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FINAL RESEARCH REPORT

Developing an Item Bank of Survey Questions to Measure Women's Experiences with Childbirth in Hospitals

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ABSTRACT

Background: Patient-reported experiences and outcomes (PROs) are an important component of health care quality assessment. Current PRO item banks do not include childbirth, the number 1 reason for hospital admission in the United States.

Objective: Develop a conceptual framework and preliminary item bank for childbirth-specific PRO domains, limited to the delivery and immediate postpartum period.

Methods: Using PROMIS® methodology, we conducted a comprehensive literature review to identify self-reported survey items eliciting childbirth patient-reported values and preferences (V&P) measured in pregnancy and associated experiences and outcomes (PROs) measured immediately postpartum. The V&P/PRO domains largely overlapped and were validated and complemented by focus groups. In collaboration with our community partners, we used a modified Delphi approach to select domains and items that were included in the survey. We conducted an observational study using national survey response panels organized through The Nielsen Company to identify women's V&P in childbirth. Eligible participants were US pregnant women (English or Spanish speaking) ≥18 years old, and ≥20 weeks pregnant. We used bivariate analyses to test whether key predisposing conditions (eg, demographics, prior experiences, beliefs) were associated with V&P items using data weighted to reflect the US pregnant population. We also fitted a multivariable logistic regression model to each V&P item to describe "who" wanted each item. Women participated in a postpartum follow-up survey to collect information about their childbirth experiences and outcomes (PROs). In bivariate analyses, we tested whether predisposing conditions, V&P, PROs, and the "gaps" between V&P and PROs were predictors of women's satisfaction with hospital childbirth services, which was measured using an ordinal scale of 1 to 10. Multivariable logistic regression models confirmed the results. We used PROMIS guidelines to finalize the conceptual framework and preliminary item bank for childbirth-specific V&P/PROs and key predisposing conditions.

Results: We identified 5902 PRO items that mapped to 19 domains and 58 subdomains within an empirical conceptual framework. Of 2757 respondents to the antepartum survey, 81.6% (N = 2250) anticipated a vaginal delivery in a hospital and are reported on in detail here. Maternal characteristics that were associated with each V&P item varied (eg, hospital services desired by nulliparas versus multiparas differed, with nulliparas more likely to want to avoid medical interventions and to receive information regarding baby care and feeding). Predisposing conditions, such as maternal confidence and ability to cope well with pain, appeared frequently as predictors in the models. Of 500 laboring women who answered the postpartum survey, key findings included the following: (1) The strongest predictors of women's satisfaction with hospital childbirth services were items in the domains of staff communication, compassion, empathy, and respect; and (2) 23 PROs, including being told about progress in labor and adequate pain relief in labor, appeared especially relevant to women experiencing childbirth. A final model predicting women's satisfaction with hospital childbirth services included a total of 8 items that could be optimized by doctors, midwives, and hospitals. Variables that were

eligible for the model were selected in a hierarchical fashion, in the order of predisposing conditions, V&P, PRO, and gap items.

Conclusions: We developed a conceptual framework and preliminary item bank for childbirth experiences and outcomes. The preliminary item bank consisted of 60 key predisposing conditions and 100 V&P/PRO items, forming the foundation for the Childbirth Experiences and Outcomes Survey and providing a tool for patient-reported data collection and benchmarking efforts.

Limitations and Subpopulation Considerations: Detailed results were limited to the subpopulation of women who planned for vaginal birth in a hospital. Additional analyses will need to be conducted for women who planned for cesarean delivery or delivery at home or in a birth center. Further, the use of national online panels included the potential for recruitment bias.

BACKGROUND

With nearly 4 million births annually in the United States,[1] childbirth is the number 1 reason for hospital admission,[2] and women rely on the medical system to provide them with safe and appropriate care. Childbirth clinical outcomes are a top public health challenge because rates of severe maternal morbidity (eg, renal failure, pulmonary embolism, blood transfusion)[3] and mortality[4] have been rising and racial/ethnic disparities have been widening in recent years.[5-7] Safety concerns are real. One in 5 low-risk women experiences maternal or newborn morbidity during vaginal birth, and composite hospital morbidity rates exhibit wide variation (range, 3%-58%), in addition to cesarean morbidity.[8,9]

Numerous organizations are developing national strategies to make childbirth safer.[10,11] However, because medical interventions in childbirth (eg, continuous fetal heart rate monitoring, increasing use of cesarean delivery) have been linked to decreasing childbirth satisfaction,[12] these efforts may have contributed to a gap between what hospitals believe is needed for safety and what women believe is an optimal childbirth experience.[13-20] The Institute of Medicine (now the National Academy of Medicine) defines patient-centered outcomes as distinct from clinical outcomes, and includes dimensions such as respect, communication, and physical comfort.[21,22] Patient-centered outcomes have received less attention than safety issues but are a complementary component of health care quality measurement.[23,24] Details regarding which patient-reported data are most meaningful require development.[25,26]

The National Institutes for Health funded PROMIS® in 2004 to develop standardized methods for measuring patient-reported outcomes (PROs), including the production of banks of standardized and validated survey items that correspond to various health domains.[27-29] To date, PROs have largely been used for clinical research purposes and to guide clinical care,[30] although PROs are now being integrated into the “performance measurement” of hospitals and physicians.[31-33] PCORI,[34,35] the PROMIS group,[30] and the National Quality Forum (NQF)[26] have published their perspectives regarding the uses of PROs in such endeavors.

PROs include not only measures of clinical outcomes from the patient perspective but also measures of the patient experience[36,37] of the process of care. Our project was funded through an award from PCORI that required the use of PROMIS methodology (current award). Our project's principal goal was to develop a conceptual framework and preliminary item bank of PROs as a foundation for the development of childbirth hospital performance measures.

Given the resources available for this project, we anticipated that this approach would meet not only PCORI and PROMIS requirements but also the NQF guidelines for the development of performance measures[38] and the Agency for Healthcare Research and Quality (AHRQ) guidelines for measures of the patient experience.[39]

The financial incentive of the federal Value-based Purchasing Program,[40] which stipulates that Medicare reimbursement dollars be withheld from hospitals with poor satisfaction scores, creates a strong business case for childbirth hospitals to collect and utilize patient-reported data. As measured through the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey,[41] the hospital satisfaction scores include the aggregate response from medical, surgical, and maternity care service lines. These scores provide feedback for hospitals to improve their services.

Because of the generic nature of the HCAHPS survey, hospitals do not know how to improve their scores in the maternity service line. This fact was emphasized at the expanded stakeholders meeting that was conducted for the current project. These circumstances argue for the development and implementation of a "maternity HCAHPS" so that hospitals can develop strategies to improve satisfaction with the childbirth experience and increase their revenue.[42]

Our specific objectives comprised the following:

1. Develop a conceptual framework for—and document the breadth of—women's values and preferences for hospital childbirth services. What health care services do pregnant women want?

2. Conduct a national antepartum survey to identify specific childbirth values and preferences of pregnant women in the United States.

3. Conduct a follow-up postpartum survey to describe women's actual childbirth experiences and immediate outcomes (before hospital discharge) in relation to their values and preferences and satisfaction with hospital childbirth services.

4. Use this information to finalize a conceptual framework and preliminary item bank to elicit women's values and preferences for hospital childbirth services and assess their experiences and outcomes.

The PROMIS Instrument Maturity Model describes the stages of instrument scientific development from conceptualization through evidence of psychometric properties in multiple diverse populations. The model assists developers in meeting the progressive scientific standard criteria from item pool or scale development to fully validated instruments ready for use in clinical research and practice.[43] We were funded by PCORI to complete stage 1: developmental—conceptualization and preliminary item bank development. The subsequent stages, (2) developmental—calibration phase, (3) public release—calibrated and preliminary validation completed, (4) maturing—responsiveness and expansion, and (5) fully mature—user support, remain to be developed.

This report will primarily be useful to the research community seeking to advance the use of PROs in hospital performance monitoring. This report provides a firm foundation for continued development of the PROs into PRO-performance measures (PRO-PMs), patient-reported experiences, and patient-reported experience performance measures.[36] Additionally, this report (both the conceptual framework and preliminary item bank) may also assist those in clinical settings (hospital administrators and maternity care providers) who aim to improve the childbirth experience.

PARTICIPATION OF PATIENTS AND OTHER STAKEHOLDERS

The Childbirth PRO Partnership, a group of community partners, health services researchers, maternity care providers, and advocates for pregnant women, convened before the research activities. The Partnership conceptualized the initial project and participated in the formulation and submission of the initial project proposal.

The study team recruited partners based on clinical or health policy expertise, access to diverse groups of patients, experience with health advocacy, and whether they were currently or recently pregnant. Including Nielsen panel members, 15 community partners were engaged in the project. At the end of the project, this group expanded to include external stakeholders who provided guidance on disseminating and implementing the results. The study team invited hospital quality experts; senior administrators such as patient care managers, nurse managers, department chairmen, state regional directors, and representatives from health insurers; and other health service researchers to participate in the summary meetings. We emailed invitations that included letters introducing and explaining the project. See Table 1 for a list of the Childbirth PRO Partnership members.

Each partner completed a memorandum of understanding that established clear and formalized goals, work processes, roles, responsibilities, and decision-making processes. Each agreed to participate at least once a month and to provide guidance on all research activities. We held weekly meetings to advance the work and monthly meetings to vote on final decisions and project direction. We used a modified Delphi method[44] to ensure team representation in decision-making throughout the research process. Half of our community partners directly recruited women to (1) participate in focus groups, (2) pilot the survey, (3) assist with face and construct validity, and (4) resolve survey or focus group translation subtleties.

In addition to recruiting, the community partners hosted focus group sessions at their facilities or online via videoconference and served as cofacilitators for all sessions. Participant familiarity with the location and personnel established a comfortable environment for the participants to speak candidly about their experiences. Working collaboratively with the

community partners and their constituents afforded us the opportunity to hear directly from pregnant and recently pregnant women regarding their values and preferences in childbirth.

All investigators participated in a standing weekly meeting for the project's duration. Community partners attended these meetings (in person or by phone or videoconference) to contribute to study planning and implementation, and to monitor study conduct and progress. In addition, a standing monthly Partnership meeting convened on the third Thursday of the month to update all community partners of activities to date, ensure feedback, and make plans for focus group recruitment. We posted meeting minutes in a Box account. We compensated community partners for their expertise and participation in direct proportion to their involvement, if they desired it.

The community partners helped develop the study proposal and formulate the relevant study questions. They also provided input into the study design and initial pilot data submitted with the application. Although they did not directly affect the study's rigor or quality, they did ensure the transparency of the research process. In the spirit of a true 2-way learning environment, we held several mini-lectures on statistical techniques to help ensure that the partners understood in layman's terms what factor analysis is, what logistic regression is, and how these techniques help reduce data and provide prediction estimates.

Importantly, when evaluating items that measure the same domain or subdomains, the Partners participated in "binning" and "winnowing" (ie, providing input regarding how to map the items to the conceptual framework domains and determining which items to keep or discard—especially when trying to nuance subtleties between different communities). For example, focus groups identified newborn feeding as an important PRO domain. Our literature review confirmed this and specified 2 subdomains: (1) receiving breastfeeding information, and receiving practical support about what and how to feed the newborn. Input from the community partners helped the research team appreciate that some women did not want breastfeeding information and were offended or made to feel guilty if they decided not to breastfeed. Importantly, many of these women could benefit from receiving practical support about feeding the newborn. The researchers learned about the public perceptions and

preferences for terms related to newborn feeding that distinguish “breastfeeding,” “bottle-feeding breast milk,” and “bottle-feeding formula.” The team used to finalize the final survey items for this topic.

Our community partners have continued to participate in quarterly conference calls. Hospital partners have agreed to participate as clinical sites to develop hospital performance measures for childbirth PROs if we obtain subsequent funding for dissemination and implementation. We invited additional multidisciplinary stakeholders to participate in separate “expanded” partnership meetings to discuss dissemination and implementation opportunities (see Table 1).

Table 1. List of Community Partners and Their Associated Organizations

Name	Organization
Academic research team (attended weekly meetings)	
Kimberly Gregory, MD, MPH	Cedars-Sinai Medical Center
Samia Saeb, MPH	Cedars-Sinai Medical Center
Lisa Korst, PhD	Maternal Metrics
Moshe Fridman, PhD	Maternal Metrics
Arlene Fink, PhD	UCLA
Community partners (attended *weekly, monthly, or #quarterly meetings)	
Adriana Lozada	BirthSwell: Social Media for Improved Maternal Outcomes
Jeanette McCulloch*	BirthSwell: Social Media for Improved Maternal Outcomes
Jennifer Anger, MD#	Cedars-Sinai Medical Center
Yalda Afshar, MD#	Cedars-Sinai Medical Center
Naomi Greene, PhD*	Cedars-Sinai Medical Center
Mykel LeCheminant, RNC, BS*	Cedars-Sinai Medical Center
Caroline Marshall, MLS, AHIP*	Cedars-Sinai Medical Center
Katy Sharma, MD*	Cedars-Sinai Medical Center
Brennan Spiegel, MD, MSHS#	Cedars-Sinai Medical Center
Lisa Bollman, RNC, MSN, CPHQ#	Community Perinatal Network
Hindi Stohl, MD*	Harbor UCLA Medical Center
Cordelia Hanna Cheruiyot, MPH, CHES, ICCE, CLE, CBA*	The Association for Wholistic Maternal and Newborn Health
Sandra Applebaum*	The Nielsen Company
Peg Jaynes*	The Nielsen Company
Roz Pierson, PhD*	The Nielsen Company
Geraldine Perry-Williams, MSN, PHN*	Pasadena Department of Public Health–Pasadena Black Infant Health Program
Diana Ramos, MD, MPH*	Los Angeles County Department of Public Health
Leslie Lopez, MPH, CHES#	Los Angeles County Department of Public Health
Joanne Roberts, PHN#	Los Angeles County Department of Public Health
Janice French, CNM#	Los Angeles Best Babies Network
Nathana Lurvey, MD#	South Bay Family Healthcare
Priya Batra, MD, MS, FACOG*	UCLA
Gerson Hernandez, MD	University of Southern California
Minerva Pineda, MPH	UCLA
Invited expanded stakeholders (*attended at least 1 meeting, call or presentation)	
Leslie Cragin*	ACNM Healthy Birth Initiative
Stephanie Teleki, MPH, PhD*	California Healthcare Foundation

Name	Organization
Sarah Kilpatrick, MD, PhD*	Cedars-Sinai Medical Center
Susan Jackman RN, MS	Cedars-Sinai Medical Center
Tunessa Mallet-Price, RN	CHA Hollywood Presbyterian Medical Center
Joyce Edmonds, PhD, MPH, RN	Boston College
Rachel Thompson, PhD*	Dartmouth
Name	Organization
Tracy Flanagan, MD*	Kaiser, Director of Women Services
Sarah Mandel, MD*	Kaiser, Director Patient Care Experiences
Janice French, CNM, MS*	LA Best Babies Executive Director, Patient Advocate
Christine H. Holschneider, MD*	Los Angeles County/Olive View–UCLA Medical Center, Chair
Jennifer Bailit, MD, MPH*	Metro Health, Director, Women & Children Services
David Lagrew, MD*	Memorial Care Health Systems, Medical Director
Carol Sakala, PhD, MSPH*	National Partnership for Women and Families
Karen Pace, PhD, RN*	National Quality Forum
Terri Cornelison, MD, PhD, FACOG*	Office of Research on Women's Health
Brynn Rubinstein*	Pacific Business Group on Health
Tanya Wicks, MPH*	Perinatal Advisory Council: Leadership, Advocacy, and Consultation
Aida Simonian, MSN, RNC-NIC, SCM, SRN*	Perinatal Advisory Council: Leadership, Advocacy, and Consultation
Ellen Silver, NP*	Pomona Community Health Center, Executive Director
Hellen Rodriguez, MD*	Pomona Valley Hospital Medical Center, Chief Quality Officer
Sherri Mendelson, PhD, RNC, CNS, IBCLC*	Providence Holy Cross Medical Center
Bryan T. Oshiro, MD*	Riverside Community Hospital, Riverside County Regional Medical Center, St. Mary Medical Center, Apple Valley
Lydia Lee, MD, PhD*	Santa Monica UCLA Medical Center, Ronald Reagan UCLA Medical Center, Director Quality
Sean Currigan, MPH*	The American College of Obstetricians and Gynecologists
Deborah A. Wing, MD, MBA	University of California Irvine Medical Center
Brian S. Mittman, PhD*	US Department of Veterans Affairs
Beni Adeniji, MD, DFFP*	Valley Children's/St. Agnes Regional Medical Center
Kathryn Shaw, MD*	White Memorial Medical Center

Abbreviations: ACNM, American College of Nurse Midwives; UCLA, University of California Los Angeles.

METHODS

This study complied with Cedars-Sinai Medical Center IRB stipulations under protocol #Pro00037750. The team used PROMIS methodology for the development of PRO item banks as the basis for the research approach.[43,45] The first steps of PROMIS methodology are foundational to PRO development and include (1) a comprehensive literature search for potential PRO items, (2) use of this literature to empirically develop PRO domains and a conceptual framework that details the hypothesized relationships between women's values and preferences and satisfaction with hospital childbirth services, (3) the binning and winnowing of the items retrieved, and (4) iteratively eliciting feedback from the target population throughout the process. This basic process is intended to develop the conceptual framework and domains of the PROs, which can then serve as a foundation for further development through the PROMIS PRO pathway, the NQF PRO-PM pathway, or the AHRQ methodology for developing measures of the patient experience.

The Childbirth PRO Partnership (described in the preceding section) is a group of community partners that include health services providers, health and policy advocates for pregnant women, and currently or recently pregnant women; the Partnership participated in all research activities. Throughout this report, we have addressed the relevant methodology standards as required by PCORI.

Broad Overview of Methods

As noted above, this study has 4 objectives: (1) Develop a conceptual framework for PROs and map relevant PRO items to the framework domains; (2) conduct a national antepartum survey to test the prevalence, distribution, and statistical significance of PRO items in the framework domains; (3) conduct a follow-up postpartum survey to (a) describe women's experiences and outcomes of childbirth (PROs), and (b) determine the statistical significance of these various predictors in women's satisfaction with their hospital childbirth services; and (4) using the study data, finalize the conceptual model and preliminary item bank.

1. Study design and rationale: We conducted a national cross-sectional online survey of pregnant women to document values and preferences (V&P) for hospital childbirth services and followed up with recently postpartum women to document their PROs and determine gaps between V&P and actual experiences and outcomes. Investigators wanted participants to be as representative of the US population as possible.

2. Formation of survey study cohort: Nielsen recruited pregnant women using its national online panels. Inclusion criteria for the antepartum survey was US pregnant women ≥18 years old, ≥20 weeks' gestation, and English or Spanish speaking.

3. Study setting: We used an online survey, with a convenience sample of online panels.

4. Intervention: This was a longitudinal, observational study (Time 1-Time 2). The antepartum survey conducted during pregnancy identified women's anticipated V&P for childbirth-related hospital services. Supplemental funding allowed us to modify the original project to include a postpartum follow-up survey to determine these women's actual childbirth experiences and outcomes (PROs) in relation to these V&P.

5. Follow-up: Through serial email alerts and a 1-time phone call to nonresponders, we requested that women respond to the postpartum follow-up survey up to 12 weeks postpartum.

6. Study outcomes: We created (1) a conceptual framework that describes the breadth of childbirth services domains important to pregnant women; and (2) a preliminary item bank of predisposing conditions (eg, demographics, prior experiences, clinical risk factors, beliefs), V&P, and experiences and outcomes (PROs) that contributed to the development of the Childbirth Experiences and Outcomes Survey.

7. Data collection and sources: See 1, 2, and 5.

8. Analytical and statistical approaches: See the detailed discussion under the methods for each objective. For the antepartum survey data analyses, we used multivariable logistic regression models to determine the statistical significance of predisposing conditions (eg, demographics, prior experiences, beliefs) to each V&P item. We hypothesized that V&P items were associated with various "communities" of women (defined by parity, race/ethnicity, insurance status, and so on). For the postpartum survey data analyses, we used logistic regression models to determine the statistical significance of the association of the PRO items with women's satisfaction with hospital childbirth services. We hypothesized that women's satisfaction with hospital childbirth services was

associated with predisposing conditions, V&P, PROs (both experiences and outcomes), and gaps between V&P items and PROs.

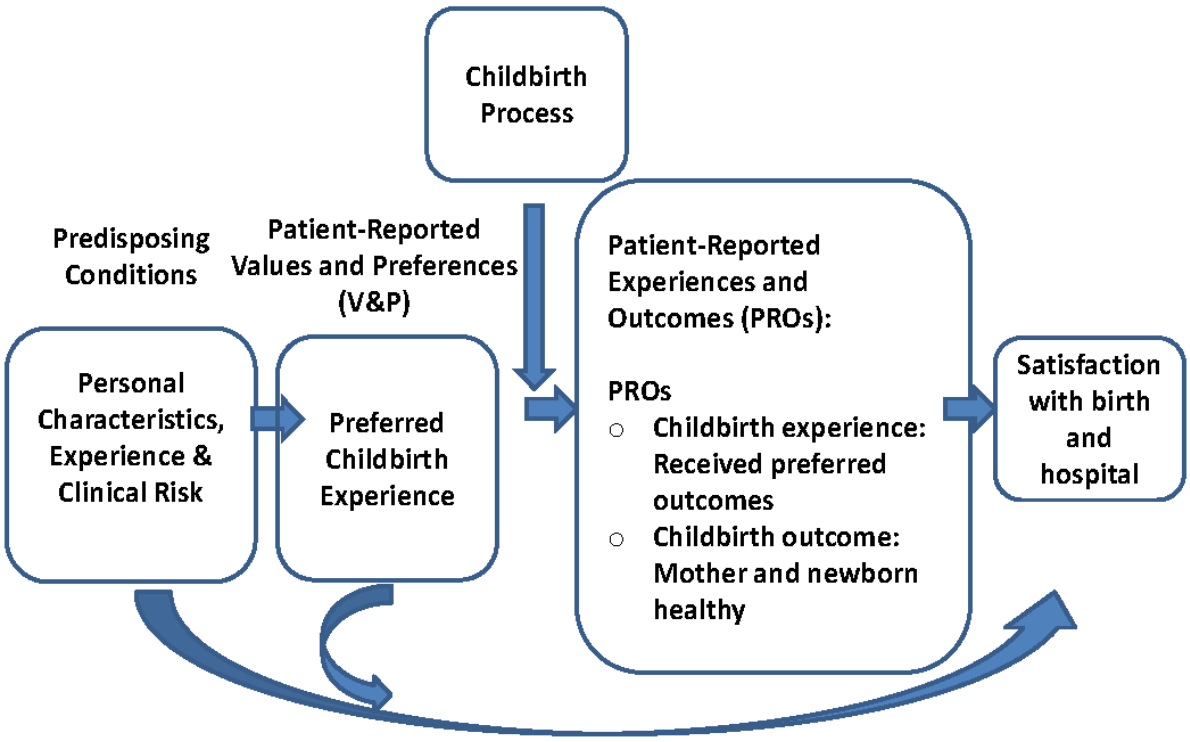
9. Conduct of the study: The original protocol was for a cross-sectional survey administered during the antepartum period only. We modified the protocol after receipt of supplemental funding to include a postpartum survey.

Objective 1: Develop a Conceptual Framework for PROs and Map Relevant PRO Items to the Framework Domains

Conceptual Framework for Elaborating PROMIS Domains

Because a childbirth-specific PRO item bank did not exist, we advanced a conceptual framework that we built on empirically using the PROMIS® guidelines.[43,45] Our conceptual framework for this study appears in Figure 1. The framework follows Andersen's Behavioral Model of Health Services Use[46] with the addition of multiple theoretical guidelines regarding health expectations and service preferences, health information seeking, satisfaction, and patient-centered and childbirth outcomes.[13,47-54]

Figure 1. Conceptual Framework for Determining PROs in Childbirth



As depicted in Figure 1, we posited that predisposing conditions (ie, women's personal characteristics, prior childbirth experience, clinical risk) generate V&P for the services desired. Upon giving birth, women assess whether these V&P were fulfilled. Last, women provide summary measures of their satisfaction with their birth and hospital services.

We hypothesized satisfaction to be dependent on (1) predisposing conditions, (2) V&P, and (3) PROs. V&P capture the concept of "value expectations" (ie, patients' desires, hopes, or wishes concerning clinical events).[55,56] For brevity, we refer to all value expectations as V&P.

This framework implies that, although quality improvement efforts focus on PROs, V&P may be equally or more important in predicting overall patient experiences and outcomes for childbirth. Therefore, for childbirth, the QI program analysis plan must consider V&P. The simplest example is mode of delivery. If a pregnant woman desired a vaginal birth (V&P item), postpartum follow-up would indicate whether she had a vaginal or cesarean birth (PRO item). Satisfaction may depend on the V&P item or the PRO item, or a combination of both. For the example, satisfaction may depend most strongly on wanting a vaginal birth, getting a vaginal birth, wanting and getting a vaginal birth, or wanting and not getting a vaginal birth. All these possibilities must be tested in the analysis plan.

Identification of Specific Items That May Be Relevant to Either (1) V&P, (2) PROs, or (3) Predisposing Conditions That May Affect the PROs

Working with a medical librarian, we performed a comprehensive literature search for English-language V&P and PROs associated with childbirth and the immediate postpartum period. Relying on Figure 1, we set up standardized search strategies of the English-language publications in PubMed from January 1975 through December 2014 (Appendix A).[35,57-60] Because our goal was to capture items that reflect the breadth of childbirth experiences and outcomes important to US women, and not to evaluate the efficacy of any intervention, we did not assess individual studies for quality or synthesize study results.

Study Selection

The title and abstract (TIAB) of the first 1700 articles were read by 2 investigators who finalized the inclusion and exclusion criteria. Criteria explicitly required for the inclusion of studies were (1) questionnaires that included patient-reported items, (2) publication in English, a focus on women's assessment of the childbirth experience or on the consequences of childbirth occurring during the hospital experience, and (4) relevance to US health care. Criteria for the specific exclusion of studies were (1) editorials, letters, news, or opinion pieces; (2) a primary focus not related to patient assessment of her experience (ie, no trials regarding drugs or specific clinical interventions); (3) a discussion of questionnaires in languages other than English or Spanish; (4) case studies of individuals, natural disasters, or epidemics; (5) investigations of factors that affect conception or a desire for pregnancy; and (6) a lack of results or questionnaire items (eg, no qualitative studies). In addition, relying on our conceptual model, we abstracted items related to patient-specific conditions, such as personal characteristics, pregnancy/delivery history, clinical risk factors, and prior experiences with childbirth services, for potential inclusion in the conceptual framework. The librarian reran the search using the expanded criteria.

Two investigators reviewed all TIAB from all retrieved studies, retaining articles that met relevance criteria. The investigators retrieved and reviewed the full text of all potentially relevant studies. We retained all articles found to be relevant by at least 1 reviewer for inclusion in a study database.

Domain Development for the Conceptual Framework

Starting with the articles found in the literature search, we developed a list of PRO domains or "bins" relevant to childbirth.[46] From these articles, we abstracted potentially relevant survey items, mapping each item to its appropriate bin. At the framework level, these domains generally housed both V&P and PRO items. For example, if an item asked a pregnant woman her preference for route of delivery, we mapped this item to the delivery route domain. If an item asked a postpartum woman the route of her delivery, we also mapped this item to

the delivery route domain. Some domains, such as pain assessment or satisfaction, housed only postpartum items because we could ask these items only after the delivery.

We modified bins and added new bins for items that did not easily fit into an existing bin. We also created sub-bins within each domain. This resulted in a series of bins and sub-bins for categorizing the retrieved items and a list of individual items within each bin. These bins became synonymous with "domains" of the conceptual framework.

At the end of this binning process, we had created domains of the conceptual framework. Most domains included both V&P and PRO items. The PRO items also included patient-reported experiences and outcomes.

"Winnowing" is the elimination of items that do not have face validity or are redundant.[46] Our goal in winnowing was to identify a limited set of items representative of the domains identified in the literature and ranked as important using a modified Delphi method by the Childbirth PRO Partnership. We divided the bins among 4 teams, each consisting of at least 1 investigator and up to 3 community partners. All the community partners and investigators had an opportunity to weigh in on the domains and items.

The process generated a final set of potential survey item bank members. We also identified survey items that reflected predisposing conditions so that the data collected could describe "who wants what," with "what" representing the V&P/PRO items and "who" representing women's predisposing conditions (eg, personal characteristics, beliefs, clinical risks) that might vary in association with these PROs.

We organized focus groups to understand women's experiences in depth and to identify additional important outcome domains (Table 2). Focus group participants were at least 18 years old, pregnant or recently pregnant (less than 1 year postpartum) and living in the United States. Eligible participants recruited by our community partners served as diverse sociodemographic and socioeconomic populations. We deliberately selected participants representative of specific childbirth communities (ie, Hispanic, Spanish speaking, African American, Asian, low income, or college educated).

Table 2. PCORI Focus Groups: Sites and Number of Participants

Preferences and expectations N = 45 (8 Spanish)		**Antepartum survey pilot N = 50 (20 Spanish)**		**Postpartum survey pilot N = 21 (5 Spanish)**		**Content validity/cognitive debriefing N = 10 (2 Spanish)**	
Site name (target group)	**n**	**Site name (target group)**	**n**	**Site name (target group)**	**n**	**Site name (target group)**	**n**
San Judas Clinic (Spanish speakers)	8	BirthSwell (online)	16	Birthswell (online)	12	Pasadena Black Infant Health Program (Hispanic and African American women)	4
Pasadena Black Infant Health Program (Hispanic women)	4	The Association for Wholistic Maternal and Newborn Health (homebirth/birth center)	4	Birthswell (online Spanish)	5	BirthSwell (online)	4
Pasadena Black Infant Health Program (African American women)	12	Pasadena Black Infant Health Program (Hispanic and African American women)	5	Cedars-Sinai Medical Center (mixed group)	4	BirthSwell (online Spanish)	2
New Life Midwifery (homebirth/birth center)	5	Cedars-Sinai Medical Center (mixed group)	5				
Beanie Birth (homebirth/birth center)	3	BirthSwell (online Spanish)	15				
Harbor UCLA (Medicaid)	4	Pasadena Black Infant Health Program (Spanish)	5				
Cedars-Sinai Medical Center (mixed group)	6						
USC Perinatal Group (Asian women)	3						

Abbreviations: UCLA, University of California Los Angeles; USC, University of Southern California.

We organized and facilitated our focus groups in collaboration with The Childbirth PRO Partnership, conducting sessions in English and Spanish. We prospectively determined our focus group sample size using qualitative saturation methods.[61] A community partner (or designee) cofacilitated all focus groups in a community partner facility, utilizing a standardized script and guide. The script ensured that all participants received the same disclosure information and rules of conduct. The guide specified the objectives and research questions, provided a general timeline, and outlined probes, to maximize group participation.

The focus groups were conducted in person between June and November 2015 and lasted approximately 60 minutes. Each participant received a $50 Target gift card for attending the session. With the participants' permission, we recorded, transcribed, and entered the sessions into Atlas.Ti, a computer-assisted qualitative data analysis and research software (Version 7.1.1).

We used a grounded theory approach, whereby several investigators and members of The Childbirth PRO Partnership debriefed after each focus group session and collaboratively identified emerging themes.[62] Two independent reviewers mapped participant responses to the domains identified in the literature search (code-by-list) and used the Atlas.Ti code manager to identify the most referenced domains. We categorized major and minor themes under the bins previously described, created additional bins as needed, and modified the conceptual framework and domain definitions with respect to the themes that surfaced in the qualitative data analysis.

Objective 2: Conduct a National Antepartum Survey to Test the Prevalence, Distribution, and Statistical Significance of PRO Items in the Framework Domains

Survey Development

We developed a survey using a subset of the predisposing conditions and V&P identified in objective 1. Before national administration, we piloted the instrument among 30 English-speaking women,[63] assessing content and construct validity, interpretability, and respondent and administrative burden for use in online administration (Table 2). We administered the pilot

survey either in person using individual laptops or online via videoconferencing with participants responding on their own computers. Community partners cofacilitated all sessions. We edited or removed survey questions per participant feedback.

Using similar methods, we created a Spanish version using a professional translation service and piloted it among women who identified Spanish as their primary language.

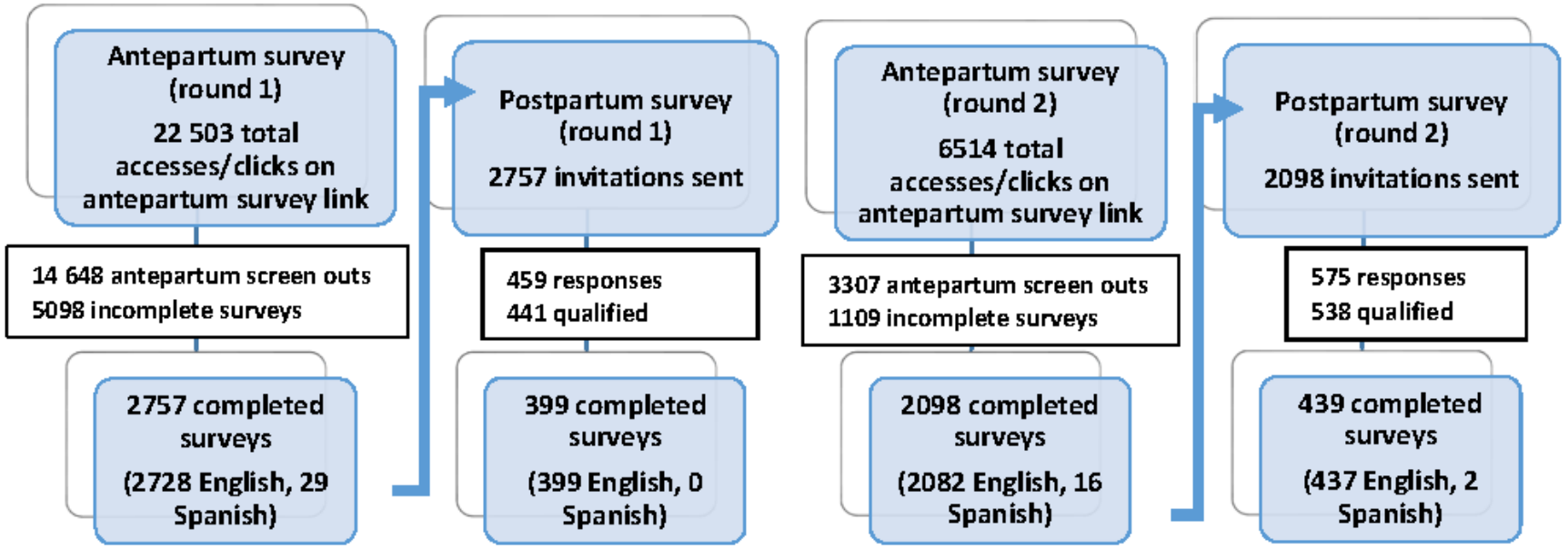
Survey completion time was <30 minutes. Responses for items in the predisposing condition domains were formatted as categorical or dichotomous variables. We used a Likert scale for the items in the V&P domains (eg, “not at all important” to “extremely important”; “strongly disagree” to “strongly agree”).

We conducted a national survey of pregnant women ≥18 years old who had completed at least 20 weeks of gestation. Nielsen recruited women through its online panels (Critical Mix, Survey Sampling, Market Cube, Peanut Labs, and Prodege), and it developed quotas based on anticipated demographic characteristics.[64]

Survey Administration

Nielsen sent potential participants from these panels an email invitation that contained a unique URL, and then screened respondents to determine their eligibility. Eligible respondents proceeded with the survey and received weekly reminders if they did not respond. Nielsen administered the survey from secure servers using digital fingerprint technology to prevent duplicate entries. Nielsen designated all eligible participants who completed a subset of mandatory items as having “completed” the survey. Nielsen applied specific protocols to ensure survey completeness and the distribution of incentive payments (approximately $15 cash equivalent in Nielsen points). Nielsen monitored survey completeness on a weekly basis and left the survey open until the goal of at least 2700 completed surveys was reached. Incomplete surveys were not analyzed (Figure 2).

Figure 2. Nielsen Survey Administration Flow Diagram



Note: Screen outs are determined by the following criteria: country, US region, gender, age, pregnancy status, and gestation. Qualified participants completed the antepartum survey and matched on screening criteria.

We weighted the national survey data to replicate the distribution of demographic variables from the 2011-2013 National Survey of Family Growth[65] and the 2014 Current Population Survey,[66] to improve generalizability to the US population (Appendix B). Data were also weighted by Nielsen's proprietary propensity score to mitigate potential selection bias owing to online recruitment methods.

Women who planned to have a cesarean delivery or planned to deliver at home or in a birth center are not described here in detail because of small sample sizes that did not allow for factor analysis or modeling. We used subpopulation analysis methods for weighted data to compute statistics for the women anticipating or considering vaginal delivery in a hospital—the most prevalent delivery expectation for American women. Subpopulation analysis methods were needed because we derived the data weights for the full sample, not for sample subsets. We performed statistical analysis of the survey data using SAS, Version 9.3. All analytical tests were 2 sided. Means are reported with SDs.

Exploratory Factor Analysis

We performed an exploratory factor analysis to achieve data reduction, to confirm the domains of predisposing conditions and V&P, and to establish construct validity. Exploratory factor analysis is a statistical technique that is used to reduce data to a smaller set of summary variables and to explore the underlying relationships between measured variables. We used the national antepartum sample from Round 1 (see Figure 2) to conduct this analysis. However, the factors extracted were applied in all subsequent analyses of antepartum and postpartum data. We performed a factor analysis for the V&P items using both a segmented analysis (to validate the anticipated domains) and an overall analysis (to allow for potential shifting of closely related items from one domain to another).

We used standard criteria to determine both the number of factors and which items loaded to a factor.[67] We applied distinct oblique rotations and selected the rotation that provided better factorization in terms of separation of loadings for continued evaluation. We also tested Cronbach α correlation as a measure of internal validity for each factor.[36] The team

selected the final set of factors based on empirical fit and confirmed face validity with the Childbirth PRO Partners, retaining factor-based scores (total score for items included divided by the number of items in the factor) for subsequent analyses and items that did not load on any factors.

Descriptive Analysis

We examined the continuous distribution of each V&P item and factor. To simplify the analysis and interpretation of results, the investigators determined whether the ordinal or interval scale responses could be categorized as either 2-level or 3-level variables. We used 2-level variables when the V&P exhibited a monotonic preference or trend, and 3-level variables for V&P that had a U-shape or mound-shape distribution that prevented binary collapsing. In general, and if possible for the 2 principal ordinal response scales, scores 1 to 3 were collapsed versus scores 4 to 5.

For example, the PRO item “It is important that providers respect my spiritual/religious/cultural beliefs” had the following distribution: 1 = “not at all important” (9.3%); 2 = “slightly important” (9.1%); 3 = “moderately important” (18.3%); 4 = “very important” (26.6%); 5 = “extremely important” (36.2%). Consequently, scores 1 to 3 were collapsed versus scores 4 to 5 (very to extremely important), creating a 2-level variable. Rating of the “encouragement for breastfeeding from providers” had the following distribution: “far too little” (6.8%), “too little” (9.1%), “about right” (67.0%), “too much” (10.9%), and “far too much” (6.3%). Consequently, the categories “far too little” and “too little” were collapsed. “Too much” and “far too much” were also collapsed, and “about right” remained its own category, hence creating a 3-level variable. For each predisposing condition, we measured the frequency of each V&P item.

Modeling

After completing the bivariate analyses, we developed a multivariable logistic regression model for each V&P item to identify the independent predisposing conditions that were associated with that item. For 3-level items, we used generalized logistic models. The

dependent variable was the V&P item and the independent variables used in each model were maternal age, race/ethnicity, education level, US region, parity (nulliparity/multiparity with no prior cesarean/prior cesarean), any medical/pregnancy-related complications, gestational age at the time of the survey, and multiple gestation. Other potential predictors of the V&P item were also assessed. To limit the number of additional predisposing conditions assessed in each model, we entered only those conditions associated with the V&P item resulting in a $P < .05$ in bivariate analysis.

