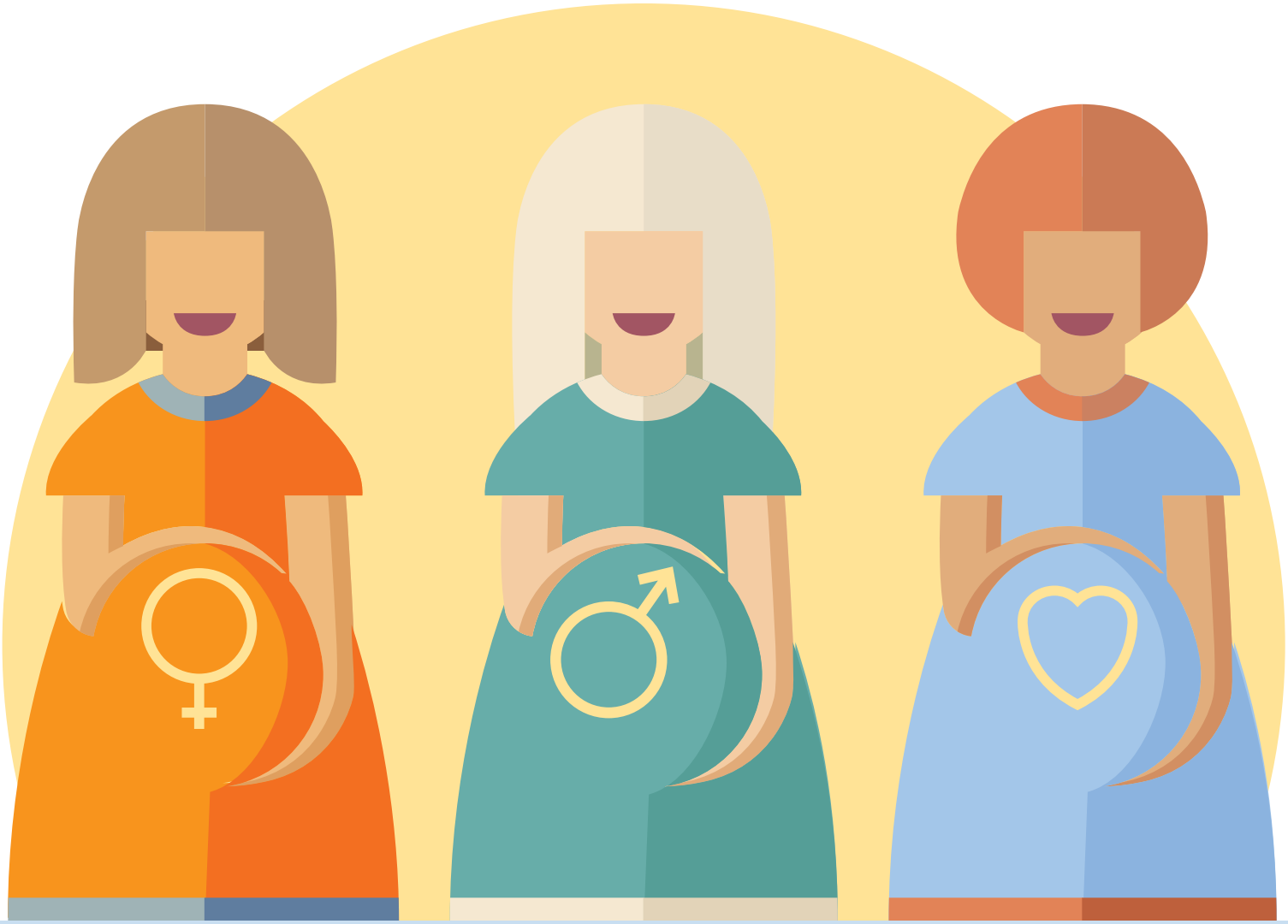
PVN

WE BENEFIT TOGETHER



Purchaser Value Network Maternity Toolkit:

Reducing Unnecessary C-sections

April 2016

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Reducing Unnecessary C-sections

Audience

Business coalitions and groups organizing employers and public purchasers to influence the healthcare system and derive more value from maternity services.

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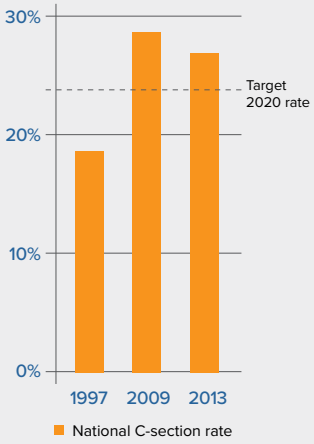
Maternity Care in America: An Opportunity for Purchaser Action

Maternity care today represents the second largest area of healthcare spending for employers. Despite rising costs, babies and parents are not experiencing better health outcomes. As a country, we can do better. Purchasers can play a proactive role in improving the value of maternity care.

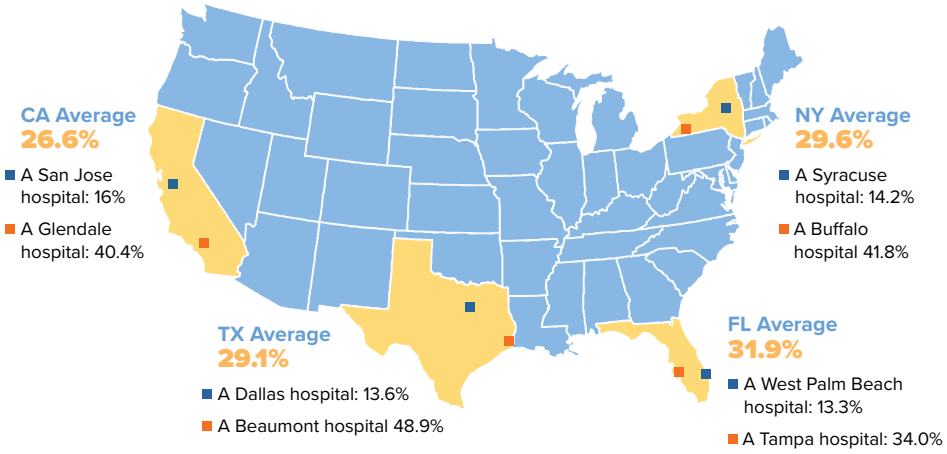
Low-risk C-sections Increased by 50% in 12 years[1]



What is NTSV?

The lowest risk pregnancy is measured as NTSV: first-time delivery (nulliparous) that has reached its 37th week or later (term) and consists of one fetus (singleton) in the head-down position (vertex).

C-section rates vary dramatically across and within states[1,2]



Over the past 20 years, cesarean section (C-section) rates have risen over 50%, and maternal morbidity and mortality rates have doubled. Despite plummeting quality, U.S. birth costs have increased by 50%.[3,4]

Maternity care practices vary dramatically between regions, hospitals and providers. Nationally, the low-risk or NTSV (see sidebar) C-section rate is 26.9%, above the 2020 benchmark of 23.9% set forth in the Surgeon General's Healthy People report. Among states, NTSV C-section rates fluctuate between 16% and 33%.[1] A wide range persists among hospitals within states as well. In California, for example, hospital NTSV C-section rates range from 11% to 69%, suggesting that a woman's chance of undergoing the procedure depends greatly on where she lives and the practice patterns of the facility where she chooses to deliver.[5] This extreme variation exposes mothers to unnecessary risk and employers to avoidable expenses.

[1] National Vital Statistics Report. Trends in Low-risk Cesarean Delivery in the United States, 1990-2013. November 2014. Centers for Disease Prevention and Control, Atlanta, GA. http://www.cdc.gov/nchs/data/nvsr/nvsr63/nvsr63_06.pdf.

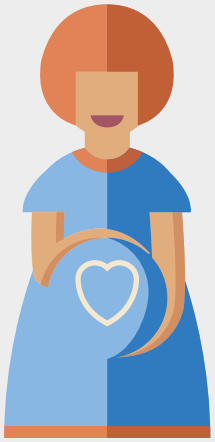
[2] Rate of C-sections. 2015. The Leapfrog Group, Washington, DC. http://www.leapfroggroup.org/ratings-reports/rate-c-sections.

[3] Safe Prevention of the Primary Cesarean Delivery. March 2014. American College of Obstetrics and Gynecologists, Washington, DC. http://www.acog.org/Resources-And-Publications/Obstetric-Care-Consensus-Series/Safe-Prevention-of-the-Primary-Cesarean-Delivery.

[4] Statistical Brief #160. Healthcare Cost and Utilization Project (HCUP). August 2013. Agency for Healthcare Research and Quality, Rockville, MD. www.hcup-us.ahrq.gov/reports/statbriefs/sb160.jsp.

[5] Collected by California Hospital and Assessment Reporting Taskforce (CHART) and reported on calqualitycare.org.

Background



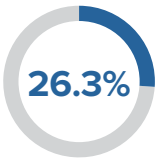
A C-section costs commercial payers **$10,000** more than a vaginal birth.

More than **8 out of 10** women who undergo C-sections deliver by C-section in all subsequent births.[2]

National analysis indicates that on average, a C-section costs commercial payers $10,000 more than a vaginal birth. Even a small reduction in the number of C-sections performed can translate into large savings.[1]

For example, a recent analysis of CDC data suggests that between 2,200 and 4,300 unwarranted C-sections were performed in Pennsylvania in 2013.[2] By conservative estimates, this amounts to somewhere between $22 to $43 million in unnecessary spending and additional risks to moms and babies.[1]

The potential cost-savings from reducing low-risk C-sections



Pennsylvania's 2013 C-section rate: **26.3%**

$22 MILLION

If Pennsylvania reduced their C-section rate to the 2020 Healthy People benchmark of **23.9%**:

2,200 unnecessary C-sections would be averted, which = **$22 million in savings**

$43 MILLION

If Pennsylvania reduced their C-section rate to the 1997 national rate of **18.4%**:

4,300 unnecessary C-sections would be averted, which = **$43 million in savings**

What role purchasers can play

Pregnancy and delivery touch a high proportion of the working age adult population and impact many employers' beneficiaries. Medicaid is also significantly impacted, as the taxpayer-funded program covers 45% of births.[3] Purchasers can play a significant role in pushing the system to adopt practices that have patients' best interest in mind.

This toolkit outlines the steps an employer or business coalition can take to leverage their influence as purchasers of healthcare, such as launching a local campaign that will improve the quality and value of maternity services. By harnessing one or more of these strategies, purchasers, whether working independently or in tandem with other employers and public payers through a regional coalition, can lower hospital C-section rates, improve patient experience, and reduce spending.

[1] The cost of having a baby in the United States. 2013. Truven Health Analytics. http://transform.childbirthconnection.org/wp-content/uploads/2013/01/Cost-of-Having-a-Baby1.pdf

[2] National Vital Statistics Report. Trends in Low-risk Cesarean Delivery in the United States, 1990-2013. November 2014. Centers for Disease Prevention and Control, Atlanta, GA. http://www.cdc.gov/nchs/data/nvsr/nvsr63/nvsr63_06.pdf.