For each model, we report the proportion of respondents who indicated a preference for the V&P item, the C statistic and the max-rescaled generalized R^2. These are both measures of the model's predictive power. The C statistic is a measure between 0.5 and 1 of the classification accuracy of the model predictions of the outcome based on the model's covariates (also calculated as the area under the receiver operating characteristic curve).[68] The generalized R^2 for nonlinear models is similar to the coefficient of determination (known as R^2) for linear models but based on the ratio of the likelihood function value under the null hypothesis that all covariate coefficients are equal to 0 (null model) relative to the unrestricted maximum value using the model covariates (full model). Because the upper bound of this statistic is not 1, it is rescaled by dividing the original value by its upper bound.[69,70]

Objective 3: Conduct a Follow-up Postpartum Survey to (1) Describe Women's Experiences and Outcomes of Childbirth (PROs) and (2) Determine the Statistical Significance of These Various Predictors in Women's Satisfaction With Their Hospital Childbirth Services

Postpartum Survey Development

We received supplemental funding to conduct a follow-up postpartum survey. In collaboration with the Childbirth PRO Partnership, we revised the items in the antepartum national survey to make it appropriate for postpartum administration. For most items, this primarily involved changing the tense of the verb associated with the item. All PRO items retained the same response scales used for the V&P items so that, when possible, they could be compared. The postpartum survey updated women's pregnancy complications after the

completion of the antepartum survey and before delivery and added items for the following domains that could not be assessed antepartum: maternal/newborn clinical outcomes, pain assessment, communication with physicians/midwives and nurses, following of the birth plan, and measures of satisfaction.

Satisfaction measures included several items from the HCAHPS.[41] We selected a specific item, rating the hospital on a scale of 0 to 10, as the outcome measure for objective 3. We chose this measure because it is currently used by the federal Value-based Purchasing Program, and therefore impacts hospital reimbursement,[71] and is also a target for hospital-based quality improvement efforts. We piloted the postpartum survey among 10 women, using methods similar to those described for the antepartum survey. Survey completion time was <30 minutes.

Postpartum Survey Administration and Data Collection

Nielsen conducted the postpartum survey in both English and Spanish as a follow-up to the antepartum survey, using methods similar to those previously described. Nielsen contacted women who completed the antepartum survey approximately 3 weeks after their due date. Nonresponders received weekly reminders on a rolling basis until they completed the survey or until the field period ended.

The postpartum response rate estimate was 30%, a number based on similar surveys done by Nielsen for postpartum women.[72] We used this baseline to perform a sensitivity analysis and determined that given n = 2757 women who had taken the antepartum survey, and anticipating 825 (30%) postpartum responses, with the exclusion of 214 (26%) nonlaboring patients, (3%) home and freestanding birth center births, and 59 (10% of remaining 586) for missing data, yielding N = 527. In a linear equation that uses the outcome of a summary measure for hospital rating (0-10), a sample of N = 527 women achieves 80% power to detect an R^2 of 0.01 attributed to 1 independent variable with a significance level (α) of .05 and adjusted for an additional 25 independent variables with an R^2 of 0.30. However, the response rate varied between 15% to 20% per week. Approximately 2 months after starting the postpartum survey in the field, Nielsen employed efforts to increase participation. It upgraded

the incentive from $10 to $15 in reward points redeemable for gift cards or merchandise; improved the survey-taking experience on mobile devices; revised invitation and reminder language; sent alert emails 5 weeks before the survey's due date; and, where possible, made phone calls to nonresponders.

To collect the contracted number of postpartum responses, Nielsen initiated a second round of antepartum and postpartum surveys, using the same online panels except for Peanut Labs. It used the same methodology as in the first round but maintained incentives at $15 for completion of both the antepartum and postpartum surveys (see Figure 2).

Data Analysis

Nielsen provided a deidentified data set that linked the antepartum and postpartum survey responses, tabulating predisposing characteristics, V&P, PROs, and satisfaction data per respondent. The investigative team derived "gap data" to reflect differences between the V&P and PRO data items as follows. We dichotomized V&P items, with few exceptions, reflecting whether a respondent did or did not want an item. For example, the V&P item regarding whether the woman wanted the baby placed skin to skin immediately following delivery was originally a 5-point ordinal score that was dichotomized into "very" or "extremely" important versus the other responses. We also dichotomized most PRO items, reflecting whether a respondent did or did not get a service item or outcome. For example, in the postpartum survey we asked whether a woman "got" the service, in this case, the baby was placed skin to skin upon delivery. We defined "gap data" in 4 categories: (1) respondent did not want the item and did not get it; (2) respondent did not want the item but got it; (3) respondent wanted the item and got it; and (4) respondent wanted the item but did not get it.

Objective 3 focused on participants who answered both the antepartum and postpartum survey. We further restricted this group to those women who noted on the antepartum survey that they anticipated having a vaginal delivery in a hospital and on the postpartum survey stated that they labored and delivered in a hospital (either by cesarean or vaginal birth). We chose this group of women as the denominator to maximize data

interpretability because the antepartum survey had different items for women who anticipated an elective (scheduled) cesarean delivery and those who anticipated a vaginal delivery. Specifically, items related to V&P about labor (most items) were not relevant for those who planned a cesarean.

We tested data from respondents who met these criteria for bivariate association with hospital satisfaction, an HCAHPS item that asks respondents to rate their hospital on a scale of 0 to 10. We operationalized this measure of satisfaction by dichotomizing it at a score of 9 to 10 (satisfied) versus 0 to 8 (unsatisfied). We chose this outcome because our principal goal for this study was the development of a foundation for childbirth hospital performance measurement. Furthermore, hospitals are familiar with this item, dividing it as above, using it to track hospital satisfaction, and relying on the premise that any score lower than 9 is meaningful.[71]

We did not weight analyses for postpartum data because weights were not developed for the postpartum sample. Means are reported ± the standard deviation. We adjusted odds ratios (ORs) for maternal age, race/ethnicity, education level, parity/prior cesarean birth, US region, pregnancy complications before admission (by either antepartum or postpartum survey), overall health (antepartum survey), and overall mental/emotional health (antepartum survey) and included 95% CIs.

Models

To investigate the relationship between predisposing conditions, V&P, PROs, and gap data with women's satisfaction with hospital childbirth services, we used information from the bivariate frequency tables to build the final multivariate models. In these models, women's satisfaction with hospital childbirth services was the dependent variable, and independent variables were chosen from the items for predisposing conditions, V&P, PROs, and gaps. We built all models using backward, stepwise, and forward multiple logistic regression techniques. We considered any differences in covariates selected to each particular model and made final model decisions based on face validity as evaluated by the team and by improvement in the C statistic. We chose 9 variables—(1) maternal age, (2) race/ethnicity, (3) education level, (4)

multiple gestation, (5) delivery category (combination of multiparity and prior cesarean delivery), (6) US region, (7) complicated pregnancy (based on a positive response to either the antepartum or postpartum items regarding clinical risk), (8) antepartum overall health, and (9) antepartum mental/emotional health—to be forced into all models and excluded all variables missing 20 or more responses.

We hypothesized that there were 4 categories of potential predictors of overall women's satisfaction with hospital childbirth services: (1) predisposing conditions, (2) V&P items, (3) PROs, and (4) gap data (eg, wanted but did not get). The study team further evaluated V&P items and PROs for their close relation to women's satisfaction with hospital childbirth services and for their specification of actionable or mutable services, practices, or policies.

To better understand the data and to limit the number of predictors, we tested predisposing conditions against the dichotomized variable for women's satisfaction with hospital childbirth services as described previously. In addition to the variables forced into all models, any predisposing condition with a $P < .10$ for bivariate analysis was eligible to be entered in the model. This P value allowed for a slightly more liberal inclusion criterion than normally used ($P < .05$) and created an alternative to forcing more predisposing conditions in the models. The predictors identified here were eligible to be used in the final models.

We performed multivariate logistic regression modeling using the predisposing conditions that reached statistical significance in the previous step ($P < .10$), as well as all V&P, PRO, and gap items that had a $P < .05$ in bivariate analysis with women's satisfaction with hospital childbirth services. Gap items with a nonsignificant 10% difference in categories were also eligible for inclusion, given that a 10% difference might be clinically relevant. Because 3 potential entries existed for a similar item (the V&P item, the PRO item, or the gap item), any significant one was eligible for the model. In the case of competing similar items, we first ranked items in order of the chi-square of the bivariate association with satisfaction, and sequentially tested in the models to determine which, if any, contributed to the model with the highest C statistic. We retained the model with the highest C statistic.

Objective 4: Using the Study Data, Finalize the Conceptual Model and Preliminary Item Bank

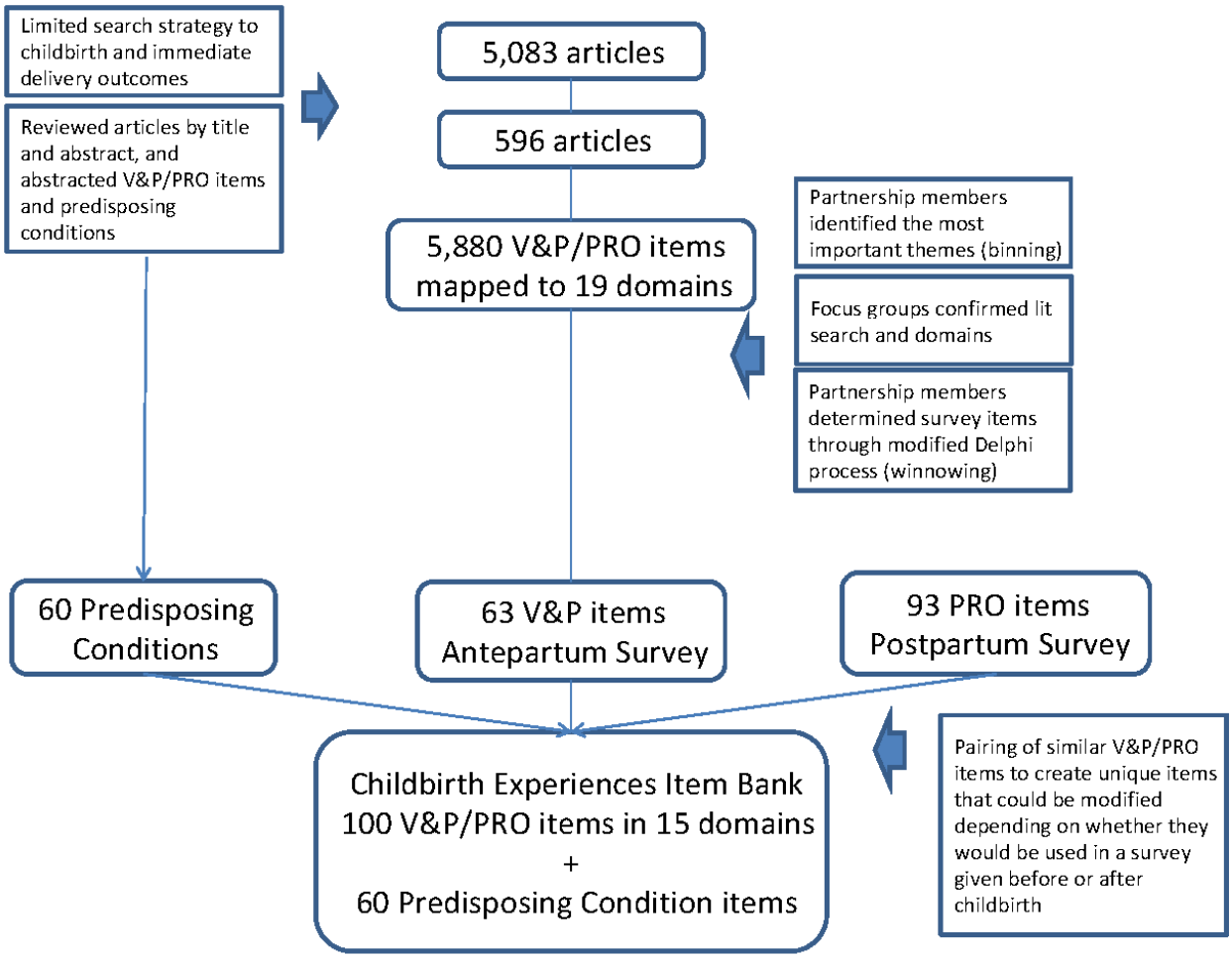
In accordance with PROMIS guidelines, our next step was to format the selected items (listed in Table 3) in a uniform style (uniform instructions and response options)[45] and perform cognitive debriefing for the items' content validity (Table 2).[43] On the basis of additional discussion with the community partners as well as interviews with pregnant and postpartum women, we crafted a final iteration of the item bank, specifying the relevant domains in the conceptual framework. The final childbirth-specific preliminary item bank included items that specified predisposing conditions, V&P, PROs, and gaps.

RESULTS

Overview

The following sections present the results of objective 1 (literature search and domain mapping), objective 2 (the antepartum survey), objective 3 (the postpartum survey), and objective 4 (the conceptual framework and final preliminary item bank). Figure 3 provides a flow diagram of the steps in the item selection process.

Figure 3. Flow Diagram of Steps in the Item Selection Process



Abbreviations: PROs, patient-reported outcomes; V&P, values and preferences.

Objective 1: Develop a Conceptual Framework for PROs and Map Relevant PRO Items to the Framework Domains

Building on the initial conceptual framework, the search strategies identified 5102 unique titles; from these, we identified 5902 relevant PRO items. In collaboration with the Childbirth PRO Partnership participants, we categorized these items into 19 domains and 58 subdomains (Table 3). We conducted 8 focus groups with 45 women of varying age, race/ethnicity, socioeconomic background, and region. Each focus group included 3 to 10 women. One focus group (n = 8) was facilitated in Spanish. We captured the value expectations of women who anticipated delivering or had delivered at a hospital, freestanding birth center, or home.

Table 3. Initial Domains and Subdomains Identified Through Literature Review and Focus Groups, and the Number of Items per Domain

Domains N = 19	Subdomains N = 58	Total items (N = 5902)
Clinical concerns	Provider competence; safety; preterm labor; intrapartum complications; indication for cesarean delivery; maternal and newborn clinical outcomes; additional maternal or neonatal hospitalization	259
Communication	Communication with providers regarding labor and delivery, and regarding newborn	181
Confidence	Confidence, self-efficacy	109
Continuity	Continuity of care, care coordination; provider availability	96
Decision-making	Decision-making and birth plans; maternal control	395
Empathy	Cultural competence; discrimination; provider empathy; provider support; respect, privacy	219
Feeding newborn	Breastfeeding, bottle feeding	249
Interventions in labor	Labor interventions; food and drink in labor	157
Labor management	Hospital admission; labor management; labor and birth positions	244
Location of delivery	Birth environment; childbirth location; provider type	257
Mental health	Anxiety, fear, worry; depression; maternal psychological issues	970
Newborn	Newborn, newborn care; neonatal intensive care unit; nursery environment	355
Pain assessment	Labor pain assessment; labor pain expectations	131
Pain management	Cesarean delivery anesthesia; epidural; labor pain management	505
Parenting	Family impact; fetal attachment; parental concerns	192
Postpartum	Postpartum care; postpartum environment; postpartum long-term issues; postpartum work intention	353
Route of delivery	Route of delivery; vacuum, forceps; vaginal birth after cesarean; cesarean delivery anxiety	497
Summary measures	Cesarean delivery experience; negative experience; overall experience	303
Support	Labor social support; labor teaching; nursing support; partner support	430

Focus group data confirmed the importance of these 19 priority domains; the 3 most frequently discussed domains were communication, involvement in decision-making, and the need for respect and empathy. Only 1 new subdomain that was not part of the literature search emerged from the focus groups—health insurance concerns. This included the nuances of different types of services, hospitals, and deductibles in different types of networks. While this concern arose in only 1 focus group, all women within that group thought it was important, each raising her own individual coverage issues. As a result, we added insurance/cost of care as a subdomain under decision-making. After the winnowing process, 68 V&P items and 64 items describing predisposing conditions remained.

Objective 2: Conduct a National Antepartum Survey to Test the Prevalence, Distribution, and Statistical Significance of PRO Items in the Framework Domains

We administered the survey in November 2015 over a 2-week period. Of 22 503 logins to the survey, 2757 fully qualified respondents completed it. Twenty-nine surveys (1.1%) were in Spanish. Of these respondents, 2033 (73.7%) anticipated a vaginal birth in a hospital; 217 (7.9%) anticipated a hospital birth but were uncertain regarding the planned delivery route; 393 (14.3%) anticipated a cesarean delivery; 23 (0.8%) anticipated delivery in a freestanding birth center; 47 (1.7%) anticipated delivering at home; 17 (0.6%) anticipated a vaginal delivery but were unsure of location; and 27 (1.0%) gave inconsistent or incomplete responses.

All geographic regions were represented. Most (55%) respondents were White, had at least some college (64%), and planned to be delivered by an obstetrician (69%). A third of the respondents (33.1%) were 30 to 34 years old, and 41% made at least $35 000 per year (Appendix B). Although 17% were Hispanic, only 7% indicated they needed an interpreter (language not specified); approximately 2% of women took the Spanish version of the survey. Table 4 lists the frequency distribution of the 37 predisposing conditions tested in the national sample.

Table 4. Frequency of 37 Predisposing Conditions in the National Sample

Characteristic	Total (weighted), N = 2218, No. (%)
Age, y	N = 2218
18-24	546 (24.7)
25-29	581 (26.2)
30-34	733 (33.1)
35-39	292 (13.2)
40-54	62 (2.8)
Race/ethnicity	N = 2218
Asian	81 (3.7)
Black	425 (19.2)
Hispanic	383 (17.3)
Other	100 (4.5)
White	1229 (55.4)
Highest education level	N = 2218
High school or less	784 (35.4)
Some college	674 (30.4)
College 4 y or more	760 (34.2)
Income[a]	N = 2084
<$15 000	556 (26.7)
$15 000 to <$35 000	680 (32.6)
$35 000 to <$75 000	503 (24.1)
≥$75 000	346 (16.6)
Delivery category	N = 2218
Multiparous without prior CD	1149 (51.8)
Multiparous with prior CD	395 (17.8)
Nulliparous	674 (30.4)
Gestational age ≥34 wk	N = 2218
Yes	664 (29.9)
Pregnant with more than 1 baby	N = 2218
Yes	178 (8.0)
Use of infertility treatment for this pregnancy	N = 2213
Yes	218 (9.9)
Intentional pregnancy	N = 2107
Yes	1438 (68.2)

Characteristic	Total (weighted), N = 2218, No. (%)
First prenatal care visit in first trimester	N = 2199
Yes	1745 (79.4)
Body mass index (from prepregnancy weight and height)	N = 2198
Underweight (<18.5)	173 (7.9)
Normal (18.5-24.9)	1073 (48.8)
Overweight (25.0-29.9)	549 (25.0)
Obese (≥30.0)	403 (18.4)
Rating of overall health during pregnancy as poor/fair	N = 2215
Yes	130 (5.9)
Rating of mental/emotional health during pregnancy as poor/fair	N = 2215
Yes	296 (13.4)
Pregnancy complications[b]	N = 2179
Yes	901 (41.4)
Currently has a spouse or partner	N = 2218
Yes	2056 (92.7)
Having immediate help or social support if needed	N = 2128
Yes	1975 (92.8)
Having negative memories from a previous labor or birth	N = 2217
Somewhat to strongly agree	554 (25.0)
Having anybody repress, degrade, or humiliate them over a long period of time	N = 2215
Yes (abuse 1)	648 (29.3)
Having anybody threatening to hurt them or someone close to them	N = 2211
Yes (abuse 2)	550 (29.4)
Having anybody trying to physically abuse them	N = 2212
Yes (abuse 3)	543 (24.6)
Having anybody trying to force them into sexual actions	N = 2216
Yes (abuse 4)	476 (21.5)
Abuse aggregate (any of abuse 1, 2, 3, or 4)	N = 2205
Yes	887 (40.2)
Having personally experienced discrimination (experienced discrimination)[d]	N = 2189
Yes	605 (27.7)
High confidence in the birth process (high confidence)[e]	N = 2170
Yes	1497 (69.0)

Characteristic	Total (weighted), N = 2218, No. (%)
Very to extremely confident filling out medical/health paperwork by oneself	N = 2217
Yes	1721 (77.6)
Feeling pressure from the provider, family, or friends to have a cesarean birth	N = 2085
Yes	346 (16.6)
Public health insurance	N = 2098
Yes	998 (47.6)
Need to travel ≥30 min from home to deliver	N = 2131
Yes	619 (29.0)
Person who will deliver baby	N = 2161
Family practitioner	275 (12.7)
Midwife	251 (11.6)
Obstetrician	1475 (68.3)
Partner	159 (7.4)
Need for an interpreter	N = 2182
Yes	149 (6.8)
Anticipated coping with labor pain	N = 1973
Very well to extremely well	751 (38.0)
Feeling that giving birth is being in a very helpless condition	N = 2211
Somewhat to strongly agree	732 (33.1)
Feeling that it is better not to know in advance about the processes of giving birth	N = 2213
Somewhat to strongly agree	477 (21.5)
Worried about the birth	N = 2217
Yes	1353 (61.0)
Will be making a birth plan	N = 2215
Yes	1203 (54.3)
Planning tubal sterilization	N = 1707
Yes	314 (18.4)
US generation	N = 2183
Neither respondent or parent born in US	167 (7.7)
Respondent but not parent born in US	191 (8.8)
Both respondent and parent born in US	1824 (83.6)

Characteristic	Total (weighted), N = 2218, No. (%)
US region	N = 2218
East	397 (17.9)
Midwest	464 (20.9)
South	840 (37.9)
West	518 (23.3)
Religion—none or atheist	N = 2211
Yes	411 (18.6)
Heterosexual	N = 2212
Yes	2025 (91.6)
Survey taken in Spanish	N = 2218
Yes	23 (1.0)

Abbreviation: CD, cesarean delivery.

[a]The unweighted number of participants was 2250.

[b]2014 household income before taxes, in dollars.

[c]An aggregate variable defined as having 1 or more of the following: a preexisting or chronic maternal condition, a gestational condition, a high-risk pregnancy, or a problem with the fetus.

[d]A factor combining 6 items that asked whether the respondent had ever experienced discrimination because of race, culture, finances, insurance, gender, or disability (Likert scale 1 = "not at all" to 5 = "very much"; α = .89). "Yes" was defined as a factor-based score ≥2.

[e]A factor combining the following 8 items: (1) "I feel confident in protecting my own interests during pregnancy and childbirth"; (2) "I know where to get information regarding childbirth options"; (3) "I want to be in charge of planning my care"; (4) "Giving birth is a powerful experience"; (5) "My job as a mother is to make sure my baby is born healthy"; (6) "I believe I will be in control"; (7) "I expect my childbirth will go smoothly"; and (8) "Childbirth is a safe experience for the mother" (Likert scale 1 = "strongly disagree" to 5 = "strongly agree"; α = .76). "Yes" was defined as a factor-based score ≥4.

For the predisposing conditions, as part of the factor analysis, we extracted 2 factors: discrimination (6 items; α = .89) and confidence (8 items; α = .76). Both factors used the 5-point response scale 1 = strongly disagree to 5 = strongly agree. We retained all other predisposing conditions as independent items. For the V&P, we extracted 4 factors. Overall and segmented factor analyses were consistent. These factors were (1) choice of labor environment (6 items; α .72); (2) communication regarding the newborn (8 items; α .89); (3) option to use labor tub, ball, or stool (3 items; α .90); and (4) desire to avoid interventions (6 items; α .80). All the involved items used the "importance" response scale. We calculated factor-based scores and collapsed to produce binary items for all the above factors. All remaining V&P remained as independent items.

The results of the multiple logistic regression models for those who anticipated a vaginal delivery appear in Table 5, which details the predisposing conditions associated (positively or negatively) with each V&P item, organized by the conceptual framework domain. In general, women who had high confidence, those who prepared a birth plan, and those who anticipated coping well with labor pain expressed preference for a more physiological birth and willingness to being more involved and in control of their childbirth.

Table 5. Results of Multiple Logistic Regression Models for Women Considering Having a Vaginal Delivery, by Domain (Total N, Weighted = 2218; all Ns Are Weighted)

V&P item	Predictors: predisposing conditions with a positive association (*more* likely to want V&P item)	Predictors: predisposing conditions with a negative association (*less* likely to want V&P item)
Labor management		
Want labor tub/ball/stool (factor)[a] Yes: 1174/2091 (56.1%) C statistic: 0.728 Maximum pseudo-R^2 = 0.235	• Intentional pregnancy • Having a birth plan • Experienced discrimination (factor)[b] • Feeling pressure to have a cesarean birth • Underweight	• Heterosexual • Provider = obstetrician
Want to avoid interventions in labor (factor)[c] Yes: 589/2168 (27.2%) C statistic: 0.664 Maximum pseudo-R^2 = 0.112	• High confidence (factor)[d] • Negative memories of previous birth • Experienced discrimination (factor) • Anticipate coping well with pain	• Oldest age stratum • Multiparous without prior CD
Want to avoid continuous electronic fetal monitoring Yes: 873/2213 (39.5%) C statistic: 0.717 Maximum pseudo-R2 = 0.218	• Oldest age stratum • Multiparous with prior CD • High confidence (factor) • Confident filling out medical/health forms • Feeling pressure to have a cesarean birth • Lack of childbirth preparation[e]	• Pregnancy complications[f] • White race • Respondent and parents not born in United States
Important to eat/drink during labor Yes: 1239/2211 (56.0%) C statistic: 0.657 Maximum pseudo-R^2 = 0.152	• Older gestational age (≥34 wk) • High confidence (factor) • Feeling pressure to have a cesarean birth • Anticipate coping well with pain • Feeling helpless[g] • Lack of childbirth preparation	• Obese
Important to use shower Yes: 1319/2202 (59.9%) C statistic: 0.680 Maximum pseudo-R^2 = 0.160	• Having a birth plan • High confidence (factor) • Feeling pressure to have a cesarean birth • Anticipate coping well with pain • Lack of childbirth preparation	• White or Asian race
Important to use massage Yes: 863/1972 (43.8%) C statistic: 0.712 Maximum pseudo-R^2 = 0.209	• Black or Hispanic race • Older gestational age (≥34 wk) • Having a birth plan • High confidence (factor)	• Multiparous without prior CD

V&P item	Predictors: predisposing conditions with a positive association (*more* likely to want V&P item)	Predictors: predisposing conditions with a negative association (*less* likely to want V&P item)
	• Negative memories of a previous birth • Feeling pressure to have a cesarean birth • Anticipate coping well with pain • Planning to have a support person during labor • Lack of childbirth preparation	
Want to be on back for delivery Yes: 1201/2212 (54.3%) C statistic: 0.681 Maximum pseudo-R^2 = 0.165	• Women with some college (compared with college graduates) • Multiparous without prior CD • Planning to have a support person during labor • Lack of childbirth preparation • Belief that childbirth is safe for mother • Public insurance	• Negative memories of a prior birth • Experienced sexual abuse • Experienced discrimination (factor) • Travel ≥30 min from home • Provider = midwife (compared with obstetrician)
Want choice of labor position Yes: 1272/2205 (57.7%) C statistic: 0.671 Maximum pseudo-R^2 = 0.127	• Oldest age stratum • Having a birth plan • High confidence (factor) • Feeling pressure to have a cesarean birth • Anticipate coping well with pain • Lack of childbirth preparation	• Delivery route uncertain
Continuity of care		
Want to know deliverer Yes: 1822/2198 (82.9%) C statistic: 0.684 Maximum pseudo-R^2 = 0.144	• Having a birth plan • High confidence (factor) • Planning to have a support person during labor • Anticipate coping well with pain	• Provider = midwife (compared with obstetrician)
Want to know pediatrician Yes: 1388/2138 (64.9%) C statistic: 0.697 Maximum pseudo-R^2 = 0.168	• All multiparous (compared with nulliparous) • Having a birth plan • Having immediate help/social support • High confidence (factor) • Anticipate coping well with pain • Lack of childbirth preparation	• Provider = midwife (compared with obstetrician)

V&P item	Predictors: predisposing conditions with a positive association (*more* likely to want V&P item)	Predictors: predisposing conditions with a negative association (*less* likely to want V&P item)
Communication and decision-making		
Plan to leave choices to provider[h] Yes: 519/2211 (23.5%) Maybe: 486/2211 (22.0%) No: 1207/2211 (54.6%) Maximum pseudo-R^2 = 0.323	• Asian race (both yes and maybe groups) • Hispanic race (yes group but not maybe group) • Other race (maybe group but not yes group) • Feeling helpless (yes group but not maybe group) • Lack of childbirth preparation (yes group but not maybe group) • Family practice doctor (compared with obstetrician) (both groups) • Need interpreter (yes group but not maybe group)	• College graduate less likely (maybe group but not yes • group) • Some college (maybe group but not yes group) • First-trimester prenatal care (yes group but not maybe group) • High confidence (factor) (maybe group but not yes group) • Planning to have a support person during labor (yes group but not maybe group)
Will talk with family before making decisions[h] Yes: 1661/2212 (75.1%) Maybe: 350/2212 (15.8%) No: 201/2212 (9.1%) Maximum pseudo-R^2 = 0.223	• High confidence (factor) (yes group but not maybe group) • Partner is supportive (yes group but not maybe group) • Planning to have a support person during labor (yes group but not maybe group) • Worry regarding birth (no group versus maybe group) • Lack of childbirth preparation (both groups) • Family practice doctor (compared with obstetrician) (maybe group but not yes group)	• None
Will refuse treatment believed not necessary Yes: 1349/2212 (61.0%) C statistic: 0.699 Maximum pseudo-R^2 = 0.189	• College graduate • Negative memories of previous birth • High confidence (factor) • Confident filling out medical/health forms • Experienced threats of abuse • Feeling pressure to have a cesarean birth • Lack of childbirth preparation	• Provider = family practice doctor • (compared with obstetrician)

V&P item	Predictors: predisposing conditions with a positive association (*more* likely to want V&P item)	Predictors: predisposing conditions with a negative association (*less* likely to want V&P item)
Empathy/respect		
Important to be respected for spiritual/cultural beliefs Yes: 1451/2208 (65.7%) C statistic: 0.687 Maximum pseudo-R^2 = 0.164	• Youngest stratum • Black race • Western region • Having a birth plan • High confidence (factor) • Anticipate coping well with pain • Lack of childbirth preparation • Heterosexual	• No religion or atheist
Important to have reassurance/comfort from nurse Yes: 1898/1976 (96.1%) C statistic: 0.694 Maximum pseudo-R^2 = 0.139	• First-trimester prenatal care • High confidence (factor) • Confident filling out medical/health forms • Worry regarding birth	• None
Important to give support person adequate space and food Yes: 1652/2058 (82.3%) C statistic: 0.662 Maximum pseudo-R^2 = 0.110	• Pregnancy complications • High confidence (factor) • Confident filling out medical/health forms	• Partner not supportive
Important to have female provider Yes: 1437/1941 (74.0%) C statistic: 0.700 Maximum pseudo-R^2 = 0.162	• Intentional pregnancy • Having a birth plan • Feeling pressure to have a cesarean birth • Feeling helpless • Lack of childbirth preparation • Provider = midwife (compared with obstetrician)	• No religion or atheist • High confidence (factor)
Want choices in the environment (factor)[i] Yes: 1707/2198 (77.7%) C statistic: 0.731 Maximum pseudo-R^2 = 0.224	• Some college (compared with high school only) • First-trimester prenatal care • High confidence (factor) • Confident filling out medical/health forms • Planning to have a support person during labor • Anticipate coping well with pain • Experienced humiliation • Heterosexual	• Provider = family practice doctor • (compared with obstetrician)

V&P item	Predictors: predisposing conditions with a positive association (*more* likely to want V&P item)	Predictors: predisposing conditions with a negative association (*less* likely to want V&P item)
Feeding		
Breast-milk feeding Yes: 1883/2139 (88.0%) C statistic: 0.730 Maximum pseudo-R^2 = 0.158	• College graduate • Nulliparous • Asian race • First-trimester prenatal care • Need interpreter	• Oldest age stratum • US regions: South and East regions (compared with West) • Lack of childbirth preparation
Important to have practical support for feeding Yes: 1553/2209 (70.3%) C statistic: 0.663 Maximum pseudo-R^2 = 0.116	• Nulliparous • High confidence (factor) • Partner supportive • Confident filling out medical/health forms • Feeling pressure to have a cesarean birth • Worry regarding birth	• None
Breastfeeding encouragement[h] Too little: 180/2204 (8.2%) Just right: 1759/2204 (79.8%) Too much: 265/2204 (12.0%) Maximum pseudo-R^2 = 0.224	• Multiparous with prior CD (compared with nulliparous) (too much group only) • Pregnancy complications (too much group only) • Report overall health as poor/fair (too little group only) • Travel ≥30 min (too much group only) • Having immediate help/social support (too little group only) • Experienced discrimination (factor) (too much group only) • Experienced threats (too little group only) • Having a birth plan (too much group only) • Feeling helpless (too much group only) • Lack of childbirth preparation (too much group only)	• None
Newborn		
Important to have skin-to-skin placement of newborn Yes: 1556/2211 (70.4%) C statistic: 0.674	• Having a birth plan • High confidence (factor) • Confident filling out medical/health forms	• None

V&P item	Predictors: predisposing conditions with a positive association (*more* likely to want V&P item)	Predictors: predisposing conditions with a negative association (*less* likely to want V&P item)
Maximum pseudo-R^2 = 0.115	• Anticipate coping well with pain	
Important for baby to stay with mother Yes: 2004/2216 (90.4%) C statistic: 0.788 Maximum pseudo-R^2 = 0.264	• White race • High confidence (factor) • Confident filling out medical/health forms • Planning to have a support person during labor	• Older gestational age (≥34 wk) • Feeling pressure to have a cesarean birth • Highest income stratum • Need interpreter
Communication regarding newborn (factor)[j] Yes: 903/2162 (41.8%) C statistic: 0.740 Maximum pseudo-R^2 = 0.235	• Older age stratum • Some college (compared with high school) • Nulliparous • Having a birth plan • High confidence (factor) • Feeling pressure to have a cesarean birth • Planning to have a support person during labor • Worried about birth • Lack of childbirth preparation	• White race (compared with Asians, Blacks, and Hispanics) • Provider = midwife (compared with obstetrician)
Pain management		
Important to have pain option: massage Yes: 1340/2215 (60.5%) C statistic: 0.649 Maximum pseudo-R^2 = 0.118	• Nulliparous • Older gestational age (≥34 wk) • First-trimester prenatal care • Having a birth plan • High confidence (factor) • Having immediate help/social support • Experienced discrimination (factor) • Worry regarding birth	• Oldest age stratum
Important to have pain option: walking Yes: 1405/2218 (63.4%) C statistic: 0.647 Maximum pseudo-R^2 = 0.115	• Having a birth plan • High confidence (factor) • Anticipate coping well with pain	• Multiparous • Lack of childbirth preparation
Important to have pain option: breathing techniques Yes: 1354/2213 (61.2%) C statistic: 0.630 Maximum pseudo-R^2 = 0.088	• Oldest age stratum • College graduate • Nulliparous • First-trimester prenatal care • Having immediate help/social support	• Lack of childbirth preparation • Feeling pressure to have a cesarean birth

V&P item	Predictors: predisposing conditions with a positive association (*more* likely to want V&P item)	Predictors: predisposing conditions with a negative association (*less* likely to want V&P item)
	• Having a birth plan	
Important to have pain option: shower/tub Yes: 937/2161 (43.4%) C statistic: 0.645 Maximum pseudo-R^2 = 0.090	• Nulliparous • Pregnancy complications • First-trimester prenatal care • High confidence (factor) • Planning to have a support person during labor • Provider = midwife (compared with obstetrician)	• Lack of childbirth preparation
Important to have pain option: mental strategies Yes: 885/2218 (39.9%) C statistic: 0.644 Maximum pseudo-R^2 = 0.128	• Any college • Nulliparous • Older gestational age (≥34 wk) • High confidence (factor) • Experienced sexual abuse	• Lack of childbirth preparation • Provider = family practice doctor (compared with obstetrician)
Important to have pain option: narcotics Yes: 535/2175 (24.6%) C statistic: 0.660 Maximum pseudo-R^2 = 0.122	• Pregnancy complications • White race • Experienced threats • Worry regarding birth • Feeling helpless • US region: South (compared with West)	• Having a birth plan • Anticipate coping well with pain
Important to have pain option: epidural Yes: 1144/1921 (59.6%) C statistic: 0.732 Maximum pseudo-R^2 = 0.226	• White race • US region: South • Supportive partner (compared with no partner) • Confident filling out medical/health forms • Worry regarding birth • Provider = obstetrician (compared with other providers) • Heterosexual	• Having a birth plan • Feeling pressure to have a cesarean birth • Anticipate coping well with pain
Important to have pain option: nitrous oxide Yes: 212/2218 (9.6%) C statistic: 0.689 Maximum pseudo-R^2 = 0.108	• Nulliparous • Multiple gestation • Feeling helpless	• Anticipate coping well with pain • Lack of childbirth preparation • Heterosexual
Important to have pain option: TENS Yes: 159/2218 (7.2%) C statistic: 0.654	• Nulliparous • Multiple gestation • Experienced sexual abuse • Worry regarding birth	• None

V&P item	Predictors: predisposing conditions with a positive association (*more* likely to want V&P item)	Predictors: predisposing conditions with a negative association (*less* likely to want V&P item)
Maximum pseudo-R^2 = 0.096		
Important to have pain option: acupuncture Yes: 143/2215 (6.5%) C statistic: 0.686 Maximum pseudo-R^2 = 0.102	• Provider = midwife (compared with obstetrician)	• Public insurance
Postpartum concerns		
Important to have tubal sterilization Yes: 314/1706 (18.4%) C statistic: 0.812 Maximum pseudo-R^2 = 0.359	• Any college (compared with high school only) • Hispanic or other race (compared with White) • Experience of threats of abuse • Feeling pressure to have a cesarean birth • Feeling helpless • Public insurance • Need for interpreter	• Lower age stratum • Nulliparous
Important to have length of stay postpartum >48 h Yes: 574/2213 (25.9%) C statistic: 0.590 Maximum pseudo-R^2 = 0.044	• Multiparous with prior CD (compared with nulliparous) • Complicated pregnancy • US region: Midwest or South (compared with West)	• No religion or atheist
Support		
Important to have partner/support person in the room Yes: 1960/2090[k] (93.8%) C statistic: 0.789 Maximum pseudo-R^2 = 0.247	• First-trimester prenatal care • High confidence (factor)	• Uncertain delivery route • Experienced discrimination (factor)

Abbreviations: CD, cesarean delivery; PRO, patient-reported outcome; TENS, transcutaneous electrical nerve stimulation; V&P, values and preferences.

[a]A factor combining 3 items that asked whether the respondent believed these resources were important.

[b]A factor combining 6 items that asked whether the respondent had ever experienced discrimination because of race, culture, finances, insurance, gender, or disability (Likert scale 1 = "not at all" to 5 = "very much"; α = .89). "Yes" was defined as a factor-based score ≥2.

[c]A factor combining answers to the following items with respect to the desire to avoid them: induction, Pitocin augmentation, intravenous line, episiotomy, cesarean, and vacuum/forceps delivery (Likert scale 1 = "strongly disagree" to 5 = "strongly agree"; α = .80). "Yes" was defined as a factor-based score ≥4.

[d]A factor combining the following 8 items: (1) "I feel confident in protecting my own interests during pregnancy and childbirth";
(2) "I know where to get information regarding childbirth options"; (3) "I want to be in charge of planning my care"; (4) "Giving birth is a powerful experience"; (5) "My job as a mother is to make sure my baby is born

healthy"; (6) "I believe I will be in control"; (7) "I expect my childbirth will go smoothly"; and (8) "Childbirth is a safe experience for the mother" (Likert scale 1 = "strongly disagree" to 5 = "strongly agree"; α = .76. "Yes" was defined as a factor-based score ≥4.

[e]This variable is derived from agreement with the statement, "It is better not to know in advance about the processes of giving birth."

[f]An aggregate variable defined as having 1 or more of the following: a preexisting or chronic maternal condition, a gestational condition, a high-risk pregnancy, or a problem with the fetus.

[g]This variable is derived from agreement with the statement, "Giving birth is being in a very helpless condition."

[h] Three V&P remained as 3-level variables.

[i]A factor combining the following items: ability to walk during labor, choose labor/delivery position, have a private room, have a choice of who is in the room during procedures, be involved in decisions about labor pain management, and be reassured by the doctor or midwife (Likert scale 1 = "not at all important" to 5 = "extremely important"; α = .72. "Yes" was defined as a factor-based score ≥4.

[j]A factor combining the following items: be debriefed regarding events of labor and delivery; be debriefed regarding feelings during labor and delivery; be given information regarding where the baby sleeps, baby sleep position, vaccines, and day-to-day care; and be given breastfeeding and bottle-feeding information (Likert scale 1 = "not at all important" to 5 = "extremely important"; α = .89. "Yes" was defined as a factor-based score ≥4.

[k]Of 72 participants missing, 59 stated that they did not have a partner.

Objective 3: Conduct a Follow-up Postpartum Survey to (1) Describe Women's Experiences and Outcomes of Childbirth (PROs), and (2) Determine the Statistical Significance of These Various Predictors in Women's Satisfaction With Their Hospital Childbirth Services

Descriptive Results

For Round 1, we collected antepartum survey data in November 2015 and postpartum data from December 2015 through June 2016. Of 2757 antepartum respondents, 399 (14.5%) also responded postpartum. For Round 2, we collected antepartum data from February through April 2016 and postpartum data from April through October 2016. Of 2098 antepartum respondents, 439 (20.9%) also responded postpartum. Of the total 838 respondents who answered both surveys, 500 (59.7%) met inclusion criteria (anticipated vaginal delivery and labored/delivered in a hospital), and 58 (11.6%) of these had a cesarean delivery. The mean number of weeks for completion of the postpartum response was 6.7 (5.0).

The mean rate for women's satisfaction with hospital childbirth services for this group of 500 women who answered both surveys was 8.6 ± 1.6, with a median of 9.0. Approximately 50% (59.6%; n = 298) had a "high" satisfaction score (≥9). We describe predisposing conditions and their association with women's satisfaction with hospital childbirth services separately in Table 6. Good overall health, good mental health, high confidence, and confidence filling out

forms were the predisposing conditions most significantly associated with women's satisfaction with hospital childbirth services.

Table 6. Frequencies of Key Predisposing Conditions in the Postpartum Population and Their Association With Women's Satisfaction With Hospital Childbirth Services (N [Unweighted] = 500)

Characteristic	Hospital satisfaction ≥9 No. (%)	*P* value
Age (n = 500), y		.9515
18-24 (n = 97; 19.4%)	56 (57.7%)	
25-29 (n = 187; 37.4%)	110 (58.8%)	
30-34 (n = 149; 29.8%)	91 (61.1%)	
35-39 (n = 49; 9.8%)	29 (59.2%)	
40-54 (n = 18; 3.6%)	12 (66.7%)	
Race/ethnicity (n = 500)		.1430
Asian (n = 28; 5.6%)	19 (67.9%)	
Black (n = 31; 6.2%)	17 (54.8%)	
Hispanic (n = 74; 14.8%)	35 (47.3%)	
White (n = 354; 70.8%)	7 (53.8%)	
Other (n = 13; 2.6%)	220 (62.1%)	
Education (n = 500)		.6961
High school or less (n = 88; 17.6%)	56 (63.6%)	
Some college (n = 157; 31.4%)	92 (58.6%)	
College graduate or more (n = 255; 51.0%)	150 (58.8%)	
Multiple gestation (n = 500)		.7797
Yes (n = 77; 15.4%)	47 (61.0%)	
No (n = 423; 84.6%)	251 (59.3%)	
Delivery category (n = 500)		.8409
Multiparous without prior CD (n = 279; 55.8%)	166 (55.7%)	
Multiparous with prior CD (n = 72; 14.4%)	41 (13.8%)	
Nulliparous (n = 149; 29.8%)	91 (30.5%)	
US region (n = 500)		.7194
East (n = 70; 14.0%)	45 (64.3%)	
Midwest (n = 126; 25.2%)	71 (56.3%)	
South (n = 193; 38.6%)	114 (59.1%)	
West (n = 111; 22.2%)	68 (61.3%)	
Public insurance (n = 478)		.3591
Yes (n = 150; 31.4%)	94 (62.7%)	
No (n = 328; 68.6%)	191 (58.2%)	
Pregnancy complications[a] (AP and PP) (n = 500)		.6921
Yes (n = 257; 51.4%)	151 (58.8%)	
No (n = 243; 48.6%)	147 (60.5%)	
Overall health poor/fair (AP) (n = 500)		.0068
Yes (n = 35; 7.0%)	13 (37.1%)	
No (n = 465; 93.0%)	285 (61.3%)	
Overall mental health poor/fair (AP) (n = 500)		.0003
Yes (n = 56; 11.2%)	21 (37.5%)	
No (n = 444; 88.8%)	277 (62.4%)	

Characteristic	Hospital satisfaction ≥9 No. (%)	*P* value
High confidence[b] (n = 489)		.0019
Yes (n = 342; 69.9%)	219 (64.0%)	
No (n = 147; 30.1%)	72 (49.0%)	
Confident filling out medical/health forms (n = 498)		.0177
Yes (n = 397; 79.7%)	248 (62.5%)	
No (n = 101; 20.3%)	50 (49.5%)	
Experienced discrimination[c] (n = 497)		.0780
Yes (n = 79; 15.9%)	40 (50.6%)	
No (n = 418; 84.1%)	256 (61.2%)	
Has immediate help (n = 489)		.0504
Yes (n = 457; 93.5%)	280 (61.3%)	
No (n = 32; 6.5%)	14 (43.8%)	
Negative memories of a prior birth (n = 500)		.0844
Yes (114; 22.8%)	60 (52.6%)	
No (386; 77.2%)	238 (61.7%)	
Most days in last year have been stressful (n = 500)		.0788
Yes (n = 109; 21.8%)	57 (52.3%)	
No (n = 391; 61.6%)	241 (61.6%)	
Worry about the birth (n = 500)		.0192
Yes (n = 321; 64.2%)	179 (55.8%)	
No (n = 179; 35.8%)	119 (66.5%)	

Abbreviations: AP, antepartum; CD, cesarean delivery; PP, postpartum.

[a]An aggregate variable defined as having 1 or more of the following: a preexisting or chronic maternal condition, a gestational condition, a high-risk pregnancy, or a problem with the fetus.

[b]A factor combining the following 8 items: (1) "I feel confident in protecting my own interests during pregnancy and childbirth"; (2) "I know where to get information regarding childbirth options"; (3) "I want to be in charge of planning my care"; (4) "Giving birth is a powerful experience"; (5) "My job as a mother is to make sure my baby is born healthy"; (6) "I believe I will be in control"; (7) "I expect my childbirth will go smoothly"; and (8) "Childbirth is a safe experience for the mother" (Likert scale 1 = "strongly disagree" to 5 = "strongly agree"; α = .76). "Yes" was defined as a factor-based score ≥4.

[c]A factor combining 6 items that asked whether the respondent had ever experienced discrimination because of race, culture, finances, insurance, gender, or disability (Likert scale 1 = "not at all" to 5 = "very much"; α = .89). "Yes" was defined as a factor-based score >2.

We tested the association of each V&P, PRO, and gap item with women's satisfaction with hospital childbirth services and reported those variables to have an association with a statistical significance of $P < .05$ or a nonsignificant 10% difference between any of the gap data categories, as shown in Table 7. The only V&P item significantly associated with women's satisfaction with hospital childbirth services was "wanted partner/support person in the room." Several gap variables and numerous postpartum PROs reached statistical significance.

Table 7. V&P, PROs, and Gap Data Statistically Significantly Associated With Women's Satisfaction With Hospital Childbirth Services; N (unweighted) = 500[a]

Characteristic	Crude hospital satisfaction ≥9, No. (%)	*P* value	Adjusted hospital satisfaction ≥9, % (95% CI)	OR (95% CI)	*P* value
V&P Items					
Want partner/support person in the room (n = 481)[b]		.0036			.0162
Yes (n = 465; 96.7%)	285 (61.3%)		61.6 (56.9-66.0)	4.39 (1.31-14.6)	
No (n = 16; 3.3%)	4 (25.0%)		26.7 (10.0-54.5)	REF	
Gap Data					
Gap wanted and got massage (n = 500)		.0173			.0079
Yes (n = 96; 19.2%)	68 (70.8%)		71.1 (58.6-81.0)	2.00 (1.20-3.32)	
No (n = 404; 80.8%)	230 (57.1%)		55.2 (44.3-65.6)	REF	
Gap wanted and got pain treatment: massage (n = 500)		.0033			.0079
Yes (n = 80; 16.0%)	60 (75.0%)		77.3 (64.3-86.6)	2.62 (1.48-4.63)	
No (n = 420; 84.0%)	238 (56.7%)		56.5 (46.1-66.4)	REF	
Gap wanted and got shower/tub (n = 500)		.0753			.0327
Yes (n = 36; 7.2%)	27 (75.0%)		77.6 (59.3-89.1)	2.42 (1.08-5.43)	
No (n = 464; 92.8%)	271 (58.4%)		58.8 (48.6-68.3)	REF	
Gap wanted but did not get narcotics (n = 500)		.0510			.0464
Yes (n = 74; 14.8%)	36 (48.6%)		49.1 (34.5-63.9)	0.59 (0.36-0.99)	
No (n = 426; 85.2%)	262 (61.5%)		61.9 (51.7-71.1)	REF	
Gap wanted but did not get to be involved in decisions regarding labor pain (N = 498)		.0001			.0008
Yes (n = 38; 7.6%)	11 (28.9%)		31.8 (17.2-51.2)	0.27 (0.13-0.58)	
No (n = 460; 92.4%)	286 (62.2%)		63.4 (53.3-72.5)	REF	
PROs					
PP nurse comfort (n = 498)		.0023			.0401
Yes (n = 486; 97.6%)	294 (60.5%)		60.5 (56.0-64.9)	5.34 (1.08-26.5)	
No (n = 12; 2.4%)	2 (16.7%)		22.3 (5.5-58.4)	REF	

Characteristic	Crude hospital satisfaction ≥9, No. (%)	*P* value	Adjusted hospital satisfaction ≥9, % (95% CI)	OR (95% CI)	*P* value
PP pain treatment massage (n = 500)		.0089			.0024
Yes (n = 103; 20.6%)	73 (70.9%)		73.5 (64.0-81.3)	2.15 (1.31-3.54)	
No (n = 396; 79.4%)	225 (56.7%)		56.3 (51.2-61.3)	REF	
PP coped well with labor pain (n = 499)		.0004			.0013
Not well or moderately well (n = 289; 57.9%)	153 (52.9%)		53.4 (47.4-59.3)	REF 1.91 (1.29-2.83)	
Very to extremely well (n = 210; n = 42.1%)	144 (68.6%)		68.6 (61.7-74.8)		
PP pain relief during labor inadequate (n = 500)		.0008			.0007
Yes (n = 86; 17.2%)	37 (43.0%)		42.7 (32.4-53.6)	0.43 (0.26-0.70)	
No (n = 413; 82.8%)	261 (63.2%)		63.5 (58.6-68.1)	REF	
PP doula in room (n = 500)		.1345			.0428
Yes (n = 38; 7.6%)	27 (71.1%)		67.1 (59.8-87.2)	2.26 (1.03-4.97)	
No (n = 265; 92.4%)	271 (58.7%)		58.5 (53.8-63.1)	REF	
PP had choice of who was in the room (n = 500)		.0025			.0050
Yes (n = 440; 88.0%)	273 (62.0%)		62.3 (57.6-66.9)	2.30 (1.28-4.10)	
No (n = 60; 12.0%)	25 (41.7%)		41.9 (29.6-55.3)	REF	
PP had assistance with positions (n = 500)		.0001			.0002
Yes (n = 396; 79.2%)	253 (63.9%)		64.3 (59.3-69.0)	2.38 (1.51-3.76)	
No (n = 104; 20.8%)	45 (43.3%)		43.1 (33.6-53.1)	REF	
PP continuous electronic fetal monitoring (n = 500)		.0054			.0164
Yes (n = 408; 81.6%)					
No (n = 92; 18.4%)	255 (62.5%)		62.5 (57.6-67.2)	1.79 (1.11-2.87)	
	43 (46.7%)		48.3 (37.9-58.8)	REF	
PP involved in decisions regarding labor pain management (n = 500)		.0003			.0021
Yes (n = 446; 89.2%)	278 (62.3%)		62.5 (57.7-67.0)	2.69 (1.43-5.05)	
No (n = 54; 10.8%)	20 (37.0%)		38.3 (25.5-52.9)	REF	
PP adequate space and food for support person (n = 494)		<.0001			<.0001
Yes (n = 425; 86.0%)	272 (64.0%)		64.3 (59.5-68.8)	3.60 (2.06-6.28)	
No (n = 69; 14.0%)	23 (33.3%)		33.4 (23.0-45.6)	REF	

Characteristic	Crude hospital satisfaction ≥9, No. (%)	*P* value	Adjusted hospital satisfaction ≥9, % (95% CI)	OR (95% CI)	*P* value
PP used birthing stool (n = 494)		.2360			.0139
Yes (n = 30; 6.1%)	21 (70.0%)		81.5 (64.6-91.4)	3.12 (1.26-7.74)	
No (n = 464; 93.9%)	274 (59.1%)		58.5 (53.8-63.1)	REF	
PP told about progress in labor (n = 499)		<.0001			<.0001
Yes (n = 436; 87.4%)	275 (63.1%)		63.5 (58.7-68.0)	3.31 (1.86-5.88)	
No (n = 63; 12.6%)	22 (34.9%)		34.6 (23.5-47.4)	REF	
PP satisfied with support person (n = 495)		.0008			.0044
Yes (n = 455; 91.9%)	282 (62.0%)		62.1 (57.4-66.5)	2.78 (1.38-5.63)	
No (n = 40; 8.1%)	14 (35.0%)		37.0 (23.0-53.6)	REF	
PP debriefed regarding events of labor (n = 498)		<.0001			.0002
Yes (n = 310; 62.2%)	207 (66.8%)		66.5 (56.0-75.4)	2.09 (1.41-3.08)	
No (n = 188; 37.8%)	90 (47.9%)		48.6 (36.8-60.5)	REF	
PP debriefed regarding patient's feelings (n = 500)		.0002			.0005
Yes (n = 268; 53.6%)	180 (67.2%)		67.3 (61.3-72.8)	1.96 (1.34-2.86)	
No (n = 232; 46.4%)	118 (50.9%)		51.3 (44.6-57.9)	REF	
PP newborn placed skin to skin (n = 500)		.0116			.0148
Yes (n = 383; 76.6%)	240 (62.7%)		63.0 (57.9-67.9)	1.74 (1.11-2.71)	
No (n = 117; 23.4%)	58 (49.6%)		49.5 (40.1-59.0)	REF	
PP given breastfeeding info within 24 h (n = 499)		.0145			.0177
Yes (n = 462; 92.6%)	282 (61.0%)		61.4 (56.7-65.9)	2.39 (1.16-4.90)	
No (n = 37; 7.4%)	15 (40.5%)		40.0 (25.1-57.1)	REF	
PP breastfeeding encouragement from provider (n = 499)		.0001			.0005
Just right (n = 408; 81.8%)	261 (64.0%)		64.2 (59.3-68.8)	REF	
Too little (n = 44; 8.8%)	15 (34.1%)		35.1 (21.9-51.0)	0.31 (0.15-0.60)	.0007
Too much (n = 47; 9.4%)	22 (46.8%)		46.3 (32.2-61.1)	0.48 (0.25-0.91)	.0245
PP got practical support feeding baby (n = 497)		<.0001			<.0001
Yes (n = 423; 85.1%)	275 (65.0%)		65.5 (60.7-70.0)	4.30 (2.48-7.47)	
No (n = 74; 14.9%)	23 (31.1%)		30.6 (21.0-42.3)	REF	

Characteristic	Crude hospital satisfaction ≥9, No. (%)	*P* value	Adjusted hospital satisfaction ≥9, % (95% CI)	OR (95% CI)	*P* value
PP received info regarding newborn daily care (n = 500)		.0513			.0316
Yes (n = 436; 87.2%)	267 (61.2%)		61.8 (57.0-66.4)	1.84 (1.06-3.20)	
No (N = 64; 12.8%)	31 (48.4%)		46.9 (34.6-59.6)	REF	
PP received info regarding vaccines (n = 498)		.0005			.0004
Yes (n = 388; 77.9%)	248 (63.9%)		64.5 (59.5-69.3)	2.26 (1.44-3.54)	
No (n = 110; 22.1%)	50 (45.5%)		44.6 (35.3-54.3)	REF	
PP received info regarding newborn's sleep position (n = 500)		.0036			.0072
Yes (n = 435; 87.0%)	270 (62.1%)		62.3 (57.5-66.9)	2.14 (1.23-3.73)	
No (n = 65; 13.0%)	28 (43.1%)		43.6 (31.6-56.5)	REF	
PP comfortable holding baby (n = 496)		.1136			.1894
Yes (n = 458; 92.3%)	277 (60.5%)		60.7 (56.0-65.2)	1.61 (0.79-3.28)	
No (n = 38; 7.7%)	18 (47.4%)		48.9 (32.6-65.4)	REF	
PP felt safe holding baby (n = 477)		.0079			.0050
Yes (n = 431; 90.4%)	270 (62.6%)		63.3 (63.1-72.5)	2.19 (1.27-3.77)	
No (n = 46; 9.6%)	19 (41.3%)		44.1 (29.9-59.4)	REF	
PP length of stay <24 h (n = 500)		.0137			.0176
Yes (n = 40; 8.0%)	16 (40.0%)		40.9 (26.3-57.3)	0.43 (0.22-0.86)	
No (n = 460; 92.0%)	282 (61.3%)		61.5 (56.9-66.0)	REF	
PP tubal sterilization (n = 498)		.0457			.0281
Yes (n = 34; 6.8%)	26 (76.5%)		79.9 (62.7-90.4)	2.71 (1.11-6.59)	.0283
Planned but not done[c] (n = 32; 6.4%)	15 (46.9%)		46.5 (29.3-64.7)	0.59 (0.27-1.28)	.1838
No (n = 432; 86.8%)	257 (59.5%)		59.5 (54.7-64.2)	REF	
Childbirth-specific High-level Variables					
PP staff respected spiritual/cultural needs (n = 500)		<.0001			<.0001
Yes (n = 390; 78.0%)	258 (66.2%)		65.9 (60.9-70.6)	3.16 (1.98-5.02)	
No (n = 110; 22.0%)	40 (36.4%)		38.0 (29.0-47.9)	REF	
PP childbirth went smoothly (n = 500)		<.0001			<.0001
Yes (n = 391; 78.2%)	254 (65.0%)		65.0 (60.0-69.7)	2.61 (1.65-4.13)	
No (n = 109; 21.8%)	44 (40.4%)		41.6 (32.3-51.5)		

Characteristic	Crude hospital satisfaction ≥9, No. (%)	*P* value	Adjusted hospital satisfaction ≥9, % (95% CI)	OR (95% CI)	*P* value
PP felt safe (n = 500)		<.0001			<.0001
Yes (n = 444; 88.8%)	282 (63.5%)		63.8 (59.0-68.2)	4.27 (2.24-8.13)	
No (n = 56; 11.2%)	16 (28.6%)		29.2 (18.3-43.1)		
PP left choices to provider (n = 500)		.0001			<.0001
Yes (n = 187; 37.4%)	132 (70.6%)		70.5 (59.8-79.4)	2.31 (1.54-3.47)	
No (n = 313; 62.6%)	166 (53.0%)		50.9 (39.7-61.9)	REF	
Gap wanted to stay in control but didn't (n = 499)		<.0001			<.0001
Yes (n = 53; 10.6%)	17 (32.1%)		34.5 (21.1-50.8)	0.28 (0.15-0.53)	
No (n = 446; 89.4%)	280 (94.3%)		65.0 (54.8-74.0)	REF	
PP lost control (n = 498)		.0443			.0382
Yes (n = 125; 25.1%)	65 (52.0%)		51.7 (42.6-60.7)	0.64 (0.41-0.98)	
No (n = 373; 74.9%)	232 (62.2%)		62.7 (57.5-67.7)	REF	
PP believed to be in control (n = 500)		<.0001			<.0001
Yes (n = 397; 79.4%)	256 (64.5%)		64.8 (59.8-69.5)	2.65 (1.66-5.23)	
No (n = 103; 20.6%)	42 (40.8%)		41.0 (31.5-51.2)	REF	
PP got reassurance from the provider (n = 500)		.0002			.0003
Yes (n = 455; 91.0%)	283 (62.2%)		62.7 (58.0-67.1)	3.47 (1.78-6.79)	
No (n = 45; 9.0%)	15 (33.3%)		32.6 (20.3-47.8)	REF	
Wanted but did not get reassurance from the provider (n = 499)		.0002			.0002
Yes (n = 39; 7.8%)	12 (30.8%)		29.2 (15.6-48.0)	0.25 (0.12-0.52)	
No (n = 460; 92.2%)	286 (62.2%)		62.3 (62.2-71.4)	REF	
Nonspecific high-level variables					
HCAHPS nurse showed respect top box[d]		<.0001			<.0001
Yes (381; 76.7%)	267 (70.1%)		70.8 (65.9-75.3)	7.31 (1.50-2.48)	
No (116; 23.3%)	30 (25.9%)		24.9 (17.8-33.8)	REF	
HCAHPS doctor showed respect top box[d]		<.0001			<.0001
Yes (388; 78.2%)	268 (69.1%)		69.6 (64.8-74.1)	6.80 (4.13-11.18)	
No (108; 21.8%)	28 (25.9%)		25.2 (17.8-34.4)	REF	
HCAHPS doctor explained top box[d]		<.0001			<.0001
Yes (359; 71.9%)	252 (70.2%)		70.6 (65.5-75.2)	5.10 (3.29-7.92)	
No (140; 28.1%)	45 (32.1%)		31.9 (24.5-40.4)	REF	

Characteristic	Crude hospital satisfaction ≥9, No. (%)	*P* value	Adjusted hospital satisfaction ≥9, % (95% CI)	OR (95% CI)	*P* value
Knew how to care for self and newborn at discharge		<.0001			.0001
Yes (469; 94.0%)	296 (63.1%)		63.5 (58.9-67.8)	55.42(7.23-424.9)	
No (30; 6.0%)	1 (3.3%)		3.0 (0.4-19.2)	REF	
PP saw doctor enough (n = 496)		<.0001			<.0001
Yes (n = 303)	211 (69.6%)		70.2 (64.6-75.2)	3.11 (2.10-4.60)	
No (n = 193)	84 (43.3%)		43.1 (36.1-50.4)	REF	
PP saw RN enough (n = 497)		<.0001			<.0001
Yes (n = 440)	277 (62.8%)		63.3 (58.6-67.8)	3.76 (2.02-6.99)	
No (n = 57)	19 (33.3%)		31.5 (20.4-45.2)	REF	
PP no one explained what was happening (n = 499)		<.0001			<.0001
Yes (n = 106)	43 (40.6%)		40.1 (30.8-50.2)	0.36 (0.22-0.57)	
No (n = 393)	255 (64.7%)		65.2 (60.2-69.9)	REF	
PP could not question providers (n = 499)		<.0001			<.0001
Yes (n = 61)	18 (29.5%)		29.9 (19.4-43.1)	0.24 (0.13-0.44)	
No (n = 438)	280 (63.8%)		64.0 (59.3-68.5)	REF	
PP felt providers ignored them (n = 498)		<.0001			<.0001
Yes (n = 57)	19 (33.3%)		32.3 (21.1-46.1)	0.27 (0.15-0.51)	
No (n = 441)	279 (63.1%)		63.6 (58.8-68.1)	REF	
PP staff was compassionate (n = 497)		<.0001			<.0001
Yes (n = 441)	286 (64.7%)		64.9 (60.2-69.3)	7.34 (3.59-15.00)	
No (n = 56)	11 (19.6%)		20.1 (11.3-33.3)	REF	
PP staff was pleasant (n = 497)		<.0001			<.0001
Yes (n = 458)	287 (62.5%)		62.9 (58.3-67.4)	5.09 (2.34-11.05)	
No (n = 39)	10 (25.6%)		25.0 (13.7-41.3)	REF	

Abbreviations: HCAHPS, Hospital Consumer Assessment of Healthcare Providers and Systems; OR, odds ratio; PP, postpartum; PRO, patient-reported outcome; REF, reference; RN, registered nurse; V&P, values and preferences.
[a]Results are adjusted for maternal age, education level, race/ethnicity, US region, delivery category, pregnancy complications, overall health, and overall mental health.
[b]Of 19 participants with missing data, 8 stated they had no partner.[c]Women who planned for a tubal sterilization and got it were more likely than those who planned for it and did not have it to be satisfied with the hospital: OR = 4.58 (95% CI, 1.48-14.14); *P* = .0082.
[d]"Top box" refers to the most positive response to HCAHPS survey items.

Variables that describe intrapartum and postpartum clinical complications appear in Table 8. None of the clinical complication items achieved statistical significance at the $P < .05$ level with respect to women's satisfaction with hospital childbirth services after adjustment.

Table 8. Clinical Variables and Women's Satisfaction With Hospital Childbirth Services[a]

Characteristic	Crude hospital satisfaction ≥9, N (%)	*P* value	Adjusted hospital satisfaction ≥9, % (95% CI)	OR (95% CI)	*P* value
PP transfusion (n = 500)		.6349			.8345
Yes (n = 19; 3.8%)	10 (52.6%)		57.4 (33.6-78.2)	0.90 (0.33-2.44)	
No (n = 481; 96.2%)	288 (59.9%)		60.0 (55.4-64.4)	REF	
PP maternal intensive care unit (n = 497)		.6062			.5286
Yes (n = 15; 3.0%)	8 (53.3%)		51.6 (26.8-75.5)	0.71 (0.24-2.09)	
No (n = 482; 97.0%)	288 (59.8%)		60.1 (55.6-64.5)	REF	
PP neonatal intensive care unit (n = 496)		.9122			.8499
Yes (n = 58; 11.7%)	35 (60.3%)		58.8 (45.0-71.3)	0.94 (0.52-1.71)	
No (n = 438; 88.3%)	261 (59.6%)		60.1 (55.3-64.8)	REF	
PP healthy normal baby (n = 500)		.0146			.0575
Yes (n = 407; 81.4%)	253 (62.2%)		62.0 (57.0-66.8)	1.60 (0.99-2.61)	
No (n = 93; 18.6%)	45 (48.4%)		50.5 (39.8-61.1)	REF	
PP baby home with mom (N = 494)		.6215			.4559
Yes (n = 448; 90.7%)	270 (60.3%)		60.8 (56.1-65.3)	1.28 (0.67-2.45)	
No (n = 46; 9.3%)	26 (56.5%)		54.8 (39.6-69.1)	REF	
PP baby length of stay >3 d (n = 498)		.2126			.1078
Yes (n = 69; 13.9%)	46 (66.7%)		69.5 (57.1-79.6)	1.61 (0.91-2.86)	
No (n = 429; 86.1%)	252 (58.7%)		58.7 (53.8-63.4)	REF	
PP readmission baby (n = 490)		.0587			.0730
Yes (n = 43; 8.8%)	20 (46.5%)		6.4 (31.2-62.3)	0.54 (0.27-1.06)	
No (n = 447; 91.2%)	274 (61.3%)		61.7 (57.0-66.3)	REF	
PP admit to delivery time over 24 h (n = 500)		.1417			.0927
Yes (n = 60; 12.0%)	41 (68.3%)		70.5 (57.2-81.1)	1.70 (0.92-3.15)	
No n = (440; 88.0%)	257 (58.4%)		58.5 (53.7-63.1)	REF	
PP readmission mother (n = 497)		.4601			.5480
Yes (n = 44; 8.9%)	24 (54.5%)		55.5 (39.7-70.3)	0.81 (0.41-1.60)	
No (n = 453; 91.1%)	273 (60.3%)		60.5 (55.8-65.1)	REF	
CD (n = 500)		.0344		1.79 (0.94-3.41)	.0785
Yes (n = 58; 11.6%)	42 (72.4%)		71.5 (57.7-82.2)	REF	
No (n = 442; 88.4%)	256 (57.9%)		58.4 (53.5-63.1)		

Characteristic	Crude hospital satisfaction ≥9, N (%)	*P* value	Adjusted hospital satisfaction ≥9, % (95% CI)	OR (95% CI)	*P* value
Gap expect vaginal birth (n = 467)		.0240			.0710
Wanted but did not get (n = 49; 10.5%)	37 (75.5%)		74.0 (58.9-85.0)	1.95 (0.95-4.00)	
Wanted and got (n = 418; 89.5%)	246 (58.9%)		59.4 (54.5-64.2)	REF	
Unknown delivery route		.0866			.2180
Yes (n = 33; 6.6%)	15 (45.5%)		48.7 (31.1-66.7)	0.62 (0.28-1.33)	
No (n = 467; 93.4%)	283 (60.6%)		60.7 (56.0-65.2)	REF	

Abbreviations: CD, cesarean delivery; OR, odds ratio; PP, postpartum; REF, reference.
[a]Results are adjusted for maternal age, education level, race/ethnicity, US region, delivery category, pregnancy complications, overall health, and overall mental health.

Models

Because of the large number of potential predictors, we built the models of women's satisfaction with hospital childbirth services in steps. For the first step, we determined the predisposing conditions associated with women's satisfaction with hospital childbirth services. Table 9 describes the modeling of the predisposing conditions with women's satisfaction with hospital childbirth services, yielding "high confidence" as the only predictor of women's satisfaction with hospital childbirth services (in addition to the covariates used for model adjustment) retained in subsequent models (N = 489; C statistic = 0.637).

Table 9. Multiple Logistic Regression Model Results for Women's Satisfaction With Hospital Childbirth Services Using Predisposing Conditions Only (N = 489 With C Statistic = 0.637)[a]

Variable	OR (95% CI)	*P* value
Age (ref = 40-54 y), y		**.8847**
18-24	0.79 (0.25-2.55)	
25-29	0.85 (0.28-2.61)	
30-34	0.94 (0.30-2.94)	
35-39	0.66 (0.19-2.25)	
Education level (ref = some college)		**.5626**
High school or less	1.21 (0.68-2.17)	
College graduate or more	0.89 (0.57-1.39)	
Race (ref = White)		**.1736**
Asian	1.29 (0.52-3.17)	
Black	0.72 (0.33-1.59)	
Hispanic	0.51 (0.29-0.90)	
Other	0.78 (0.24-2.52)	
Region (ref = West)		**.3466**
East	0.95 (0.48-1.86)	
Midwest	0.62 (0.35-1.10)	
South	0.76 (0.46-1.28)	
Delivery category (ref = nulliparous)		**.5717**
Multiparous without prior CD	0.83 (0.53-1.30)	
Multiparous with prior CD	0.73 (0.39-1.37)	
Multiple gestation	1.21 (0.68-2.16)	.5206
Pregnancy complications	1.15 (0.77-1.73)	.5007
Overall health poor/fair	0.50 (0.22-1.16)	.0896
Overall mental health poor/fair	0.46 (0.24-0.88)	.0198
High confidence (factor)[b]	1.72 (1.14-2.60)	.0103

Abbreviations: CD, cesarean delivery; ref, reference.

[a]Results are adjusted for the following 9 forced covariates: (1) maternal age, (2) race/ethnicity, (3) education level, (4) multiple gestation, (5) delivery category (combination of multiparity and prior CD), (6) US region, (7) complicated pregnancy (based on a positive response to either the antepartum or postpartum items regarding clinical risk), (8) antepartum overall health, and (9) antepartum mental/emotional health.

[b]A factor combining the following 8 items: (1) "I feel confident in protecting my own interests during pregnancy and childbirth"; (2) "I know where to get information regarding childbirth options"; (3) "I want to be in charge of planning my care"; (4) "Giving birth is a powerful experience"; (5) "My job as a mother is to make sure my baby is born healthy"; (6) "I believe I will be in control"; (7) "I expect my childbirth will go smoothly"; and (8) "Childbirth is a safe experience for the mother" (Likert scale 1 = "strongly disagree" to 5 = "strongly agree"; α = .76). "Yes" was defined as a factor-based score ≥4.

Table 10 describes the variables eligible for inclusion in the final model of women's satisfaction with hospital childbirth services.

Table 10. Final List of Items That Were Eligible for the Model of Women's Satisfaction With Hospital Childbirth Services (in Addition to the 9 Forced Covariates)

Item type	Association with satisfaction	Item
Predisposing condition	Positive	High confidence (factor)[a]
Patient-reported values and preferences	Positive	Wanted partner in the room
Gap variables	Positive	Wanted and got massage; wanted and got pain treatment massage; received pain treatment massage
	Positive	Wanted and got to use shower/tub
	Negative	Wanted but did not get narcotics
	Negative	Wanted to be but was not involved in decisions regarding labor pain management or involved in decisions regarding labor pain management
Patient-reported outcome	Positive	Received reassurance/comfort from nurse
	Positive	Coped well with labor pain or Pain relief in labor was adequate
	Positive	Doula was in the room
	Positive	Had a choice of who was in the room
	Positive	Had assistance with positions
	Positive	Had continuous electronic fetal monitoring
	Positive	Adequate space/food for support person
	Positive	Used birthing stool
	Positive	Was told about progress in labor
	Positive	Satisfied with support person
	Positive	Debriefed regarding events of labor
	Positive	Debriefed regarding patient's feelings postpartum
	Positive	Newborn placed skin to skin immediately after birth
	Positive	Given breastfeeding information within 24 h
	Negative	Had too much breastfeeding encouragement from provider
	Positive	Got practical support about feeding the baby
	Positive	Received information regarding newborn daily care
	Positive	Received information regarding vaccines
	Positive	Received information regarding newborn sleep position
	Positive	Felt comfortable holding the baby
	Positive	Felt safe holding the baby

Item type	Association with satisfaction	Item
	Negative	Planned but did not get tubal sterilization
	Negative	Short postpartum hospital stay
Childbirth-specific high-level variables	Positive	Felt spiritual and cultural needs were respected
	Positive	Felt that the childbirth went smoothly
	Positive	Felt safe
	Positive	Left all choices to the provider
	Positive	Felt in control or anticipated being in control or gap anticipated being in control but was not (negative)
	Positive	Felt reassured by her provider
Nonspecific high-level variables	Positive	Nurses treated respondent with courtesy and respect
	Positive	Doctors treated respondent with courtesy and respect
	Positive	Doctors explained things in a way respondent could understand
	Positive	Knew how to care for self and baby at discharge
	Positive	Saw doctor/midwife enough
	Positive	Saw nurse enough
	Negative	There were times when no one explained what was happening
	Negative	Felt I could not question providers
	Negative	Felt ignored by providers
	Positive	Staff was compassionate
	Positive	Staff was pleasant

[a]A factor combining the following 8 items: (1) "I feel confident in protecting my own interests during pregnancy and childbirth"; (2) "I know where to get information regarding childbirth options"; (3) "I want to be in charge of planning my care"; (4) "Giving birth is a powerful experience"; (5) "My job as a mother is to make sure my baby is born healthy"; (6) "I believe I will be in control"; (7) "I expect my childbirth will go smoothly"; and (8) "Childbirth is a safe experience for the mother" (Likert scale 1 = "strongly disagree" to 5 = "strongly agree"; α = .76). "Yes" was defined as a factor-based score ≥4.

Table 11 describes the final model of women's satisfaction with hospital childbirth services considering all the variables in Table 8 as potential covariates (N = 479; C statistic = 0.845).

Table 11. Model for Predictors of Women's Satisfaction With Hospital Childbirth Services, Including Childbirth-specific[a] and Nonspecific[b] High-level Items (N = 479 With C Statistic = 0.845)

Variable	OR (95% CI)	*P* value
Age (ref = 40-54), y		.9578
18-24	0.52 (0.09-2.90)	.4531
25-29	0.55 (0.10-2.86)	.4727
30-34	0.58 (0.11-3.11)	.5268
35-39	0.97 (0.55-1.68)	.4763
Education (ref = some college)		.5855
College graduate or more	0.97 (0.55-1.68)	.8988
High school or less	1.41 (0.57-2.98)	.3620
Race (ref = White)		.7785
Asian	1.30 (0.44-3.86)	.6333
Black	0.81 (0.27-2.43)	.7053
Hispanic	0.65 (0.31-1.36)	.2503
Other	0.75 (0.12-4.80)	.7634
Region (ref = West)		.2340
East	1.03 (0.43-2.44)	.9494
Midwest	0.53 (0.26-1.07)	.0760
South	0.80 (0.42-1.52)	.4929
Delivery category (ref = nulliparous)		.2537
Multiparous without prior CD	0.67 (0.38-1.19)	.1682
Multiparous with prior CD	0.54 (0.24-1.23)	.1407
Multiple gestation	0.88 (0.40-1.92)	.7411
Perceived health problem (composite)	1.64 (0.97-2.77)	.0634
Overall health poor/fair	0.50 (0.18-1.40)	.1870
Overall mental health poor/fair	0.33 (0.14-0.79)	.0124
PP used birthing stool	5.47 (1.33-22.55)	.0186
Gap wanted got massage	2.74 (1.32-5.68)	.0069
Respondent knew how to care for self and baby at discharge	17.64 (1.98-157.48)	.0102
Felt providers ignored me	0.28 (0.11-0.74)	.0099
Staff compassionate	6.12 (2.49-15.09)	<.0001
HCAHPS nurse respect	4.02 (2.17-7.45)	<.0001
HCAHPS doctor explained	2.59 (1.50-4.45)	.0006

Variable	OR (95% CI)	*P* value
Staff respected spiritual and cultural needs	2.50 (1.39-4.48)	.0022
Left choices to provider	2.32 (1.37-3.92)	.0018

Abbreviations: CD, cesarean delivery; HCAHPS, Hospital Consumer Assessment of Healthcare Providers and Systems; OR, odds ratio; PP, postpartum; ref = reference.
[a]Childbirth-specific high-level items: (1) The respondent felt that staff respected her spiritual and cultural needs; (2) the respondent felt the childbirth went smoothly; (3) the respondent felt safe; (4) the respondent left all choices to her provider; the respondent felt in control; and (6) the respondent was reassured by her provider.
[b]Nonspecific high-level items: (1) The respondent felt that she was treated by nurses with courtesy and respect; (2) the respondent felt that she was treated by doctors/midwives with courtesy and respect; (3) the respondent felt that the doctor/midwife explained things in a way she could understand; (4) the respondent knew how to care for herself and baby upon discharge; (5) the respondent saw the doctor/midwife enough; (6) the respondent saw the nurses enough; (7) the respondent felt that staff did not always explain what was happening; (8) the respondent felt that she could not question providers; (9) the respondent felt ignored by providers; (10) the respondent felt staff was compassionate; and (11) the respondent felt staff was pleasant.

Upon building the model described in Table 11, we realized that most (7 of 9) of the retained items apart from the forced covariates did not explicitly suggest actions hospital staff could take to improve the patient experience. For example, 1 of these items is that the patient felt the staff was compassionate, a quality that may not be easily or consistently translated into a prescribed set of staff behaviors. On the other hand, use of a birthing stool, a specific piece of equipment included in the model and highly associated with women's satisfaction with hospital childbirth services, could easily be accommodated by staff. Distinguishing this difference is important as it provides an opportunity to improve patient satisfaction by providing or performing these actionable items. This result prompted us to create an alternative model that excluded predictors of women's satisfaction with hospital childbirth services that we felt were difficult to act on. We refer to these as "high-level" items. We empirically selected 17 items from Table 10 that we labeled as high-level items and therefore not directly actionable:

1. The respondent felt that staff respected her spiritual and cultural needs.
2. The respondent felt the childbirth went smoothly.
3. The respondent felt safe.
4. The respondent left all choices to her provider.