[3] National Vital Statistics Reports. Source of Payment for the Delivery: Births in a 33-state and District of Columbia Reporting Area, 2010. December 2013. Centers for Disease Prevention and Control, Atlanta, GA. http://www.cdc.gov/nchs/data/nvsr/nvsr62/nvsr62_05.pdf

1. Assess the problem

Assessing and reporting the variation in hospital C-section rates is a simple but powerful way to get purchasers motivated and help target a reduction campaign.

Since NTSV C-section rates are risk adjusted, they are a good gauge for inappropriate utilization; however, general C-section rates are also informative. Ultimately, the combination of data on C-section rates and birth volume will allow you to identify outlying facilities.

☐ *Attain publicly available data from every hospital in target region*

There are typically four avenues for securing publically available C-section rates:

> Most states collect and report annual hospital C-section rates. Contact your state's health department for the most recent data. The following organizations can also help locate your state information:
  - Association of Maternal & Child Health Programs: www.amchp.org
  - Association of State and Territory Health Officials: www.astho.org/directory/

> Visit Leapfrog to see which hospitals in your region are reporting NTSV C-section rates as part of the Leapfrog's Annual Survey Report.[1]

> Consumer Reports lists hospital-level NTSV C-section rates in 22 states.[2]

> The Joint Commission collects NTSV C-section rates from all hospitals with over 1,100 births. Ask hospitals to provide the data they are already computing and reporting to purchasers, or request the information from the Joint Commission.

[1] http://www.leapfroggroup.org/compare-hospitals
[2] http://www.consumerreports.org/health/doctors-hospitals/hospital-ratings.htm

Recommended Actions for Business Coalitions and Purchasers

Assess the Problem

☐ *If data are not publicly available, ask for health plan claims data*

Collect health plan claims data to identify which hospitals are used the most by employers' beneficiaries, and obtain C-section rates and birth volume at the hospital level. This data will allow you to visualize variation in C-section rates, identify outliers and determine which hospitals to target.

Specific data to request:

- Per hospital birth rate for last two years
- Per hospital C-section rate (non-adjusted)
- Average price for cesarean birth vs. vaginal birth at each hospital

If the employer is self-insured, they own the data and have a legal right to access it. Ask the third party administrator to prepare a report.

If the employer is fully insured, compile a request with other fully-insured employers to request the data from plans in one report.

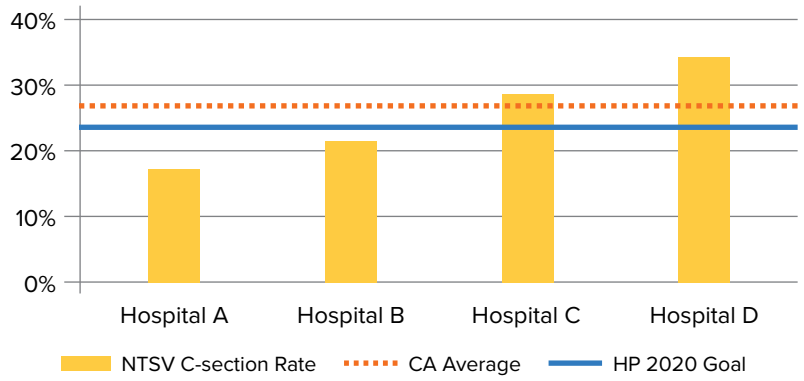
☐ *Combine available data to provide simple analysis of variation in C-section rates among local hospitals*

To help employers understand how C-section variation impacts their beneficiaries, create a report that compares C-section rates – ideally NTSV C-section rates – of all hospitals in a particular region. If possible, include birth volume and information about employer specific per-hospital birth rate in the report.

Find the key insights by answering these questions:

- What is the variation in C-section rates and birth volume in specific facilities?
- Who are the high performers? Low performers? How wide is the gap between the two?
- Is there any regional variation?
- What is the C-section rate for the facilities that employees utilize most?

Sample C-section variation report for California



2. Establish relationships with potential partners and local resources

The key to a successful campaign is to garner support from as many different stakeholder groups as possible. In California, a local quality collaborative, health plans, employers, the hospital association, state health plan exchange and foundations all worked in tandem to align efforts to reduce C-section rates statewide.

☐ *Contact local perinatal quality collaborative*

Many regions have a local perinatal quality collaborative, a multi-stakeholder group typically made up of providers and public health organizations working together to improve maternal and infant healthcare. Connect with them to learn about existing initiatives or recruit them to participate in yours. Find your local collaborative via the Centers for Disease Control and Prevention website.[1]

☐ *Recruit a physician partner*

An obstetrician can help to effectively communicate and establish a partnership with clinical audiences, particularly when meeting with local hospitals. A physician partner can speak to many of the concerns and doubts that hospitals and health plans have around adopting value-based payment methodologies and quality improvement programs.

[1] State Perinatal Quality Collaboratives. March 2016.Centers for Disease Control and Prevention. http://www.cdc.gov/reproductivehealth/ maternalinfanthealth/pqc-states.html.

Take Action

3. Take action

☐ *Meet with local hospitals to express concerns about high C-section rates*

Organize an in-person meeting between one to three employers and one to three target hospitals in a specific geography. Ask hospitals to adopt quality improvement initiatives in maternity care and/or report quarterly NTSV C-section rates to purchasers. Facilitate this meeting with a clinical partner and present variation analysis. PVN provides sample meeting materials from PBGH purchaser-hospital meetings via pvnetwork.org.

☐ *Eliminate financial incentives for inappropriate C-sections in hospital contracts*

To encourage availability and utilization of high value services, employers should implement at least one of the following value-based payment methodologies in their health plan contracts.

> **Deny payment for medically inappropriate care**
Denial of payment is an effective way to ensure that your beneficiaries do not receive unnecessary care that does not adhere to clinical guidelines. For example, the South Carolina Medicaid program stopped reimbursing hospitals and physicians for elective inductions or non-medically indicated deliveries prior to 39 weeks.[1]

> **Reimburse the same for C-sections and vaginal births**
A **blended case rate**, which reimburses hospitals and physicians the same amount whether a mother delivers vaginally or by C-section, removes perverse financial incentives that could affect how the hospital and providers deliver care.[2]

> **Pay one bundled fee for prenatal, delivery and postpartum care**
A **comprehensive episode-based bundle** reimburses facilities and providers for all prenatal, birth and postpartum services in one standard payment. By making payment contingent on the reporting of quality measures and patient-reported outcomes, bundled reimbursement encourages care coordination and holds all providers accountable.

Action leads to results

We know that hospitals can bring down their C-section rates quickly when motivated. When the Pacific Business Group on Health worked with the California Maternal Quality Care Collaborative (CMQCC) to pilot value-based care at three California hospitals, **low-risk C-section rates were reduced by 20%.** CMQCC recently released a hospital toolkit titled "Support Vaginal Birth and Reduce Primary C-sections" based on this successful intervention that guides hospitals through quality improvement tactics to reduce low-risk C-sections.

[1] 'Hard-Stop' Policy Against Early Elective Deliveries Improves Outcomes. May 2013. The American Congress of Obstetricians and Gynecologists. http://www.acog.org/About-ACOG/News-Room/News-Releases/2013/Hard-Stop-Policy-Against-Early-Elective-Deliveries-Improves-Outcomes

[2] Case Study: Maternity Payment and Care Redesign Pilot. October 2015. Pacific Business Group on Health. http://www.pbgh.org/storage/documents/TMC_Case_Study_Oct_2015.pdf

Take Action

Tips for discussing value-based arrangements with health plans

If the employer is self- or fully-insured:

- Ask the third party administrator (TPA) or plans if they are currently involved in any value-based payment initiatives that target unwarranted C-sections.
- If not, request that health plan(s) utilize one of the value-based payment arrangements listed previously as a part of future hospital contract negotiations. Model contract language is available from the Catalyst for Payment Reform (CPR).[1]

If the employer is directly contracting:

- Require value-based payment methodologies as part of hospital contract negotiations. Model contract language is available from the Catalyst for Payment Reform (CPR).

☐ *Review benefit coverage to improve access to high value services*

Confirm that covered services provide high value care options such as midwives, birth centers and doulas to expecting parents.

> **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.

☐ *Drive beneficiaries to high value services and providers*

If possible, share quality data with beneficiaries in a way to inform patients' selection of provider and hospital.

Work with health plans to steer beneficiaries to better performing facilities through any and all of the following:

> Tiered or narrow networks
> Link to hospital C-section rates in online provider directories
> Reference pricing (see sidebar)
> Patient engagement materials and tools

Reference Pricing

Reference pricing sets a ceiling dollar amount for payment at a reasonable reimbursement level for specific maternity services in a geographic area. A list of facilities that provide care at or below that point is shared with expectant mothers. Patients then contribute the difference if they select a higher priced facility. Exemptions may be made based on geographic availability, clinical justification, or specific comorbid conditions.

[1] http://www.catalyzepaymentreform.org/how-we-catalyze/maternity-care-payment/87-how-we-catalyze/payment-reform-toolkit/90-aligned-sourcing

[2] Overdue: Medicaid and Private Insurance Coverage of Doula Care. January 2016. Transforming Maternal Care. http://transform.childbirthconnection.org/reports/doula/