5. The respondent felt in control.
6. The respondent was reassured by her provider.
7. The respondent felt that she was treated by nurses with courtesy and respect.
8. The respondent felt that she was treated by doctors/midwives with courtesy and respect.
9. The respondent felt that the doctor/midwife explained things in a way she could understand.
10. The respondent knew how to care for herself and baby upon discharge.
11. The respondent saw the doctor/midwife enough.
12. The respondent saw the nurses enough.
13. The respondent felt that staff did not always explain what was happening.
14. The respondent felt that she could not question providers.
15. The respondent felt ignored by staff.
16. The respondent felt staff was compassionate.
17. The respondent felt staff was pleasant.

Table 12 describes this alternative model of women's satisfaction with hospital childbirth services based on all the actionable items in Table 10 and excluding the high-level items (N = 465; C statistic = 0.762). This model had a lower C statistic compared with the previous model in Table 11 because of the exclusion of the high-level items. However, the items in the alternative model were more explicit, informative, and/or actionable, as follows: coped well with labor pain (postpartum), continuous electronic fetal monitoring, adequate space/food for support person, debriefed regarding events of labor, practical support for breastfeeding, was told about progress in labor, wanted massage and got it (gap), and wanted partner/support person in the room (V&P).

Table 12. Model for Predictors of Women's Satisfaction With Hospital Childbirth Services[a]

Variable	OR (95% CI)	*P* value
Age (ref = 40-54), y		.5656
18-24	0.29 (0.07-1.27)	.1010
25-29	0.31 (0.07-1.28)	.1048
30-34	0.34 (0.08-1.46)	.1468
35-39	0.31 (0.07-1.43)	.1319
Education (ref = some college)		.3837
College plus	0.77 (0.46-1.27)	.3006
High school or less	1.16 (0.59-2.28)	.6632
Race (ref = White)		.6003
Asian	1.00 (0.38-2.60)	.9969
Black	0.58 (0.22-1.52)	.2662
Hispanic	0.65 (0.34-1.24)	.1916
Other	0.75 (0.19-3.02)	.6873
Region (ref = West)		.4757
East	0.90 (0.42-1.93)	.7903
Midwest	0.62 (0.33-1.16)	.1319
South	0.79 (0.44-1.40)	.4162
Variable	OR (95% CI)	*P* Value
Delivery category (ref = nulliparous) Multiparous without prior CD Multiparous with prior CD	 1.01 (0.61-1.66) 0.63 (0.31-1.30)	.3616 .9851 .2134
Multiple gestation	0.83 (0.43-1.61)	.5788
Perceived health problem (composite)	1.18 (0.76-1.85)	.4630
Overall health poor/fair	0.77 (0.32-1.88)	.5645
Overall mental health poor/fair	0.45 (0.21-0.96)	.0384
PP coped well with labor pain	1.71 (1.09-2.71)	.0207
PP continuous electronic fetal monitoring	2.40 (1.38-4.19)	.0021

Variable	OR (95% CI)	*P* value
PP adequate space/food for support person	2.26 (1.20-4.23)	.0113
PP debriefed regarding events during labor	1.91 (1.22-2.99)	.0050
PP practical support feeding newborn	3.32 (1.76-6.26)	.0002
PP told about progress in labor	2.56 (1.29-5.07)	.0071
Gap wanted got massage	1.97 (1.05-3.17)	.0369
Wanted partner/support person in the room	5.56 (1.12-27.71)	.0364

Abbreviations: CD, cesarean delivery; OR, odds ratio; PP, postpartum; ref, reference.
[a]This model has excluded high-level items. N = 465 with C statistic = 0.762. Childbirth-specific high-level items: (1) The respondent felt that staff respected her spiritual and cultural needs; (2) the respondent felt the childbirth went smoothly; (3) the respondent felt safe; (4) the respondent left all choices to her provider; (5) the respondent felt in control; and (6) the respondent was reassured by her provider. Nonspecific high-level items: (1) The respondent felt that she was treated by nurses with courtesy and respect; (2) the respondent felt that she was treated by doctors/midwives with courtesy and respect; (3) the respondent felt that the doctor/midwife explained things in a way she could understand; (4) the respondent knew how to care for herself and baby upon discharge; (5) the respondent saw the doctor/midwife enough; (6) the respondent saw the nurses enough; (7) the respondent felt that staff did not always explain what was happening; (8) the respondent felt that she could not question providers; (9) the respondent felt ignored by providers; (10) the respondent felt staff was compassionate; and (11) the respondent felt staff was pleasant.

Objective 4: Using the Study Data, Finalize the Conceptual Model and Preliminary Item Bank

Upon completion of the above aims, we performed cognitive debriefing (see Table 2) to test for (1) comprehension (What did the patient believe the question was trying to ask?); (2) memory retrieval process (What strategy was employed to retrieve information to answer the question?); (3) social desirability (Was the patient motivated by social desirability [or pressure] in answering the question?); and (4) response processing (Did the patient's internal response metric for an item match those of the question?). We then finalized the domains and items (Table 13).

Table 13. Framework for Childbirth V&P, PROs, and Predisposing Conditions

V&P/PRO items			Antepartum survey question No.	Postpartum survey question No.
Domain	**Subdomain**	**V&P/PRO item[a]**		
Location	Location	1. Where do you expect to deliver (hospital, freestanding birth center, home)/where did you deliver?	1A. Q540	1P. Q1115
Route of delivery	Route of delivery anticipated	2. How do you expect to give birth (vaginal versus cesarean delivery)/how did you give birth?	2A. Q510	
Labor management	Want tub/ball/stool (factor)	3. Important/got to use labor tub 4. Important/got to use birth ball 5. Important/got to use birth stool	3A. Q655_1 4A. Q655_2 5A. Q655_3	3P. Q1410_1 4P. Q1410_2 5P. Q1410_3
	Want to avoid interventions (factor)	6. Important/got to avoid induction 7. Important/got to avoid IV 8. Important/got to avoid Pitocin augmentation 9. Important/got to avoid cesarean 10. Important/got to avoid vacuum/forceps delivery 11. Important/got to avoid episiotomy	6A. Q630_1 7A. Q630_2 8A. Q630_3 9A. Q630_4 10A. Q630_5 11A. Q630_7	6P. Q1350 7P. Q1355 8P. Q1360 9P. Q1365 10P. Q1370 11P. Q1380
	Want to avoid continuous monitoring	12. Important/got to avoid continuous electronic fetal monitoring	12A. Q630_6	12P. Q1375
	Other labor concerns	13. Important/got to use massage 14. Important/got to use shower during labor 15. Important/got to eat/drink during labor	13A. Q625_2 14A. Q625_3 15A. Q625_5	13P. Q1295_2 14P. Q1295_3 15P. Q1295_5
	Labor and birth position	16. Want to deliver/delivered while lying on back 17. Important/got to choose labor/delivery position	16A. Q665 17A. Q670	16P. Q1435_1 17P. Q1440
	Hospital admission process	No current items		
Continuity of care	Familiar with providers	18. Important to know/knew doctor in advance 19. Important to know/knew midwife in advance 20. Important to know/knew pediatrician in advance	18A. Q575_1 19A. Q575_2 20A. Q575_3	18P. Q1263 19P. Q1270 20P. Q1260

V&P/PRO items			Antepartum survey question No.	Postpartum survey question No.
Domain	**Subdomain**	**V&P/PRO item[a]**		
Communication and decision-making	Decision-making	21. Plan to leave/left choices to provider	21A. Q690_5	21P. Q1225_3
		22. Will talk/talked with family before making decisions	22A. Q690_6	
		23. Will refuse/refused treatment believed not necessary	23A. Q690_7	23P. Q1235
	Follow birth plan	24. Postpartum: followed birth plan		24P. Q1245
		25. Postpartum: birth went as expected		25P. Q1655
		26. Postpartum: childbirth went smoothly		26P. Q1225_1
	Staff communication	27. Important to have/got debriefing regarding labor events	27A. Q720_1	
		28. Important to have/got debriefing regarding feelings	28A. Q720_2	28P. Q1565
		29. Postpartum: saw doctor/midwife enough		29P. Q1490_1
		30. Postpartum: saw nurse enough		30P. Q1490_2
		31. Postpartum: no one explained what was happening		31P. Q1615_2
		32. Postpartum: could not question providers		32P. Q1615_3
		33. Postpartum: felt ignored by providers		33P. Q1615_4
		34. Postpartum: staff was pleasant		34P. Q1485
		35. Postpartum: doctor explained so respondent could understand		35P. Q1630
		36. Postpartum: told about progress in labor		36P. Q1335
Empathy and respect	Cultural competence	37. Important to have/got staff respect for spiritual beliefs/culture	37A. Q435_1	37P. Q1205
Empathy and respect	Empathy	38. Important to have/got reassurance from nurse	38A. Q620_2	38P. Q1290_2
		39. Postpartum: staff was compassionate		39P. Q1480
	Respect	40. Important to have/got adequate space/food for support person	40A. Q615	40P. Q1505
		41. Important to have/got female provider	41A. Q435_2	41P. Q1210
		42. Postpartum: nurse treated respondent with courtesy and respect		42P. Q1620
		43. Postpartum: doctor treated respondent with courtesy and respect		43P. Q1625

V&P/PRO items			Antepartum survey question No.	Postpartum survey question No.
Domain	**Subdomain**	**V&P/PRO item[a]**		
	Want choices in the environment	44. Important/got to walk around during labor	44A. Q625_1	44P. Q1295_1
		45. Important/got to have a private room	45A. Q625_4	45P. Q1295_4
		46. Important/got to have choice of who is in the room during procedures/exams	46A. Q625_6	46P. Q1295_6
		47. Important/got to have providers help with positions/methods of delivery	47A. Q625_7	47P. Q1295_7
		48. Important/got to be involved in decisions re: pain	48A. Q660	48P. Q1390
		49. Important/got to have reassurance from doctor/midwife	49A. Q620	49P. Q1290
Feeding	Feeding type	50. Plan/was able to breastfeed, bottle-feed breast milk, bottle-feed formula	50A. Q725	50P. Q1575
	Practical support	51. Important to have/got practical support for feeding	51A. Q740	51P. Q1595
		52. Important to have/got information regarding breastfeeding within 24 h	52A. Q735_1	52P. Q1580_1
		53. Important to have/got information regarding bottle feeding within 24 h	53A. Q735_2	53P. Q1580_2
	Encouragement	54. Important to have/got encouragement for breastfeeding	54A. Q730	54P. Q1590
Newborn	Immediate care	55. Important to have/got to have baby placed skin to skin immediately after birth	55A. Q705	55P. Q1510
	Rooming in	56. Important to have/got to have baby stay in room with mother	56A. Q710	56P. Q1529
	Nursery or neonatal intensive care unit environment	No current items		

V&P/PRO items			Antepartum survey question No.	Postpartum survey question No.
Domain	**Subdomain**	**V&P/PRO item[a]**		
	Newborn care	57. Important to have/got information regarding day-to-day care of newborn 58. Important to have/got information regarding vaccines 59. Important to have/got information regarding baby's sleep position 60. Important to have/got information regarding baby's sleep location	57A. Q715_1 58A. Q715_2 59A. Q715_3 60A. Q715_4	
Pain management	Options for labor	61. Consider use of/got massage 62. Consider use of/got walking 63. Consider use of/got to use breathing techniques 64. Consider use of/ got to use shower/tub 65. Consider use of/got to use mental strategies 66. Consider use of/got narcotics 67. Consider use of/got epidural 68. Consider use of/got nitrous oxide gas 69. Consider use of/got to use TENS unit 70. Consider use of/got acupuncture/acupressure	61A. Q650_1 62A. Q650_2 63A. Q650_3 64A. Q650_4 65A. Q650_5 66A. Q650_6 67A. Q650_7 68A. Q650_8 69A. Q650_9 70A. Q650_10	61P. Q1400_1 62P. Q1400_2 63P. Q1400_3 64P. Q1400_4 65P. Q1400_5 66P. Q1400_6 67P. Q1400_7 68P. Q1400_8 69P. Q1400_9 70P. Q1400_10
	Options for cesarean birth	No current items		
	Postpartum	No current items		
Postpartum care	Postpartum environment	No current items		
	Postpartum care	71. Important to have/got tubal sterilization 72. Important to have/got hospital stay >48 h 73. Postpartum: needed more time in the hospital 74. Postpartum: knew how to care for self and baby at discharge	71A. Q750 72A. Q745	71P. Q1610 72P. Q1508 73P. Q1555 74P. Q1645
Support	Social support partner	75. Important to have/got to have spouse/partner in room	75A. Q610_1	75P. Q1275_1

V&P/PRO items			Antepartum survey question No.	Postpartum survey question No.
Domain	**Subdomain**	**V&P/PRO item[a]**		
	Social support children	76. Important to have/got to have other children in room	76A. Q610_2	76P. Q1275_3
	Social support other family	77. Important to have/got to have other family in room	77A. Q610_5	77P. Q1275_5
	Social support friends	78. Important to have/got to have friends in room	78A. Q610_3	78P. Q1275_4
	Doula	79. Important to have/got to have doula in room	79A. Q610_4	79P. Q1275_2
Clinical concerns	Maternal/neonatal childbirth complications	80. Emergency cesarean 81. Emergency cesarean reason why 82. Forceps/vacuum delivery 83. Maternal: blood transfusion 84. Maternal: intensive care unit 85. Newborn: neonatal intensive care unit, transfer out 86. Newborn: healthy/normal baby 87. Newborn: home with mother		80P. Q1160 81P. Q1165 82P. Q1340_4 83P. Q1420 84P. Q1425 85P. Q1430 86P. Q1560 87P. Q1545
	Maternal/neonatal readmission	88. Maternal readmission 89. Newborn readmission		88P. Q1608 89P. Q1609
	Provider competence	No current items		
	Safety	90. Felt safe during delivery 91. Felt safe when first held baby 92. Felt comfortable when first held baby		90P. Q1225_2 91P. Q1527 92P. Q1525
Summary measures	Satisfaction with birth	93. Summary score 1-10		93P. Q1650
Summary measures	Satisfaction with hospital	94. Summary score 1-10		94P. Q1635
	Loyalty to hospital	95. Summary score recommend/return 1-4		95P. Q1640

V&P/PRO items			Antepartum survey question No.	Postpartum survey question No.
Domain	**Subdomain**	**V&P/PRO item[a]**		
Pain assessment	Intrapartum	96. Postpartum: pain relief during labor inadequate 97. Postpartum: coped well with labor pain 98. Postpartum: lost control		96P. Q1470_2 97P. Q1385 98P. Q1495
	During cesarean birth	99. Postpartum: pain-free during cesarean		99P. Q1450_5
	Postpartum	100. Pain during first 24 h was unbearable/severe		100P. Q1455
Parenting	Family impact	No current items		
	Fetal attachment	No current items		
	Parental concerns	No current items		

Predisposing conditions (tested antepartum)			
Domain	**Items**	**Antepartum survey question No.**	
Maternal demographics	1. US region 2. Maternal age 3. Race/ethnicity: Asian, Black, Hispanic, White, other (includes mixed race) 4. Education: less than or equal to high school, some college, college graduate 5. Income: 2014 household income before taxes, categorized as <$15 000, $15 000-<$35 000, $35 000-<$75 000, >$75 000 6. Acculturation: US generation: born in US, parents born in US 7. Religion: categorized as none/atheist versus other 8. Insurance: public versus private	1. 2. 3. 4. 5. 6. 7. 8.	Q318 Q125 Q135 Q434 Q462 810 Q830 Q542
Previous birth experience	9. No. of prior births: multiparity 10. Prior cesarean delivery, number of prior cesareans 11. Prior labor 12. History of infertility	9. 10. 11. 12.	Q145 310 Q140 Q530_11
Gestational age at time of survey	13. Calculated from due date	13.	Q150

Predisposing conditions (tested antepartum)			
Domain	**Items**	**Antepartum survey question No.**	
Body mass index	14. Calculated from height and prepregnancy weight	14.	Q345/Q340
Provider type	15. Planned provider: obstetrician, family practitioner, midwife, other	15.	Q570
Distance from hospital	16. Need to travel >30 min to reach hospital	16.	Q560
Mental health	17. Rates overall mental/emotional health as poor/fair 18. Agrees that during the past year, most days were not stressful to very stressful 19. Has negative memories from a previous labor/birth 20. Worries about pain in labor 21. Worries about giving birth	17. 18. 19. 20. 21.	Q360 Q420 Q415_5 Q680_1 Q680_3
Self-rated health	22. Rates overall health as poor/fair	22.	Q360_1
Self-reported clinical risk	23. Has a preexisting medical condition 24. Has a pregnancy-related medical condition (eg, hypertension, diabetes) 25. Told that pregnancy was high risk 26. Told that had a problem with the baby 27. Has a multiple gestation 28. Had prenatal care in first trimester	23. 24. 25. 26. 27. 28.	Q365 Q370 Q375 Q380 Q315 Q335
Literacy	29. Confident filling out medical forms 30. Need for an interpreter	29. 30.	Q440 Q685
Intentional pregnancy	31. Choose answer: Wanting to be pregnant: sooner, later, not at all, or at time of pregnancy discovery	31.	Q330
High confidence (factor)	Agrees with the following items: 32. I can figure out how/where to get the information I need. 33. I want to be in charge of planning my care during childbirth. 34. Giving birth is a powerful experience. 35. I believe I will be in control. 36. I Expect my childbirth to go smoothly.	 32. 33. 34. 35. 36.	 Q415_4 Q415_6 Q690_2 Q690_8 Q690_9

Predisposing conditions (tested antepartum)			
Domain	**Items**	**Antepartum survey question No.**	
	37. It is my job as a mother to make sure my baby is born healthy. 38. Childbirth is a safe experience for the mother.	37. 38.	Q690_4 Q690_10
Birth plan	39. Will be completing a birth plan	39.	Q415
Childbirth preparedness	40. Agrees that it is better not to know in advance re: processes of giving birth	40.	Q690_3
Locus of control	41. Agrees that giving birth is being in a very helpless condition	41.	Q690_1
Partnered	42. Has a spouse/partner 43. Plans to have a support person for labor/birth 44. Spouse/partner/support person is supportive of pregnancy	42. 43. 44.	Q405 Q605 Q415_1
Heterosexual	45. Identifies as heterosexual	45.	Q835
Social support	46. Has immediate help available if needed it	46.	Q410
History of abuse	Has experienced the following types of abuse: 47. Humiliation over a long period 48. Threats of harm 49. Physical 50. Sexual	 47. 48. 49. 50.	 Q425_1 Q425_2 Q425_3 Q425_4
Experienced discrimination (factor)	Factor-based score including experiencing discrimination in each of the following areas: 51. Race/ethnicity 52. Cultural background/language 53. Sexual/gender orientation 54. Physical disability 55. Finances 56. Health insurance	 51. 52. 53. 54. 55. 56.	 Q430_1 Q430_2 Q430_3 Q430_4 Q430_5 Q430_6
Feeling pressure to have a cesarean	57. From provider 58. From family	57. 58.	Q505_1 Q505-_

Predisposing conditions (tested antepartum)			
Domain	**Items**	**Antepartum survey question No.**	
	59. From friends	59.	Q505_3
Able to cope with pain	60. Anticipate coping well with labor pain	60.	Q643_1

Abbreviations: IV, intravenous; PROs, patient-reported outcomes; TENS, transcutaneous electrical nerve stimulation; V&P, values and preferences.

Note: The sentence structure of V&P items would be appropriate for antepartum administration and the structure of PRO items would be appropriate for postpartum administration. The predisposing conditions would be appropriate for antepartum administration.

[a]Some of the domains or subdomains state "no current items." This occurred because, although potential items were identified through literature and focus groups, and the domain was felt to be important by the Childbirth Patient-reported Outcomes Partnership, during the current effort, the Partnership viewed these areas as less important to develop and include in the national survey.

Table 14 highlights those items that had the largest statistically significant odds ratios with respect to women's satisfaction with hospital childbirth services. We propose to include these items in a Childbirth Experiences and Outcomes Survey to be disseminated and implemented through an antepartum and postpartum patient-reported data collection process as we take the most meaningful and logical next steps. The items used in the antepartum and postpartum surveys described in this report appear in Appendices C and D, respectively. We anticipate that the next version of the Childbirth Experiences and Outcomes Survey will be a shortened version of these 2 surveys.

Table 14. Key Items Needed for Collection in Childbirth Experiences and Outcomes Survey

Antepartum	Postpartum	Additional variables needed for adjustment	High-level variables that were key predictors of women's satisfaction with hospital childbirth services
Mental health poor/fair	Received reassurance/comfort from nurse[a]	Maternal age	Knew how to care for self/newborn at discharge
High confidence	Coped well with labor pain[a]	Maternal race/ethnicity	Felt providers ignored me
Want partner in the room[a]	Doula was in the room[a]	Maternal education level	Staff was compassionate
Gap wanted and got massage treatment for pain[a]	Had a choice of who was in the room[a]	Multiple gestation	Staff was pleasant
	Had assistance with positions[a]	Delivery category: nulliparous, multiparous no prior cesarean, multiparous with prior cesarean	Saw doctor/midwife enough
	Had continuous electronic fetal monitoring[a]	US region (if applicable)	Saw nurse enough
	Adequate space/food for support person[a]	Pregnancy complications	Could not question providers
	Used birthing stool[a]		Nurses treated me with respect
	Was told about progress in labor[a]		Doctors explained things to me
	Satisfied with support person		Staff respected spiritual and cultural needs
	Debriefed regarding events of labor[a]		Could leave choices to provider (trust)
	Debriefed regarding patient's feelings postpartum[a]		

Antepartum	Postpartum	Additional variables needed for adjustment	High-level variables that were key predictors of women's satisfaction with hospital childbirth services
	Newborn placed skin to skin immediately after birth[a]		
	Was given breastfeeding information within 24 h[a]		
	Had too much breastfeeding encouragement from provider[a]		
	Got practical support feeding the baby[a]		
	Received information regarding newborn daily care[a]		
	Received information regarding vaccines[a]		
	Received information regarding newborn sleep position[a]		
	Felt comfortable holding the baby		
	Planned but did not get tubal sterilization[a]		
	Short postpartum hospital stay[a]		

[a]Potentially actionable items.

DISCUSSION

Rationale and Context for This Study

This work provides a foundation for assessing what is important to women during their childbirth experience and emphasizes the need for both antepartum and postpartum data collection to ensure the reporting of predisposing factors, services valued and preferred, services received, and clinical outcomes. Our conceptual framework suggests that, for childbirth, measurement of both V&P and PROs is important. Using PROMIS methodology and a community-based research approach, we developed a conceptual framework, a preliminary item bank of predisposing conditions, and items relevant to women's V&P and PROs for childbirth in a hospital.

Study Results in Context

Our research addresses a long-standing evidence gap regarding the drivers of women's assessment of their childbirth experience. Although physicians and hospitals have focused on improving the safety of childbirth, women's V&P—including, but not limited to, safety—remain unexplored.

An early attempt to address this void was first published in a national survey, Listening to Mothers, in 2002. The report described childbirth experiences but did not systematically address V&P or PROs.[74] Since the funding of our current PCORI project, the International Consortium for Health Outcomes Measurement (ICHOM) has developed a much broader and less specific set of standards for measuring pregnancy and childbirth outcomes that include several maternity patient self-reports.[75] Furthermore, Gartner et al. developed core domains for women's birth-specific priorities that were largely consistent with our work.[76] Neither this effort, nor that of ICHOM, measured the statistical significance of these domains with respect to the overall childbirth experience.

Our work narrows this long-standing evidence gap, offers a tool to assess women's V&P, and identifies the childbirth services that should be optimized to have the greatest impact on

women's satisfaction. Many of our findings identify specific, actionable items that hospitals could readily address.

Our results are consistent with multiple studies[13-15, 77-79] demonstrating that fulfillment of women's antenatal V&P (ie, what they desire, prefer, expect, think is important, or think should be important[55,56]) is a strong determinant of women's satisfaction with hospital childbirth services. In addition, components of the childbirth process, including not only labor and pain management but also the supportive services provided and quality of communication, appear to be as relevant as some clinical outcomes. These results are consistent with satisfaction studies for patients hospitalized for other health conditions.[80-84]

Additionally, our results confirmed the importance of the domains covered in the HCAHPS survey, a generic assessment of the following dimensions of the patient experience: communication with nurses, communication with doctors, responsiveness of staff, pain management, cleanliness and quietness of hospital environment, communication about medicines, and adequacy of discharge information.[85] As suggested by the results of the focus group analyses, those PROs with the strongest associations were in our framework domains of (1) communication and decision-making, and (2) empathy and respect (Table 13). In the postpartum analyses, "high-level" items such as "staff was compassionate" and "the doctors explained things in a way I could understand" demonstrated strong associations with women's satisfaction with hospital childbirth services.

These findings firmly ground our results for pregnant women in the existing body of work regarding the elements of the patient experience that predict women's satisfaction with hospital childbirth services. However, our results go beyond this confirmation. We were also able to identify 23 PROs in Table 10 describing explicit, childbirth-related services and experiences that ultimately had an important association with women's satisfaction with hospital childbirth services. This set of items is a key result of our work because it gives childbirth providers and hospitals specific avenues for improving the childbirth hospital experience and for developing paths toward improving the more broad-based need for compassion, respect, empathy, and communication with staff.

The communication and decision-making domain included this set of explicit items: "was told about my progress in labor" and "was debriefed regarding events during labor." The empathy and respect domain included these items specifically relevant to childbirth: "had adequate space and food for my support partner" and "was able to choose who was in the room during procedures." Because these postpartum PROs were independent predictors of satisfaction (ie, not strongly associated with antepartum V&P), they are candidates for a menu of "universally desired" components of the childbirth experience.

Summary of Key Study Findings

The final conceptual framework had 15 domains and 46 subdomains, and the preliminary item bank had 100 V&P/PROs and 60 personal characteristics that were important predictors of these V&P/PROs. We developed a preliminary draft (English and Spanish versions) of a Childbirth Experience and Outcome Survey consisting of 2 parts: antepartum (documenting predisposing conditions and evaluating V&P) and postpartum (evaluating self-reported experiences and outcome). Each survey took approximately 30 minutes to complete.

The results reported here focused on the immediate hospital experience of women who anticipated vaginal hospital births. Of the 37 V&P tested as either single items or factors in the antepartum survey, some were desired by nearly all respondents (eg, having reassurance/comfort from the nurse [96.1%]), some by a moderate proportion of the respondents (eg, wanting to eat/drink during labor [56.0%]), and some by relatively few respondents (eg, wanting acupuncture/acupressure as a pain treatment option [6.5%]). These results confirmed that childbirth is a highly preference-sensitive condition[73] and suggest that childbirth services preferences must be elicited and not inferred.

We confirmed our hypothesis that the desire for specific childbirth services and outcomes (V&P) varied not only across demographic groups but also across women with different levels of confidence, different levels of pain coping ability, and different attitudes toward childbirth preparedness. Some models performed better than others, with C statistics ranging from about 0.6 to 0.8. These results will guide us in determining which items should be retained for further refinement of the Childbirth Experiences and Outcomes Survey.

Our findings suggest the necessity for new data collection efforts if providers want the ability to predict "who" wants "what," because much of this information (eg, levels of confidence, pain coping ability) is not routinely asked of pregnant women.

Of note is that women's reports of pregnancy complications rarely contributed to the V&P models. Nearly half (41.4%) reported having a complicated pregnancy, yet this perception did not appear to affect their desired outcomes.

The postpartum data analysis yielded several important results. First, items from each of the potential predictor categories (ie, predisposing conditions, V&P, gaps, and PROs) were independently associated with women's satisfaction with hospital childbirth services. This confirms our hypothesis that all these predictor categories include important items; it also raises the potential for identifying and possibly mitigating some of these items in the predisposing conditions and V&P categories in advance.

Second, we found few predisposing conditions independently associated with women's satisfaction with hospital childbirth services. Demographics, parity, and reported pregnancy complications had no demonstrable association with women's satisfaction with hospital childbirth services in bivariate or multivariate analysis. Some bivariate associations did occur for reports of overall health and overall mental health, a result that is well described in satisfaction literature for other patient populations. However, only mental health reported as poor or fair remained consistently (and negatively) associated with satisfaction in all postpartum models. Other predisposing conditions, including high maternal confidence and literacy (confidence in filling out medical/health forms), were generally more important, particularly in bivariate analysis. Both had strong positive associations with satisfaction.

Third, although fewer of those who reported clinical complications, such as transfusion or intensive care unit admission, appeared highly satisfied with the hospital, these differences rarely reached statistical significance. Cesarean delivery, defined as emergent in this population, was, in fact, positively associated with women's satisfaction with hospital childbirth

services, although this did not reach statistical significance (OR 1.79 [95% CI, 0.94-3.41]; *P* = .0785).

Fourth, "high-level" items (eg, "the staff was compassionate," "doctors explained things in a way I could understand") dominated the full model for women's satisfaction with childbirth hospital services (Table 9) and confirms the importance of such items, present in the original HCAHPS model. Most of the more explicit items regarding childbirth, found in Table 8, were not retained by the model. Because this project's goal of was to focus on "actionable" items that could be addressed to improve women's satisfaction with hospital childbirth services, our alternative modeling attempt (Table 10) *excluded* these high-level variables and resulted in a more explicit model featuring 6 PRO items ("coped well with labor pain," "had continuous electronic fetal monitoring," "had adequate space/food for support person," "got debriefed regarding events during labor," "received practical support for feeding the newborn," "and was told about progress in labor"), 1 gap item ("wanted and got a massage"), and 1 V&P item ("wanted the spouse/partner in the room"). The differences between the results in Tables 9 and 10 suggest the need to further explore these high-level variables.

Implementation of Study Results

We have developed an early version of the Childbirth Experiences and Outcomes Survey for use before birth, to allow the opportunity for discussion between patients and providers, and after birth, to determine whether women received the services and outcomes they wanted. A survey instrument that identifies women's V&P for childbirth has not previously been available. The development of this instrument fills an existing gap, bringing our work to Step 4 in the NQF pathway for the development of performance measures.[72] The next step is implementation in multiple hospitals. A draft of the preliminary Childbirth Experiences and Outcomes Survey is in Appendices C (antepartum) and D(postpartum).

The implementation of a data collection and reporting process for childbirth-specific V&P/PROs has the potential to inform the health care decisions made by hospitals, by providers, and by pregnant women themselves. Hospitals determine their policies and patient services and can evaluate the availability of those services against what their patients want. For

example, most hospitals do not support vaginal delivery of twins or vaginal birth after cesarean (VBAC) because of concerns about liability, limited expertise, and/or limited resources. In response, some women may have undergone labor outside the hospital to avoid automatic cesarean delivery or opted to deliver at birth centers or at home with lay midwives.[86] If meeting these childbirth preferences is a high priority for some women, hospitals may want to further examine the potential for offering these services, thereby increasing the safety of childbirth and patient satisfaction.

Hospitals can also prioritize improvements in general patient–staff interactions, ensuring women's participation in labor and pain management decisions. For example, staff training, performance/quality monitoring, condition-specific toolkits, order sets, policies, and protocols are all tools that can support the dynamic interactions between staff and laboring patients.

The integration of childbirth-specific PROs into the hospital setting and the development of performance measures with the potential for public release could provide families with valuable information in choosing a childbirth hospital that fits their personal and clinical needs. Such performance measures would also be of interest to employers and insurers who negotiate benefit packages with childbirth hospitals.

We confirmed our hypothesis that the desire for specific childbirth services and outcomes varied not only across demographic groups but also across women with different levels of confidence, different levels of pain coping ability, and different attitudes toward childbirth preparedness. First, we identified items from each of the potential predictor categories (ie, predisposing conditions, V&P, gaps, and PROs) independently associated with women's satisfaction with hospital childbirth services. This confirms our hypothesis that all the categories may include important items, and raises the potential identifying and possibly mitigating in advance some of these items in the predisposing conditions and V&P categories.

Further validating and testing the Childbirth Experiences and Outcomes Survey in a multihospital environment is the obvious next step, and participants in the expanded

stakeholders meeting have volunteered their hospitals for dissemination and implementation feasibility testing.

Generalizability of the Results

Strengths of this work include the use of PROMIS methodology to develop and build on the conceptual framework and the community-based research approach. This foundational effort can be expanded on and serve as a basis for continued advancement using the methodologies promoted by PROMIS, NQF, PCORI, or AHRQ.

We developed 3 products: (1) a conceptual framework and childbirth V&P/PRO preliminary item bank; (2) an antepartum survey that demonstrates the variation in V&P by different predisposing conditions; and (3) a postpartum survey that demonstrates the relationship between various potential categories of predictors (ie, predisposing conditions, V&P, gaps, and PROs) and women's satisfaction with hospital childbirth services. Given the extensive literature review and item search, we believe the framework and preliminary item bank should serve as a solid foundation for further development of childbirth V&P and PROs for US women, although further domains and items may continue to be developed.

The antepartum survey confirmed our hypothesis that the desire for specific childbirth services and outcomes varied not only across demographic groups but also across women with different levels of confidence, different levels of pain coping ability, and different attitudes toward childbirth preparedness. This variation is likely to be found in most test settings, including hospital populations, and supports the concept that women's childbirth services preferences cannot necessarily be inferred.

A sample recruited through Nielsen produced data for the antepartum survey regarding patient V&P. These data were weighted by relevant demographic characteristics to maximize generalizability to the US population of reproductive-age women. Thus, our results describing "who wants what" should generally describe the preferences of pregnant women in the United States. Further exploration and confirmation of the statistical significance of these predisposing conditions will take place in the future in the hospital setting, where different hospitals will

likely have different base populations that vary by both demographics and predisposing conditions.

The third set of results, which relates to the postpartum data, confirms our hypothesis that antepartum V&P and gap data may also contribute to women's satisfaction with hospital childbirth services. However, we found many items associated with women's satisfaction with hospital childbirth services, and we anticipate that as we further develop the Childbirth Experiences and Outcomes Survey, new test settings may alter what items contribute to the final satisfaction models. Also, as we employ a wider variety of satisfaction measures (eg, birth satisfaction, hospital loyalty), we may also find that certain items or categories of items are most important. The postpartum results were not weighted and are less likely to be generalizable. We recognize the potential for recruitment bias based on the online panels used for recruitment and the low response rate for the postpartum survey. However, we did have women of all age groups, racial/ethnic groups, and geographic regions. Furthermore, our postpartum findings are consistent with findings from the literature, as noted previously.

Subpopulation Considerations

The findings presented here are specific to the services women received while in labor and in the immediate postpartum period (before hospital discharge). For interpretability, we limited our analysis to women who planned a vaginal birth in a hospital. We have data on women planning a cesarean and women planning births at home or at a birth center (approximately 2%, consistent with national estimates), but the numbers of these women are too limited to be explored sufficiently in adjusted analyses. Several of our community partners have expressed an interest in participating in analyses of these cohorts, but conclusions will be limited by the small sample sizes.[87] Additional data should be collected in these patient populations to confirm similarities and differences from women planning hospital births.

Study Limitations

This study is an early effort in the development of an approach to evaluating women's childbirth experiences and outcomes, so there are many limitations to this work. Most of these

limitations can be addressed through continued development using the documented PROMIS, NQF, or AHRQ methodologies and will depend on funding opportunities. These limitations and potential efforts to mitigate them appear in Table 15.

Table 15. Study Limitations and Future Mitigation Efforts

Limitation	Potential mitigation
The narrowed scope that includes only the immediate childbirth experience in the hospital	Repeat these efforts in the pregnant or postpartum population.
The lack of power to model V&P/PROs for women who anticipate cesarean delivery or out-of-hospital births	Recruit in these less prevalent populations.
The potential for recruitment bias using national online panels	Recruit in multiple hospitals.
The difficulty in recruiting women both antepartum and postpartum (Time 1-Time 2 study)	Offer incentives within the hospital environment, or focus subsequent efforts on either survey but not both.
The low participation of Spanish-speaking women	Recruit in multiple hospitals.
The inability to include women who speak other languages	Increase funding to develop and test the survey materials in other languages, and in hospitals where women who speak these languages routinely deliver.
The relatively affluent nature of the sample	Recruit in multiple hospitals.
The inability to explore birth satisfaction and other satisfaction summary measures fully	Place further attention to these end points in multiple hospitals.
The inability to further explore satisfaction with newborn care, particularly for women whose newborns had clinical problems	Expand efforts to focus specifically on newborn health.
Limited power to explore the impact of clinical conditions or complications on hospital satisfaction	Enhance efforts designed to link self-reports of clinical risk and complications to the EMR.

Abbreviation: EMR, electronic medical record; PROs, patient-reported outcomes; V&P, values and preferences.

Future Research

We envision at least 6 opportunities for future research, which are outlined below.

Development of Childbirth-Specific PROs as Hospital Performance Measures

This work brings us to Step 4 of the NQF Pathway for the development of PROs as hospital performance measures.[72] The NQF outlines a clear research path proceeding through implementation of the PROs in the hospital environment and comparisons across hospitals to determine PRO variation in this environment and the potential for quality improvement. The further development of the Childbirth Experiences and Outcomes Survey may also lead to integration in AHRQ's CAHPS suite of patient experience surveys. We are proposing that the next meaningful and logical step is to demonstrate the feasibility of such an implementation in a limited number of hospitals.

Further Development of Childbirth-Specific PROs as Self-reported Clinical Outcomes

Continued development under the PROMIS methodology could lead to a better understanding of women's assessments of their own health and their newborn's health after the childbirth experience. Comparison of clinical events (eg, through the medical record) with self-assessments would advance our understanding of the extent to which self-assessments are clinically accurate and reliable in the absence of electronic medical record linkage.

Development of Strategies to Improve the Childbirth Experience

Once an infrastructure is in place to measure women's V&P/PROs, this information can help providers and hospitals identify vulnerable patients (ie, those unlikely to be satisfied with their care) and develop strategies to address anticipated gaps (ie, unfulfilled preferences) before delivery. Types of strategies and their effectiveness in improving the patient experience remain to be explored.

Further Exploration of Childbirth-Specific V&P/PROs to Determine Their Relationship to Clinical Outcomes

Based on Figure 1 and supported by the results of the national survey, hospitals that address women's childbirth priorities (V&P) should improve their patient experience. It remains

unknown whether improved attention to women's V&P will impact maternal or neonatal clinical outcomes. Because to date there have been no formal mechanisms for identifying what women want in childbirth, research in this area is limited. To elicit and document women's priorities would encourage caregivers to respond to these priorities, and would begin to define the following: (1) the domains in which women have choices, (2) under which circumstances and to what extent those choices exist, (3) the potential for mutability of these choices, and (4) methods to help clarify choices (eg, through education of both patients and providers).[88,89]

Further Exploration of V&P/PROs as Predictors of Birth Satisfaction

Birth satisfaction is an important patient-centered outcome. The proposed conceptual framework can facilitate further study. Further exploration of V&P/PROs with respect to subpopulations such as those anticipating a scheduled cesarean birth and those planning to deliver outside the hospital Some women schedule a cesarean birth for clinical indications, and others do so out of preference. Providers and hospitals need a deeper understanding of women's preferences regarding route and location of delivery. We have begun to explore some of the subpopulations (women who want home births or VBACs) with our community partners as lead authors.

CONCLUSIONS

In conclusion, we have developed a conceptual framework and preliminary item bank for childbirth-specific patient-reported V&P and experiences and outcomes. We have explored the statistical significance of these V&P/PROs with respect to their association with women's satisfaction with hospital childbirth services and have developed a Childbirth Experiences and Outcomes Survey based on these results. Throughout this process we have relied on community-based participatory research techniques and the PROMIS guidelines for item bank development. We have also adhered to the PCORI Methodology Standards. Our work is consistent with prior work in both the childbirth satisfaction literature and the general patient satisfaction literature, and it specifically identifies domains of care and actionable items providers and hospitals can address to improve the patient experience. Our study findings will be useful to hospital administrators and maternity care providers who want to improve the patient care experience and their hospital satisfaction scores.