Maintain Accountability

4. Maintain Accountability

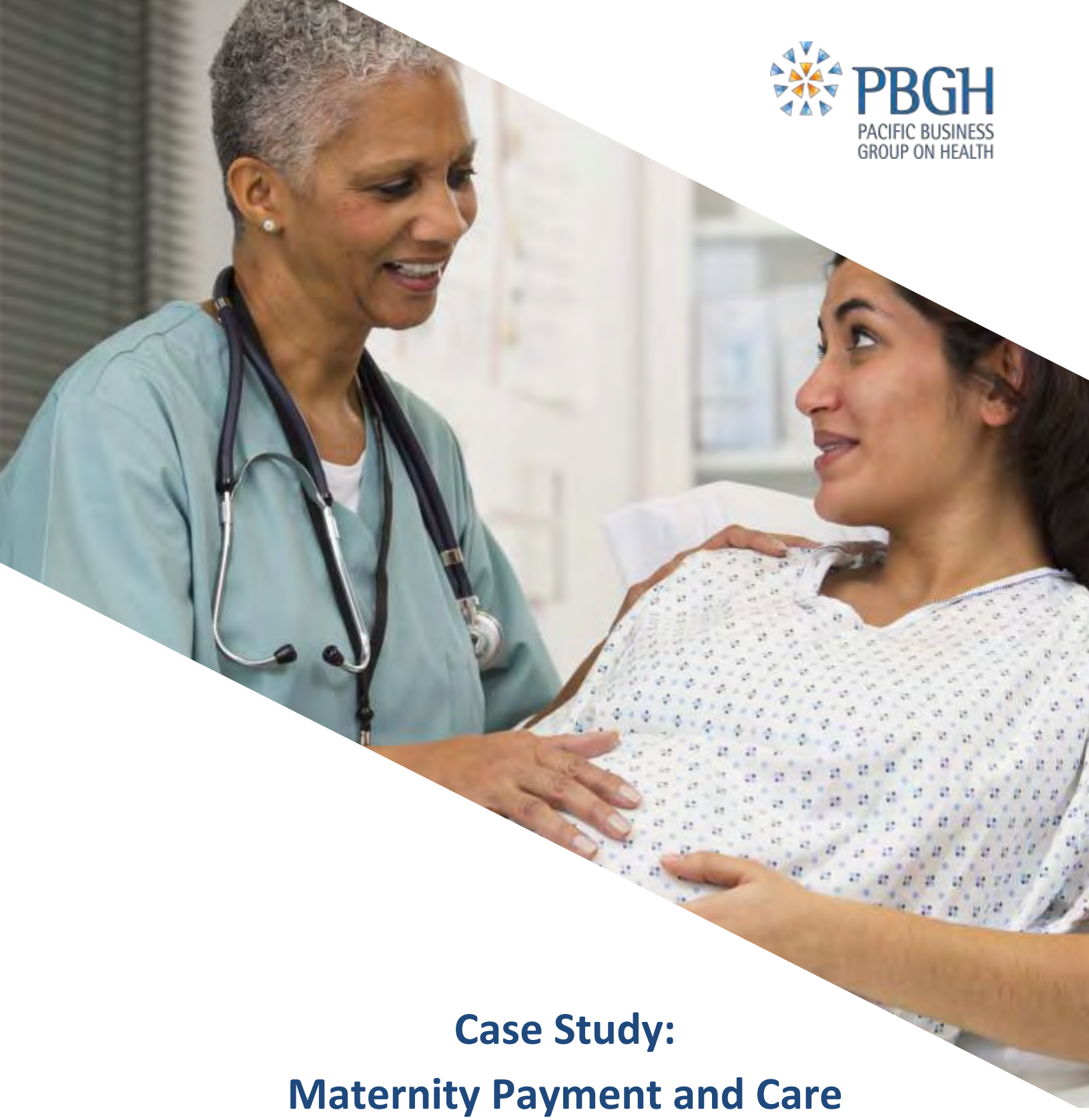
- ☐ *Continue to monitor aggregate and individual facility data on C-section rates.*
- ☐ *Check in with hospitals and employers every six months.*
- ☐ *Ask hospitals to report NTSV C-section rates directly to purchasers.*
- ☐ *Publicly recognize hospitals that have adopted quality improvement initiatives or started reporting hospital C-section rates to employers by listing them on your website.*

For more information

Do you have questions or would you like to learn more about any of the information here? Contact us at PVNinfo@pbgh.org or visit www.PVNetwork.org.

Appendix 1:
California case study

PBGH
PACIFIC BUSINESS GROUP ON HEALTH



Case Study:
Maternity Payment and Care Redesign Pilot

October 2015

Large variation (as much as 10-fold) in obstetric clinical practices, particularly C-section rates, has gained the attention of the media and national healthcare stakeholders including the National Quality Forum, California Hospital Assessment and Reporting Taskforce (CHART), The Joint Commission, the Leapfrog Group, American College of Obstetricians and Gynecologists, employers, and health plans. Such widespread interest highlights the extent of the problem and the need for effective interventions to narrow care variation and improve maternal health outcomes.

In 2012 the Pacific Business Group on Health (PBGH) received a grant from the Robert Wood Johnson Foundation (RWJF) to reduce low risk, first time C-sections in a pilot group of Southern California hospitals by facilitating access to performance data, supporting quality improvement, and aligning outcomes with payment. In 2014, PBGH and its partners implemented the intervention at three hospitals in Southern California and the preliminary results are very encouraging. In less than a year, all participating hospitals successfully reduced the number of C-sections performed by an average of 20% when compared to the previous three years.[1]

Achieving such results is a remarkable and unprecedented accomplishment that required a coordinated and collaborative effort among local clinicians, hospital staff, health plans, a state quality collaborative, and PBGH. Decreasing C-sections is no simple task because it entails changing culture within hospitals and the way clinicians deliver care to women in labor. It can mean asking practitioners to stand back and wait in a setting that increasingly rewards providers for high throughput. It can mean doing less, when clinicians are trained to intervene more.

Key Organizations and Roles

PBGH designed the approach and provided project management for the implementation process, helping to garner hospital participation, engage purchasers and facilitate collaboration across all grant participants.

California Maternal Quality Care Collaborative (CMQCC) runs the *California Maternal Data Center* (*MDC*), which collects and reports rapid-cycle data from existing administrative sources so hospitals can drill down into monthly maternity care practices at the department and physician level. CMQCC provided data reporting support and led the quality improvement intervention at the participating hospitals.

Hospital Recruitment

Recruiting three hospitals to participate in the pilot required a coordinated effort on several fronts. Targeted hospitals met a few basic prerequisites including medium to large birth rate, higher than average C-section rate, strong leadership engagement and readiness for quality improvement project. Direct employer engagement proved the most effective method for recruiting hospitals to join the pilot. PBGH asked its Members with a large employee representation at prospective hospitals discuss their concerns about high C-section rates with hospital leadership in person or over the phone. Hospitals, in turn, were highly motivated by

[1] For more information about variation in C-section rates and obstetric outcomes among California hospitals, see PBGH's Report: *Variation in NTSV C-section Rates among California Hospital* or CMQCC's white paper: *Cesarean Deliveries, Outcomes, and Opportunities for Change in California: Toward a Public Agenda for Maternity Care Safety and Quality.*

purchaser concerns, and in combination with community pressure, committed to participation.

Intervention (Three Levers)

The hospital intervention aimed to bring down C-section rates among low-risk first births (nulliparous term singleton vertex or NTSV) and improve maternal-neonatal health outcomes. The intervention integrated existing research, physician-level variation data about hospital cesarean rates, and effective quality improvement techniques into an intervention that deployed three levers to create change:

1. Data and measurement support

2. Quality improvement (QI) support

3. Payment reform

The implementation process for each of these levers is described below.

1. Data and measurement support

At the outset of the pilot, each hospital enrolled in the California Maternal Data Center (MDC) at no charge. The MDC links California Birth Certificate data in real time to patient discharge diagnosis data provided by the hospital. Retrieving easily accessible and well-presented data functioned as the first step to better understanding why the department performed unnecessary C-sections (e.g. failed induction, failure to progress, or fetal concerns). Using the MDC, hospitals analyzed physician and patient-level data on perinatal quality measures to identify a set of "drivers" (practices) contributing to a high C-section rate and then linked those drivers to a specific set of QI initiatives. This process allowed each hospital to tailor the QI program to the specific needs of their facility. The MDC also allowed hospitals to monitor for any unintended consequences on maternal and neonatal health by using balancing measures.

Access to good data alone will not bring down a hospital's C-section rates. Dozens of hospitals have started submitting to the MDC over the last 18 months, but none have achieved the significantly lowered rates of these three hospitals. Rather, the data serve as a motivator and guiding light when designing and implementing a coordinated quality improvement intervention.

2. Quality improvement support

CMQCC facilitated data-driven, physician-led, quality improvement support activities with hospitals. Over the course of two to three in-person meetings with hospital leadership and department staff, CMQCC led the group through their MDC performance report. To help the group gauge performance, CMQCC compared the department's performance to that of nearby or similar sized hospitals and then examined variation in provider C-section rates within the hospital.

Initially, many clinicians were incredulous about their role in creating and addressing high C-section rates. Further examination of the data, however, revealed large variations in C-section rates within the department that could not be explained away.

After leading with the MDC data, CMQCC facilitated department-wide conversations with clinicians and nursing staff about how to address practice variation and poor outcomes. The group addressed doubts about the data trends, established a baseline for performance and developed insights into what hospital-specific scenarios contributed to unnecessary C-

sections. One hospital, for example, discovered that its failed induction rate was the primary contributing factor to their high NTSV rate. Departments committed to reviewing and publishing department and physician-level MDC data on a monthly basis to monitor internal practice variation and address its root causes.

CMQCC did not prescribe a single intervention but offered an array of tools and ideas that the department could assemble into a customized intervention tailored to the culture of that hospital and its unique patient population. As a result, all QI activities were endorsed and spearheaded by hospital physician leadership.

Some of the strategies adopted by hospitals to bring about practice changes included:

- Simple-to-follow checklists based on American College of Obstetrics and Gynecology's "Safe Prevention of Primary C-Section"
- Distribution of monthly reports that included un-blinded hospital and provider-level C-section rates
- Intervention elements targeted at empowering nursing staff, who play a critical role in managing care during labor and delivery, to own QI efforts.

3. Payment reform

In order to align hospital and physician payment with desired outcomes (reduced NTSV C-section rates) all participating hospitals were required to negotiate a blended case rate for deliveries that reimbursed physicians and hospitals, respectively, one flat rate regardless of delivery method (cesarean or vaginal). The blended case rate definition, developed by Integrated Healthcare Association, CMQCC, PBGH, and a health plan partner in advance of implementation, aimed to remove any perverse financial incentives associated with the clinical decision to perform C-sections. The proposed definition served as a guideline for negotiations that occurred between hospitals or physician organizations and a health plan.

To encourage acceptance of the blended case rate among physicians, PBGH and CMQCC emphasized to hospitals the growing healthcare movement towards value based payment methodologies. With many organizations nationwide focusing on reducing preventable C-sections, PBGH and CMQCC stressed that the the blended case rate as a method to help hospitals mitigate the impact of what would otherwise be a larger revenue loss.

PBGH identified several health plan partners who had agreed to work with participating hospitals to implement the blended case rate in advance of recruitment. Ultimately, each hospital negotiated the rate using PBGH and local health plan contacts (most often a local contracting manager) during their annual contracting process.

Implementing the blended case rate into hospital and medical group health plan contracts was both time and resource intensive, lasting anywhere from four to 18 months. Negotiations occurred separately for the facility and professional services, making coordination more challenging and slowing the negotiation process. Although negotiations for hospital contracts were lengthy, recruiting physician groups to adopt payment initiatives was a more complex task. Once the physician groups were on board, however, hospital negotiations accelerated.

Results

Three hospitals in Los Angeles County and Orange County as well as two commercial health plans, Aetna and Blue Shield, launched the intervention in the first and second quarters of 2014. As of May 2015, four additional hospitals with a health system in San Diego confirmed participation and implementation is underway.