The next meaningful and logical step for the further development of this framework and preliminary item bank is to implement a data collection system for the childbirth predisposing conditions, V&P, PRO, and gap items in a multiple-hospital setting, thereby making V&P/PRO data available to providers for clinical decision-making and to researchers for the development of childbirth hospital performance monitoring.

The NQF,[90] the US national clearinghouse for the assessment and endorsement of health care performance measures, has published standards for the design and selection of PROs that relate to the performance of health care organizations. NQF has emphasized that the incorporation of the patient perspective into health care services quality monitoring must ensure that the infrastructure is in place to document and respond to that perspective, and that valid and comprehensive measures of that perspective are in place.[25] The work described here lays a foundation for further development of childbirth V&P and PROs as hospital performance measures of the childbirth experience and outcomes.

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APPENDICES

Appendix A. Literature Search Strategy

Phase	Domain	Search Strategy (date range 1975-2014)
1	General: Labor and delivery	Textwords: (Childbirth preferences OR cesarean delivery OR cesarean section OR cesarean-section OR birth plan OR vaginal birth OR c-section OPR natural childbirth) AND (attitude OR satisfaction OR psychology) AND Survey Tool * OR patient satisfaction survey OR questionniare OR Parturition/psychology"[Mesh]) OR (("Natural Childbirth/psychology"[Mesh]) OR (Cesarean Section, Repeat/psychology"[Mesh]) OR ((((("Delivery, Obstetric/psychology"[Mesh]) OR "Anesthesia, Epidural/psychology"[Mesh]) OR ((Cesarean Section/psychology"[Mesh] OR "Cesarean Section/utilization"[Mesh]))) AND "Attitude to Health"[Mesh])AND (("Questionnaires"[Mesh]) OR "Psychometrics"[Mesh]))
2	Birth plan	((((pregnant women or childbirth)) AND ((((survey [tiab] or surveys[tiab] or question[tiab] or questionnaires [tiab] or patient satisfaction surveys [tiab] or patient satisfaction survey[tiab] or survey tools [tiab] or survey tool [tiab])))) AND ((((health plan [tiab]) OR health plans[tiab]) OR birth plan [tiab]) OR birth plans [tiab]))))) OR ((((("Questionnaires"[Mesh]) OR "Psychometrics"[Mesh]))) AND (((((((("Health Plan Implementation"[Mesh]) OR "Health Planning"[Mesh]))) AND "Pregnant Women"[Mesh])) AND "Attitude to Health"[Mesh]) AND Humans[Mesh] AND English[lang]))
2	Decision making	((((((((((((childbirth preferences [tiab]) OR decision making [tiab]) OR patient choice [tiab]) OR patient participation [tiab]) OR decision-making [tiab]) OR shared decision-making [tiab]) OR informed consent [tiab])) AND ((((((((((((child birth [tiab]) OR (birth plans [tiab] OR birth plan [tiab])) OR labor induction [tiab]) OR labour induction [tiab]) OR induced birth [tiab]) OR childbirth [tiab]) OR labour pain [tiab]) OR ((labor pain [tiab]) OR pain relief [tiab]) OR cesarean section [tiab]) OR cesarean delivery[tiab]) OR c-section [tiab]) OR VBAC [tiab]) OR TOLAC [tiab]) OR childbirth preferences [tiab])))) AND (((((((((question [tiab]) OR questionnaires [tiab]) OR questions [tiab]) OR questionnaire [tiab]) OR survey tool [tiab]) OR survey tools [tiab]) OR survey [tiab]) OR surveys [tiab]) OR (patient satisfaction surveys [tiab] OR patient satisfaction survey [tiab])))))) OR (((((((((("Labor, Obstetric"[Mesh] OR "Labor Pain"[Mesh] OR "Trial of Labor"[Mesh] OR "Labor, Induced"[Mesh] OR "Labor Onset"[Mesh])) OR ("Cesarean Section"[Mesh] OR "Cesarean Section, Repeat"[Mesh])) OR "Natural Childbirth"[Mesh]) OR "Vaginal Birth after Cesarean"[Mesh])) AND "Attitude to Health"[Mesh]) AND ((("Patient Participation"[Mesh]) OR "Personal Autonomy"[Mesh]) OR "Choice Behavior"[Mesh]))
2	Post partum	Search (((((((((experiences [tiab]) OR experience [tiab]) OR opinions [tiab]) OR opinion [tiab]) OR attitudes [tiab]) OR attitude [tiab]) OR preference [tiab]) OR preferences [tiab])) AND ((((((("Questionnaires"[Mesh]) OR "Psychometrics"[Mesh])) AND ((((("Postnatal Care"[Mesh]) OR "Postpartum Period"[Mesh])) AND ((((((((((("Pain"[Mesh]) OR "Child Rearing"[Mesh]) OR "Stress Disorders, Traumatic, Acute"[Mesh]) OR "Stress Disorders, Post-Traumatic"[Mesh]) OR "Stress, Psychological"[Mesh]) OR "Sleep Disorders"[Mesh]) OR "Workload"[Mesh]) OR "Social Isolation"[Mesh]) OR "Parenting"[Mesh]) OR "Mother- Child Relations"[Mesh]) OR "Quality of Life"[Mesh]))))) OR ((((((postnatal [tiab]) OR postpartum [tiab])) AND ((sexual behavior [tiab]) OR ((((((((((sleep disorder [tiab]) OR sleep disorders[tiab]) OR social isolation [tiab]) OR pain [tiab]) OR parenting distress [tiab]) OR anxiety [tiab]) OR depression [tiab]) OR birth complications [tiab]) OR weight [tiab]) OR quality of life [tiab]) AND Humans[Mesh] AND English[lang]))))) AND ((((((((((patient satisfaction survey [tiab]) OR patient satisfaction surveys [tiab]) OR patient satisfaction survey [tiab]) OR patient satisfaction surveys [tiab]) OR survey tool [tiab]) OR survey tools[tiab]) AND questionnaires [tiab]) OR question [tiab]) OR questions [tiab]) OR surveys [tiab]) OR survey [tiab])))) 547
2	Intervention	((((((((((("Obstetric Surgical Procedures/utilization"[Mesh]) OR "Anesthesia, Epidural/utilization"[Mesh]) OR "Analgesia, Epidural/utilization"[Mesh]) OR "Fetal Monitoring/utilization"[Mesh]) OR "Episiotomy/utilization"[Mesh]) OR "Obstetrical Forceps/utilization"[Mesh]) OR "Vacuum Extraction, Obstetrical/utilization"[Mesh]) OR "Cesarean Section, Repeat/utilization"[Mesh]) OR "Cesarean Section/utilization"[Mesh]))

Phase	Domain	Search Strategy (date range 1975-2014)
		AND ((((("Women/psychology"[Mesh]) OR "Attitude to Health"[Mesh]) OR "Pregnant Women/psychology"[Mesh]) AND Humans[Mesh] AND English[lang])) AND (("Questionnaires"[Mesh]) OR "Psychometrics"[Mesh]))) OR ((((((((((questionnaires [tiab]) OR questionnaire [tiab]) OR patient satisfaction surveys [tiab]) OR patient satisfaction survey [tiab]) OR questions [tiab]) OR question [tiab]) OR survey tool [tiab]) OR survey tools [tiab]) OR surveys [tiab]) OR survey [tiab])) AND ((((((((((((((fetal monitoring [tiab]) OR forceps delivery [tiab]) OR cesarean delivery [tiab]) OR episiotomies [tiab]) OR episiotomy [tiab]) OR vacuum extraction [tiab])) OR epidurals [tiab]) OR epidural [tiab])) OR clinical interventions [tiab])) AND ((((pregnancy [tiab]) OR childbirth [tiab]) OR labor [tiab]) OR labour [tiab]))) AND (((((opinion [tiab]) OR preferences [tiab]) OR preference [tiab]) OR patient participation [tiab]) OR attitude to health [tiab]))) Sort by: PublicationDate Filters: Humans; English
2	Induction (2)	((((((("Psychometrics"[Mesh]) OR "Questionnaires"[Mesh])) AND "Labor, Induced"[Mesh])) AND "Attitude to Health"[Mesh])) OR ((((((((surveys[tiab] or survey[tiab] or survey tools [tiab] OR survey tool [tiab] OR patient satisfaction surveys [tiab] OR patient satisfaction survey [tiab] OR question [tiab] Or questions [tiab] OR questionnaires [tiab] or questionnaire [tiab])))))) AND (((experience OR choice or opinion or preferences Or attitude)) AND ((induced birth [tiab]) OR "induction of labor")))
2	Labor duration/labor management	arch ((((((("Questionnaires"[Mesh]) OR "Psychometrics"[Mesh])) AND (((((((((("Obstetric Labor Complications/physiology"[Mesh]) OR "Labor Onset/physiology"[Mesh]) OR "Labor, Induced/physiology"[Mesh]) OR ("Labor Stage, First/physiology"[Mesh] AND Humans[Mesh] AND English[lang])) OR "Labor Stage, Second/physiology"[Mesh]) OR "Labor Stage, Third/physiology"[Mesh]) OR "Labor, Obstetric/physiology"[Mesh])) AND "Time Factors"[Mesh])) AND Humans[Mesh] AND English[lang])) OR ((((((((((((patient satisfaction surveys[tiab]) OR patient satisfaction survey[tiab]) OR survey tool [tiab]) OR survey tools [tiab]) OR surveys [tiab]) OR survey [tiab]) OR questions [tiab]) OR question [tiab]) OR questionnaire [tiab]) OR questionnaires [tiab])) AND ((((((preference[tiab]) OR preferences [tiab]) OR attitude [tiab]) OR experience [tiab] OR behavior [tiab])) AND (((((((((labour progression[tiab]) OR labour progress[tiab]) OR prolonged labour [tiab]) OR prolonged labor [tiab]) OR labor progress [tiab]) OR labor progression [tiab]) OR labour duration [tiab]) OR labor duration [tiab])))) AND Humans[Mesh] AND English[lang]) Sort by: PublicationDate Filters: Humans; English
2	NICU babies	Search ((((((((((((preferences [tiab]) OR preference [tiab]) OR attitudes [tiab]) OR attitude [tiab]) OR experience [tiab]) OR experiences [tiab]) OR opinion [tiab]) OR opinions [tiab])) AND ((((((((((patient satisfaction survey [tiab]) OR patient satisfaction surveys [tiab]) OR questionnaire [tiab]) OR questionnaires [tiab]) OR questions [tiab]) OR question [tiab]) OR survey tool [tiab]) OR survey tools [tiab]) OR surveys [tiab]) OR survey [tiab])) AND (((Nicu [tiab]) OR NICU parents [tiab]) OR neonatal intensive care [tiab]))) OR ((((((("Patient Preference"[Mesh]) OR "Attitude to Health"[Mesh])) AND (("Psychometrics"[Mesh]) OR "Questionnaires"[Mesh])) AND "Intensive Care Units, Neonatal"[Mesh]) AND Humans[Mesh] AND English[lang]) Sort by: PublicationDate Filters: Humans; English
2	Pain management	(((((((((("Mothers/psychology"[Mesh]) OR "Choice Behavior"[Mesh]) OR "Decision Making"[Mesh]) OR "Mothers/psychology"[Mesh])) AND ((((((("Labor, Obstetric"[Mesh] OR "Parturition"[Mesh])) OR "Labor Pain"[Mesh]) OR "Pregnancy"[Mesh])) AND (((((("Complementary Therapies"[Mesh]) OR "Analgesics, Opioid"[Mesh]) OR "Narcotics"[Mesh]) OR "Analgesics, Opioid"[Mesh] OR"Narcotics"[Mesh]) OR ("Anesthesia, Epidural"[Mesh]))))))))) OR (((((((choice [tiab]) OR patient preference [tiab]) OR ((patient centered care [tiab]) OR ((opinion [tiab]) OR ((eliciting preferences [tiab]) OR ((preferences [tiab]) OR attitude [tiab])))))))) AND ((((((narcotics [tiab]) OR opioids [tiab]) OR holistic care [tiab]) OR (complementary and alternative medicine [tiab])) OR ((((epidural analgesia [tiab]) OR epidural anesthesia [tiab]) OR pain management [tiab]) OR pain relief[tiab])) AND Humans[Mesh] AND English[lang])) AND childbirth[tiab]) AND Humans[Mesh] AND English[lang])
2	Position	(((((((((("Posture"[Mesh] AND Humans[Mesh] AND English[lang])) OR ("Knee-Chest Position"[Mesh] OR "Prone Position"[Mesh] OR "Supine Position"[Mesh])) OR ("Labor Presentation"[Mesh] OR "Breech Presentation"[Mesh]))) AND ((((("Labor Onset"[Mesh]) OR ("Labor Stage,

Phase	Domain	Search Strategy (date range 1975-2014)
		Third"[Mesh] AND Humans[Mesh] AND English[lang])) OR ("Labor Stage, First"[Mesh] AND Humans[Mesh] AND English[lang])) OR ("Labor Stage, Second"[Mesh] AND Humans[Mesh] AND English[lang]))))) AND "Questionnaires"[Mesh])) OR ((((((preferences [tiab]) OR preference [tiab]) OR experience [tiab])) AND ((((((((maternal birthing positions [tiab]) OR birthing positions [tiab]) OR birth positions [tiab]) OR (maternal positions [tiab] AND Humans[Mesh] AND English[lang])) OR maternal positioning [tiab]) OR birth position [tiab]) OR maternal position [tiab]) AND Humans[Mesh] AND English[lang])) AND (((preferences [tiab]) OR preference [tiab]) OR experience [tiab]))
2	TOLAC (2)	Search ((((((("Questionnaires"[Mesh]) OR "Psychometrics"[Mesh])) AND ("Attitude to Health"[Mesh] AND Humans[Mesh] AND English[lang])) AND "Vaginal Birth after Cesarean"[Mesh])) OR ((((((((((((survey [tiab]) OR surveys [tiab]) OR survey tools [tiab]) OR survey tool [tiab]) OR patient satisfaction surveys [tiab]) OR patient satisfaction survey [tiab]) OR question [tiab]) OR questions [tiab]) OR questionnaires [tiab]) OR questionnaire[tiab])) AND ((((((((((preferences [tiab]) OR preference [tiab]) OR attitudes [tiab]) OR attitude [tiab]) OR opinions [tiab]) OR opinion [tiab]) OR experiences [tiab]) OR experience [tiab])) AND ((((((((((("trial of labour after caesarean delivery") OR "trial of labour") OR "trial of labor after cesarean delivery") OR "trial of labor after cesarean tolac") OR "trial of labor after cesarean") OR "trial of labor") OR trial of labor [tiab]) OR trial of labor after cesarean [tiab]) OR TOLAC [tiab])) OR vaginal birth after cesarean section [tiab]) OR vbac[tiab])))) AND Humans[Mesh] AND English[lang]) Filters:Humans; English 42
3	Dbase 3 congenital abnormalities	Search (((((((("Pregnancy"[Mesh]) OR "Delivery, Obstetric"[Mesh])) AND (("Questionnaires"[Mesh]) OR "Psychometrics"[Mesh])) AND (("Health Knowledge, Attitudes, Practice"[Mesh]) OR "Attitude to Health"[Mesh])) AND (("Congenital Abnormalities/diagnosis"[Mesh]) OR "Congenital Abnormalities"[Mesh]))) OR ((((((((((concerns [tiab]) OR concern [tiab]) OR experiences [tiab]) OR experience [tiab]) OR knowledge [tiab]) OR preference [tiab]) OR preferences [tiab]) OR opinions [tiab]) OR opinion [tiab])) AND (((((((congenital anomalies [tiab]) OR congenital abnormalities [tiab]) OR congenital defects [tiab])) AND ((childbirth [tiab]) OR pregnancy [tiab]))) AND ((((((((((patient satisfaction surveys [tiab]) OR patient satisfaction survey [tiab]) OR questionnaire [tiab]) OR questionnaires [tiab]) OR questions [tiab]) OR question [tiab]) OR survey tool [tiab]) OR survey tools [tiab]) OR surveys [tiab]) OR survey [tiab]))) Sort by: PublicationDate Filters: Humans; English: Humans; English
3	fetal abnormalities	((((((((("Health Knowledge, Attitudes, Practice"[Mesh]) OR "Attitude to Health"[Mesh])) AND (("Psychometrics"[Mesh]) OR "Questionnaires"[Mesh])) AND ((((((((("Infant, Premature/psychology"[Mesh]) OR "Infant, Extremely Premature/psychology"[Mesh]) OR (("Fetus/abnormalities"[Mesh] OR "Fetus/mortality"[Mesh]))) OR "Premature Birth/psychology"[Mesh]) OR "Infant, Extremely Low Birth Weight/psychology"[Mesh]) OR "Pregnancy, Twin/psychology"[Mesh]) OR "Pregnancy, Multiple/psychology"[Mesh]) OR "Infant, Low Birth Weight/psychology"[Mesh])))))) OR ((((((((((pregnancy [tiab]) OR childbirth [tiab])) AND (((preterm infant [tiab]) OR low birth weight [tiab]) OR premature birth [tiab]))) OR ((((((fetal abnormalities [tiab]) OR fetal defects [tiab]) OR fetal malformation [tiab]) OR fetal anomalies [tiab]) OR "twin pregnancies") OR twin pregnancies [tiab]))) AND ((((((((((((preference [tiab]) OR preferences [tiab]) OR opinion [tiab]) OR opinions [tiab]) OR concern [tiab]) OR concerns [tiab]) OR experience [tiab]) NOT experiences [tiab]) OR expectations [tiab]) OR expectation [tiab]) OR attitudes [tiab]) OR attitude [tiab]) OR knowledge [tiab])) AND ((((((((((patient satisfaction surveys [tiab]) OR patient satisfaction survey [tiab]) OR survey tool [tiab]) OR survey tools [tiab]) OR questionnaire [tiab]) OR questionnaires [tiab]) OR questions [tiab]) OR question [tiab]) OR surveys [tiab]) OR survey [tiab]))) Sort by: PublicationDate Filters: Humans; English
3	Health care disparities/ethnic group /minority health	((((((((((((((((((((((((((questionnaire [tiab]) OR questionnaires [tiab]) OR surveys [tiab]) OR survey [tiab]) OR survey tools [tiab]) OR survey tool [tiab]) OR patient satisfaction surveys [tiab]) OR patient satisfaction survey [tiab]) OR question [tiab]) OR questions [tiab])))))))))))))) AND Humans[Mesh] AND English[lang])) AND ((((((((((((childbirth [tiab] OR pregnancy [tiab] Or prenatal care [tiab] or postnatal care[tiab] or postpartum care [tiab])))))) AND ((((((((((((((((((experiences [tiab]) OR experience [tiab])) OR ((((((((((opinions [tiab]) OR opinion [tiab]) OR attitudes [tiab]) OR attitude[tiab]) OR preference[tiab]) OR concerns [tiab]) OR preferences[tiab]) OR concern [tiab]) OR expectation [tiab]) OR expectations

Phase	Domain	Search Strategy (date range 1975-2014)
		[tiab])))))))))))))) AND (healthcare disparities [tiab] OR healthcare inequalities [tiab] or ethnicity [tiab] or ethnic group [tiab] or minority health [tiab])))))) OR (((((((("Ethnic Groups"[Mesh]) OR "Healthcare Disparities"[Mesh]) OR "Minority Health"[Mesh])) AND (("Attitude to Health"[Mesh]) OR "Health Knowledge, Attitudes, Practice"[Mesh])) AND (("Questionnaires"[Mesh]) OR "Psychometrics"[Mesh])) AND (((((((("Labor Pain"[Mesh]) OR "Analgesia, Obstetrical"[Mesh]) OR "Natural Childbirth"[Mesh]) OR "Postnatal Care"[Mesh]) OR "Prenatal Care"[Mesh]) OR ("Cesarean Section"[Mesh] OR "Cesarean Section, Repeat"[Mesh])) OR "Parturition"[Mesh])) Sort by: PublicationDate
3	Fetal monitoring	Search ((("Fetal Monitoring/psychology"[Mesh]) OR "Cardiotocography/psychology"[Mesh])) OR (((((((experiences [tiab]) AND experience [tiab])) OR ((((((((((opinions [tiab]) OR opinion [tiab]) OR attitudes [tiab]) OR attitude[tiab]) OR preference[tiab]) OR concerns [tiab]) OR preference[tiab]) OR concern [tiab]) OR expectation [tiab]) OR expectations [tiab])))) AND ((((((((((questionnaire [tiab]) OR questionnaires [tiab]) OR surveys [tiab]) OR survey [tiab]) OR survey tools [tiab]) OR survey tool [tiab]) OR patient satisfaction surveys [tiab]) OR patient satisfaction survey [tiab]) OR question [tiab]) OR questions [tiab])) AND ((electronic fetal monitoring [tiab]) OR fetal monitoring [tiab])) AND Humans[Mesh] AND English[lang]) Sort by: PublicationDate Filters: Humans; English
3	Migrants	((((((((((((((((((((((experiences [tiab]) OR experience [tiab])) OR ((((((((((opinions [tiab]) OR opinion [tiab]) OR attitudes [tiab]) OR attitude[tiab]) OR preference[tiab]) OR concerns [tiab]) OR preferences[tiab]) OR concern [tiab]) OR expectation [tiab]) OR expectations [tiab])))))))) AND ((((((((((((((questionnaire [tiab]) OR questionnaires [tiab]) OR surveys [tiab]) OR survey [tiab]) OR survey tools [tiab]) OR survey tool [tiab]) OR patient satisfaction surveys [tiab]) OR patient satisfaction survey [tiab]) OR question [tiab]) OR questions [tiab])))))) AND immigrant women[tiab] or immigrant population[tiab] or migrant women [tiab] AND (pregnancy [tiab] OR childbirth [tiab] or cesarean section [tiab] or fetal abnormalities [tiab] or multiple birth [tiab] or fetal malformation [tiab] or obstetric labor[tiab] or obstetric labour[tiab] or postnatal care [tiab] or prenatal care [tiab] or post-natal care [tiab] or pre-natal care[tiab] or obstetric labor [tiab])))))))))) OR (((((((((("Fetus/mortality"[Mesh]) OR ("Fetus/abnormalities"[Mesh] OR ((((("Prenatal Care"[Mesh]) OR ("Postnatal Care"[Mesh] OR "Postpartum Period"[Mesh])) OR ((((("Obstetric Labor Complications"[Mesh]) OR ("Natural Childbirth"[Mesh] AND Humans[Mesh] AND English[lang])) OR ("Cesarean Section"[Mesh] OR "Cesarean Section, Repeat"[Mesh])) OR ("Delivery, Obstetric"[Mesh] OR "Labor, Obstetric"[Mesh]))) AND Humans[Mesh] AND English[lang]))) AND "Emigrants and Immigrants"[Mesh] AND ((("Questionnaires"[Mesh] AND Humans[Mesh] AND English[lang])) OR "Psychometrics"[Mesh]))))
3	Computer literacy	(((((((("Computer Literacy"[Mesh] OR "Internet"[Mesh])AND ((((((((("Psychometrics"[Mesh] AND Humans[Mesh] AND English[lang])) OR ("Questionnaires"[Mesh] AND Humans[Mesh] AND English[lang]))) AND ((((((((("Prenatal Care"[Mesh]) OR "Postnatal Care"[Mesh]) OR ("Labor, Obstetric"[Mesh] OR "Parturition"[Mesh])) OR "Natural Childbirth"[Mesh]) OR ("Cesarean Section, Repeat"[Mesh] OR "Cesarean Section"[Mesh])) OR (("Delivery, Obstetric"[Mesh] OR "Labor, Obstetric"[Mesh])))))))) OR ((((Computer literacy [tiab] OR computer knowledge [tiab] or internet use [tiab] or E-learning [tiab] or online learning [tiab]AND (((survey [tiab] or surveys [tiab] or survey tools[tiab] or survey tool[tiab] or questions[tiab] or question[tiab] or questionnaire [tiab] or questionnaires [tiab])))))) AND (((((((pregnant women [tiab]) OR (pregnancy [tiab] Or childbirth [tiab] OR postnatal care [tiab] OR post-natal care [tiab] or prenatal care [tiab] or pre-natal care [tiab] or cesarean section [tiab] or multiple birth [tiab]))))))))))))))
3	Health literacy and info seeking	((((((((("Psychometrics"[Mesh] AND Humans[Mesh] AND English[lang])) OR ("Questionnaires"[Mesh] AND Humans[Mesh] AND English[lang]))) AND ((((((((("Prenatal Care"[Mesh]) OR "Postnatal Care"[Mesh]) OR ("Labor, Obstetric"[Mesh] OR "Parturition"[Mesh])) OR "Natural Childbirth"[Mesh]) OR ("Cesarean Section, Repeat"[Mesh] OR "Cesarean Section"[Mesh])) OR (("Delivery, Obstetric"[Mesh] OR "Labor, Obstetric"[Mesh]))))) AND (((((((("Language"[Mesh] OR "Language Arts"[Mesh]))OR "Reading"[Mesh]) OR "Information Seeking Behavior"[Mesh]) OR "Information Literacy"[Mesh]) OR "Health Literacy"[Mesh])))))))) OR ((((((((((((((((((communication skills [tiab] Or language skills [tiab]) OR information literacy [tiab]) OR health literacy [tiab]) OR reading level [tiab]) OR reading skills [tiab] or information seeking [tiab]))))) AND (((survey

Phase	Domain	Search Strategy (date range 1975-2014)
		[tiab] or surveys [tiab] or survey tools[tiab] or survey tool[tiab] or questions[tiab] or question[tiab] or questionnaire [tiab] or questionnaires [tiab])))))) AND (((((((pregnant women [tiab]) OR (pregnancy [tiab] Or childbirth [tiab] OR postnatal care [tiab] OR post-natal care [tiab] or prenatal care [tiab] or pre-natal care [tiab] or cesarean section [tiab] or multiple birth [tiab]))))))))))
3	educational level	((((((("Health Knowledge, Attitudes, Practice"[Mesh] AND Humans[Mesh] AND English[lang])) OR "Health Knowledge, Attitudes, Practice"[Mesh])) AND ((((("Psychometrics"[Mesh]) OR "Questionnaires"[Mesh])) AND ((((((((("Natural Childbirth"[Mesh]) OR "Anesthesia, Obstetrical"[Mesh]) OR "Anesthesia, Obstetrical"[Mesh]) OR "Labor, Obstetric"[Mesh]) OR ("Cesarean Section"[Mesh] OR "Cesarean Section, Repeat"[Mesh])) OR "Postnatal Care"[Mesh]) OR (("Labor, Obstetric"[Mesh] OR "Parturition"[Mesh]))) OR "prenatal Care"[Mesh])) AND "Educational Status"[Mesh]))))) OR ((((((((((((patient satisfaction surveys [tiab]) OR patient satisfaction survey [tiab]) OR survey tool [tiab]) OR survey tools [tiab]) OR questionnaires [tiab]) OR questionnaire [tiab]) OR surveys [tiab]) OR survey [tiab]) OR questions [tiab]) OR question [tiab])) AND ((((((((((((expectations [tiab]) OR expectations [tiab]) OR preference [tiab]) OR preferences [tiab]) OR opinions [tiab]) OR opinion [tiab]) OR attitudes [tiab]) OR attitude [tiab]) OR concerns [tiab]) OR concern [tiab]) OR experience [tiab]) OR experiences [tiab])) AND (((((college education [tiab]) OR high school education [tiab]) OR education level [tiab])) AND ((((((((postpartum care [tiab]) OR postnatal care [tiab]) OR post-natal care [tiab]) OR pre-natal care [tiab]) OR prenatal care [tiab]) OR multiple birth [tiab]) OR cesarean section [tiab]) OR pregnancy [tiab]) OR childbirth [tiab]))))) AND Humans[Mesh] AND English[lang]) Sort by: PublicationDate Filters:Humans; English
3	Poverty and social economics and class / disparities	(((("Attitude to Health"[Mesh]) AND ((((("Psychometrics"[Mesh]) OR "Questionnaires"[Mesh])) AND (((((("Analgesia, Obstetrical/psychology"[Mesh]) OR "Anesthesia, Obstetrical/psychology"[Mesh]) OR (((((("Postnatal Care/psychology"[Mesh]) OR "Prenatal Care/psychology"[Mesh]) OR "Natural Childbirth/psychology"[Mesh]) OR "Cesarean Section, Repeat/psychology"[Mesh]) OR "Cesarean Section/psychology"[Mesh])))) AND ((("Poverty"[Mesh]) OR "Socioeconomic Factors"[Mesh]) OR "Social Class"[Mesh])))))) OR ((((((((((((attitudes [tiab]) OR attitude [tiab]) OR concerns [tiab]) OR concern [tiab]) OR expectation [tiab]) OR expectations [tiab]) OR preference [tiab]) OR preferences [tiab]) OR opinions [tiab]) OR opinion [tiab])) AND ((((((poverty [tiab]) OR (((socially disadvantaged women [tiab]) OR economically disadvantaged women [tiab]) OR socio-economic status [tiab]) OR low-income [tiab])))) AND (((((pregnancy[tiab]) OR postpartum care[tiab]) OR prenatal care [tiab]) OR pre-natal care [tiab]) OR childbirth [tiab])))) AND ((((((((((question [tiab]) OR questions [tiab]) OR questionnaire [tiab]) OR questionnaires [tiab]) OR survey [tiab]) OR surveys [tiab]) OR survey tools [tiab]) OR survey tool [tiab]) OR patient satisfaction survey [tiab]) ORpatient satisfaction surveys [tiab])))) Sort by:PublicationDate Filters: Humans; English
4	PRO Filter	Search ((((((((((((((((((((((((((((((((((("activity index" [tiab]) OR "severity index" [tiab]) OR "Severity of Illness Index"[Mesh]) OR "Quality of Life"[Mesh]) OR "Models, Psychological"[Mesh]) OR psychosoc* [tiab]) OR "patient reported outcome" [tiab]) OR "item bank"[tiab]) OR "computer adaptive testing" [tiab]) OR DIF [tiab]) OR "differential item functioning" [tiab]) OR Rasch [tiab]) OR IRT [tiab]) OR "item response model" [tiab]) OR MID [tiab]) OR MCID [tiab]) OR "minimal important difference" [tiab]) OR "minimally clinically important difference" [tiab]) OR "minimal clinically important difference" [tiab]) OR "minimally clinical important difference" [tiab]) OR "minimal clinical important difference" [tiab]) OR (((multitrait[tiab]) AND scaling[tiab]) AND ((analysis [tiab]) OR analyses [tiab]))) OR "factor analyses"[tiab]) OR "factor analysis"[tiab]) OR ((reliab* [tiab]) AND ((retest [tiab]) OR test [tiab]))) OR ((cronbach [tiab]) AND (alpha [tiab] OR alphas [tiab]))) OR survey tool*[tiab]) OR questionnaires*[tiab]) OR psychometr* [tiab]) OR "Questionnaires"[Mesh] OR “psychometrics”[MESH] OR (survey*[tiab] or scale*[tiab] OR “reproducibility of results” [mesh] Or reliab*[tiab] or valid* [tiab] or reproducib*[tiab])))))) AND ((((((((((((((((((((((obstetric labour experienc*[tiab]) OR obstetric labor experienc*[tiab]) Or obstetric labor expectation *[tiab] or obstetric labour expectation* [tiab] Or obstetric labor preference* [tiab] or obstetric labour preference*[tiab] or childbearing expectation*[tiab] OR childbearing experienc*[tiab] OR childbearing preference* [tiab] OR cesarean section experience* [tiab] or cesarean section

Phase	Domain	Search Strategy (date range 1975-2014)
		expectation*[tiab] or cesarean section preference* [tiab] OR childbirth experience* [tiab] or childbirth expectation* [tiab] or childbirth preferenc* [tiab] OR childbirth satisfaction [tiab] OR "childbirth experiences" OR "childbirth experience" OR birth experience* [tiab] or birth preference* [tiab] or birth satisfaction [tiab]))))) OR ((((((((((("Delivery, Obstetric/psychology"[Mesh]) OR "Labor, Obstetric/psychology"[Mesh]) OR "Pregnancy, Twin/psychology"[Mesh]) OR "Parturition/psychology"[Mesh]) OR "Cesarean Section/psychology"[Mesh]) OR "Pregnancy/psychology"[Mesh]) OR "Natural Childbirth/psychology"[Mesh] OR(("Delivery, Obstetric"[Mesh] AND "Anxiety/psychology"[Mesh] OR ((“infant welfare” [mesh] AND "Anxiety/psychology"[Mesh])))))))))) NOT (clinical trial [pt] OR news [pt] or editorial [pt] or letter[pt]))
5	Hospital choice	Search (((((((("Psychometrics"[Mesh]) OR "Questionnaires"[Mesh])) AND (((((((("Hospitals, Teaching"[Mesh]) OR "Academic Medical Centers"[Mesh]) OR "Hospitals, Maternity"[Mesh] OR "hospitals , private" [MESH]"Hospitals, Religious"[Mesh] OR "Hospitals, Urban"[Mesh] OR "Hospitals, University"[Mesh] OR "Hospitals, Special"[Mesh] OR "Hospitals, State"[Mesh] OR "Hospitals, Rural"[Mesh] OR "Hospitals, Public"[Mesh])) OR ("Obstetrics and Gynecology Department, Hospital"[Mesh])))))) AND "Choice Behavior"[Mesh])))))) AND "Delivery, Obstetric"[Mesh])) OR ((((((place of birth OR childbirth location OR maternity hospital OR obstetrics and gynecology department)) AND women's choice)) AND ((question[tiab] OR questions[tiab] OR questionnaires[tiab] OR questionnaire[tiab] OR survey[tiab] OR survey tools[tiab] OR survey[tiab] OR surveys[tiab] OR psychometr*[tiab]))) AND Humans[Mesh] AND English[lang]) Sort by: PublicationDate

Appendix B. Unweighted and Weighted Demographic Profile of Antepartum Survey Participants (N= 2757)

	Unweighted N	Unweighted %	Weighted %	National Targets%[1]
Age				
18-24	789	28.6	23.8	23.9%
25-29	857	31.1	25.7	25.7%
30-34	651	23.6	34.0	34.3%
35-39	330	12.0	13.6	13.5%
40+	130	4.7	2.8	2.7%
Education				
High school or less	737	26.7	35.3	36.4%
Some college/Associate degree	979	35.5	30.2	29.5%
College degree	724	26.3	22.6	21.0%
Post graduate	317	11.5	11.9	13.1%
Income				
Less than $15,000	299	10.9	16.0	15.4%
$15,000 to $24,999	282	10.2	11.8	11.4%
$25,000 to $34,999	325	11.8	12.7	12.3%
$35,000 to $49,999	428	15.5	12.1	11.4%
$50,000 to $74,999	574	20.8	18.6	15.8%
$75,000 to $99,999	362	13.1	14.4	13.2%
$100,000 or more	393	14.3	11.0	9.8%
Decline to answer	94	3.4	3.4	10.6%
Race/Ethnicity				
Black non-Hispanic	244	8.9	19.6	20.0%
Hispanic	520	19.1	17.7	17.1%
White, Asian and Other non-Hispanic	1964	72.0	62.7	62.9%
Maternal Region				
East	447	16.2	17.5	17.9%
Midwest	642	23.3	20.5	20.9%
South	1100	39.9	37.9	37.6%
West	568	20.6	24.1	23.6%
Number of times given birth				
1	915	47.9	44.9	NA
2	588	30.8	29.7	NA
3	244	12.8	14.0	NA
4	90	4.7	6.1	NA
5 or more births	73	3.8	5.3	NA

[1]Source: 2011-2013 National Survey of Family Growth and 2014 Current Population Survey (65).

Appendix C. Antepartum Survey

Research Manager: Sandra Applebaum email: sandra.applebaum@nielsen.com

Research Manager: Peg Jaynes email: peg.jaynes@nielsen.com

October 13, 2015

J:\92xxx\92911 Cedars-Sinai Childbirth\Questionnaire\92911 Cedars-Sinai Childbirth EM_101315_final for CS.docx

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SUBJECTS FOR QUESTIONNAIRE:

SECTION 100: SAMPLE PRELOAD AND SCREENING SECTION
300: PREGNANCY HISTORY
SECTION 400: EMOTIONAL SUPPORT AND PREFERENCES SECTION 500:
PLANS FOR TYPE OF DELIVERY AND LOCATION SECTION 600: LABOR AND
DELIVERY SUPPORT
SECTION 700: POST BIRTH AND FEEDING SECTION
800: FACTUALS

SECTION 100: SAMPLE PRELOAD AND SCREENING

BASE: ALL RESPONDENTS

Q75 PRELOAD - SAMPLE SUPPLIER (DOES NOT APPEAR ON SCREEN)

1 Xx
2 Xx
3 Xx

BASE: ALL RESPONDENTS

Q155 Thank you for agreeing to take this survey. Our first few questions will help us determine which questions to ask you.
In which country or region do you currently reside?

244	United States	
14	Australia	[TERMINATE]
42	Canada	[TERMINATE]
266	England	[TERMINATE]
171	New Zealand	[TERMINATE]
996	Other country	[TERMINATE]

[PN: TERMINATE IMMEDIATELY IF NOT US]

BASE: ALL RESPONDENTS

Q120 Are you…?

1	Male	[TERMINATE]
2	Female	

[PN: TERMINATE MALES IMMEDIATELY]

BASE: FEMALE (Q120/2)

Q125 In what year were you born? Please enter your response as a four-digit number (for example, 1980).

[RANGE: 1930-2015]
|_|_|_|_|

BASE: FEMALE (Q120/2)

Q126 HIDDEN COMPUTE FOR AGE

[RANGE 0-95]

BASE: FEMALE (Q120/2)

Q127 AGE CATEGORIES (NOT SHOWN ON SCREEN)

[SAMPLING: DO NOT SEND SAMPLE TO WOMEN 55+]

1	0-17	[TERMINATE]
2	18-24	
3	25-29	
4	30-34	
5	35-39	
6	40-54	
7	55+	

[PN: TERMINATE CODE 1 IMMEDIATELY]

BASE: FEMALE (Q120/2) AND 18+ (Q127/2-7)

Q130 Are you of Hispanic, Latino or Spanish origin?

1	Yes
2	No
9	Decline to answer

BASE: FEMALE (Q120/2) AND 18+ (Q127/2-7)

Q135 Do you consider yourself…? Please select all that apply.

[MULTIPLE RESPONSE]

1	White	
2	Black/African-American	
3	Asian	
4	American Indian	
5	Alaskan Native	
6	Native Hawaiian or Other Pacific Islander	
7	Mixed race	
96	Some other race	
99	Decline to answer	EXCLUSIVE

BASE: MIXED RACE (Q135/7)

Q136 You answered that you are of mixed race. Which races do you consider yourself? Please select all that apply.

[MULTIPLE RESPONSE]

	1	White
	2	Black/African-American
	3	Asian
	4	American Indian
	5	Alaskan Native
	6	Native Hawaiian or Other Pacific Islander
96		Some other race
99		Decline to answer EXCLUSIVE

BASE: FEMALE (Q120/2) AND 18+ (Q127/2-7)

Q434 What is the highest level of education you have completed or the highest degree you have received?

	1	Less than high school
	2	Completed some high school
	3	Completed high school
	71	Job-specific training program(s) after high school
	72	Some college, but no degree
70		Associate degree
	74	College (such as B.A., B.S.)
	75	Some graduate school, but no degree
	76	Graduate degree (such as MBA, MS, MD, PhD)

BASE: FEMALE (Q120/2) AND 18+ (Q127/2-7)

Q462 Which of the following income categories best describes your total 2014 household income before taxes?

1	Less than $15,000
2	$15,000 to $24,999
3	$25,000 to $34,999
4	$35,000 to $49,999
5	$50,000 to $74,999
6	$75,000 to $99,999
7	$100,000 to $124,999
8	$125,000 to $149,999
9	$150,000 to $199,999
10	$200,000 to $249,999
11	$250,000 or more
94	Decline to answer

BASE: FEMALE (Q120/2) AND 18+ (Q127/2-7)

Q140 Have you ever given birth?

1 Yes
2 No

BASE: HAS EVER GIVEN BIRTH (Q140/1)

Q145 How many times have you given birth?

[RANGE: 1-20]
|_|_| number of times given birth

BASE: FEMALE (Q120/2) AND 18+ (Q127/2-7)

Q147 Are you currently pregnant?

1 Yes
2 No
9 Decline to answer

BASE: CURRENTLY PREGNANT (Q147/1)

Q150 What is your expected due date? Please enter month, date and year.

[PN: RESTRICT DATE TO APPROPRIATE NUMBER OF DAYS PER MONTH (2016 IS A LEAP YEAR) [DO NOT ALLOW DUE DATE TO BE EARLIER THAN 2 WEEKS PRIOR TO DATE TAKING SURVEY.] [ALLOW UP TO 42 WEEKS FROM DATE TAKING SURVEY.]

[RANGE: 1-12]	[RANGE: 1-31]	[RANGE: 2015-2016]
|_|_| month	|_|_| date	|_|_|_|_|year

BASE: CURRENTLY PREGNANT (Q147/1)

Q155 You mentioned that your due date is [INSERT MONTH USING NAME OF MONTH, NOT DIGITS/DATE/YEAR]. If this is not correct, please fix your answer below. Otherwise, go to the next question.

[PN: RESTRICT DATE TO APPROPRIATE NUMBER OF DAYS PER MONTH (2016 IS A LEAP YEAR) [DO NOT ALLOW DUE DATE TO BE EARLIER THAN 2 WEEKS PRIOR TO DATE TAKING SURVEY.] [PROGRAM AS NON-MANDATORY AND ALLOW TO LEAVE BLANK/NO ANSWER.]

[RANGE: 1-12]	[RANGE: 1-31]	[RANGE: 2015-2016]
|_|_| month	|_|_| date	|_|_|_|_|year

BASE: CURRENTLY PREGNANT (Q147/1)

Q157 HIDDEN COMPUTE FOR GESTATIONAL AGE

[PN: COMPUTE GESTATIONAL AGE: DUE DATE (Q150 IF Q155 IS BLANK/NO ANSWER OR Q155 MINUS DATE TAKING SURVEY]
[RANGE: 2-42]
|_|_|
[PN: FLAG IF >42 SO WE CAN CHECK DATA TO SEE IF THIS RESPONDENT IS CLEAN/VALID]

BASE: ALL RESPONDENTS

Q160 PRE-QUALIFICATION STATUS (DOES NOT APPEAR ON SCREEN)

[IF RESIDES IN US (Q115/244) AND FEMALE (Q120/2) AND 18+ (Q127/2-7) AND AT LEAST 20 WEEKS PREGNANT (Q157/20 OR MORE), GET CODE 1. ALL OTHERS, GET CODE 2.]

1	PRE-QUALIFIED	ASK Q163
2	NOT QUALIFIED	JUMP TO Q165

BASE: PRE-QUALIFIED (Q160/1)

Q163 You qualified for this survey about pregnancy. Please read the next few pages carefully for information about the study.

1) Who is conducting this research study?

Principal Investigator: Kimberly D. Gregory, MD MPH
310-423-5420
After hours contact: 1-800-233-2771

This research study, sponsored by The Patient-Centered Outcomes Research Institute (PCORI), is being administered by Nielsen Healthcare, home of the Harris Poll, on behalf of Cedars-Sinai Medical Center.

Click the forward arrow to continue.

BASE: PRE-QUALIFIED (Q160/1)

Q164 **2) What is the purpose of this research study?**

The purpose of this study is to learn about the health care priorities of pregnant women. This two- survey study will ask questions about your preferences and expectations for services and outcomes for childbirth.

The survey results will be used to develop patient reported outcome measures (PRO) that are specific to childbirth. Patient reported outcomes are defined as any report of the status of a patient's health condition that comes directly from the patient, without interpretation of the patient's response by a doctor or anyone else.

Click the forward arrow to continue.

BASE: PRE-QUALIFIED (Q160/1)

Q166 **3) Why am I asked to participate?**

You are being asked to take part in this research study because we want to learn about your preferences and expectations in childbirth.

4) How many people will participate?

About 2700 people will be asked to participate.

5) How long will each survey take?

Each survey will take approximately 20 minutes to complete. Click the

forward arrow to continue.

BASE: PRE-QUALIFIED (Q160/1)

Q168 **6) What study procedures are involved?**

You will be asked to complete two surveys. This one will ask about your pregnancy history, fears or concerns and the way you want your labor and delivery managed. It is possible that some of the items in the survey may make you feel uncomfortable or embarrassed. If you feel uncomfortable or embarrassed answering any question, you may skip it.

After you have delivered your baby you will be contacted, via email, and asked to complete a follow-up survey that will ask if your preferences and expectations in pregnancy and childbirth were met.
The research team at Cedars-Sinai Medical Center will never have access to your name or contact information.

Click the forward arrow to continue.

BASE: PRE-QUALIFIED (Q160/1)

Q169 **7) How can my participation benefit others?**

While no benefit is ever guaranteed, we hope the information learned from this research study will benefit pregnant women in the future by helping us to develop patient reported outcome measures specific to childbirth.

8) Are there any other options?

Your participation is voluntary and you can choose to not participate in this study. You have the right not to participate or to withdraw from this research study at any time without any penalty or loss of benefits to which you would be entitled outside of the study.

Click the forward arrow to continue.

BASE: PRE-QUALIFIED (Q160/1)

Q171 **9) How will my private information be kept confidential?**

Nielsen and Cedars-Sinai Medical Center values and respects your private information. Federal and state laws protect your privacy. Every reasonable effort will be made to keep your records confidential.

We will not be collecting information that can be used to identify you. If information from this study is published, presented at scientific meetings, or used for teaching, it will be presented as a summary.

10) Will I be paid?

In addition to the usual number of panel points that will be credited to your account, you will receive an additional $10 worth of points if you complete both surveys.

Click the forward arrow to continue.

BASE: PRE-QUALIFIED (Q160/1)

Q172 **11) What if I have questions or problems?**

If you have questions regarding your rights, concerns, or complaints about taking part in this study, please contact:

CSMC Institutional Review Board (IRB) Phone:
(310) 423-3783
Email: ResearchConcerns@cshs.org

The CSMC IRB has been established to review, approve, and monitor all human research at CSMC with the purpose of minimizing risks and protecting the rights and welfare of research participants.

Click the forward arrow to continue.

BASE: ALL RESPONDENTS

Q165 SCREENER QUALIFICATION IDENTIFICATION (DOES NOT APPEAR ON SCREEN)

[PN: IF PRE-QUALIFIED (Q160/1), GET CODE 1. ALL OTHERS GET CODE 2.]

1 QUALIFIED
2 NOT QUALIFIED

BASE: ALL QUALIFIED RESPONDENTS (Q165/1)

Q167 QUOTA SET AGE – BEHIND THE SCENES

			TARGETS
1	18-24	**(SOFT QUOTA=999)**	**(287)**
2	25-29	**(SOFT QUOTA=999)**	**(308)**
2	30-34	**(SOFT QUOTA=999)**	**(411)**
4	35-39	**(SOFT QUOTA=999)**	**(162)**
5	40+	**(SOFT QUOTA=999)**	**(32)**

BASE: ALL QUALIFIED RESPONDENTS (Q165/1)

Q170 QUOTA SET RACE/ETHNICITY – BEHIND THE SCENES

1	Black (Not Hispanic)	**(SOFT QUOTA=999)**	**(240)**
2	Hispanic	**(SOFT QUOTA=999)**	**(206)**
3	All Other (Not Hispanic)	**(SOFT QUOTA=999)**	**(755)**

BASE: ALL QUALIFIED RESPONDENTS (Q165/1)

Q175 QUOTA SET EDUCATION – BEHIND THE SCENES

1	HS Graduate or less	**(SOFT QUOTA=999)**	**(437)**
2	Some college	**(SOFT QUOTA=999)**	**(290)**
3	Associate's degree	**(SOFT QUOTA=999)**	**(64)**
4	College 4 years	**(SOFT QUOTA=999)**	**(252)**
5	Post graduate	**(SOFT QUOTA=999)**	**(157)**

BASE: ALL QUALIFIED RESPONDENTS (Q165/1)

Q180 QUOTA SET INCOME – BEHIND THE SCENES

1	Less than $15,000	**(SOFT QUOTA=999)**	**(185)**
2	$15,000 to $24,999	**(SOFT QUOTA=999)**	**(137)**
3	$25,000 to $34,999	**(SOFT QUOTA=999)**	**(148)**
4	$35,000 to $49,999	**(SOFT QUOTA=999)**	**(136)**
5	$50,000 to $74,999	**(SOFT QUOTA=999)**	**(190)**
6	$75,000 to $99,999	**(SOFT QUOTA=999)**	**(159)**
7	$100,000 or more	**(SOFT QUOTA=999)**	**(118)**
9	Decline to answer	**(SOFT QUOTA=999)**	**(127)**

TOTAL COMPLETES = 1200

SECTION 300: PREGNANCY HISTORY

[PN: PROGRAM THIS SECTION AS NON-MANDATORY. DO NOT DISPLAY "BLANK/NO ANSWER" CODE ON SCREEN.]

BASE: ALL QUALIFIED RESPONDENTS

Q303 Before we ask about your childbirth preferences, we need to know something about your physical health, and your past and current pregnancy history.

Click the forward arrow to continue.

BASE: ALL QUALIFIED RESPONDENTS

Q305 Including your current pregnancy, how many times have you been pregnant? (This includes pregnancies ending in a miscarriage, abortion, ectopic pregnancy, stillbirth and live birth.)

[PROGRAM AS MANDATORY]
[Q305 RESPONSE CANNOT BE LESS THAN Q145.]

[RANGE: 1-20]
|_|_| number of pregnancies

BASE: HAS GIVEN BIRTH AT LEAST ONCE (Q145/1 OR MORE)

Q310 How many pregnancies ended in a cesarean birth?

[PROGRAM AS MANDATORY]

[RANGE: 0-Q145 RESPONSE]
|_|_|

BASE: ALL QUALIFIED RESPONDENTS

Q315 Are you pregnant now with more than one baby?

[PROGRAM AS MANDATORY]

1 Yes
2 No

BASE: ALL QUALIFIED RESPONDENTS

Q319 Aside from the [IF PREGNANT WITH ONE BABY (Q315/2), DISPLAY: child IF PREGNANT WITH MORE THAN ONE BABY (Q315/1), DISPLAY: children] you are currently carrying, how many more children do you want to have?

[RANGE: 0-20]
|_|_|

98 Not sure
999 Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q325 For your current pregnancy, did you receive special medical help (infertility treatment) from a doctor or clinic to be able to become pregnant?

1 Yes
2 No
999 Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q330 Thinking back to when you first knew you were pregnant, would you say that you wanted to be pregnant...?

1 Sooner
2 Later
3 At that time
4 Not at all
98 Don't know
999 Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q335 How far along were you when you had your first prenatal care visit?

1 First trimester (<14 weeks)
2 Second trimester (14-26 weeks)
3 Third trimester (27+ weeks)
4 I have not had a prenatal care visit with a doctor or midwife
999 Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q340 As best as you can remember, what was your weight just before you became pregnant? If you are unsure, your best estimate will do.

[RANGE: 60-500]
|_|_|_| pounds
999 Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q343 [IF RESPONSE GIVEN AT Q340, DISPLAY: You mentioned that you weighed [INSERT Q340 RESPONSE] pounds just before you became pregnant. If this is not correct, please fix your answer below. Otherwise go to the next question.]

[IF Q340 BLANK (Q340/999) DISPLAY: You did not respond to the previous question, "As best as you can remember, what was your weight just before you became pregnant?" If you intentionally left this question blank and do not want to answer, please select 'I choose not to respond to this question' below. If you did not mean to leave this question blank, please enter your response below.]

[PROGRAM AS NON-MANDATORY AND ALLOW TO LEAVE BLANK/NO ANSWER.] [RANGE:

60-500]
|_|_|_| pounds
998 I choose not to respond to this question [SHOW ONLY IF Q340 IS BLANK]
999 Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q344 HIDDEN COMPUTE TO CONVERT POUNDS TO KILOGRAMS

[PN: USE Q343 IF Q340 IS BLANK/NO ANSWER; IF Q340 AND Q343 ARE BOTH EITHER BLANK OR 'I CHOOSE NOT TO RESPOND' THEN CODE Q344 AS BLANK/NO ANSWER]

[RANGE: X-X]
|_|_|_|
999 Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q345 How tall are you without shoes on? If you are unsure, your best estimate will do.

[RANGE: 4-7] [RANGE: 0-11]
|__| feet |_|_| inches 999
Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q347 [IF RESPONSE GIVEN AT Q345 DISPLAY: You mentioned that you are [INSERT Q345 FEET]' [INSERT Q345 INCHES]'' tall. If this is not correct, please fix your answer below. Otherwise go to the next question.]

[IF Q345 BLANK (Q345/999) DISPLAY: You did not respond to the previous question ("How tall are you without shoes on?"). If you intentionally left this question blank and do not want to answer, please select 'I choose not to respond to this question' below. If you did not mean to leave this question blank, please enter your response below.]

[PROGRAM AS NON-MANDATORY AND ALLOW TO LEAVE BLANK/NO ANSWER.]

[RANGE: 4-7]	[RANGE: 0-11]
|__| feet	|_|_| inches 999
	Blank/No answer
998	I choose not to respond to this question [SHOW ONLY IF Q340 IS BLANK]

BASE: ALL QUALIFIED RESPONDENTS

Q348 HIDDEN COMPUTE TO CONVERT FEET/INCHES TO METERS

[PN: USE Q347 IF Q345 IS BLANK/NO ANSWER; IF Q345 AND Q347 ARE BOTH EITHER BLANK OR 'I CHOOSE NOT TO RESPOND' THEN CODE Q348 AS BLANK/NO ANSWER]

[RANGE: X-X.XX]

|_|.|_|_|

999 Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q350 HIDDEN COMPUTE FOR BMI

[WEIGHT IN KILOGRAMS DIVIDED BY THE SQUARE OF THE HEIGHT IN METRES (KG/M^2)]

[PN: IF EITHER Q344 OR Q348 IS BLANK/NO ANSWER, THEN THIS CALCULATION CANNOT BE MADE AND Q350 SHOULD BE BLANK/NO ANSWER]

[RANGE: xx-xx]

|_|_|.|_|_|

999 Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q355 HIDDEN BMI RANGES (BASED ON WORLD HEALTH ORGANIZATION FORMULA IN KG/METERS)

1	Underweight (<18.5)
2	Normal (18.50 - 24.9)
3	Overweight (≥25.0)
4	Obese (≥30.0)
999	Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q360 During your current pregnancy, how would you rate your…?

1 Poor
2 Fair
3 Good
4 Very good
5 Excellent
999 Blank/No answer

[ROTATE]

1 Overall health
2 Mental and emotional health

BASE: ALL QUALIFIED RESPONDENTS

Q365 In the year before you got pregnant, did you have any medical conditions or health problems that required you to take medication for more than 2 weeks, have special care or extra tests? (This includes health problems such as asthma, heart disease, diabetes, or cancer, and disabilities such as deafness or cerebral palsy.)

1 Yes
2 No
999 Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q370 During your current pregnancy, did you (not your baby) develop any new medical conditions or health problems that required you to take medication for more than 2 weeks, have special care, or extra tests? (This includes health problems such as high blood pressure or diabetes related to the pregnancy, and any new health problems that were discovered during pregnancy.)

1 Yes
2 No
999 Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q375 During your current pregnancy have you ever been told by a health care provider (doctor or midwife) that you were "high risk"?

1 Yes
2 No
999 Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q380 Have you ever been told by a health care provider (doctor or midwife) that the [IF PREGNANT WITH ONE BABY (Q315/2), DISPLAY: baby IF PREGNANT WITH MORE THAN ONE BABY (Q315/1), DISPLAY: babies] you are carrying now may have a health problem?

1 Yes
2 No
999 Blank/No answer

SECTION 400: EMOTIONAL SUPPORT AND PREFERENCES

[PN: PROGRAM THIS SECTION AS NON-MANDATORY. DO NOT DISPLAY "BLANK/NO ANSWER" CODE ON SCREEN.]

BASE: ALL QUALIFIED RESPONDENTS

Q403 The next series of questions ask about emotional support, childbirth preferences, experience with abuse and discrimination you may have had.

Click the forward arrow to continue.

BASE: ALL QUALIFIED RESPONDENTS

Q405 Do you currently have …?

[PROGRAM AS MANDATORY]

	1	A spouse
	2	A partner
	3	A support person, other than your spouse or partner
7		None of the above EXCLUSIVE

BASE: ALL QUALIFIED RESPONDENTS

Q410 In your day-to-day life, are there family or friends who would give you immediate help if you needed it? (This includes financial help, transportation, child care, etc.)

	1	Yes
	2	No
98		Not sure
999		Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q415 How much do you agree or disagree with the following statements?

1 Strongly disagree
2 Somewhat disagree
3 Neither agree nor disagree
4 Somewhat agree
5 Strongly agree
999 Blank/No answer

[RANDOMIZE]

1 I feel well-supported by my spouse/partner/other support person during this pregnancy [DISPLAY IF HAS SPOUSE/PARTNER/another support person (Q405/1,2,3)]
2 I will be completing/have completed a birth plan (a written document of what I want to happen during my birth)
3 I feel confident that I am able to protect my own interests during pregnancy and childbirth
4 I can figure out how and where to get the information I need regarding the services and options available to me during childbirth
5 I have negative memories from a previous labor/birth process [DISPLAY IF HAD PREVIOUS BIRTHS (Q140/1)]
6 I want to be in charge of the planning of my care during childbirth.

BASE: ALL QUALIFIED RESPONDENTS

Q420 Thinking about the amount of stress in your life during the past year, would you say that most days were…?

1 Not stressful
2 Minimally stressful
3 Somewhat stressful
4 Moderately stressful
5 Very stressful
999 Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q425 In your life, have you ever experienced anybody…?

1 No
2 Yes

[RANDOMIZE]

1 Trying to repress, degrade or humiliate you over a long period of time
2 Threatening to hurt you or someone close to you
3 Trying to physically abuse you
4 Trying to force you into sexual actions

BASE: ALL QUALIFIED RESPONDENTS

Q430 Overall, during your lifetime, how much have you personally experienced discrimination because of …?

1 Not at all
2 A little bit
3 Somewhat
4 Quite a bit
5 Very much
999 Blank/No answer

[RANDOMIZE]

1 Your race/ethnicity
2 Your cultural background or language
3 Your sexual/gender orientation
4 A physical disability
5 Your finances
6 Your health insurance

BASE: ALL QUALIFIED RESPONDENTS

Q435 How important is it that…?

1 Not at all important
2 Slightly important
3 Moderately important
4 Very important
5 Extremely important
999 Blank/No answer

[RANDOMIZE]

1 During childbirth, your health care providers (doctor, midwife or nurse) consider and respect your spiritual, religious and cultural beliefs or practices
2 A doctor who is female or midwife is available for your labor and/or delivery

BASE: ALL QUALIFIED RESPONDENTS

Q440 How confident are you filling out medical/health paperwork by yourself?

1 Not at all confident
2 Not very confident
3 Somewhat confident
4 Very confident
5 Extremely confident
999 Blank/No answer

SECTION 500: PLANS FOR TYPE OF DELIVERY AND LOCATION

[PN: PROGRAM THIS SECTION AS NON-MANDATORY. DO NOT DISPLAY "BLANK/NO ANSWER" CODE ON SCREEN.]

BASE: ALL QUALIFIED RESPONDENTS

Q503 The next series of questions ask about your plans for delivering your [IF PREGNANT WITH ONE BABY (Q315/2), DISPLAY: baby IF PREGNANT WITH MORE THAN ONE BABY (Q315/1), DISPLAY: babies].

Click the forward arrow to continue.

BASE: ALL QUALIFIED RESPONDENTS

Q505 Do you feel pressure from any of the following people to have a cesarean?

1 Yes
2 No
98 Don't know
999 Blank/No answer

[RANDOMIZE]

1 Health care providers
2 Family members
3 Friends

BASE: ALL QUALIFIED RESPONDENTS

Q510 How do you expect to give birth?

[PROGRAM AS MANDATORY]

1 I am expecting a vaginal delivery
2 I am planning a cesarean delivery
4 I do not have plans
3 I have no preference
98 I'm not sure

BASE: EXPECTING VAGINAL DELIVERY (Q510/1)

Q515 From the list below, please select up to two of the most important reasons you want a vaginal delivery.

[ALLOW UP TO 2 RESPONSES.]
[RANDOMIZE]

1		I believe vaginal birth is natural or normal
	3	I believe vaginal delivery is safer for the [IF PREGNANT WITH ONE BABY (Q315/2), DISPLAY: baby IF PREGNANT WITH MORE THAN ONE BABY (Q315/1), DISPLAY: babies].
	4	I believe vaginal delivery is safer for me
	5	I know what to expect with a vaginal delivery
	6	Vaginal delivery has been recommended by others (friend/relative)
	7	I want to avoid surgery (cesarean)
	8	I am planning for more children after this pregnancy
	9	I believe there is an easier recovery with vaginal delivery
	10	I believe vaginal delivery is more empowering than cesarean delivery
	11	I believe women who deliver their [IF PREGNANT WITH ONE BABY (Q315/2), DISPLAY: baby IF PREGNANT WITH MORE THAN ONE BABY (Q315/1), DISPLAY: babies] by caesarean delivery miss an important life experience
	12	Vaginal delivery is less expensive for me
98		Not sure EXCLUSIVE, ANCHOR
999		Blank/No answer

BASE: PLANNING CESAREAN AND HAD PRIOR CESAREAN (Q510/2 AND Q310/1 OR MORE)

Q520 For this pregnancy, were you given the option of a vaginal birth?

1	Yes
2	No
98	Don't know
999	Blank/No answer

BASE: PLANNING CESAREAN (Q510/2)

Q525 Why are you planning to have a cesarean? Please select all that apply.

[PN: PROGRAM AS MANDATORY]

[MULTIPLE RESPONSE]
[RANDOMIZE]

	1	I need a repeat cesarean delivery [DISPLAY IF HAD PRIOR CESAREAN (Q310/1 OR MORE)]
	2	I have a health problem
	3	There is a health problem with my [IF PREGNANT WITH ONE BABY (Q315/2), DISPLAY: baby IF PREGNANT WITH MORE THAN ONE BABY (Q315/1), DISPLAY: babies] or with my pregnancy
	4	I want to attempt a vaginal birth after cesarean (VBAC) but it is not available to me [DISPLAY IF HAD PRIOR CESAREAN (Q310/1 OR MORE)]
6		Other ANCHOR

BASE: [PLANNING CESAREAN AND NO PRIOR CESAREAN (Q510/2 AND Q310/0)] OR [PLANNING A CESAREAN AND HAD PRIOR CESAREAN AND OTHER REASON PLANNING CESAREAN (Q510/2 AND Q310/1 OR MORE AND Q525/6)

Q530 From the list below, please select up to two of the most important reasons you are planning a cesarean delivery for this birth.

[ALLOW UP TO 2 RESPONSES.]
[RANDOMIZE]

1	I believe it is a woman's right to choose a cesarean delivery for herself, even if there are no medical reasons to have it	
2	I know what to expect with a cesarean delivery	
3	I am afraid of the pain of vaginal delivery	
4	I fear a prolonged labor	
5	I had a previous negative childbirth experience [DISPLAY IF HAS GIVEN BIRTH PREVIOUSLY (Q305/2 OR MORE)]	
6	I want the convenience or timing of this delivery	
7	I believe that a woman recovers faster after a cesarean delivery than after vaginal delivery	
8	I believe that a cesarean delivery prevents bladder problems (such as urinary frequency, urgency or loss of urine) in the future	
9	I believe that cesarean delivery is safer for the [IF PREGNANT WITH ONE BABY (Q315/2), DISPLAY: baby IF PREGNANT WITH MORE THAN ONE BABY (Q315/1), DISPLAY: babies] compared with vaginal delivery	
10	I believe cesarean delivery is safer for me compared to vaginal delivery	
11	I have a history of infertility	
12	It has been recommended by others (friend/relative)	
96	Other	ANCHOR
999	Blank/No answer	

BASE: DOESN'T HAVE PREFERENCE OR NOT SURE HOW WILL DELIVER (Q510/3,98)

Q535 You mentioned that you don't have a preference or are not sure as to how you will deliver your [IF PREGNANT WITH ONE BABY (Q315/2), DISPLAY: baby IF PREGNANT WITH MORE THAN ONE BABY (Q315/1), DISPLAY: babies]. What is the main reason you don't know yet whether you will have a cesarean or vaginal birth?

[RANDOMIZE]

1	I have a health or pregnancy condition that may require me to have a cesarean	
2	I am concerned about delivering a big baby [DISPLAY IF PREGNANT WITH ONE BABY (Q315/2)]	
3	I am getting mixed advice from friends and family	
4	I am deciding which will result in an easier recovery for me	
5	I need more information before I decide	
6	Other	ANCHOR
999	Blank/No answer	

BASE: ALL QUALIFIED RESPONDENTS

Q540 Where do you expect to deliver your [IF PREGNANT WITH ONE BABY (Q315/2), DISPLAY: baby IF PREGNANT WITH MORE THAN ONE BABY (Q315/1), DISPLAY: babies]?

[PROGRAM AS MANDATORY]

1 Hospital
2 Birth center within a hospital (where the midwives and doctors from the hospital deliver babies)
3 Freestanding birth center (not affiliated with/attached to a hospital)
4 At home [DO NOT DISPLAY IF CESAREAN (Q510/2)
98 Not sure
999 Decline to answer

BASE: PLANS TO GIVE BIRTH IN HOSPITAL, BIRTH CENTER, NS OR DTA (Q540/1,2,3,98,999)

Q542 Which type of health insurance coverage do you have for your childbirth?

[PROGRAM AS MANDATORY]

1 Private insurance
2 Public insurance (e.g., Medicaid/Medi-Cal)
6 Other
3 I don't have health insurance/My health insurance does not cover childbirth
999 Decline to answer

BASE: PLANS TO GIVE BIRTH AT HOME (Q540/4)

Q544 Does your health insurance pay for your home birth?

1 Yes, completely
2 Yes, partially
3 No, I have to pay the total amount
4 I don't have health insurance
98 Don't know
999 Blank/No answer

BASE: PLANS TO GIVE BIRTH IN HOSPITAL OR BIRTH CENTER (Q540/1,2,3) AND HAS HEALTH INSURANCE (Q542/1,2)

Q546 At this time, do you know at which specific hospital or birth center you will deliver your baby?

[PROGRAM AS MANDATORY]

1 Yes
2 No
999 Decline to answer

BASE: PLANS TO DELIVER IN HOSPITAL OR BIRTH CENTER (Q540/1,2,3) AND HAS HEALTH INSURANCE (Q542/1,2) AND KNOWS SPECIFICALLY WHERE WILL DELIVER (Q546/1)

Q555 Why will you deliver at this [IF HOSPITAL (Q540/1), DISPLAY: hospital IF BIRTH CENTER (Q540/2,3), DISPLAY: birth center]? Please select all that apply.

[MULTIPLE RESPONSE]
[RANDOMIZE KEEPING 2 & 3 TOGETHER AND 5 & 10 TOGETHER AND 11-13 TOGETHER.]

1 It is near my home
2 It is the best place for my medical needs
3 It is the best place for my [IF PREGNANT WITH ONE BABY (Q315/2), DISPLAY: baby's IF PREGNANT WITH MORE THAN ONE BABY (Q315/1), DISPLAY: babies' medical needs
4 My prenatal care doctor/midwife delivers there
5 It was recommended to me by family or friends
6 It is a better facility with better quality of care
7 It will be the least expensive choice
8 It is within my health insurance network
9 It is the only place my doctor/midwife delivers
10 It was recommended to me by my doctor
11 It is the only location covered by my insurance
12 It is the only location that is near my home
13 It is the only location I can afford
96 Other
999 Blank/No answer

BASE: PLANS TO DELIVER IN HOSPITAL OR BIRTH CENTER (Q540/1,2,3) AND HAS HEALTH HAS HEALTH INSURANCE (Q542/1,2) AND DOES NOT KNOW SPECIFIC HOSPITAL/BIRTH CENTER WHERE WILL DELIVER/DTA (Q546/2,999)

Q557 You mentioned that you do you know where you will deliver your [IF PREGNANT WITH ONE BABY (Q315/2), DISPLAY: baby IF PREGNANT WITH MORE THAN ONE BABY (Q315/1), DISPLAY: babies]? Which of the following explain why you don't know where you will deliver? Please select all that apply. [MULTIPLE

RESPONSE]

1 I have at least 2 locations I am considering, but have not made up my mind
2 I may need to go to a special hospital because of pregnancy complications
3 My insurance has not determined which location I will use
6 Other

BASE: PLANS TO DELIVER IN HOSPITAL OR BIRTH CENTER (Q540/1,2,3)

Q560 Will you need to travel more than 30 minutes (including traffic) to give birth?

1 Yes
2 No
98 Don't know
999 Blank/No answer

BASE: PLANS TO DELIVER AT HOME (Q540/4)

Q565 From the list below, please select up to two of the most important reasons you are planning to have your [IF PREGNANT WITH ONE BABY (Q315/2), DISPLAY: baby IF PREGNANT WITH MORE THAN ONE BABY (Q315/1), DISPLAY: babies] at home.

[ALLOW UP TO 2 RESPONSES.] [RANDOMIZE KEEPING 5 & 6 TOGETHER]

1	I will be more in control	
2	My spouse/partner/other support person will be able to be more involved [DISPLAY IF HAS SPOUSE/PARTNER (Q405/1,2,3)]	
3	I will have fewer interventions	
4	There will be less stress for my [IF PREGNANT WITH ONE BABY (Q315/2), DISPLAY: baby IF PREGNANT WITH MORE THAN ONE BABY (Q315/1), DISPLAY: babies]?	
5	It is safer for me	
6	It is safer for my [IF PREGNANT WITH ONE BABY (Q315/2), DISPLAY: baby IF PREGNANT WITH MORE THAN ONE BABY (Q315/1), DISPLAY: babies]?	
7	It will be more private	
8	It will be less costly	
9	My cultural or religious beliefs will be respected	
10	My labor and birth will be more peaceful	
11	I will know my doctor or midwife	
96	Other	ANCHOR
999	Blank/No answer	

BASE: ALL QUALIFIED RESPONDENTS

Q570 Who do you want to deliver your [IF PREGNANT WITH ONE BABY (Q315/2), DISPLAY: baby IF PREGNANT WITH MORE THAN ONE BABY (Q315/1), DISPLAY: babies]?

[RANDOMIZE LIST KEEPING 1, 2 & 3 TOGETHER AND 4 & 5 TOGETHER. ROTATE 1 & 2.]

1	Obstetrician (OB doctor)	
2	Family doctor	
3	Midwife [DO NOT DISPLAY IF CESAREAN (Q510/2)	
4	Spouse [DISPLAY IF HAS SPOUSE (Q405/1)] [DO NOT DISPLAY IF CESAREAN (Q510/2)	
5	Partner [DISPLAY IF HAS PARTNER (Q405/2)][DO NOT DISPLAY IF CESAREAN (Q510/2)	
6	Other	ANCHOR
98	Not sure	ANCHOR
999	Blank/No answer	

BASE: ALL QUALIFIED RESPONDENTS

Q575 How important is it that you know the following people before your delivery?

1 Not at all important
2 Slightly important
3 Moderately important
4 Very important
5 Extremely important
6 I don't expect to have this type of provider 999
Blank/No answer

[RANDOMIZE]

1 Doctor
2 Midwife
3 Pediatrician

SECTION 600: LABOR AND DELIVERY SUPPORT

[PN: PROGRAM THIS SECTION AS NON-MANDATORY. DO NOT DISPLAY "BLANK/NO ANSWER" CODE ON SCREEN.]

BASE: ALL QUALIFIED RESPONDENTS

Q603 The next few questions ask about the type of support you want during your labor and/or delivery.
Click the forward arrow to continue.

BASE: ALL QUALIFIED RESPONDENTS

Q605 Are you planning to have your spouse/partner or a friend/family member with you during labor and/or delivery?
[PROGRAM AS MANDATORY]

1 Yes
2 No
98 Not sure
999 Decline to answer

BASE: ALL QUALIFIED RESPONDENTS

Q610 [IF EXPECTING VAGINAL BIRTH/NO PREFERENCE/PLANS (Q510/1,3, 4, 98), DISPLAY: How important is it that the following people are in the room and able to help you with the labor and birth?]

[IF PLANNING CESAREAN BIRTH (Q510/2), DISPLAY: How important is it that the following people are present during your cesarean delivery?]

1 Not at all important
2 Slightly important
3 Moderately important
4 Very important
5 Extremely important
6 Does not apply to me
999 Blank/No answer

[RANDOMIZE KEEPING 1, 2, & 5 TOGETHER WITH 5 ANCHORED UNDER 1 & 2]

1 Spouse/Partner/Other support person [DISPLAY IF HAS SPOUSE/PARTNER/OTHER SUPPORT PERSON (Q405/1,2,3)]
2 Your other children
3 Friends
4 Doula (non-medical person you have hired to help you with labor and/or birth)
5 Other family members

BASE: PLANS TO DELIVER IN HOSPITAL OR BIRTH CENTER (Q540/1,2,3) AND HAS A SUPPORT PERSON (Q405/1,2,3) AND PLANNING TO HAVE SUPPORT PERSON OR NOT SURE/DECLINE TO ANSWER (Q605/1,98, 999)

Q615 How important is it that, [IF EXPECTING VAGINAL BIRTH/NO PREFERENCE/PLANS (Q510/1,3, 4, 98), DISPLAY: during labor and delivery IF CESAREAN BIRTH (Q510/2), DISPLAY: prior to your cesarean surgery], the staff give your chosen support person adequate space, food, and room to rest?

1 Not at all important
2 Slightly important
3 Moderately important
4 Very important
5 Extremely important
999 Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q620 How important is it that the following health care providers give you reassurance or comfort [IF VAGINAL BIRTH/NO PREFERENCE/NO PLANS (Q510/1,3,4,98), DISPLAY: during labor and/or delivery IF CESAREAN BIRTH (Q510/2), DISPLAY: before or during your cesarean delivery]?

1 Not at all important
2 Slightly important
3 Moderately important
4 Very important
5 Extremely important
6 I do not expect this type of health care provider at my delivery
999 Blank/No answer

[RANDOMIZE]

1 Doctor
2 Nurse
3 Midwife [DO NOT DISPLAY IF CESAREAN DELIVERY (Q510/2)]

BASE: ALL QUALIFIED RESPONDENTS

Q622 The next series of questions ask about your preferences during labor and/or delivery. Click the forward arrow to continue.

BASE: EXPECTING VAGINAL DELIVERY, DOESN'T HAVE PREFERENCE, NO PLANS OR NOT SURE HOW WILL DELIVER (Q510/1,3,4,98)

Q625 During labor, how important is it that you are able to ...?

1 Not at all important
2 Slightly important
3 Moderately important
4 Very important
5 Extremely important
999 Blank/No answer

[RANDOMIZE]

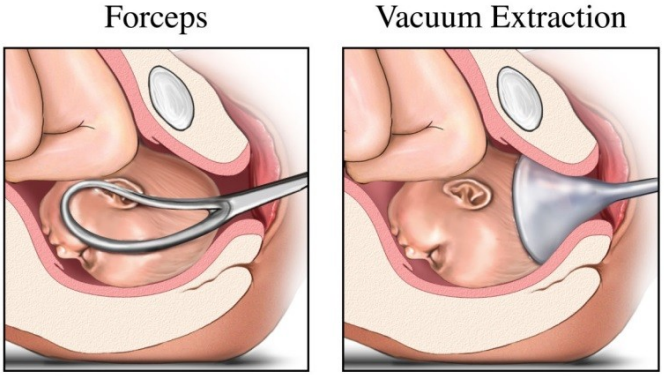
1 Walk around
2 Use massage techniques
3 Have showers
4 Have a private labor room [DISPLAY IF HOSPITAL OR BIRTH CENTER (Q540/1,2,3)]
5 Eat and/or drink
6 Have the choice of who is in the room when procedures are being done or you are examined [DISPLAY IF HOSPITAL OR BIRTH CENTER (Q540/1,2,3)]
7 Have your health care providers (doctor, midwife, or nurse) assist you with positions or methods to help your labor and delivery

[PN: INSERT IMAGES BELOW AT Q630 USING "ROLLOVERS".]

Q630/2 (IV)

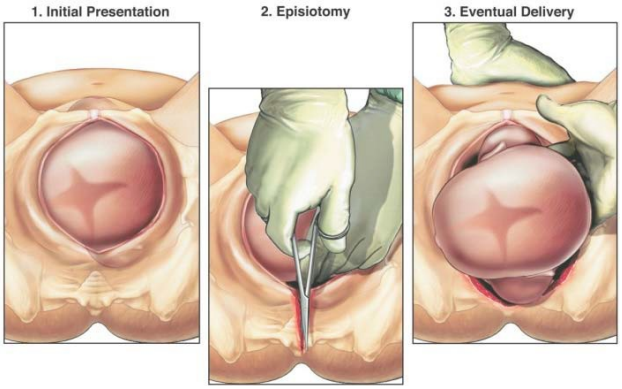
Q630/3 (Pitocin)

Q630/5 (vacuum/forceps)



Q630/6 (fetal monitoring)

Q640/7 (episiotomy)



BASE: EXPECTING VAGINAL DELIVERY, DOESN'T HAVE A PREFERENCE, NO PLANS, OR NOT SURE HOW WILL DELIVER Q510/1,3,4, 98)

Q630 How important is it that you avoid …?

1 Not at all important
2 Slightly important
3 Moderately important
4 Very important
5 Extremely important
999 Blank/No answer

[RANDOMIZE]

1 Having the doctor start your labor (induction)
2 Getting an intravenous line (IV) [CREATE ROLLOVER AT "INTRAVENOUS LINE"]
3 Getting medicine (Pitocin) through an IV to make your contractions stronger
4 Having a cesarean delivery [CREATE ROLLOVER AT "PITOCIN"]
5 Using instruments to help deliver your [IF PREGNANT WITH ONE BABY (Q315/2), DISPLAY: baby IF PREGNANT WITH MORE THAN ONE BABY (Q315/1), DISPLAY: babies] (forceps or vacuum delivery) [CREATE ROLLOVER AT "FORCEPS OR VACUUM"]
6 Having continuous fetal monitoring throughout your entire labor (use of an electronic device strapped around your abdomen) [CREATE ROLLOVER AT "CONTINUOUS FETALMONITORING"]
7 Getting an episiotomy (vaginal cut) [CREATE ROLLOVER AT "EPISIOTOMY"]

BASE: PLANNING CESAREAN (Q510/2)

Q635 How important is it that you are able to have ...?

1 Not at all important
2 Slightly important
3 Moderately important
4 Very important
5 Extremely important
999 Blank/No answer

[ROTATE]

1 Your own private room prior to surgery
2 A choice of who is in the room when procedures are being done or you are examined

BASE: EXPECTING VAGINAL DELIVERY OR PLANNING CESAREAN (Q510/1,2)

Q640 How well do you think you will be able to cope with [IF VAGINAL BIRTH (Q510/1), DISPLAY: your labor pain IF CESAREAN BIRTH (Q510/2), DISPLAY: the experience of surgery for your planned cesarean]?

1 Not at all well
2 Not very well
3 Moderately well
4 Very well
5 Extremely well
999 Blank/No answer

BASE: DOESN'T HAVE PREFERENCE, NO PLANS, NOT SURE HOW WILL DELIVER (Q510/3,4,98)

Q643 How well do you think you will be able to cope with …? '

1 Not at all well
2 Not very well
3 Moderately well
4 Very well
5 Extremely well
8 Not sure
999 Blank/No answer

1 Labor pain
2 The experience of surgery if you have a cesarean

BASE: HAS GIVEN BIRTH AT LEAST ONCE (Q145/1 OR MORE)

Q645 Did you have labor (painful contractions) with any of your previous deliveries?