Figure 1. Graph of changes in NTSV C-section rates at each participating hospital

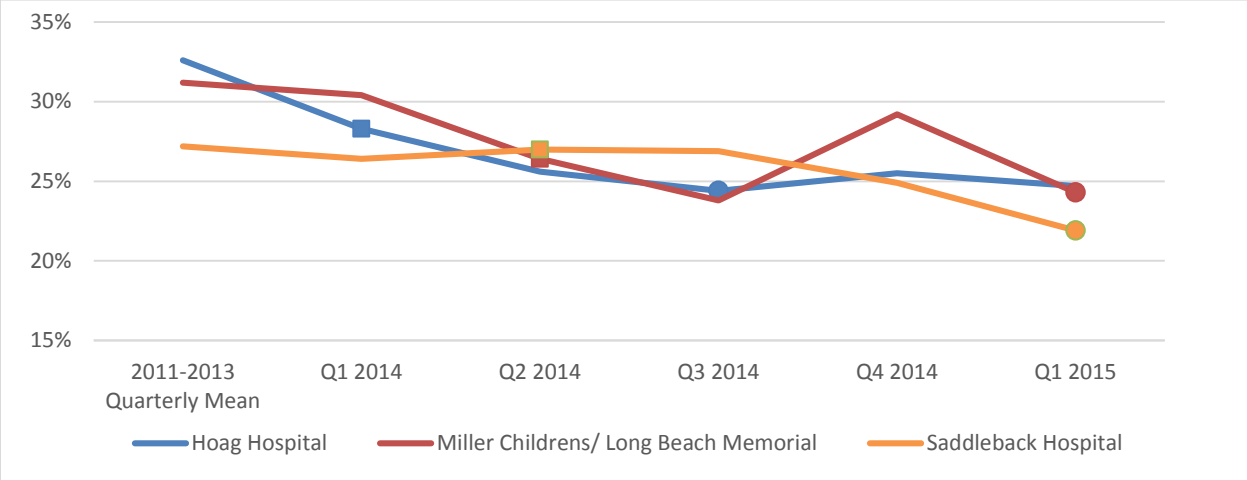


Figure 2. Table of changes in mean quarterly NTSV C-section rates at participating hospitals

	Hospital 1	Hospital 2	Hospital 3
Baseline NTSV C-section Rate (Qrtly Mean 2011-13)	32.6%	31.2%	27.2%
Intervention Start Date	1/15/14	3/20/14	4/15/14
Last Qtr Post Intervention Rate Mean (Qrtly Mean)	24.1%	24.3%	21.9%
Percent Reduction	24.2%	22.1%	19.5%

Within one month of initiating the QI, NTSV C-section rates dropped at each of the three participating hospitals and continued to decline for several months. Participating hospitals reduced NTSV C-section rates by an average of over 20% (see Figures 1 and 2). Eighteen months from the initiation of the QI, all three hospitals have sustained lowered C-section rates.

These reductions represent 390 women who delivered vaginally who would have likely otherwise delivered by C-section, resulting in nearly two million dollars in immediate savings (using average savings of $5,000 per averted Cesarean). If including repeat cesareans averted in patients' subsequent pregnancies, these changes represent nearly four million dollars in avoided costs for one year in only three hospitals.

Simultaneously, even though not a target of the project, vaginal births after a cesarean (VBACs) increased by 40% in two of the sites that had

relatively low rates (9-10%) to start. The third hospital that already had a higher VBAC rate of 24% did not see a further increase. Such changes suggest that a major effect of the QI project was to increase the value and support for vaginal births in hospitals generally.

Finally, QI projects should always ensure that no unintended harm occurs by using balancing measures to monitor for changes in adverse outcomes. The balancing measure for this project, incidence of unexpected newborn complications, did not increase at any of the three sites.

Keys to Success

Hospitals receptive to change

The recruited hospitals were early adopters with forward thinking physician and hospital leadership that embraced and endorsed the pilot. All hospitals had demonstrated leadership in maternal and child health (one hospital physician leader serves on the executive committee of CMQCC) and commitment to improving patient outcomes. Additionally, intervention hospitals were attuned to the changing dynamics of the healthcare market as demonstrated by their responsiveness to purchaser concerns and their reputation in the community and on social media.

Purchasers' role in hospital recruitment

Purchasers of healthcare services, in particular large self-insured employers, played a significant role in recruiting hospitals for the pilot. For employers, participation in the initiative signifies a hospital's commitment to providing high-quality care to their employees. On two different occasions, benefits managers from local employers met face-to-face with hospital leadership to discuss their concerns about rising C-section rates and helped to persuade leadership to commit to pilot participation.

Critical role of data

Timely, accurate, and actionable provider level data was a critical precursor to initiating the intervention. Data from the MDC established consensus about the nature of the problem within the department while also fostering a sense of accountability and trust in the intervention process. Furthermore, reputation and strength of the MDC data helped to dispel many concerns about the validity of the problem.

Clinical champions

All participating hospitals had at least one physician and/or nurse who had a contagious passion and enthusiasm for this initiative. These champions and change ambassadors were critical in selling the program to other staff, ensuring its progress, and sustaining the hospital's continued commitment to the QI effort over multiple years. Some of the physician champions had so much enthusiasm for this project that they have continued to actively support similar changes to the healthcare system more broadly by writing and speaking in support of this initiative.

Adaptable Intervention

Finally, the quality improvement support provided was data driven, physician-led, and, most notably, customizable. CMQCC did not prescribe a single intervention for all hospitals but instead facilitated discussion among department leadership and staff about care-change strategies that best fit the organization. This process yielded changes that were tailored to a department's unique culture and perceived needs while ensuring that physicians and nurses were invested in the intervention's success.

Lessons Learned

1. Significant reductions of Cesarean births are possible

Although variation of hospital C-section rates are well documented, effective strategies that change a hospital from a high C-section rate to a low rate are less understood. The three hospitals in this pilot demonstrated a large (20% decrease), quick (within four months) and sustained (over 12 months) reduction in their NTSV Cesarean rate.

2. The intervention is replicable and adaptable

The adaptability of the intervention makes it relatively easy and low cost for hospitals throughout California and the US to implement. The intervention achieved significant reduction in C-section rates at hospitals with distinct and diverse patient populations. PBGH and CMQCC intend to continue to validate the intervention's efficacy in a diverse range of hospital setting and cultures.

3. Payment reform plays a supporting but critical role in care transformation

Although an analysis of the full fiscal impact of the blended case rate is forthcoming, the implementation process provides us with some important lessons. Given the practice redesign and culture change necessary to achieve a lower C-section rate, financial incentives alone are not likely an adequate motivator to improve outcomes. During implementation, physicians repeatedly emphasized that non-fiscal incentives to perform C-sections, such as schedule constraints, have a stronger influence on physician decision-making than payment. Conversely, since three quarters of the charges associated with deliveries are facility fees, reimbursement changes associated with the blended case rate are much more likely to impact the hospital's bottom line. Payment reform strategies are thereby more likely to motivate hospital adoption of the QI efforts required to achieve a reduction in C-section rates.

The negotiations and politics surrounding payment change sometimes slowed the implementation of the QI program. As a result, all three hospitals launched QI efforts during negotiations and began to implement changes five to six months before new contracts went into effect. All hospital staff, however, were aware of the impending payment change when the QI initiated. To scale in the future, regulatory requirements or a coordinated push from health plans could reduce the time and resource burden required of plans and hospitals to implement the blended case rate.

4. One blended case rate contract may accelerate change for all births hospital-wide

Each hospital implemented the blended case rate into contracts with one to two health plans representing only 10 to 20% of the hospitals' total births. Yet, the resulting quality improvement changes impacted all deliveries at the hospitals. Such success even with limited plan participation suggests that adoption of payment reforms across all payers is not necessary to achieve better outcomes and practice transformation. Additional research, however, is necessary to corroborate this learning.

Impact

The success of this project in reducing hospital NTSV C-section rates demonstrates that tackling significant variation in costs, outcomes, and practices associated with labor and delivery is feasible and within reach of many hospitals. The combination of data access, quality

improvement support, and payment reform is a powerfully potent recipe for achieving this change.

The reliability and timeliness of physician-level data and the adaptability of the quality improvement support were critical to the intervention's success. The role of the blended case rate in driving and sustaining change needs to be explored further in future interventions.

In all pilot sites, hospitals' open-minded cultures eased the intervention process and facilitated change. As California seeks to spread the successes of this pilot to hospitals throughout the state, the intervention will likely need to be adapted for hospital environments and cultures that are change resistant, change fatigued with the implementation of the Affordable Care Act or wary of increased scrutiny.

Such significant and sustained improvements in health outcomes are noteworthy and encouraging. The successes of this intervention should serve as a model for other hospitals throughout California and the country. PBGH looks forward to supporting future efforts to replicate the results of this pilot in new markets and new hospitals.

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

Appendix 2:
Action guide for employers

PVN
WE BENEFIT TOGETHER

Employer Action Guide to Advancing High Value Maternity Care

This **Action Guide** outlines four strategies that employers can use to decrease C-section rates.

1 in 3 WOMEN HAVE CESAREANS IN THE U.S.

DOUBLE WHAT UNICEF AND THE WORLD HEALTH ORGANIZATION RECOMMEND[1]

COST OF C-SECTIONS[2]

A C-section costs commercial payers **$10,000** more than a vaginal birth.

On average, women who give birth vaginally return to work **two weeks earlier** and are much **less likely to develop postpartum depression**.

If you are a member of a local business coalition, they can work with you to implement each of these approaches.

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[3]
- Distributing patient engagement materials and tools[4]

For more information, please email **PVNinfo@pbgh.org** *or visit* **www.PVNetwork.org**.

1. Infographic: What's the Deal with Cesareans? October 2013. Lamaze International. http://forms.lamaze.org/portals/0/images/scienceandsensibility/2013/10/Lamaze_CesaraenInfographic_highres-715x1024.jpg
2. The cost of having a baby in the United States. 2013. Truven Health Analytics. http://transform.childbirthconnection.org/wp-content/uploads/2013/01/Cost-of-Having-a-Baby1.pdf
3. Purchaser Value Network Maternity Toolkit: Reducing Unnecessary C-sections. April 2016. Purchaser Value Network. www.pvnetwork.org/resources.
4. http://pbgh.org/storage/documents/Patient_Engagement_Guide__Maternity.pdf

Appendix 3:
Sample purchaser-hospital meeting agenda and handouts

Silicon Valley Employer-Hospital Roundtable on Healthy Birth
Talking Points Summary and Data Checklist

Talking Points
Issue Background:

- Statewide work to reduce early elective deliveries has been effective and we applaud the hard work of organizations and hospitals in making this happen. However, we have a lot of work left to do in order to improve the health and safety of mothers and newborns.
- The number of C-sections performed in CA has increased by 60% in the last twenty years. The average hospital C-section rate in California is 33%. Even after adjusting for common risk factors, **the average California C-section rate is at 26.2%.**
- As the rate of C-sections has steadily increased, **maternal morbidity and mortality have tripled**. Meanwhile, perinatal outcomes have shown no improvements.
- The extreme range of low-risk C-section rates among hospitals within the same community - **rates range from 14% to 34% in the Bay Area** - reflects the inconsistent care laboring women receive.
- Addressing variations in C-section rates requires the implementation of clinical practice changes that simultaneously address patient safety issues.
- Pilots show that hospitals can reduce their C-section rates by as much as 20%, especially among low-risk births, through a combination of regular data reporting, payment change, and quality improvement support.