1 Yes
2 No
3 Does not apply to me
999 Blank/No answer

BASE: EXPECTING VAGINAL DELIVERY, NO PLANS OR DOESN'T HAVE PREFERENCE OR NOT SURE HOW WILL DELIVER (Q510/1,3,4,98)

Q650 Which of the following would you consider using to help you with labor pain? Please select all that apply.

[MULTIPLE RESPONSE]

1 Massage
2 Walking
3 Breathing techniques such as Lamaze or Bradley method
4 Shower or tub
5 Mental strategies (such as relaxation, visualization or hypnosis)
6 Narcotics (such as Demerol or Stadol, medication by intravenous drip, spray in nose, or a shot) [DO NOT DISPLAY IF HOME BIRTH (Q540/4)]
7 Epidural (medication delivered into back/spinal column) [DO NOT DISPLAY IF BIRTH CENTER OR HOME BIRTH (Q540/2,3,4)]
8 Nitrous oxide gas (gas breathed through a mask or mouthpiece while remaining conscious)
9 TENS unit – machine that uses electronic pulses to relieve pain
10 Acupuncture/acupressure
97 None of these ANCHOR
999 Blank/No answer

BASE: EXPECTING VAGINAL DELIVERY, NO PLANS OR DOESN'T HAVE PREFERENCE OR NOT SURE HOW WILL DELIVER (Q510/1,3,4,98)

Q655 How important is it that you are able to labor and/or deliver using a…?

1 Not at all important
2 Slightly important
3 Moderately important
4 Very important
5 Extremely important
999 Blank/No answer

[RANDOMIZE]

1 Tub
2 Birth ball
3 Birth stool

BASE: EXPECTING VAGINAL DELIVERY, NO PLANS, DOESN'T HAVE PREFERENCE OR NOT SURE HOW WILL DELIVER (Q510/1,3,4,98)

Q660 How important is it that you are involved in decisions about what you get for labor pain?

1 Not at all important
2 Slightly important
3 Moderately important
4 Very important
5 Extremely important
999 Blank/No answer

BASE: EXPECTING VAGINAL DELIVERY, NO PLANS, DOESN'T HAVE PREFERENCE OR NOT SURE HOW WILL DELIVER (Q510/1,3,4,98)

Q665 What is your preference for a delivery position?

1 Lying on my back
2 Standing up
3 Lying on my side
4 Squatting
5 On all fours
6 I will decide at the time
7 I haven't thought about it yet
999 Blank/No answer

BASE: EXPECTING VAGINAL DELIVERY, NO PLANS, DOESN'T HAVE PREFERENCE OR NOT SURE HOW WILL DELIVER (Q510/1,3,4,98)

Q670 How important is it that you get your choice of delivery position?

1 Not at all important
2 Slightly important
3 Moderately important
4 Very important
5 Extremely important
6 I have no preference at this time
7 I didn't know I had a choice of position
999 Blank/No answer

BASE: PLANNING CESAREAN OR DOESN'T HAVE PREFERENCE OR NOT SURE HOW WILL DELIVER (Q510/2,3,4, 8)

Q675 [IF PLANS TO HAVE CESAREAN (Q510/2), DISPLAY: How important is it that you participate in decisions about the type of anesthesia (pain management) during surgery?]

[IF DOESN'T HAVE PREFERENCE,NO PLANS OR NOT SURE HOW WILL DELIVER (Q510/3,4,8), DISPLAY: If you end up needing to have a cesarean, how important is it that you participate in decisions about the type of anesthesia (pain management) you receive?]

1 Not at all important
2 Slightly important
3 Moderately important
4 Very important
5 Extremely important
999 Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q680 How much do you agree or disagree with the following statements?

1 Strongly disagree
2 Somewhat disagree
3 Neither agree nor disagree
4 Somewhat agree
5 Strongly agree
999 Blank/No answer

1 I am worried about pain in labor [DISPLAY IF VAGINAL DELIVERY OR DOESN'T HAVE A PREFERENCE, NO PLANS OR NOT SURE HOW WILL DELIVER (Q510/1,3,4,8)]
2 I am worried about pain during and/or after cesarean birth [DISPLAY IF CESAREAN, NO PLANS OR DOESN'T HAVE A PREFERENCE OR NOT SURE HOW WILL DELIVER (Q510/2,3,4,8)]
3 I worry about giving birth

BASE: ALL QUALIFIED RESPONDENTS

Q685 Will you need an interpreter to help you communicate in your language during your delivery?

1 Yes
2 No
98 Not sure
999 Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q690 How much do you agree or disagree with the following statements?

1 Strongly disagree
2 Somewhat disagree
3 Neither agree nor disagree
4 Somewhat agree
5 Strongly agree
999 Blank/No answer

1 Giving birth is being in a very helpless condition
2 Giving birth is a very powerful experience
3 I feel it is better <U>not</U> to know in advance about the processes of giving birth
4 It is my job as a mother to make sure my [IF PREGNANT WITH ONE BABY (Q315/2), DISPLAY: baby is IF PREGNANT WITH MORE THAN ONE BABY (Q315/1), DISPLAY: babies are] born healthy
5 I plan to leave all choices regarding my birth to my midwife and/or doctor
6 I will talk with my partner, family or doula (non-medical person you have hired to help you with labor and/or birth)) before I make any decisions
7 I will refuse treatment I do not think is necessary
8 I believe I will be in control during my [DISPLAY IF VAGINAL DELIVERY OR DOESN'T HAVE A PREFERENCE OR NOT SURE HOW WILL DELIVER (Q510/1,3,8): labor and] delivery
9 I expect my childbirth experience to go smoothly
10 Childbirth is a safe experience for the mother

SECTION 700: POST BIRTH AND FEEDING

[PN: PROGRAM THIS SECTION AS NON-MANDATORY. DO NOT DISPLAY "BLANK/NO ANSWER" CODE ON SCREEN.]

BASE: ALL QUALIFIED RESPONDENTS

Q703 This section asks about your [IF PREGNANT WITH ONE BABY (Q315/2), DISPLAY: baby [IF PREGNANT WITH MORE THAN ONE BABY (Q315/1), DISPLAY: babies] and your recovery.
Click the forward arrow to continue.

BASE: ALL QUALIFIED RESPONDENTS

Q705 [IF PREGNANT WITH ONE BABY (Q315/2), DISPLAY: How important is it that, when your baby is born, s/he is placed on your chest (skin-to-skin) before being cleaned and wrapped?]
[IF PREGNANT WITH MORE THAN ONE BABY (Q315/1), DISPLAY: How important is it that, when your babies are born they are placed on your chest (skin-to-skin) before being cleaned and wrapped?]

1 Not at all important
2 Slightly important
3 Moderately important
4 Very important
5 Extremely important
999 Blank/No answer

BASE: PLANS TO DELIVER AT HOSPITAL OR BIRTH CENTER (Q540/1,2,3)

Q710 Ideally, where would you like your baby/babies to spend most of their time after birth?

[ROTATE 1 & 2]

1 With me
2 In the nursery
3 It doesn't matter
98 Don't know
999 Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q715 [IF PLANS TO DELIVER AT HOSPITAL OR BIRTH CENTER (Q540/1,2,3), DISPLAY: While in the hospital or birth center, how important is it that the staff give you advice and support regarding…?]

[IF PLANS TO DELIVER AT HOME (Q540/4), DISPLAY: Within the first day after delivery, how important is it that your care provider gives you advice and support regarding...?]

1 Not at all important
2 Slightly important
3 Moderately important
4 Very important
5 Extremely important
999 Blank/No answer

[RANDOMIZE]

1 Day-to-day care for your [IF PREGNANT WITH ONE BABY (Q315/2), DISPLAY: baby IF PREGNANT WITH MORE THAN ONE BABY (Q315/1), DISPLAY: babies]
2 Vaccinations
3 [IF PREGNANT WITH ONE BABY (Q315/2), DISPLAY: Baby's IF PREGNANT WITH MORE THAN ONE BABY (Q315/1), DISPLAY: Babies'] sleep position [DISPLAY IF HOSPITAL OR BIRTH CENTER (Q540/1,2,3) when you go home]
4 Where the [IF PREGNANT WITH ONE BABY (Q315/2), DISPLAY: baby sleeps IF PREGNANT WITH MORE THAN ONE BABY (Q315/1), DISPLAY: babies sleep] [IF HOSPITAL OR BIRTH CENTER (Q540/1,2,3), DISPLAY: when you go home]

BASE: ALL QUALIFIED RESPONDENTS

Q720 After you deliver, how important do you think it will be to have your health care providers talk to you about…?

1 Not at all important
2 Slightly important
3 Moderately important
4 Very important
5 Extremely important
999 Blank/No answer

[ROTATE 1 & 2]

1 What happened during [IF VAGINAL/OTHER (Q520 NE 2), DISPLAY: your labor and] delivery
2 Your feelings regarding [IF VAGINAL/OTHER (Q520 NE 2), DISPLAY: your labor and] delivery

BASE: ALL QUALIFIED RESPONDENTS

Q725 How do you intend to feed your [IF PREGNANT WITH ONE BABY (Q315/2), DISPLAY: baby IF PREGNANT WITH MORE THAN ONE BABY (Q315/1), DISPLAY: babies] in the first month after birth? Please select all that apply.

[MULTIPLE RESPONSE]

1	Breastfeed (breast milk)	
2	Bottle feed breast milk	
3	Bottle feed formula	
98	Not sure	EXCLUSIVE
999	Blank/No answer	

BASE: ALL QUALIFIED RESPONDENTS

Q730 How would you describe the encouragement you received about breastfeeding from the following people/services?

1	Far too little
2	Too little
3	About right
4	Too much
5	Far too much 999
	Blank/No answer

[RANDOMIZE]

1	Health care providers
2	Family members
3	Friends
4	Community services, such as WIC

BASE: ALL QUALIFIED RESPONDENTS

Q735 Within the first 24 hours after birth, how important is it that your health care providers give you information regarding…?

1	Not at all important
2	Slightly important
3	Moderately important
4	Very important
5	Extremely important
999	Blank/No answer

[ROTATE]

1	Breastfeeding
2	Bottle feeding

BASE: ALL QUALIFIED RESPONDENTS

Q740 [IF PREGNANT WITH ONE BABY (Q315/2), DISPLAY: Right after your baby is born, how important is it that your health care providers give you practical support regarding feeding your baby (such as how to comfortably latch your baby to your breast, or how to safely prepare formula)?]

[IF PREGNANT WITH MORE THAN ONE BABY (Q315/1), DISPLAY: Right after your babies are born, how important is it that your health care providers give you practical support regarding feeding your babies (such as how to comfortably latch your babies to your breast, or how to safely prepare formula)?]

1 Not at all important
2 Slightly important
3 Moderately important
4 Very important
5 Extremely important
999 Blank/No answer

BASE: PLANS TO GIVE BIRTH IN HOSPITAL OR BIRTH CENTER (Q540/1,2,3)

Q745 After the birth, how long do you think you will want to stay in the hospital or birth center?

1 <24 hours
2 24-less than 48 hours
3 48-72 hours
4 More than 72 hours
999 Blank/No answer

BASE: PLANS TO GIVE BIRTH IN HOSPITAL (Q540/1)

Q750 Do you plan to have your tubes tied (sterilization) before you go home from the hospital?

1 Yes
2 No
98 Not sure
999 Blank/No answer

SECTION 800: FACTUALS

[PN: PROGRAM Q805, Q810, Q815, Q820, Q825, Q830 & Q835 AS NON-MANDATORY. DO NOT DISPLAY "BLANK/NO ANSWER" CODE ON SCREEN.]

BASE: ALL QUALIFIED RESPONDENTS

Q805 Were you born in the US?

1 Yes
2 No
999 Blank/No answer

BASE: BORN IN THE US (Q805/1)

Q810 Were your parents born in the US?

1 Yes
2 No
98 Don't know
999 Blank/No answer

BASE: NOT BORN IN THE US ( )

Q815 How many years have you lived in the US? If less than a year, please enter "0."

[RANGE: 0-54]
|_|_| years in the US 999
Blank/No answer

BASE: FEMALE (Q120/2) 18+

Q318 In what state or territory do you currently reside?

101	Alabama	118	Kentucky	135	North Dakota
102	Alaska	119	Louisiana	136	Ohio
103	Arizona	120	Maine	137	Oklahoma
104	Arkansas	121	Maryland	138	Oregon
105	California	122	Massachusetts	139	Pennsylvania
106	Colorado	123	Michigan	140	Rhode Island
107	Connecticut	124	Minnesota	141	South Carolina
108	Delaware	125	Mississippi	142	South Dakota
109	District of Columbia	126	Missouri	143	Tennessee
110	Florida	127	Montana	144	Texas
111	Georgia	128	Nebraska	145	Utah
112	Hawaii	129	Nevada	146	Vermont
113	Idaho	130	New Hampshire	147	Virginia
114	Illinois	131	New Jersey	148	Washington
115	Indiana	132	New Mexico	149	West Virginia
116	Iowa	133	New York	150	Wisconsin
117	Kansas	134	North Carolina	151	Wyoming

BASE: FEMALE (Q120/2) 18+

Q320 COMPUTE CENSUS (NOT HARRIS) REGIONS – DO NOT DISPLAY ON SCREEN

1 East
2 Midwest
3 South
4 West

BASE: ALL QUALIFIED RESPONDENTS (Q165/1)

Q830 These days many people have a religious preference and others are not part of any organized religion. What is your current religious preference?

[PN: ALPHABETIZE 1-16]

01	Catholic	
02	Mormon	
03	Eastern/Greek Orthodox	
04	Methodist	
05	Baptist	
06	Episcopalian	
07	Presbyterian	
08	Jehovah's Witness	
09	Lutheran	
10	Buddhist	
11	Hindu	
12	Jewish	
13	Muslim/Islam	
14	. Wiccan	
15	. Agnostic	
16	. Atheist	
17	. (Other) Protestant	ANCHOR
18	. (Other) Christian	ANCHOR
96	. Other	ANCHOR
98	. None	ANCHOR
999	Blank/No answer	

BASE: ALL QUALIFIED RESPONDENTS

Q835 Do you identify as. ..?

1 Heterosexual/Straight
2 Homosexual/Lesbian/Gay
3 Bisexual
6 Other
999 Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q840 Thank you for your participation in today's survey. Those are all the questions we have for you. Please remember that we will be contacting you again in about 2-4 weeks after your due date for the post-partum, follow-up survey. If you complete both surveys, you will receive a bonus, the equivalent of $10 in panel points.

BASE: NON-QUALIFIED RESPONDENTS (Q140/2,9 OR Q147/2 OR Q157 < 20 WEEKS)

Q845 Thank you for your interest in our survey. Unfortunately you have not qualified for our study because you are not pregnant or, if you are pregnant, you have been pregnant for fewer than 20 weeks. We appreciate your responses and have no further questions at this time.

Appendix D. Postpartum Survey

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Research Manager: Peg Jaynes email: peg.jaynes@nielsen.com

February 2, 2016

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SUBJECTS FOR QUESTIONNAIRE:

SECTION 900: SAMPLE PRELOADS SECTION
1000: SCREENING
SECTION 1100: CHILDBIRTH EXPERIENCE

SECTION 900: SAMPLE PRELOADS

[PN: ALL BASE, TOGGLE, AND PROGRAMMING LOGIC FROM PRELOADS SHOULD BE IGNORED AS THIS IS MEANT TO PULL DATA ONLY. THESE QUESTIONS WERE COPIED DIRECTLY FROM THE FEEDER SURVEY WITH THESE PIECES INTACT.]

BASE: ALL RESPONDENTS

Q900 Sample ID - (Does not appear on screen)

[X-DIGIT ID]
|_|_|_|_|_|_|_|_|_|

BASE: ALL RESPONDENTS

Q125 from J92911 – Year of birth

[RANGE: 1930-2015]
|_|_|_|_|

BASE: FEMALE (Q120/2) AND 18+ (Q127/2-7)

Q140 from J92911 – Whether or not had given birth at survey 1

1 Yes
2 No

BASE: HAS EVER GIVEN BIRTH (Q140/1)

Q145 from J92911 – Number of times given birth at survey 1

[RANGE: 1-20]
|_|_|

BASE: CURRENTLY PREGNANT (Q147/1)

Q150 from J92911 – Due date

[RANGE: 1-12] [RANGE: 1-31] [RANGE: 2015-2016]
|_|_| month |_|_| date |_|_|_|_|year

BASE: CURRENTLY PREGNANT (Q147/1)

Q155 from J92911 – Due date

[RANGE: 1-12] [RANGE: 1-31] [RANGE: 2015-2016]
|_|_| month |_|_| date |_|_|_|_|year

BASE: ALL RESPONDENTS

Q405 from J92911 – Type of support person

1 A spouse
2 A partner
3 A support person, other than your spouse or partner
7 None of the above

BASE: ALL RESPONDENTS

Q435 from J92911 – Respect for spiritual, religious and cultural beliefs or practices AND availability of female doctor

1	Not at all important
2	Slightly important
3	Moderately important
4	Very important
5	Extremely important
999	Blank/No answer

1	During childbirth, your health care providers (doctor, midwife or nurse) consider and respect your spiritual, religious and cultural beliefs or practices
2	A female doctor or midwife is available for your labor and/or delivery

BASE: ALL RESPONDENTS

Q510 from J92911 – How expected to give birth

1	I am expecting a vaginal delivery
2	I am planning a cesarean delivery
4	I do not have plans
3	I have no preference
98	I'm not sure

BASE: ALL RESPONDENTS

Q540 from J92911 – Where expected to deliver

1	Hospital
2	Birth center within hospital
3	Freestanding birth center
4	At home
8	Not sure
999	Decline to answer

BASE: ALL RESPONDENTS

Q570 from J92911 – Who wanted to deliver baby

1	Obstetrician (OB doctor)
2	Family doctor
3	Midwife [DO NOT DISPLAY IF CESAREAN (Q510/2)
4	Spouse [DISPLAY IF HAS SPOUSE (Q405/1)] [DO NOT DISPLAY IF CESAREAN (Q510/2)
5	Partner [DISPLAY IF HAS PARTNER (Q405/2)] [DO NOT DISPLAY IF CESAREAN (Q510/2)
6	Other
98	Not sure
999	Blank/No answer

BASE: ALL RESPONDENTS

Q575 from J92911 – Importance of knowing provider before delivery

1	Not at all important
2	Slightly important
3	Moderately important
4	Very important
5	Extremely important
6	I don't expect to have this type of provider
999	Blank/No answer

1	Doctor
2	Midwife

BASE: ALL RESPONDENTS

Q605 from J92911 – Whether or not planning to have spouse/partner/friend/family member in room during labor and/or delivery?

1	Yes
2	No
98	Not sure
999	Decline to answer

BASE: ALL RESPONDENTS

Q610 from J92911 – Importance of having support person in the room during labor/birth

1	Not at all important
2	Slightly important
3	Moderately important
4	Very important
5	Extremely important
6	Does not apply to me
999	Blank/No answer

1	Spouse/Partner/Other support person
2	Your other children
3	Friends
4	Doula (non-medical person you have hired to help you with labor and/or birth)
5	Other family members

BASE: EXPECTING VAGINAL DELIVERY, DOESN'T HAVE PREFERENCE, NO PLANS OR NOT SURE HOW WILL DELIVER (Q510/1,3,4,98)

Q625 from J92911 – Importance of choices during labor

1 Not at all important
2 Slightly important
3 Moderately important
4 Very important
5 Extremely important
999 Blank/No answer

1 Walk around
2 Use massage techniques
3 Have showers
4 Have a private labor room
5 Eat and/or drink
6 Have the choice of who is in the room when procedures are being done or you are examined
7 Have your health care providers (doctor, midwife, or nurse) assist you with positions or methods to help your labor and delivery

BASE: EXPECTING VAGINAL DELIVERY, DOESN'T HAVE A PREFERENCE, NO PLANS, OR NOT SURE HOW WILL DELIVER Q510/1,3,4, 98)

Q630 from J92911 – Importance of avoiding interventions

1 Not at all important
2 Slightly important
3 Moderately important
4 Very important
5 Extremely important
999 Blank/No answer

1 Having the doctor start your labor (induction)
2 Getting an intravenous line (IV)
3 Getting medicine (Pitocin) through an IV to make your contractions stronger
4 Having a cesarean delivery
5 Using instruments to help deliver your [IF HAD ONE BABY (Q1105/2), DISPLAY: baby IF HAD MORE THAN ONE BABY (Q1105/1), DISPLAY: babies] (forceps or vacuum delivery)
6 Having continuous fetal monitoring throughout your entire labor (use of an electronic device strapped around your abdomen)
7 Getting an episiotomy (vaginal cut)

BASE: EXPECTING VAGINAL DELIVERY, NO PLANS, DOESN'T HAVE PREFERENCE OR NOT SURE HOW WILL DELIVER (Q510/1,3,4,98)

Q660 from J92911 – Importance of involvement in decisions about labor pain

1 Not at all important
2 Slightly important
3 Moderately important
4 Very important
5 Extremely important
999 Blank/No answer

BASE: EXPECTING VAGINAL DELIVERY, NO PLANS, DOESN'T HAVE PREFERENCE OR NOT SURE HOW WILL DELIVER (Q510/1,3,4,98)

Q665 from J92911 – Preference for delivery position

1 Lying on my back
2 Standing up
3 Lying on my side
4 Squatting
5 On all fours
6 I will decide at the time
7 I haven't thought about it yet
999 Blank/No answer

BASE: EXPECTING VAGINAL DELIVERY, NO PLANS, DOESN'T HAVE PREFERENCE OR NOT SURE HOW WILL DELIVER (Q510/1,3,4,98)

Q670 from J92911 – Importance of choice for delivery position

1 Not at all important
2 Slightly important
3 Moderately important
4 Very important
5 Extremely important
6 I have no preference at this time
7 I didn't know I had a choice of position
999 Blank/No answer

BASE: ALL RESPONDENTS

Q705 from J92911 – Importance of skin-to-skin

1 Not at all important
2 Slightly important
3 Moderately important
4 Very important
5 Extremely important
999 Blank/No answer

SECTION 1000: SCREENING

[PN: ALL Q NUMBERS REFERENCED IN PROGRAMMER NOTES BETWEEN Q125 AND Q705 ARE FROM CHILDBIRTH SURVEY. ALL REFERENCES TO CURRENT SURVEY QUESTIONS BEGIN AT Q1000.]

BASE: ALL RESPONDENTS

Language question

Thank you for your interest in this survey. We are contacting you because you participated in our childbirth survey within the past several months. If you recall, that survey was about your experiences and expectations with pregnancy and childbirth. The purpose of this research is to further understand and improve experiences of new mothers. We are very grateful for your help.

[PN: DISPLAY SPANISH VERSION OF THE TEXT ABOVE BELOW THE ENGLISH]

Which of the following languages would you prefer for the survey?

1 English
2 Spanish

BASE: ALL RESPONDENTS

Q1000

Before we begin, we would like to ask a few questions to ensure that you are the same person who completed the first survey.

What is your year of birth? [RANGE:

1930-2015]

|_|_|_|_|

BASE: ALL RESPONDENTS

Q1003 BEHIND THE SCENES COMPUTE FOR NUMBER OF TIMES GIVEN BIRTH AT SURVEY 1

[PN: COMBINE Q140 AND Q145 RESPONSES. IF HAD NEVER GIVEN BIRTH IN PREVIOUS SURVEY (Q140/2), CODE AS ZERO. IF HAD PREVIOUSLY GIVEN BIRTH AT SURVEY 1, KEEP SAME RESPONSES AS Q145.]

[RANGE: 0-20]

|_|_|number of times given birth at survey 1

BASE: ALL RESPONDENTS

Q1005 Before your most recent delivery, how many times have you given birth? Please do not count your most recent delivery.

[RANGE: 0-20]

|_|_| number of times given birth

BASE: ALL RESPONDENTS

Q1015 Identification (DOES NOT APPEAR ON SCREEN)

[PN: VERIFY THAT Q1000 EQUALS Q125 AND Q1005 EQUALS Q1003. IF BOTH MATCH, ASSIGN Q1015/1. ALL OTHERS ASSIGN Q1015/2.]

1 Match
2 Does not match

[PN: IF IDENTITY MATCHES (Q1015/1), JUMP TO Q1030. IF IDENTITY DOES NOT MATCH (Q1015/2), ASK Q1020.]

BASE: IDENTITY DOES NOT MATCH (Q1015/2)

Q1020 We appreciate your willingness to complete this survey. However, the data you have provided do not match the data of the respondent who took the childbirth survey. It is very important that we interview the same person who completed the survey before. Please select one of the following statements.

1 I am the same respondent
2 That person is not available now, but will be available at another time
3 That person is no longer available

[PN: IF PERSON NOT AVAILABLE NOW, BUT WILL BE AVAILABLE ANOTHER TIME (Q1020/2), ASK Q1025. IF SAME RESPONDENT OR PERSON NO LONGER AVAILABLE (Q1020/1,3), JUMP TO Q1030.]

BASE: AVAILABLE LATER (Q1020/2)

Q1025 When the person who completed the original survey is available, please have her return to this survey by using the same URL provided in your email invitation.

Please check the appropriate response below then click the forward arrow.

1 The appropriate person is not available now, but she will return later
2 I am the person who completed the childbirth survey within the past several months and am returning to the survey to complete now

[PN: IF CODE 1 SELECTED, CLEAR RESPONSES FOR Q1000-Q1025 AND SEND RESPONDENT TO 'RESUME THANK YOU' PAGE [WHEN LINK IS CLICKED AGAIN, IT NEEDS TO START AT Q1000]. IF CODE 2 SELECTED, CLEAR RESPONSES FOR Q1000-Q1025 AND SEND RESPONDENT BACK TO Q1000 AND INCLUDE THE FOLLOWING AT THE TOP OF THE SCREEN AT Q1000 "You may have already provided answers to some of the next few questions. Because it is important that we verify that you are the same respondent who participated in our previous study, it is necessary for us to ask them again. Thank you for your patience and honest and complete responses."]

Resume Thank You: Thank you for your time. Please have the person who completed our original childbirth survey return to the survey using the same link you clicked on. When she does so, she will return to the appropriate place in the survey.

BASE: ALL RESPONDENTS

Q1030 QUALIFICATION STATUS (DOES NOT APPEAR ON SCREEN)

[IF Q1015/1 OR (Q1015/2 AND Q1020/1), GET CODE 1. ALL OTHERS GET CODE 2.]

1 QUALIFIED **(QUOTA = 825)**
2 NOT QUALIFIED

BASE: ALL QUALIFIED RESPONDENTS (Q1030/1)

Q1035 QUOTA CHECK QUESTION (DOES NOT APPEAR ON SCREEN) [PN: CHECK

QUOTA AT Q1030.]

1 Quota cell closed
2 Quota cell open
3 Quota cell not found

SECTION 1100: CHILDBIRTH EXPERIENCE

[PN: PROGRAM THIS SECTION AS NON-MANDATORY EXCEPT WHERE NOTED. DO NOT DISPLAY "BLANK/NO ANSWER" CODE ON SCREEN.]

[PN: ALL Q NUMBERS REFERENCED IN PROGRAMMER NOTES BETWEEN Q125 AND Q705 ARE FROM CHILDBIRTH SURVEY. ALL REFERENCES TO CURRENT SURVEY QUESTIONS BEGIN AT Q1000.]

BASE: ALL QUALIFIED RESPONDENTS

Q1103 As mentioned previously, this is a follow-up survey to the one you took in the past several months. The information you provide here will supplement the helpful information you provided previously.

To begin, the first section asks about the events that happened during your childbirth.

BASE: ALL QUALIFIED RESPONDENTS

Q1105 Did you deliver more than one baby? [PROGRAM AS

MANDATORY]

1 Yes
2 No

BASE: ALL QUALIFIED RESPONDENTS

Q1107 When [IF HAD ONE BABY (Q1105/2), DISPLAY: was your baby IF HAD MORE THAN ONE BABY (Q1105/1), DISPLAY: were your babies] born? Please enter month, date and year. [PROGRAM AS

MANDATORY]

[RANGE: 1-12] [RANGE: 1-31] [RANGE: 2015-2016]
|__|__| month |__|_| date |_|_|_|_|year
[FINAL RANGE: DATE TOOK SURVEY 1 (QXXXX)-DATE TAKING CURRENT SURVEY. PROGRAMMER PULL DATE TOOK SURVEY 1.]

BASE: ALL QUALIFIED RESPONDENTS

Q1110 You mentioned that your [IF HAD ONE BABY (Q1105/2), DISPLAY: baby was IF HAD MORE THAN ONE BABY (Q1105/1), DISPLAY: babies were] born on [INSERT MONTH USING NAME OF MONTH, NOT DIGITS/DATE/YEAR]. If this is not correct, please fix your answer below. Otherwise, go to the next question.

[RANGE: 1-12] [RANGE: 1-31] [RANGE: 2015-2016]
|__|__| month |__|_| date |_|_|_|_|year
[FINAL RANGE: DATE TOOK SURVEY 1 (QXXXX)-DATE TAKING CURRENT SURVEY. PROGRAMMER PULL DATE TOOK SURVEY 1.]

BASE: ALL QUALIFIED RESPONDENTS

Q1112 HIDDEN COMPUTE FOR GESTATIONAL AGE AT BIRTH

[PN: COMPUTE GESTATIONAL AGE AT BIRTH. BIRTH DATE (Q1107/Q1110) MINUS DUE DATE (Q150/Q155.]

[RANGE: 20-42]
|__|__| weeks
[PN: FLAG IF >43 SO WE CAN CHECK DATA TO SEE IF THIS RESPONDENT IS CLEAN/VALID.]

BASE: ALL QUALIFIED RESPONDENTS

Q1115 Where did you deliver your [IF HAD ONE BABY (Q1105/2), DISPLAY: baby IF HAD MORE THAN ONE BABY (Q1105/1), DISPLAY: babies]?

[PROGRAM AS MANDATORY]

1 Hospital
2 Birth center within a hospital (where the midwives and doctors from the hospital deliver babies)
3 Freestanding birth center (not affiliated with/attached to a hospital)
4 At home
6 Some other place

BASE: ANTICIPATED HOME BIRTH (Q540/4) AND DELIVERED IN HOSPITAL OR BIRTH CENTER (Q1115/1,2,3)

Q1120 While you were pregnant, you indicated that you were planning a home birth. Why did you deliver in a [IF DELIVERED IN HOSPITAL (Q1115/1), DISPLAY: hospital [IF DELIVERED IN BIRTH CENTER (Q1115/2,3), DISPLAY: birth center]?

1 I changed my mind for safety reasons
2 My family/friends thought it was best
3 I labored at home but had complications and went to a hospital or birth center
4 Because of medical complications, I planned a cesarean delivery [ONLY DISPLAY IF Q1115/1]
6 Other
999 Blank/No answer

BASE: ANTICIPATED HOSPITAL OR BIRTH CENTER BIRTH (Q540/1,2,3) AND DELIVERED AT HOME OR SOME OTHER PLACE (Q1115/4,6)

Q1125 While you were pregnant, you indicated that you were planning [IF HOSPITAL (Q540/1), DISPLAY: a hospital birth IF BIRTH CENTER (Q540/2,3), DISPLAY: to give birth at a birth center]. Why didn't you deliver at [IF HOSPITAL (Q540/1), DISPLAY: a hospital] [IF BIRTH CENTER (Q540/2,3), DISPLAY: a birth center]?

1 I was not able to get to the hospital/birth center
2 I changed my mind and decided to deliver at home
3 My family/friends thought it was best
6 Other

999 Blank/No answer

BASE: DELIVERED AT HOME OR SOME OTHER PLACE (Q1115/4,6)

Q1127 Were you or your [IF HAD ONE BABY (Q1105/2) DISPLAY: baby IF HAD MORE THAN ONE BABY (Q1105/1)], transported to a hospital just after your delivery?

1 Yes, by ambulance
2 Yes, by car
3 No
999 Blank/No answer

BASE: DELIVERED IN HOSPITAL OR BIRTH CENTER (Q1115/1,2,3)

Q1130 Were you transported to a hospital or birth center just before your delivery?

1 Yes, by ambulance
2 Yes, by car
3 No
999 Blank/No answer

BASE: DELIVERED IN HOSPITAL OR BIRTH CENTER (Q1115/1,2,3) AND WAS TRANSPORTED TO HOSPITAL OR BIRTH CENTER JUST BEFORE DELIVERY (Q1130/1,2)

Q1133 Just prior to being transported to the hospital, were you attempting to deliver at home or at a birth center?

1 Yes, at home
2 Yes, at a birth center
3 No
999 Blank/No answer

BASE: DELIVERED AT HOSPITAL (Q1115/1)

Q1135 Did you have a cesarean? [PROGRAM AS

MANDATORY]

1 Yes
2 No

BASE: HAD A CESAREAN (Q1135/1)

Q1140 Was the cesarean…?

[PROGRAM AS MANDATORY]

1 Scheduled/Planned (no labor or painful contractions)
2 An emergency (either before or during your labor)

BASE: ANTICIPATED VAGINAL DELIVERY (Q510/1) AND HAD A CESAREAN (Q1135/1) THAT WAS SCHEDULED/PLANNED (Q1140/1)

Q1145 While you were pregnant, you indicated that you were planning a vaginal delivery. Why did you have a scheduled cesarean birth?

1 I changed my mind
2 The doctor told me it was medically necessary and I agreed
3 The doctor told me that it was medically necessary and I disagreed but allowed it to go ahead
8 I don't know
999 Blank/No answer

BASE: ANTICIPATED SCHEDULED CESAREAN (Q510/2) AND HAD VAGINAL BIRTH (Q1115/2,3, 4,6 OR Q1135/2)

Q1155 While you were pregnant, you indicated that you were planning a scheduled cesarean. Why did you have a vaginal birth?

1 I changed my mind before going into labor
2 I changed my mind when I went into labor
3 When I went into labor, there was no time to get the cesarean
4 The doctor recommended it and I agreed
5 The doctor recommended it and I went ahead although I disagreed
999 Blank/No answer

BASE: HAD EMERGENCY CESAREAN (Q1140/2)

Q1160 Did you go into labor (have labor pains, contractions)?

[PROGRAM AS MANDATORY]

1 Yes
2 No

BASE: ANTICIPATED SCHEDULED CESAREAN (Q510/2) AND WENT INTO LABOR (Q1160/1)

Q1165 Why did you go into labor instead of having a scheduled cesarean?

1 I changed my mind before going into labor
2 I changed my mind when I went into labor
3 I went into labor before the date of the surgery and there was no time to have the planned cesarean
4 The doctor recommended that I go into labor and I agreed
5 The doctor recommended that I go into labor and I disagreed but allowed it to happen
999 Blank/No answer

BASE: WENT INTO LABOR (Q1160/1)

Q1170 Why did you have an emergency cesarean delivery?

	1	I changed my mind
	2	The doctor told me it was medically necessary and I agreed
	3	The doctor told me that it was medically necessary and I disagreed but allowed it to go ahead
8		I don't know
999		Blank/No answer

BASE: DID NOT GO INTO LABOR (Q1160/2)

Q1175 Why did you have an emergency cesarean delivery?

	1	My [IF HAD ONE BABY (Q1105/2) DISPLAY: baby IF HAD MORE THAN ONE BABY (Q1105/1) DISPLAY: babies] had a serious health problem
	2	I had a serious health problem
	3	I was bleeding severely
6		Other
999		Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q1180 Since your delivery, how would you rate your…?

	1	Poor
	2	Fair
	3	Good
	4	Very good
	5	Excellent
999		Blank/No answer

[ROTATE]

	1	Overall health
	2	Mental and emotional health

BASE: ALL QUALIFIED RESPONDENTS

Q1190 During this pregnancy, did you (not your baby) develop any new medical conditions or health problems that required you to take medication for more than 2 weeks, have special care, or extra tests? (This includes health problems such as high blood pressure or diabetes related to the pregnancy, and any new health problems that were discovered during pregnancy.)

	1	Yes
	2	No
999		Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q1195 While you were pregnant, were you ever told by a healthcare provider (doctor or midwife) that the [IF HAD ONE BABY (Q1105/2), DISPLAY: baby IF HAD MORE THAN ONE BABY (Q1105/1), DISPLAY: babies] you were carrying may have had a health problem?

1 Yes
2 No
999 Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q1200 While you were pregnant, were you ever told by a healthcare provider (doctor or midwife) that you were "high risk"?

1 Yes
2 No
999 Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q1202 This section asks about your interactions with your healthcare providers.

BASE: ALL QUALIFIED RESPONDENTS

Q1205 During childbirth, how much did your health care providers (doctor, midwife or nurse) consider and respect your spiritual, religious and cultural beliefs or practices?

1 Not at all
2 A little bit
3 Somewhat
4 Quite a bit
5 Very much
999 Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q1210 Was a female doctor or midwife available for your labor and/or delivery? [PROGRAM AS MANDATORY]

1 Yes
2 No
8 Don’t know

BASE: ANSWERED QUESTION ABOUT IMPORTANCE OF FEMALE DOCTOR/MIDWIFE (Q435/2_1-5)

Q1215 While you were pregnant, you indicated that it was [INSERT Q435 SCALE RESPONSE IN LOWER CASE] that a female doctor or midwife was available for your labor and/or delivery. How important does this seem to you now?

1 Not at all important
2 Slightly important
3 Moderately important
4 Very important
5 Extremely important
999 Blank/No answer

BASE: DID NOT ANSWER ABOUT IMPORTANCE OF FEMALE (Q435_2/999) AND DID NOT HAVE A FEMALE DOCTOR/MIDWIFE AVAILABLE (Q1210/2)

Q1217 Did it matter to you that a female doctor/midwife was not available for your labor and/or delivery?

1 Yes
2 No
999 Blank/No answer

BASE: DID NOT DELIVER AT HOME (Q1115 NE 4)

Q1220 Did you feel pressure from any of the following people to have a cesarean?

1 Yes
2 No
999 Blank/No answer

1 Health care providers
2 Family members
3 Friends

BASE: ALL QUALIFIED RESPONDENTS

Q1225 How much do you agree or disagree with the following statements?

1 Strongly disagree
2 Somewhat disagree
3 Neither agree nor disagree
4 Somewhat agree
5 Strongly agree
999 Blank/No answer

1 My childbirth experience went smoothly
2 I felt safe during my [IF CESAREAN (Q1140/1,2) DISPLAY: delivery ALL OTHERS, DISPLAY labor and delivery]
3 I left all choices regarding my birth to my midwife and/or doctor

4 I believe I was in control during my [IF CESAREAN (Q1140/1,2) DISPLAY: delivery ALL OTHERS, DISPLAY: labor and delivery]

BASE: ALL QUALIFIED RESPONDENTS

Q1235 How much do you agree or disagree with this statement? I refused

treatment I did not think was necessary.

1 Strongly disagree
2 Somewhat disagree
3 Neither agree nor disagree
4 Somewhat agree
5 Strongly agree
6 Does not apply to me. I felt all treatment was necessary
999 Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q1240 Did you have a birth plan (a written document of what you wanted to happen during your birth)?

[PROGRAM AS MANDATORY]

1 Yes
2 No
999 Blank/No answer

BASE: HAD A BIRTH PLAN (Q1240/1)

Q1245 How much do you agree or disagree with this statement? I

followed my birth plan.

1 Strongly disagree
2 Somewhat disagree
3 Neither agree nor disagree
4 Somewhat agree
5 Strongly agree
999 Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q1250 What type of health care provider delivered your [IF HAD ONE BABY (Q1105/2), DISPLAY: baby IF HAD MORE THAN ONE BABY (Q1105/1), DISPLAY: babies]?

[PROGRAM AS MANDATORY]

1 OB doctor
2 Family doctor
3 Midwife

8 Not sure/Other

BASE: ALL QUALIFIED RESPONDENTS

Q1255 Did you know your doctor before you delivered?