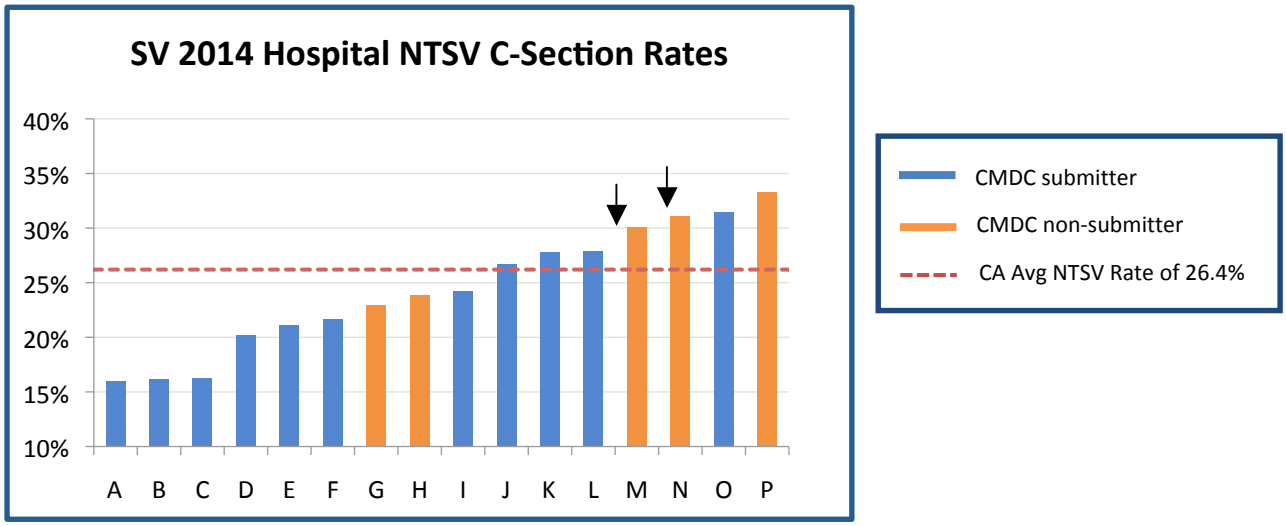
Key communication points with hospital:

- We appreciate your attendance today and thank you for your commitment to excellence.
- As an employer and purchaser of healthcare, we want to know that our employees are seeking service in hospitals that are actively working to provide the best care possible.
- C-sections are absolutely life-saving in some scenarios, but the unwarranted and wide variation in C-section rates among California hospitals reflects the inconsistent quality of care our employees receive during birth.
- We ask that your hospital join the growing statewide initiative to improve maternal safety and reduce C-section by doing one or more of the following:
    - Submit to California Maternal Data Center
    - Adopt the CMQCC Toolkit
    - Negotiate a blended case rate for deliveries

Pre- Meeting Data Checklist

Hospitals: Bay Area Hospital A and Bay Area Hospital B

1. California Maternal Data Center submitters: None
2. NTSV (low-risk) C-section rate (2014): **M:** 31.1%, **N:** 30.1%
3. NTSV C-section rate compared to region (see ↓ on graph below):



	Hospital Name
A	Bay Area Hospital
B	Bay Area Hospital
C	Bay Area Hospital
D	Bay Area Hospital
E	Bay Area Hospital
F	Bay Area Hospital
G	Bay Area Hospital
H	Bay Area Hospital

	Hospital Name
I	Bay Area Hospital
J	Bay Area Hospital
K	Bay Area Hospital
L	Bay Area Hospital
M	Bay Area Hospital
N	Bay Area Hospital
O	Bay Area Hospital
P	Bay Area Hospital

Breakfast Maternity Care Meeting Agenda
Wednesday September 16, 2015
9:00-10:30am

Participants:

California Maternal Quality Care Collaborative
Bay Area Hospital A
Bay Area Hospital B
Company 1
Company 2
Company 3
Pacific Business Group on Health
Silicon Valley Employers Forum

Objectives

- Engage employers and hospitals in a meaningful dialogue about variation in maternal health outcomes and improved quality measurement of maternity services
- Participating hospitals demonstrate a commitment to address variation in maternity care and C-section rates specifically

Agenda

Time	Topic
8:45 – 9:10 am	**Pre-register & Breakfast**
9:10 – 9:20 am	**Introduction and background** *Pacific Business Group on Health (Diane Stewart, Brynn Rubinstein)* *Silicon Valley Employers Forum (Lisa Yee)*
9:20 – 9:30 am	**Round table: Introductions**
9:30 – 9:40 am	**Existing hospital quality initiatives** *Hospital 1* *Hospital 2*
9:40 – 9:55 am	**California maternity care initiatives** *California Maternal Quality Care Collaborative (Dr. Elliott Main)*
9:55 – 10:05 am	**Employer priorities in maternity care** *Companies 1, 2, and 3*
10:05 – 10:25 am	**Discussion**
10:25 – 10:30 am	**Wrap up** *Pacific Business Group on Health*

Meeting Participants

Hospitals

Bay Area Hospital A
CEO
COO
CNO
Director of Women's Services
Manager of Quality Management

Bay Area Hospital B
Vice President, Patient Safety
Director, Family Center
Senior Vice President
Director, Quality Management

Employers

Company 1
Healthcare Benefits Manager

Company 2
Director of Global Benefits
Benefits Analyst

Company 3
Senior Director, Global Benefits
Senior Manager, Global Benefits

Meeting Organizers

Pacific Business Group on Health (PBGH)
Diane Stewart, Senior Director, Care Redesign
Brynn Rubinstein, Senior Manager, Better Maternity Care
Rachel Lee, Project Coordinator

Silicon Valley Employers Forum (SVEF)
Lisa Yee, Executive Director

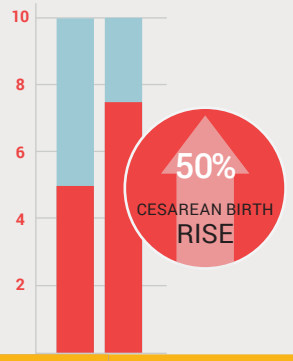
California Maternity Organization

California Maternal Quality Care Collaborative (CMQCC)
Dr. Elliott Main, Medical Director
Barbara Murphy, Director of Perinatal Programs

Appendix 4:
“Promoting Vaginal Birth” hospital toolkit flyer

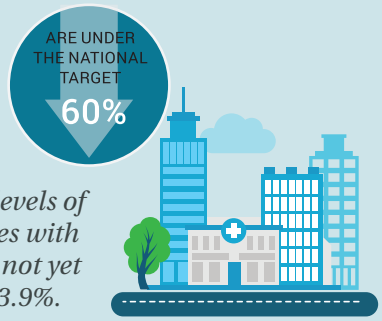
Cesarean birth is the most common hospital surgery in the U.S.

In just 10 years, Cesarean birth rates rose by 50% in both California and the United States.



60% of California hospitals are underperforming.

California hospitals show high levels of variation in NTSV Cesarean rates with approximately 60% of hospitals not yet meeting the national target of 23.9%.



With funding from

California Health Care Foundation

CMQCC
California Maternal Quality Care Collaborative

Coming Soon:

CMQCC

A TOOLKIT TO

Reduce Primary Cesareans

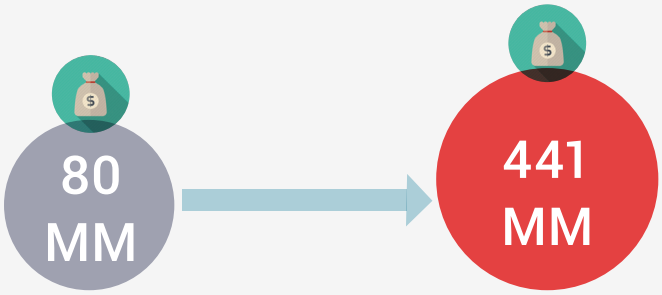
Together we can reach the national target of 23.9%

The Toolkit to Support Vaginal Birth and Reduce Primary Cesareans is a CMQCC collaborative project funded by the California Health Care Foundation.

CMQCC's toolkit is a comprehensive, evidence-based, how-to guide to reduce primary Cesarean birth in the Nulliparous Term Singleton Vertex (NTSV) population. In alignment with the national patient safety bundle developed by the Alliance for Innovation on Maternal Health (AIM), the toolkit is a collaborative effort created by a diverse task force of over fifty expert writers and advisors, and includes lessons learned from three California pilot hospitals that achieved significant cesarean rate reduction over 6-9 months.

California could save an estimated $80 to 441 million

each year by reducing unnecessary Cesarean births.[1]



For more information, visit us at www.cmqcc.org

[1] Main EK, Morton CH, Hopkins D, Giuliani G, Melsop K, Gould JB. ***Cesarean deliveries, outcomes, and opportunities for change in California: Toward a public agenda for maternity care, safety, and quality.*** 2011. Palo Alto, CA: CMQCC. Available at www.cmqcc.org

CMQCC
California Maternal
Quality Care Collaborative

Three California Hospitals

With funding from the Robert Wood Johnson Foundation, CMQCC partnered with the Pacific Business Group on Health to initiate quality improvement activities in three California hospitals, which resulted in considerably fewer cesarean births within 5-10 months among first births for low-risk women.

HOSPITAL 1

HOSPITAL 1:

24.2% reduction

2011-13 quarterly mean =	**32.6%**
2015 post-intervention rate =	**24.7%**

HOSPITAL 2

HOSPITAL 2:

22% reduction

2011-13 quarterly mean =	**31.2%**
2015 post-intervention rate =	**24.3%**

HOSPITAL 3

HOSPITAL 3:

19.5% reduction

2011-13 quarterly mean =	**27.2%**
2015 post-intervention rate =	**21.9%**

Who is this toolkit for?

CMQCC

- hospital labor & delivery units

- maternity care providers

- quality improvement leaders

- policy makers

- public health professionals

Are you a California hospital interested in participating in the Quality Improvement Collaborative?
Contact ***jvasher@stanford.edu***

Timeline Overview:

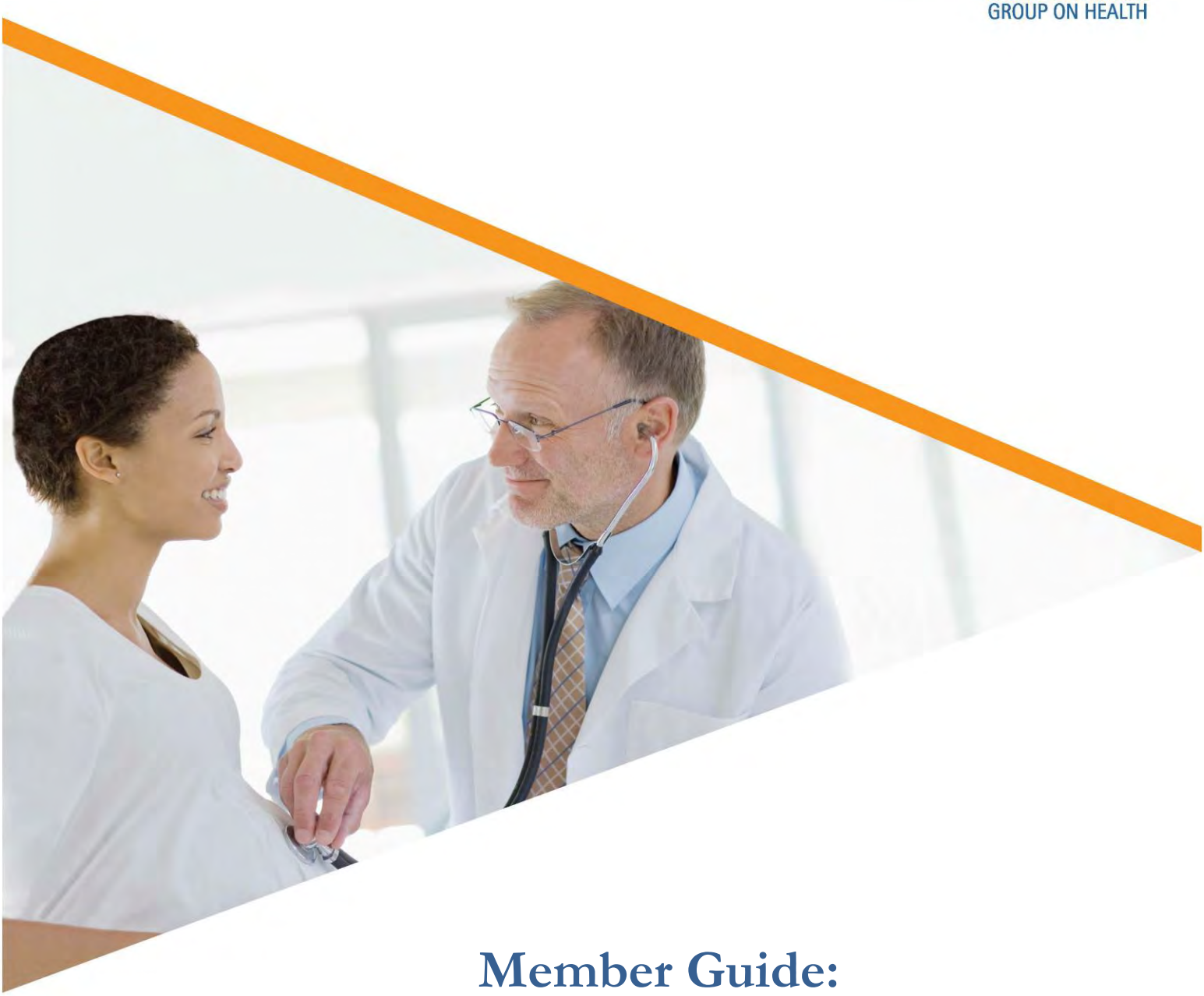
Spring 2016: Toolkit available

May 2016: Round 1- QI Implementation in Southern California hospitals (but others may apply for consideration)

October 2016: Round 2 - Statewide QI Implementation

Appendix 5:
PBGH Employer Guide to Selecting and Implementing a Maternity-focused Patient Engagement Tool

PBGH
PACIFIC BUSINESS GROUP ON HEALTH



Member Guide: Selecting and Implementing A Maternity-Focused Patient Engagement Tool

November 2014

1. Introduction

Employers can play a proactive role in reducing unwarranted C-section rates and promoting high-value maternity care[1]. Maternity-focused patient engagement tools encourage expectant mothers and their spouses/partners to become educated about treatment options during birth. Preliminary research suggests that use of these tools deepens the involvement of parents during pregnancy, thereby identifying problems early and preventing unnecessary, costly procedures, such as C-sections. Ultimately, by deploying these resources, employers help to improve pregnancy-related health outcomes and increase patient satisfaction[2].

To facilitate a large employer's selection and implementation of a maternity-focused patient engagement tool, the Pacific Business Group on Health (PBGH) conducted a market assessment of available tools and developed this guide. PBGH Members, can use this guide to identify those tools PBGH considers most effective and determine which best suits the organizations budget, time constraints, and culture.

Section 4 outlines seven maternity-focused patient engagement tools considered either acceptable or recommendable, following an extensive evaluation. The chart also provides a summary of factors to consider when selecting an endorsed 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 C-sections. Such resources are particularly important in maternity given significant differences in quality among delivery providers, even within small geographical areas[3].

For most women, pregnancy serves as their first prolonged interaction with the healthcare system and the first time they are making decisions regarding potential medical interventions and care. Because new mothers often become the primary healthcare decision makers for their household,[4] providing them with useful guidance as they navigate the system for the first time ultimately helps mothers establish habits and preferences that impact their future provider engagements.

Supporting new mothers during this important time also demonstrates an employer's commitment to the health of employees and their spouses/partners.

[1] Health and cost concerns associated with unwarranted C-sections are explained in PBGH's NTSV C-section Report.
[2] Hoffman, A. "Delivering patient decision aids on the Internet: definitions, theories, current evidence, and emerging research areas" *BMC Medical Informatics and Decision Making,* 2013.
[3] Refer to sections D and E of the NTSV C-section Report.
[4] Research indicates that women make 80% of household healthcare decisions.

3. Patient-Engagement Approaches

Most tools utilize one of four different approaches: 1) public education campaigns, 2) self-tracking and interactive mobile tools, 3) shared decision-making, and 4) enhanced prenatal care.[5] 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 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.[6]

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 somewhat 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 tools throughout her pregnancy.

3. Shared Decision-Making

Shared decision-making is a collaborative approach that allows patients and their physicians 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.

[5] Access Integrated Healthcare Association's *Brief on Maternity Care Patient Engagement Strategies,* here.
[6] Coulter, A. "Patient Engagement- What Works?" *J Ambulatory Care Manage,* 2012

4. Acceptable & Recommendable Tools

The chart on page 4 includes seven tools that PBGH identified as either acceptable or recommendable. 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 costs, 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 suggested 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 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 innovations and offerings in this space.

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, a woman's potential reluctance to disclose pregnancy to her employer and frequent delays in access to health plans' claims data to 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 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:[7]

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.** Incorporate patient engagement tools into your health plan contracts to ensure women have access to these resources, when possible.

[7] 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 Recommendable Maternity-Focused Patient Engagement Tools

Legend: Acceptable Recommendable

Organization: Tool Name	Patient Engagement Strategy	Platform/ Customizable Content	Integration with Health Plan	Launch Timeline	Regulatory Complexity	Summary Report on Employee Usage	Total Users	Employer Reference Available	Cost	Overall Implementation Effort[8]
Childbirth Connection: **"What Every Pregnant Woman Needs To Know About Cesarean Section"**	Public Education Campaign	Web Page / No	No	Available immediately	None	No	NA	No	Free	Low
March of Dimes: **"Healthy Babies, Healthy Businesses"**	Public Education Campaign	Web Portal / No	No	Available immediately	None	No	13,000	Yes	Free	Low
Consumer Reports: **"Safe Pregnancy Hub"**	Public Education Campaign	Web Portal / No	No	Available immediately	None	No	NA	No	Free	Low
Healthy Mothers, Healthy Babies Coalition: **"Text4baby"**	Public Education Campaign	Text Message Campaign / Yes	No	3-4 weeks	None	No	800,000	Yes	Free	Low
Wildflower Health: **"Due Date Plus"**	Self-tracking and Interactive Mobile Tool	Mobile Application / Yes	Yes	6 weeks	Business associate agreement required if program includes an eligibility feed	Yes	50,000	Yes	$.25 PEPM	Medium
Healthwise: **"PregnantMe"**	Shared Decision Making	Web Modules / Yes	Yes	3 months[9]	Consent required for sending PHI information via non-secure email	Yes	500-800 women[10]	Yes	Varies by size/ program	High
Anthem: **"Future Moms"**	Enhanced Prenatal Care	Phone-Based Coaching/ No	Yes	3 months	None	Yes	15,000	Yes	$.09-.25 PMPM	Medium

[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] Under development and available to employers May, 2015
[10] Note, numbers only reflect individuals that have participated in the pilot of this tool

6. List of Additional Tools and Resources

In addition to the tools identified as acceptable or recommendable, PBGH reviewed the following tools and resources. For the most part, 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.

Organization	Tool Name	Patient Engagement Strategy
Kaiser	**Healthy Beginnings Newsletter**	Public Education Campaign
Baby Center	**Baby Center: Expert Advice** (website)	Public Education Campaign
Childbirth Connection	**Childbirth Connection Website**	Public Education Campaign
Lamaze International	**Healthy Birth Practices Resources**	Public Education Campaign
Mayo Clinic	**Mayo Clinic Guide to a Health Pregnancy**	Public Education Campaign
Alt12	**Baby Bump**	Self-tracking and Interactive Tool
iBirth	**iBirth**	Self-tracking and Interactive Tool
Mayo Clinic	**Mayo Clinic on Pregnancy Application**	Self-tracking and Interactive Tool
Blue Cross Blue Shield	**My Pregnancy Assistant**	Self-tracking and Interactive Tool
WebMD	**WebMD Pregnancy**	Self-tracking and Interactive Tool
Geisinger	**MyGeisinger**	Self-tracking and Interactive Tool/Enhanced Prenatal Care
Doula Spot	**Doula Spot**	Enhanced Prenatal Care

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 a report analyzing 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

Appendix 6:
“Planning a Healthy Start” consumers guide by HC21

PLANNING A HEALTHY START

Why Maternity Care is Important

CONSUMER GUIDE ON HEALTH 2015-2016

HC|21
HealthCare 21 Business Coalition

THERE ARE MANY IMPORTANT TOPICS TO CONSIDER WITH REGARD TO PREGNANCY AND DELIVERY. USE THIS GUIDE TO LEARN HOW TO MAKE THE BEST CHOICES FOR MATERNITY CARE.

BOOMING:

Can you believe nearly 4 million babies were born in 2014? That's roughly 11,000 each day!

The 2014 number of births marks the first increase since 2007.

Source: CDC, National Vital Statistics Reports, Vol 64 No 6.

PLANNING A HEALTHY START & MAINTAINING A HEALTHY PREGNANCY

Checklist for a Healthy Start:

- ✓ Take 400 mcg of Folic Acid daily to prevent Neural Tube Defects (NTD)
- ✓ If you smoke, QUIT!
- ✓ Avoid consuming alcohol.
- ✓ Receive a flu shot to protect you and your baby.
- ✓ If you are diabetic, maintain control of it to prevent complications.
- ✓ Talk to your doctor about any medications you are on and their safety during pregnancy.

Source: CDC

Folic Acid: An Important Foundation

Women of childbearing age should get **400 micrograms** of Folic Acid (a B vitamin) EACH day.

Folic acid **reduces risk for Neural Tube Defects (NTD)**, such as spina bifida and anencephaly. A neural tube defect occurs when the neural tube fails to close properly.

Women who get the recommended amount for at least one month prior to conception, and the first three months of pregnancy, **reduce risks for neural tube defects by 70 percent!**

Folic acid is found in whole grains, fortified cereals, and various fruits and vegetables. But the **most effective way** to get it is in a 400 mcg supplement.

Source: CDC

What NOT to Eat When You Are Pregnant

- Unpasturized (soft) cheeses such as brie, feta, or bleu cheese, as they may contain listeria (a bacteria that can be fatal to your baby).
- Deli meat or hot dogs unless cooked to steaming to eliminate possible listeria.
- Fish containing high levels of mercury, such as swordfish. You can safely consume up to 12 oz. of seafood per week, as long as it is low in mercury.
- Raw sprouts, as bacteria can get into the seeds before they grow.
- Potluck dishes that have been sitting out for 2 hours or more.

Source: WebMD

Tips for a Healthy Diet

GRAINS

The main source of energy (carbohydrates)
Whole Wheat Bread, Brown Rice, Whole Grain Cereal, Whole Wheat Pasta

DAIRY

Help build your baby's bones and teeth
Skim Milk, Low-Fat Cheese, Calcium Fortified Soy Milk

FRUITS & VEGGIES

Provide vitamins, minerals and fiber
Apples, Oranges, Green Beans, Pineapple, Sweet Potatoes, Dried Fruits

MEATS & BEANS

Protein is essential for your baby's growth
Chicken, Fish, Chickpeas, Black Beans, Beef, Scrambled Eggs

Source: Mayo Clinic

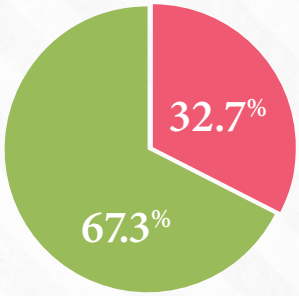
Making the Cut

With the increase of C-sections in first time mothers, it is important to note some of the risks associated with non-medically necessary C-section deliveries.

Risks Include:

Hemorrhage that requires hysterectomy | Uterine Rupture | Shock | Cardiac Arrest | Major Infection | Placental Abnormalities in Subsequent Pregnancies | Neonatal Intensive Care Unit (NICU) Admission

Source: The American College of Obstetrics and Gynecologists (ACOG), 2014



Cesarean Deliveries U.S., 2013

C-section Vaginal

Source: National Center for Health Statistics

HOW EARLY IS TOO EARLY?

An early elective induction is the process of artificially stimulating labor with medicine or other methods before labor has started on its own.

Did You Know?

- Evidence suggests **no benefits** to the mother or baby from an elective induction, only increased risks.[1]
- Induction **rates have increased** dramatically in the past 25 years (i.e., 9.4% in 1990 to 23.2% in 2009).[2]
- Full term is actually defined as **39 weeks**.[3]
- Elective inductions have been associated with **higher rates of vacuum-assisted deliveries** than those with spontaneous labor.[4]
- There is **increased risk of babies' admittance into the NICU** if induction occurs before 39 weeks gestation.[5]

SOURCES:

1 American Public Health Association

2 National Center for Health Statistics; 2011.

3 American College of Obstetrics and Gynecologists (ACOG)

4 Seyb ST, Berka RJ, Socol ML, Dooley SL. Obstet Gynecol.

Not So Helpful After All...

An episiotomy is an incision made in the perineum (the birth canal) during childbirth. Episiotomies were once considered standard practice, but have since been linked with complicating and slowing the mother's recovery process. – Source: ACOG & JAMA

POP QUIZ: Weighing In

Low Birthweight (LBW) is defined as less than:
a) 5 ½ lbs. b) 4 lbs. c) 3 lbs. 4 oz.

In 2014, the LBW rate was:
a) 15% b) 8% c) 3%

LBW rates are highest among _____ women:
a) White b) Hispanic c) Black

Source: The American College of Obstetrics and Gynecologists (ACOG), 2014.

Answers: a, b, c

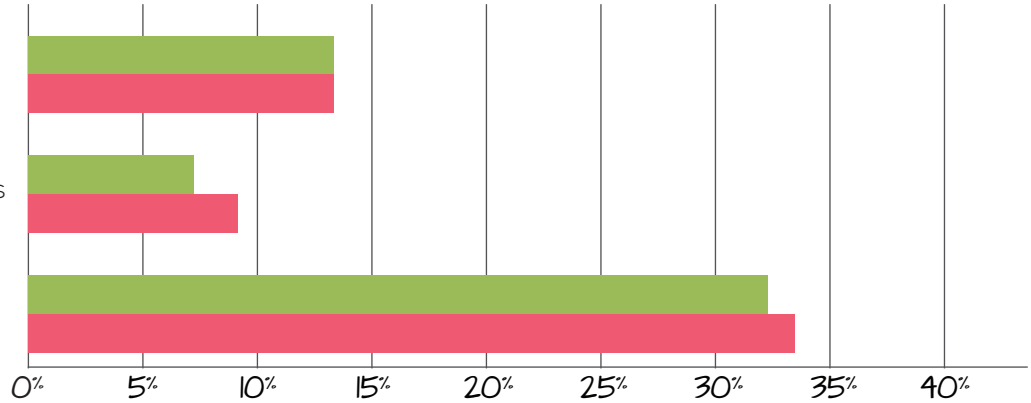
TN Rates vs. US Rates by %

US Rate TN Rate

Pre-term
is the birth of an infant before 37 weeks of preganancy. Source: CDC

Low Birthweight
is when a baby is born weighing less than 5lbs. 8oz. Source: March of Dimes

C-Section Delivery
is a surgical procedure used to deliver a baby through incisions in the mother's abdomen and uterus. Source: Mayo Clinic



Source: CDC, National Vital Statistics Reports, Vol. 645, No 1, January 15, 2015

WHAT IS... NEONATAL ABSTINENCE SYNDROME (NAS)?

"In 2014, the number of babies born with NAS in Tennessee reached 973, a 5.5% increase from 2013"

Source:Tennessee Department of Health

NAS occurs when newborns of opioid-abusing mothers are withdrawn from narcotic exposure. NAS symptoms occur within hours to weeks of birth, when the child is separated from the opioids.

NAS Effects on Pregnancy

Increased risk of fetal growth restriction, abruption placentae, fetal death, preterm labor, and intrauterine passage of meconium.

NAS Effects on Newborns

Hyperactivity, uncoordinated sucking reflexes, increased irritability, and high-pitched crying.

First-trimester use of codeine has been associated with congenital heart defects.

Source: The American College of Obstetrics and Gynecologists (ACOG)

Your baby's health depends on YOUR health. Source: Born Drug Free TN

Screening for Drug Use in Pregnancy:

4 P's

Parents: Did your parents have a problem with alcohol or other drug use?

Partner: Does your partner have a problem with alcohol or other drug use?

Past: Have you had difficulties in your life because of alcohol, prescription drugs or other drugs?

Present: In the past month have you drank any alcohol or used other drugs?

Scoring: Any "yes" should trigger further questions for your doctor.

Source: The Born Free Project

Tips to Keep You and Your Baby Safe!

- **Ask questions** to your doctor before taking any medicines, herbs, or vitamins.
- **Read the drug label.** Labels list the risks for women who are pregnant or breast feeding.
- **Report problems.** Contact the FDA to report any serious problems you have after taking a medicine at 1-800-FDA-1088.
- **Sign up for a Pregnancy Registry.** Registries are research studies that collect information from women who take prescription medicines or vaccines during pregnancy.

Source: FDA

RESOURCES

Born Drug-Free Tennessee

Born Drug-Free Tennessee is an initiative implemented by the East Tennessee **Neonatal Abstinence Syndrome** (NAS) Task Force, whose purpose is to raise awareness about babies being born exposed to prescription and other drugs. The campaign educates expectant mothers about the importance of discussing prescription and other drug use with their doctors and to offer assistance to the women and families.
For more information visit **www.borndrugfreetn.com**.

Strong Start for Mothers & Newborns Initiative

The Strong Start for Mothers and Newborns Initiative is an effort by the Department of Health and Human Services, which aims to reduce preterm births and improve outcomes for newborns and pregnant women.

The Initiative Has Two Strategies:

1) To Reduce Early Elective Deliveries

2) To Enhance Prenatal Care Models

To see what facilities across the U.S. are implementing this program, please visit
innovation.cms.gov/initiatives/strong-start/

Source: www.cms.gov

text4baby

A **FREE** mobile health service that provides health and safety tips to mothers about pregnancy and a baby's first year of life.

Sign up by texting BABY (or BEBE for Spanish) to 511411.
https://text4baby.org

ABOUT **HEALTHCARE 21 BUSINESS COALITION**

HealthCare 21 Business Coalition is a non-profit organization focused on improving the cost and quality of health care in Tennessee. We believe it is important to provide user-friendly information on health care quality to help you and your family members make educated decisions about your care. Quality health care begins with you and the decisions you make about your health. Use this Guide to learn more about how to stay well and find the care that is right for you.

HealthCare 21 Business Coalition is a member of the National Business Coalition on Health.
www.hc21.org

HC21 HealthCare 21 Business Coalition
FOUNDED 1997
Reducing Costs
Improving Quality
Creating Value

NBCH

CHATTANOOGA/CLEVELAND/NORTH GEORGIA

HOSPITAL	OVERALL PATIENT SAFETY RATINGS					MATERNITY CARE					HOSPITAL SAFETY SCORE	
	Never Events	Steps to Avoid Harm	Prevent Med. Errors	Appropriate ICU Staff	Reduce Hospital-Acquired Injuries RATE	Rate of Early Elective Deliveries RATE	Cesarean Section RATE	Episiotomy Rate	Standard Precautions	High Risk Deliveries VOL.	Spring 2015 Grade	Spring 2014 Grade
Athens Regional Medical Center					0.16	4.6%	28.9%	8.2%		31	C	C
Children's Hospital at Erlanger					NA	NA	NA	NA	NA	NA	Not Eligible	Not Eligible
Erlanger Baroness Hospital					0.88	2.4%	26.0%	6.0%		149	C	C
Erlanger East Hospital				NA	0.00	1.6%	22.6%	10.9%		NA	C	C
Erlanger North Hospital				NA	0.00	NA	NA	NA	NA	NA	Not Eligible	Not Eligible
Gordon Hospital					0.26	2.0%	20.8%	8.1%		NA	A	A
Memorial Hixson Hospital					0.24	NA	NA	NA	NA	NA	A	A
Memorial Hospital Chattanooga					0.45	NA	NA	NA	NA	NA	B	B
Parkridge East Hospital					0.22	2.3%	26.7%	10.8%		37	B	C
Parkridge Medical Center					0.30	NA	NA	NA	NA	NA	B	B
Redmond Regional Medical Center					0.20	NA	NA	NA	NA	NA	A	A
SkyRidge Medical Center - Main Campus											C	Not Eligible
SkyRidge Medical Center - Westside Campus											C	C

KNOXVILLE

HOSPITAL	OVERALL PATIENT SAFETY RATINGS					MATERNITY CARE					HOSPITAL SAFETY SCORE	
	Never Events	Steps to Avoid Harm	Prevent Med. Errors	Appropriate ICU Staff	Reduce Hospital-Acquired Injuries RATE	Rate of Early Elective Deliveries RATE	Cesarean Section RATE	Episiotomy Rate	Standard Precautions	High Risk Deliveries VOL.	Spring 2015 Grade	Spring 2014 Grade
Blount Memorial Hospital					0.45	0.0%	14.6%	35.4%		NA	B	A
Claiborne County Hospital					1.18	NA	NA	NA	NA	NA	C	Not Eligible
Cumberland Medical Center					0.32	2.5%	14.3%	5.2%		NA	C	C
Fort Loudon Medical Center					0.55	NA	NA	NA	NA	NA	A	A
Fort Sanders Regional Medical Center					0.33	2.7%	22.7%	10.7%		53	A	A
LeConte Medical Center					0.44	0.0%	17.2%	7.1%		NA	C	C
Methodist Medical Center of Oak Ridge					0.37	0.0%	32.0%	13.1%		NA	A	A
Morristown-Hamblen Healthcare System					0.82	0.5%	19.6%	14.2%		NA	A	A
North Knoxville Medical Center					0.26	NA	NA	NA	NA	NA	C	B
Parkwest Medical Center					0.38	1.2%	22.0%	9.3%		NA	A	A
Physicians Regional Medical Center					0.33	4.9%	30.0%	16.4%		4	B	A
Roane Medical Center					1.16	NA	NA	NA	NA	NA	C	Not Eligible
Turkey Creek Medical Center					0.19	7.9%	41.6%	9.4%		NA	B	A
University of Tennessee Medical Center					0.33	0.0%	23.7%	6.6%		96	B	A
East Tennessee Children's Hospital											Not Eligible	Not Eligible
Jefferson Memorial Hospital											Not Eligible	Not Eligible
Jellico Community Hospital											Not Eligible	Not Eligible
Tennova Healthcare - LaFollette Medical Center											Not Eligible	Not Eligible

TRI-CITIES

HOSPITAL	OVERALL PATIENT SAFETY RATINGS					MATERNITY CARE					HOSPITAL SAFETY SCORE	
	Never Events	Steps to Avoid Harm	Prevent Med. Errors	Appropriate ICU Staff	Reduce Hospital-Acquired Injuries RATE	Rate of Early Elective Deliveries RATE	Cesarean Section RATE	Episiotomy Rate	Standard Precautions	High Risk Deliveries VOL.	Spring 2015 Grade	Spring 2014 Grade
Indian Path Medical Center				NA	0.65	0.0%	36.3%	9.3%	Unable to calculate score	NA	C	A
Johnson City Medical Center					0.46	2.9%	14.1%	2.5%	Unable to calculate score	72	C	C
Laughlin Memorial Hospital					0.00	10.3%	16.5%	4.8%		NA	A	A
Takoma Regional Hospital					0.48	0.0%	29.7%	5.6%		NA	A	A
Unicoi County Memorial Hospital				NA	0.00	NA	NA	NA	NA	NA	Not Eligible	Not Eligible
Wellmont Bristol Regional Medical Center					0.00	0.0%	25.1%	21.1%		NA	A	A
Wellmont Hancock County Hospital				NA	0.00	NA	NA	NA	NA	NA	Not Eligible	Not Eligible
Wellmont Hawkins County Memorial Hospital				NA	1.86	NA	NA	NA	NA	NA	Not Eligible	Not Eligible
Wellmont Holston Valley Medical Center					0.41	0.8%	47.6%	16.9%		18	B	B

NASHVILLE

HOSPITAL	OVERALL PATIENT SAFETY RATINGS: Never Events	Steps to Avoid Harm	Prevent Med. Errors	Appropriate ICU Staff	Reduce Hospital-Acquired Injuries RATE	MATERNITY CARE: Rate of Early Elective Deliveries RATE	Cesarean Section RATE	Episiotomy Rate	Standard Precautions	High Risk Deliveries VOL.	HOSPITAL SAFETY SCORE: Spring 2015 Grade	Spring 2014 Grade
Decatur County General Hospital				NA	0.00	NA	NA	NA	NA	NA	Not Eligible	Not Eligible
Maury Regional Hospital					0.08	0.0%	33.3%	10.6%		As Expected	A	A
Monroe Carrell Jr. Children's Hospital at Vanderbilt					NA	NA	NA	NA	NA	NA	Not Eligible	Not Eligible
Nashville General Hospital											Not Eligible	Not Eligible
Northcrest Medical Center					0.00	0.0%	29.5%	1.1%		NA	A	A
Saint Thomas West Hospital					0.51	NA	NA	NA	NA	NA	Not Eligible	Not Eligible
St. Thomas Mid-Town					0.65	2.8%	33.9%	13.2%		78	Not Eligible	Not Eligible
St. Thomas Rutherford Hospital					0.27	2.9%	32.5%	11.1%		30	Not Eligible	Not Eligible
StoneCrest Medical Center					0.20	0.0%	39.5%	17.8%		NA	B	A
TriStar Centennial Medical Center					0.29	2.5%	35.9%	13.9%		110	A	A
TriStar Hendersonville Medical Center					0.00	2.0%	37.2%	8.2%		3	C	B
TriStar Horizon Medical Center					0.00	0.0%	24.0%	2.1%		NA	A	A
TriStar Skyline Medical Center					0.37	NA	NA	NA	NA	NA	A	A
TriStar Southern Hills Medical Center					0.00	NA	NA	NA	NA	NA	C	C
TriStar Summit Medical Center					0.29	5.8%	31.1%	19.2%		NA	A	B
Vanderbilt University Hospital					0.38	3.0%	30.0%	2.9%		232	A	A
Williamson Medical Center					0.20	0.0%	24.2%	12.4%		NA	B	B
Lincoln Medical Center					0.00	Unable to calculate score	11.8%	1.6%		NA	C	C
Harton Regional Medical Center											Not Eligible	Not Eligible
Sumner Regional Medical Center											Not Eligible	Not Eligible
United Regional Medical Center											Not Eligible	Not Eligible
University Medical Center											Not Eligible	Not Eligible

MEMPHIS

HOSPITAL	OVERALL PATIENT SAFETY RATINGS					MATERNITY CARE					HOSPITAL SAFETY SCORE	
	Never Events	Steps to Avoid Harm	Prevent Med. Errors	Appropriate ICU Staff	Reduce Hospital-Acquired Injuries RATE	Rate of Early Elective Deliveries RATE	Cesarean Section RATE	Episiotomy Rate	Standard Precautions	High Risk Deliveries VOL.	Spring 2015 Grade	Spring 2014 Grade
Baptist Memorial Hospital Collierville					0.40						C	Not Eligible
Baptist Memorial Hospital of Memphis					0.42						C	C
Baptist Memorial Hospital - Union City					0.00						C	B
Baptist Memorial Hospital for Women					0.00						Not Eligible	Not Eligible
Bolivar General Hospital				NA	0.00	NA	NA	NA	NA	NA	Not Eligible	Not Eligible
Camden General Hospital				NA	0.00	NA	NA	NA	NA	NA	Not Eligible	Not Eligible
Hardin Medical Center				NA	0.87	0.0%	39.1%	6.7%		NA	C	C
Le Bonheur Children's Medical Center					NA	NA	NA	NA	NA	NA	Not Eligible	Not Eligible
Methodist Le Bonheur Germantown Hospital					0.70	0.7%	37.5%	13.2%		90	A	A
Methodist North Hospital					0.74	NA	NA	NA	NA	NA	B	B
Methodist South Hospital					0.16	0.0%	30.0%	2.7%		NA	B	B
Methodist University Hospital					0.84	NA	NA	NA	NA	NA	A	A
Milan General Hospital					0.00	NA	NA	NA	NA	NA	B	B
Regional Medical Center					0.44	1.2%	27.0%	1.1%		As Expected	D	C
Saint Francis Hospital-Memphis					0.40	0.0%	29.1%	0.8%		As Expected	A	A
St. Jude Children's Medical Center					NA	NA	NA	NA	NA	NA	Not Eligible	Not Eligible
Henry County Medical Center						1.9%	21.6%	5.4%		NA	C	C
Jackson-Madison County General Hospital					0.36	0.1%	25.5%	9.2%		As Expected	B	B
Baptist Memorial Hospital of Huntingdon											Not Eligible	Not Eligible
Baptist Memorial Hospital Tipton											Not Eligible	Not Eligible
Delta Medical Center											Not Eligible	Not Eligible
Saint Francis Hospital - Bartlett						4.5%	22.7%	8.9%		NA	A	A

WHAT DO **THE RESULTS** MEAN?

Results are as of August 31, 2015. For the most current information please visit **www.leapfroggroup.org/cp**

 Fully Meets

 Substantial Progress

 Some Progress

 Willing to Report

 Hospital chose not to disclose this information.

Unable to calculate score — The hospital reported fewer than 30 admissions over a 24-month period for this condition.

NA — Procedure is not performed at the hospital.

Response not required — Procedure was not targeted for this hospital.

Not Eligible — Not eligible based on criteria

Results are as of August 31, 2015.
For the most current information please visit
www.leapfroggroup.org/cp

UNDERSTANDING **THE TERMS**

The information provided in this report allows you to compare and locate the right care for you and your family, much like you would use a consumer report to compare cars, computers or televisions.

Hospitals in this Guide are tiered according to their Leapfrog Never Events score.

OVERALL PATIENT SAFETY **RANKINGS**

Never Events - Four bars indicates the hospital has agreed to Leapfrog's Never Events policy. Never Events are outcomes that should not occur while you are in the hospital. Examples are surgery on the wrong body part or discharging an infant to the wrong family.

Steps to Avoid Harm - Patients should choose a hospital with a high score in this category. High scores indicate the hospital has put into place procedures to reduce 17 common, preventable medical mistakes.

Prevent Medication Errors - Patients should choose a hospital that uses computer prescriber order entry (CPOE) to order medications, tests and procedures to avoid errors.

Appropriate ICU Staffing - Patients should choose a hospital with an intensive care unit (ICU) staffed by doctors and other caregivers that have received specialized training in critical care.

Reduce Hospital Acquired Injuries - This measure refers to falls and other traumatic injuries that occur during a patient's stay in the hospital. Although some falls and injuries can occur when hospitals provide quality care, many can be avoided. For this measure, Leapfrog calculates a rate per 1,000 patient discharges. A lower rate is more desirable.

MATERNITY CARE

Rate of Early Elective Deliveries - Early elective deliveries are normal newborn deliveries performed between 37 and 39 completed weeks gestation without a medical necessity. Early elective deliveries can be dangerous, resulting in admissions to neonatal intensive care units, increased length of stay in the hospital for mother and baby, and higher costs to patients. A rate of 5% or less is better.

Cesarean Section A cesarean section is major abdominal surgery, and can lead to infection, hospital readmission, and longer recovery time. Although a cesarean section is appropriate in some cases, hospitals with a high rate may be performing too many of these procedures without a medical indication. A rate of 23.9% or lower is better.

Episiotomy Rate An episiotomy is an incision made in the perineum during childbirth. Although an episiotomy was once a routine part of childbirth, that is no longer the case. Medical guidelines recommend episiotomy only in certain cases. A rate of 5% or lower is more desirable.

Standard Precautions: A patient that will be delivering a baby should choose a hospital that adheres to evidence that promotes a healthy outcome for both the mother and the baby. This includes screening newborns for jaundice before discharge and preventing blood clots in women undergoing cesarean section.

High Risk Deliveries - Births in which infants are predicted to weigh less than 1500 grams at delivery. These infants are usually cared for in a Neonatal Intensive Care Unit (NICU). A volume of 50+ is better.

HOSPITAL **SAFETY SCORE**

The grades used in the Leapfrog Hospital Safety Score℠ program are derived from expert analysis of publicly available data using national evidence-based measures of patient safety.

The Leapfrog Hospital Safety Score program grades hospitals on their overall performance in keeping patients safe from preventable harm and medical errors. For more information visit www.hospitalsafetyscore.org.