1 Yes
2 No
3 I did not have a doctor involved in my care
999 Blank/No answer

BASE: ANSWERED IMPORTANCE OF KNOWING DOCTOR (Q575 1_1-5) AND Q1255 NE 3

Q1263 While you were pregnant, you indicated that it was [INSERT SCALE RESPONSE AT Q575] that you knew your doctor before your delivery. How important does this seem to you now?

1 Not at all important
2 Slightly important
3 Moderately important
4 Very important
5 Extremely important
999 Blank/No answer

BASE: DID NOT ANSWER IMPORTANCE OF KNOWING DOCTOR/DIDN'T EXPECT DOCTOR (Q575_1/6,999) AND DID NOT KNOW DOCTOR IN ADVANCE (Q1255/2)

Q1265 Did it matter to you that you did not know your doctor in advance?

1 Yes
2 No
8 Not sure
999 Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q1257 Did you know your midwife before you delivered?

1 Yes
2 No
3 I did not have a midwife involved in my care
999 Blank/No answer

BASE: ANSWERED IMPORTANCE OF KNOWING MIDWIFE (Q575/2_1-5) AND Q1257 NE 3

Q1270 While you were pregnant, you indicated that it was [INSERT SCALE RESPONSE AT Q575] that you knew your midwife before your delivery. How important does this seem to you now?

1 Not at all important
2 Slightly important
3 Moderately important

4 Very important
5 Extremely important
999 Blank/No answer

BASE: DID NOT ANSWER IMPORTANCE OF KNOWING MIDWIFE/DIDN'T EXPECT MIDWIFE (Q575_2/6, 999) AND DID NOT KNOW MIDWIFE IN ADVANCE (Q1257/2)

Q1272 Did it matter to that you did not know your midwife in advance?

1 Yes
2 No
8 Not sure
999 Blank/No answer

BASE: DID NOT DELIVER AT HOME (Q1115 NE 4)

Q1260 Before you delivered, did you know the pediatrician who immediately cared for your [IF HAD ONE BABY (Q1105/2), DISPLAY: newborn IF HAD MORE THAN ONE BABY (Q1105/1), DISPLAY: newborns]?

1 Yes
2 No
999 Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q1273 This section asks about the people that were present during your labor and/or delivery.

BASE: ALL QUALIFIED RESPONDENTS

Q1275 During your labor and/or birth, were the following people physically present in the room?

[PROGRAM AS MANDATORY]

1 Yes
2 No
3 Does not apply to me

1 Partner/Spouse/Other support person
2 Doula (non-medical person you have hired to help you with labor and/or birth)
3 Your other children
4 Friends
5 Family members

BASE: ANSWERED IMPORTANCE OF HAVING PARTNER/SPOUSE/OTHER SUPPORT PERSON IN ROOM DURING LABOR/BIRTH (Q610/1_1-5) AND DID NOT DELIVER AT HOME (Q1115 NE 4) AND Q1275/1 NE 3)

Q1280 While you were pregnant, you indicated that it was [INSERT Q610/1 SCALE TEXT IN LOWER CASE] that your partner/spouse/other support person was in the room during your labor and/or birth. How important does this seem to you now?

1 Not at all important
2 Slightly important
3 Moderately important
4 Very important
5 Extremely important
999 Blank/No answer

BASE: DID NOT ANSWER HAVING PARTNER/SPOUSE/OTHER SUPPORT PERSON IN ROOM DURING LABOR/BIRTH OR NA (Q610/1_6, 999) AND DID NOT DELIVER AT HOME (Q1115 NE 4) AND SPOUSE/PARTNER/OTHER SUPPORT PERSON NOT IN ROOM (Q1275/1_2)

Q1283 Did it matter to you that your partner/spouse/other support person was not in the room during your labor and/or birth?

1 Yes
2 No
8 Not sure
999 Blank/No answer

BASE: DID NOT DELIVER AT HOME (Q1115 NE 4) AND ANSWERED IMPORTANCE OF HAVING DOULA Q610_4/1-5 (SCALE RESPONSE/NOT BLANK OR DOES NOT APPLY TO ME) AND Q1275/2 NE 3)

Q1285 While you were pregnant, you indicated that it was [INSERT Q610/4 SCALE TEXT IN LOWER CASE] that a doula (non-medical person you have hired to help you with labor and/or birth) was in the room during your labor and/or birth. How important does this seem to you now?

1 Not at all important
2 Slightly important
3 Moderately important
4 Very important
5 Extremely important
999 Blank/No answer

BASE: DID NOT ANSWER IMPORTANCE OF HAVING DOULA IN ROOM DURING LABOR/BIRTH OR NA (Q610/4_6,999) AND DID NOT DELIVER AT HOME (Q1115 NE 4) AND DOULA NOT IN ROOM (Q1275/2_2)

Q1287 Did it matter to you that a doula was not in the room during your labor and/or birth?

1 Yes
2 No
8 Not sure
999 Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q1290 Did the following health care providers give you reassurance or comfort during labor and/or delivery?

1 Yes
2 No
3 Does not apply to me
999 Blank/No answer

1 Doctor
2 Nurse
3 Midwife

BASE: ALL QUALIFIED RESPONDENTS

Q1293 This section asks about activities or interventions that may have happened during your labor and/or delivery.

BASE: HAD VAGINAL BIRTH (Q1115/2, 3, 4, 6 OR Q1135/2) OR LABOR (Q1160/1)

Q1295 Which of the following did you do during labor? [PROGRAM AS

MANDATORY]

1 Yes
2 No

1 Walked around
2 Used massage
3 Had a shower
4 Had my own labor room [DO NOT DISPLAY IF DELIVERED AT HOME (Q1115/4)]
5 Ate and/or drank
6 Had the choice of who was in the room when procedures were being done or I was examined [DO NOT DISPLAY IF DELIVERED AT HOME (Q1115/4)]
7 Had the health care providers assist me with positions or methods to help my labor and delivery

BASE: DID NOT DELIVER AT HOME (Q1115 NE 4) AND NO TO ANY AT Q1295/1-7_2

Q1298 Why didn't you…?

	1	I decided that I did not want the option
	2	The staff did not give me the option
	3	The facility did not have the option
	4	The staff was concerned that the option might hurt me or my [IF HAD ONE BABY (Q1105/2) DISPLAY: baby IF HAD MORE THAN ONE BABY (Q1105/1) DISPLAY: babies]
	5	There was no time for the option
8		Not sure
999		Blank/No answer

[ONLY DISPLAY CODES THAT ARE NO AT Q1295/1-7_2.]

1	Walk around
2	Use massage
3	Have a shower
4	Have your own labor room
5	Eat and/or drink
6	Have a choice of who was in the room when procedures were being done or you were examined
7	Have the health care providers assist you with positions or methods to help your labor and delivery

BASE: HAD PLANNED CESAREAN (Q1140/1) OR EMERGENCY CESAREAN AND DID NOT GO INTO LABOR (Q1160/2)

Q1300 Did you have…?

	1	Yes
	2	No
999		Blank/No answer

1	A private room prior to your cesarean delivery
2	The choice of who was in the room when procedures were being done or you were examined

BASE: NO TO ANY AT Q1300/1,2_2

Q1302 Why didn't you have…?

	1	I decided that I did not want the option
	2	The staff did not give me the option
	3	The facility did not have the option
	4	The staff was concerned that the option might hurt me or my IF HAD ONE BABY (Q1105/2) DISPLAY: baby IF HAD MORE THAN ONE BABY (Q1105/1) DISPLAY: babies]
	5	There was no time for the option
8		Not sure
999		Blank/No answer

1	A private room prior to your cesarean delivery

2 The choice of who was in the room when procedures were being done or you were examined

BASE: EXPECTING VAGINAL DELIVERY, DIDN'T HAVE PREFERENCE, NO PLANS OR NOT SURE HOW WILL DELIVER (Q510/1,3,4,98) AND ((HAD VAGINAL BIRTH (Q1115/2,3, 4,6 OR Q1135/2) OR LABOR (Q1160/1)) AND ANSWERED Q625_1/1-5 (NOT BLANK)

Q1305 While you were pregnant, you indicated that it was [INSERT Q625/1 SCALE TEXT IN LOWER CASE] that you were able to walk around during labor. How important does this seem to you now?

1 Not at all important
2 Slightly important
3 Moderately important
4 Very important
5 Extremely important
999 Blank/No answer

BASE: EXPECTING VAGINAL DELIVERY, DOESN'T HAVE PREFERENCE, NO PLANS OR NOT SURE HOW WILL DELIVER (Q510/1,3,4,98) AND ((HAD VAGINAL BIRTH (Q1135/2 OR Q1115/2,3, 4,6) OR LABOR (Q1160/1)) AND ANSWERED Q625_3/1-5 (NOT BLANK)

Q1310 While you were pregnant, you indicated that it was [INSERT Q625/3 SCALE TEXT IN LOWER CASE] that you were able to have showers during labor. How important does this seem to you now?

1 Not at all important
2 Slightly important
3 Moderately important
4 Very important
5 Extremely important
999 Blank/No answer

BASE: EXPECTING VAGINAL DELIVERY, DOESN'T HAVE PREFERENCE, NO PLANS OR NOT SURE HOW WILL DELIVER (Q510/1,3,4,98) AND ((DID NOT DELIVER AT HOME (Q1115 NE 4) AND HAD VAGINAL BIRTH (Q1135/2) OR LABOR (Q1160/1)) AND ANSWERED Q625_4/1-5 (NOT BLANK)

Q1315 While you were pregnant, you indicated that it was [INSERT Q625/4 SCALE TEXT IN LOWER CASE] that you were able to have your own labor room. How important does this seem to you now?

1 Not at all important
2 Slightly important
3 Moderately important
4 Very important
5 Extremely important
999 Blank/No answer

BASE: EXPECTING VAGINAL DELIVERY, DOESN'T HAVE PREFERENCE, NO PLANS OR NOT SURE HOW WILL DELIVER (Q510/1,3,4,98) AND ((HAD VAGINAL BIRTH (Q1115/2,3, 4,6) OR Q1135/2) OR LABOR (Q1160/1)) AND ANSWERED Q625_5/1-5 (NOT BLANK)

Q1320 While you were pregnant, you indicated that it was [INSERT Q625/5 SCALE TEXT IN LOWER CASE] that you were able to eat and/or drink during labor. How important does this seem to you now?

1 Not at all important
2 Slightly important
3 Moderately important
4 Very important
5 Extremely important
999 Blank/No answer

BASE: EXPECTING VAGINAL DELIVERY, DOESN'T HAVE PREFERENCE, NO PLANS OR NOT SURE HOW WILL DELIVER (Q510/1,3,4,98) AND HAD VAGINAL BIRTH (Q1115/2,3, 4,6) OR Q1135/2) OR LABOR (Q1160/1)) AND ANSWERED Q625_6/1-5 (NOT BLANK)

Q1325 While you were pregnant, you indicated that it was [INSERT Q625/6 SCALE TEXT IN LOWER CASE] that you were able to have the choice of who was in the room when procedures were done or you were being examined. How important does this seem to you now?

1 Not at all important
2 Slightly important
3 Moderately important
4 Very important
5 Extremely important
999 Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q1330 How many hours did you go without food or drink prior to delivering your [IF HAD ONE BABY (Q1105/2) DISPLAY: baby IF HAD MORE THAN ONE BABY (Q1105/1) DISPLAY: babies]. If less than an hour, please enter "0."

[RANGE: 0-48]
|__|__| hours
999 Blank/No answer

BASE: HAD VAGINAL BIRTH (Q1115/2,3, 4,6 OR Q1135/2) OR LABOR (Q1160/1)

Q1335 How much do you agree or disagree with this statement? I was

given all the information needed about my progress in labor.

1 Strongly disagree
2 Somewhat disagree
3 Neither agree nor disagree
4 Somewhat agree
5 Strongly agree
999 Blank/No answer

BASE: HAD VAGINAL BIRTH (Q1115/2,3, 4,6 OR Q1135/2) OR LABOR (Q1160/1))

Q1340 Did you have…? [PROGRAM AS

MANDATORY]

1 Yes
2 No

1 The doctor start your labor (an induction) [DO NOT DISPLAY IF DELIVERED AT BIRTH CENTER OR HOME (Q1115/2,3,4)]
2 An intravenous line (IV) [DO NOT DISPLAY IF DELIVERED AT HOME (Q1115/4)]
3 Medicine (Pitocin) through an IV to make your contractions stronger [DO NOT DISPLAY IF DELIVERED AT BIRTH CENTER OR HOME (Q1115/2,3,4)]
4 Instruments to help deliver your [IF HAD ONE BABY (Q1105/2) DISPLAY: baby IF HAD MORE THAN ONE BABY (Q1105/1) DISPLAY: babies] (vacuum or forceps) [DO NOT DISPLAY IF DELIVERED AT BIRTH CENTER OR HOME (Q1115/2,3,4)]
5 Continuous fetal monitoring throughout your entire labor (use of an electronic device strapped around your abdomen)
6 An episiotomy (vaginal cut)

[PN: LOOP THROUGH Q1345 FOR EACH YES ITEM AT Q1340.]

BASE: YES TO ANY AT Q1340/1-4_1

Q1345 Why did you have [INSERT Q1340 RESPONSE WITH FIRST LETTER IN LOWER CASE]?

1 The reason for it was not discussed with me
2 The staff told me that it was medically necessary and I agreed
3 The staff told me that it was medically necessary and I allowed it to go ahead although I disagreed
6 Other/None of the above
8 Not sure
999 Blank/No answer

BASE: ANSWERED IMPORTANCE OF AVOIDING INDUCTION (Q630_1/1-5 (NOT BLANK)) AND DID NOT HAVE SCHEDULED CESAREAN Q1140 NE 1

Q1350 While you were pregnant, you indicated that it was [INSERT Q630/1 SCALE TEXT IN LOWER CASE] that you avoided an induction of labor. How important does avoiding this seem to you now?

1 Not at all important
2 Slightly important
3 Moderately important
4 Very important
5 Extremely important
999 Blank/No answer

BASE: ANSWERED IMPORTANCE OF AVOIDING IV (Q630_2/1-5 (NOT BLANK))

Q1355 While you were pregnant, you indicated that it was [INSERT Q630/2 SCALE TEXT IN LOWER CASE] that you avoided getting an intravenous line (IV). How important does avoiding this seem to you now?

1 Not at all important
2 Slightly important
3 Moderately important
4 Very important
5 Extremely important
999 Blank/No answer

BASE: ANSWERED IMPORTANCE OF AVOIDING PITOCIN (Q630_3/1-5 (NOT BLANK))

Q1360 While you were pregnant, you indicated that it was [INSERT Q630/3 SCALE TEXT IN LOWER CASE] that you avoided getting medicine (Pitocin) through and IV to make your contractions stronger. How important does avoiding this seem to you now?

1 Not at all important
2 Slightly important
3 Moderately important
4 Very important
5 Extremely important
999 Blank/No answer

BASE: ANSWERED IMPORTANCE OF AVOIDING CESAREAN (Q630_4/1-5 (NOT BLANK))

Q1365 While you were pregnant, you indicated that it was [INSERT Q630/4 SCALE TEXT IN LOWER CASE] that you avoided having a cesarean delivery. How important does avoiding this seem to you now?

1 Not at all important
2 Slightly important
3 Moderately important
4 Very important
5 Extremely important
999 Blank/No answer

BASE: ANSWERED IMPORTANCE OF AVOIDING INSTRUMENTS (Q630_5/1-5 (NOT BLANK))

Q1370 While you were pregnant, you indicated that it was [INSERT Q630/5 SCALE TEXT IN LOWER CASE] that you avoided having instruments used to deliver your [IF HAD ONE BABY (Q1105/2) DISPLAY: baby IF HAD MORE THAN ONE BABY (Q1105/1) DISPLAY: babies] (vacuum or forceps). How important does avoiding this seem to you now?

1 Not at all important
2 Slightly important
3 Moderately important
4 Very important
5 Extremely important
999 Blank/No answer

BASE: ANSWERED IMPORTANCE OF AVOIDING CONTINUOUS EFM (Q630_6/1-5 (NOT BLANK))

Q1375 While you were pregnant, you indicated that it [INSERT Q630/6 SCALE TEXT IN LOWER CASE] that you avoided having continuous fetal monitoring (throughout your entire labor (use of an electronic device strapped around your abdomen). How important does avoiding this seem to you now?

1 Not at all important
2 Slightly important
3 Moderately important
4 Very important
5 Extremely important
999 Blank/No answer

BASE: ANSWERED IMPORTANCE OF AVOIDING EPISIOTOMY (Q630_7/1-5 (NOT BLANK))

Q1380 While you were pregnant, you indicated that it was [INSERT Q630/7 SCALE TEXT IN LOWER CASE] that you avoided getting an episiotomy (vaginal cut). How important does avoiding this seem to you now?

1 Not at all important
2 Slightly important
3 Moderately important
4 Very important
5 Extremely important
999 Blank/No answer

BASE: HAD VAGINAL BIRTH (Q1115/2,3, 4,6 OR Q1135/2 OR LABOR (Q1160/1)

Q1385 How well were you able to cope with your labor pain?

1 Not at all well
2 Not very well
3 Moderately well
4 Very well
5 Extremely well
999 Blank/No answer

BASE: HAD VAGINAL BIRTH (Q1115/2,3, 4,6 OR Q1135/2 OR LABOR (Q1160/1)

Q1390 How much do you agree or disagree with this statement? I was

involved in decisions about what I got for labor pain. [PROGRAM AS

MANDATORY]

1 Strongly disagree
2 Somewhat disagree
3 Neither agree nor disagree

4 Somewhat agree
5 Strongly agree

BASE: HAD VAGINAL BIRTH (Q1115/2,3, 4,6 OR Q1135/2) OR LABOR (Q1160/1)) AND ANSWERED Q660/1-5

Q1395 While you were pregnant, you indicated that it was [INSERT Q660/1-5 RESPONSE IN LOWER CASE] that you were involved in decisions about what to get for labor pain. How important does this seem to you now?

1 Not at all important
2 Slightly important
3 Moderately important
4 Very important
5 Extremely important
999 Blank/No answer

BASE: (BLANK AT Q660/999 OR (EXPECTED CESAREAN (Q510/2) AND HAD VAGINAL BIRTH (Q1115/2,3, 4,6) OR Q1135/2) OR LABOR (Q1160/1)) AND DISAGREED ABOUT INVOLVEMENT WITH DECISIONS FOR LABOR PAIN (Q1390/1,2)

Q1397 Does it matter to you that you were not involved in decisions about what you got for labor pain?

1 Yes
2 No
8 Not sure
999 Blank/No answer

BASE: HAD VAGINAL BIRTH (Q1115/2,3, 4,6 OR Q1135/2) OR LABOR (Q1160/1)

Q1400 Which of the following did you use for labor pain management? Please select all that apply.

[MULTIPLE RESPONSE]
[RANDOMIZE CODES 1-10]

1 Massage
2 Walking
3 Breathing techniques such as Lamaze or Bradley method
4 Shower or tub
5 Mental strategies (such as relaxation, visualization or hypnosis)
6 Narcotics (such as Demerol or Stadol, medication by intravenous drip, spray in nose, or a shot) [ONLY DISPLAY IF DELIVERED AT HOSPITAL OR BIRTH CENTER (Q1115/1,2,3)
7 Epidural (medication delivered into back/spinal column) ONLY DISPLAY IF DELIVEREDAT HOSPITAL Q1115/1]
8 Nitrous oxide gas (gas breathed through a mask or mouthpiece while remaining conscious) [ONLY DISPLAY IF DELIVERED AT HOSPITAL OR BIRTH CENTER (Q1115/1,2,3)
9 TENS unit - a machine that uses electronic pulses to relieve pain
10 Acupuncture/Acupressure
97 None of these [EXCLUSIVE] ANCHOR
999 Blank/No answer

BASE: HAD VAGINAL BIRTH (Q1115/2,3, 4,6) OR Q1135/2 OR LABOR (Q1160/1)

Q1410 Did you labor and/or deliver using a…?

	1	Yes
	2	No
999		Blank/No answer

1	Tub
2	Birth ball
3	Birth stool (a seat that helps support a squatting delivery position) [INSERT ROLL OVER TO [DISPLAY IMAGE OF BIRTH STOOL]

BASE: ALL QUALIFIED RESPONDENTS

Q1415 Did you use an interpreter to help you communicate during your delivery?

	1	Yes
	2	No
999		Blank/No answer

BASE: HAD VAGINAL BIRTH (Q1115/2,3, 4,6 OR Q1135/2)

Q1435 What was your position when you delivered your [IF HAD ONE BABY (Q1105/2), DISPLAY: baby IF HAD MORE THAN ONE BABY (Q1105/1), DISPLAY: babies]?

	1	Lying on my back
	2	Standing up
	3	Lying on my side
	4	Squatting
	5	On all fours
	6	Other
999		Blank/No answer

BASE: HAD VAGINAL BIRTH (Q1115/2,3, 4,6 OR Q1135/2)

Q1440 Were you able to choose your delivery position? [PROGRAM AS

MANDATORY]

	1	Yes
	2	No

BASE: HAD VAGINAL BIRTH (Q1115/2,3, 4,6 OR Q1135/2)

Q1445 While you were pregnant, you indicated that it was [INSERT Q670/1-5 RESPONSE IN LOWER CASE] that you got your choice of delivery position. How important does this seem to you now?

1 Not at all important
2 Slightly important
3 Moderately important
4 Very important
5 Extremely important
999 Blank/No answer

BASE: HADN'T DECIDED/THOUGHT ABOUT DELIVERY POSITION (Q665/6,7) AND WAS NOT ABLE TO CHOOSE DELIVERY POSITION (Q1440/2)

Q1447 Did it matter to you that you were not able to choose your delivery position?

1 Yes
2 No
3 Not sure
999 Blank/No answer

BASE: HAD A CESAREAN (Q1135/1)

Q1450 How much do you agree or disagree with the following statements?

1 Strongly disagree
2 Somewhat disagree
3 Neither agree nor disagree
4 Somewhat agree
5 Strongly agree 999
Blank/No answer

1 In the operating room during the surgery, I was able to bond with my [IF HAD ONE BABY (Q1105/2) DISPLAY: baby IF HAD MORE THAN ONE BABY (Q1105/1) DISPLAY: babies]
2 In the operating room during the surgery, I was able to have a sense of control
3 In the operating room during the surgery, I was able to communicate with the staff
4 In the operating room during the surgery, the health care team paid attention to me
5 I was pain free during my cesarean delivery

BASE: HAD VAGINAL BIRTH (Q1115/2,3, 4,6 OR Q1135/2) OR LABOR (Q1160/1)

Q1460 How much do you agree or disagree with this statement? I didn't

want to have an epidural but felt pressured to have one.

1 Strongly disagree
2 Somewhat disagree
3 Neither agree nor disagree
4 Somewhat agree
5 Strongly agree
999 Blank/No answer

BASE: HAD VAGINAL BIRTH (Q1115/2,3, 4,6 OR Q1135/2) OR LABOR (Q1160/1)

Q1465 How much do you agree or disagree with this statement? I did not

use any pain medications during labor.

1 Strongly disagree
2 Somewhat disagree
3 Neither agree nor disagree
4 Somewhat agree
5 Strongly agree
999 Blank/No answer

BASE: HAD VAGINAL BIRTH (Q1115/2,3, 4,6) OR Q1135/2) OR LABOR (Q1160/1)

Q1470 How would you grade your pain relief during labor?

1 Adequate
2 Inadequate
8 Not sure
999 Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q1455 During the first 24 hours after you delivered, the amount of pain you experienced was…?

1 None
2 Mild
3 Moderate
4 Severe
5 Unbearable
999 Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q1473 This section asks about how your childbirth felt to you.

BASE: DID NOT HAVE SCHEDULED CESAREAN (Q1140 NE 2)

Q1475 How much do you agree or disagree with this statement?

I felt like my health care providers tried to move things along for their own convenience.

1 Strongly disagree
2 Somewhat disagree
3 Neither agree nor disagree
4 Somewhat agree
5 Strongly agree
999 Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q1480 How much do you agree or disagree with this statement? My

health care providers showed compassion and understanding.

1 Strongly disagree
2 Somewhat disagree
3 Neither agree nor disagree
4 Somewhat agree
5 Strongly agree
999 Blank/No answer

BASE: DELIVERED IN HOSPITAL OR BIRTH CENTER (Q1115/1,2,3)

Q1485 How much do you agree or disagree with this statement? There was a

pleasant attitude among the staff.

1 Strongly disagree
2 Somewhat disagree
3 Neither agree nor disagree
4 Somewhat agree
5 Strongly agree
999 Blank/No answer

BASE: DELIVERED IN HOSPITAL OR BIRTH CENTER (Q1115/1,2,3)

Q1490 How much do you agree or disagree with each of these statements?

1 Strongly disagree
2 Somewhat disagree
3 Neither agree nor disagree
4 Somewhat agree
5 Strongly agree
999 Blank/No answer

1 I saw the doctor as much as I wanted.
2 I saw the nurses as much as I wanted.

BASE: ALL QUALIFIED RESPONDENTS

Q1495 How much do you agree or disagree with this statement?

I felt that I lost control of the way I behaved during [IF HAD VAGINAL BIRTH (Q1115/2,3, 4,6 OR Q1135/2), DISPLAY: labor IF CESAREAN BIRTH (Q1135/1), DISPLAY: the delivery].

1 Strongly disagree
2 Somewhat disagree
3 Neither agree nor disagree
4 Somewhat agree
5 Strongly agree
999 Blank/No answer

BASE: PARTNER/SPOUSE/FRIENDS/FAMILY MEMBERS WERE IN ROOM (Q1275/1,4,5_1)

Q1500 How satisfied were you with the support you received from your spouse/partner or non-professional support person?

1 Very dissatisfied
2 Somewhat dissatisfied
3 Neither satisfied nor dissatisfied
4 Somewhat satisfied
5 Very satisfied
999 Blank/No answer

BASE: GAVE BIRTH IN HOSPITAL OR BIRTH CENTER (Q1115/1,2,3) AND PARTNER/SPOUSE/FRIENDS/ FAMILY MEMBERS WERE IN ROOM (Q1275/1,4,5_1)

Q1505 How much do you agree or disagree with this statement?

During childbirth, the staff gave my chosen support person adequate space, food, and room to rest.

1 Strongly disagree
2 Somewhat disagree
3 Neither agree nor disagree
4 Somewhat agree
5 Strongly agree
999 Blank/No answer

BASE: DELIVERED IN HOSPITAL OR BIRTH CENTER (Q1115/1,2,3)

Q1508 How many hours were you at the [IF HOSPITAL (Q1115/1), DISPLAY: hospital] [IF BIRTH CENTER (Q1115/2,3), DISPLAY: birth center] before you delivered (e.g., how many hours were you in labor, or how many hours were you waiting for your scheduled cesarean)?

1 <5 hours
2 5-10 hours
3 11-24 hours
4 25-48 hours

5 >48 hours (2days)
999 Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q1509 This section asks about experiences you had after you delivered.

BASE: GAVE BIRTH IN HOSPITAL (Q1115/1) OR TRANSPORTED TO HOSPITAL AFTER DELIVERY (Q1127/1,2)

Q1420 After your delivery, did you need a blood transfusion?

1 Yes
2 No
999 Blank/No answer

BASE: GAVE BIRTH IN HOSPITAL (Q1115/1) OR TRANSPORTED TO HOSPITAL AFTER DELIVERY (Q1127/1,2)

Q1425 After your delivery, were you admitted to the intensive care unit?

1 Yes
2 No
999 Blank/No answer

BASE: GAVE BIRTH IN HOSPITAL (Q1115/1) OR TRANSPORTED TO HOSPITAL AFTER DELIVERY (Q1127/1,2)

Q1430 [IF MORE THAN ONE BABY, INSERT: Were your babies] IF ONE BABY, INSERT: Was your baby] admitted to the intensive care unit (NICU) or transferred to another hospital?

1 Yes
2 No
999 Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q1510 [IF ONE BABY, INSERT: When your baby was born, was s/he [IF MORE THAN ONE BABY, INSERT: When your babies were born were they] placed on your chest before being cleaned and wrapped (skin- to-skin)?

1 Yes
2 No
999 Blank/No answer

BASE: ANSWERED IMPORTANCE OF SKIN-TO-SKIN (Q705/1-5)

Q1515 While you were pregnant, you indicated that it was [INSERT Q705/1-5 RESPONSE IN LOWER CASE] that your [IF HAD ONE BABY (Q1105/2), DISPLAY: your baby was IF HAD MORE THAN ONE BABY (Q1105/1), DISPLAY: your babies were] placed on your chest (skin-to-skin) before being cleaned and wrapped. How important does this seem to you now?

1 Not at all important
2 Slightly important
3 Moderately important

4 Very important
5 Extremely important
999 Blank/No answer

BASE: DID NOT HOLD BABY OR DID NOT ANSWER SKIN-TO-SKIN (Q1510/2,999)

Q1520 When did you first hold your [IF HAD ONE BABY (Q1105/2) DISPLAY: baby IF HAD MORE THAN ONE BABY (Q1105/1) DISPLAY: babies]

1 Immediately (< 1min)
2 > 1 minute to < 1 hour
3 1 hour to < 1 day
4 > 1 day
999 Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q1525 How did you feel when you first held your [IF HAD ONE BABY (Q1105/2) DISPLAY: baby IF HAD MORE THAN ONE BABY (Q1105/1) DISPLAY: babies]

1 Very uncomfortable
2 Somewhat uncomfortable
3 Neither comfortable nor uncomfortable
4 Somewhat comfortable
5 Very comfortable
999 Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q1527 How did you feel when you first held your [IF HAD ONE BABY (Q1105/2) DISPLAY: baby IF HAD MORE THAN ONE BABY (Q1105/1) DISPLAY: babies]

1 Very safe
2 Somewhat safe
3 Neither safe nor frightened
4 Somewhat frightened
5 Very frightened
999 Blank/No answer

BASE: GAVE BIRTH IN HOSPITAL (Q1115/1)

Q1529 Where did your [IF HAD ONE BABY (Q1105/2) DISPLAY: baby IF HAD MORE THAN ONE BABY (Q1105/1) DISPLAY: babies] spend most of [IF HAD ONE BABY (Q1105/2) DISPLAY: his/her IF HAD MORE THAN ONE BABY (Q1105/1) DISPLAY: their] time after birth?

1 With me
2 In the normal nursery
3 In a special care nursery or intensive care unit

4 [IF HAD ONE BABY (Q1105/2), DISPLAY: Baby was IF HAD MORE THAN ONE BABY(Q1105/1), DISPLAY: Baby/Babies were] transferred to another hospital
999 Blank/No answer

BASE: GAVE BIRTH IN BIRTH CENTER (Q1115/2,3)

Q1532 Where did your [IF HAD ONE BABY (Q1105/2) DISPLAY: baby IF HAD MORE THAN ONE BABY (Q1105/1) DISPLAY: babies] spend most of [IF HAD ONE BABY (Q1105/2) DISPLAY: his/her IF HAD MORE THAN ONE BABY (Q1105/1) DISPLAY: their] time after birth?

1 With me
2 In the birth center nursery
4 [IF HAD ONE BABY (Q1105/2), DISPLAY: Baby was IF HAD MORE THAN ONE BABY(Q1105/1), DISPLAY: Babies were] transferred to a hospital
999 Blank/No answer

BASE: GAVE BIRTH IN HOSPITAL (Q1115/1) OR TRANSFERRED TO HOSPITAL AFTER BIRTH (Q1127/1,2)

Q1533 While in the hospital, did the staff give you advice and support regarding…?

1 Yes
2 No
999 Blank/No answer

1 Day-to-day care for your baby/babies
2 Vaccinations
3 Baby's sleep position when you go home
4 Where the baby/babies sleep when you go home

BASE: ALL QUALIFIED RESPONDENTS

Q1535 After you delivered, did your caregivers talk to you about what happened during your [IF SCHEDULED CESAREAN (Q1140/1), DISPLAY: delivery ALL OTHERS, DISPLAY: labor and delivery]?

1 Yes
2 No
999 Blank/No answer

BASE: CAREGIVERS SPOKE ABOUT WHAT HAPPENED DURING LABOR AND DELIVERY (Q1535/1)

Q1540 Was the conversation about what happened during your [IF SCHEDULED CESAREAN (Q1140/1), DISPLAY: delivery ALL OTHERS, DISPLAY: labor and delivery] helpful to you?

1 Yes
2 No
8 Not sure
999 Blank/No answer

BASE: GAVE BIRTH IN HOSPITAL (Q1115/1) OR TRANSPORTED AFTER DELIVERY (Q1127/1,2)

Q1545 Did your [IF HAD ONE BABY (Q1105/2), DISPLAY baby [IF HAD MORE THAN ONE BABY (Q1105/1), DISPLAY: babies go home with you when you left the hospital?

1 Yes
2 No, I went home before my [IF HAD ONE BABY (Q1105/2) DISPLAY: baby IF HAD MORE THAN ONE BABY (Q1105/1) DISPLAY: babies]
3 No, my [IF HAD ONE BABY (Q1105/2) DISPLAY: baby IF HAD MORE THAN ONE BABY (Q1105/1) DISPLAY: babies] went home before I did
999 Blank/No answer

BASE: GAVE BIRTH IN HOSPITAL (Q1115 NE 2,3,4) OR TRANSPORTED AFTER DELIVERY (Q1127/1,2)

Q1550 Including the day of birth, how many days did your [IF HAD ONE BABY (Q1105/2), DISPLAY: baby IF HAD MORE THAN ONE BABY (Q1105/1), DISPLAY: babies] stay in the hospital?

[RANGE: 1-XXX]
|_|_|_| days
998 My [IF HAD ONE BABY (Q1105/2), DISPLAY: baby is IF HAD MORE THAN ONE BABY (Q1105/1), DISPLAY: baby/babies are] still in the hospital 999
Blank/No answer

BASE: DELIVERED IN HOSPITAL OR BIRTH CENTER (Q1115/1,2,3)

Q1555 How much do you agree or disagree with this statement?

I needed more time in the [IF HOSPITAL (Q1115/1), DISPLAY: hospital [IF BIRTH CENTER (Q1115/2,3), DISPLAY: birth center] to get used to caring for my new [IF HAD ONE BABY (Q1105/2), DISPLAY: baby IF HAD MORE THAN ONE BABY (Q1105/1), DISPLAY: babies].

1 Strongly disagree
2 Somewhat disagree
3 Neither agree nor disagree
4 Somewhat agree
5 Strongly agree
999 Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q1560 How much do you agree or disagree with this statement?

I gave birth to [IF HAD ONE BABY (Q1105/2), DISPLAY: a healthy normal baby IF HAD MORE THAN ONE BABY (Q1105/1), DISPLAY: healthy normal babies].

1 Strongly disagree
2 Somewhat disagree
3 Neither agree nor disagree
4 Somewhat agree
5 Strongly agree

999 Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q1565 After you delivered, did your caregivers talk to you about your feelings regarding your [IF SCHEDULED CESAREAN (Q1140/1), DISPLAY: delivery ALL OTHERS, DISPLAY: labor and delivery]?

1 Yes
2 No
999 Blank/No answer

BASE: CAREGIVERS SPOKE ABOUT FEELINGS REGARDING LABOR AND DELIVERY (Q1565/1)

Q1570 Was the conversation you had about your feelings regarding your [IF SCHEDULED CESAREAN (Q1140/1), DISPLAY: delivery ALL OTHERS, DISPLAY: labor and delivery] helpful to you?

1 Yes
2 No
3 Not sure
999 Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q1575 How are you currently feeding your [IF HAD ONE BABY (Q1105/2), DISPLAY: baby IF HAD MORE THAN ONE BABY (Q1105/1), DISPLAY: babies]. Please select all that apply.

[MULTIPLE RESPONSE]

1 Breast feeding (breast milk)
2 Bottle feeding (breast milk)
3 Bottle feeding (formula)
4 Does not apply to me [EXCLUSIVE]
999 Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q1580 Within the first 24 hours after birth, did your health care providers give you information regarding…?

1 Yes
2 No
999 Blank/No answer

1 Breastfeeding
2 Bottle feeding

BASE: PROVIDERS GAVE INFORMATION ABOUT FEEDING (Q1580/1,2_1)

Q1585 Was the information they provided helpful for…?

1 Yes
2 No, I didn't want this information
3 No, I didn't need this information
4 No, the information did not answer my questions
999 Blank/No answer

[PN: ONLY DISPLAY ITEM IF YES AT Q1580.]

1 Breastfeeding
2 Bottle feeding

BASE: ALL QUALIFIED RESPONDENTS

Q1590 How would you describe the encouragement you have been receiving about breastfeeding from the following people/services?

1 Far too little
2 Too little
3 About right
4 Too much
5 Far too much
999 Blank/No answer

1 Health care providers
2 Family members
3 Friends
4 Community services, such as WIC

BASE: ALL QUALIFIED RESPONDENTS

Q1595 Did your health care providers give you practical support regarding feeding [IF HAD ONE BABY (Q1105/2), DISPLAY: baby IF HAD MORE THAN ONE BABY (Q1105/1), DISPLAY: babies] (such as how to comfortably latch your baby, or how to safely prepare formula)?

1 Yes
2 No
999 Blank/No answer

BASE: PROVIDERS GAVE PRACTICAL SUPPORT REGARDING FEEDING (Q1595/1)

Q1600 Was the information your health care providers gave you about feeding your [IF HAD ONE BABY (Q1105/2), DISPLAY: baby IF HAD MORE THAN ONE BABY (Q1105/1), DISPLAY: babies] helpful?

1 Yes
2 No
8 Not sure
999 Blank/No answer

BASE: DID NOT GIVE BIRTH AT HOME (Q1115 NE 4)

Q1605 After the birth, how long did you stay in the hospital or birth center?

1 <24 hours
2 24-less than 48 hours
3 48-72 hours
4 More than72 hours
999 Blank/No answer

BASE: DID NOT GIVE BIRTH AT HOME (Q1115 NE 4)

Q1608 Since you went home from the hospital or birth center, did you have complications from your birth (for example, infection or bleeding) that required admission to the hospital?

1 Yes
2 No
3 I have not yet gone home from the hospital
999 Blank/No answer

BASE: BABY NOT STILL IN HOSPITAL (1550 NE 998)

Q1609 Since your [IF HAD ONE BABY (Q1105/2), DISPLAY: baby IF HAD MORE THAN ONE BABY (Q1105/1), DISPLAY: babies] went home from the hospital or birth center, [IF HAD ONE BABY (Q1105/2), DISPLAY: did he or she IF HAD MORE THAN ONE BABY (Q1105/1), DISPLAY: did any one of them] have complications that required admission to the hospital?

1 Yes
2 No
999 Blank/No answer

BASE: GAVE BIRTH IN HOSPITAL (Q1115/1)

Q1610 Did you have your tubes tied (sterilization) before you left the hospital?

1 Yes
2 No, I did not plan for this
3 No, I planned to do so but changed my mind
4 No, I planned to do so but either my [IF HAD ONE BABY (Q1105/2), DISPLAY: baby IF HAD MORE THAN ONE BABY (Q1105/1), DISPLAY: babies] or I were too sick to get it done
5 No, I planned to do so, and wanted to do so, but it was not done
999 Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q1615 How much do you agree or disagree with the following statements?

1 Strongly disagree
2 Somewhat disagree
3 Neither agree nor disagree
4 Somewhat agree
5 Strongly agree
999 Blank/No answer

[RANDOMIZE KEEPING 3 & 4 TOGETHER]

1 My health care providers had a negative attitude toward me
2 There were times when no one explained to me what was going on
3 During my labor and/or birth, I felt that I could not question my doctor's or midwife's decisions
4 During my labor and/or birth, I felt that what I said or did made no difference in what occurred

BASE: ALL QUALIFIED RESPONDENTS

Q1619 This section asks for your overall opinions regarding your care.

BASE: GAVE BIRTH IN HOSPITAL, BIRTH CENTER OR AT HOME (Q1115/1-4)

Q1620 [IF GAVE BIRTH IN HOSPITAL (Q1115/1), DISPLAY: During your hospital stay, how often did the nurses treat you with courtesy and respect?]

[IF GAVE BIRTH IN BIRTH CENTER (Q1115/2,3), During your birth center stay, how often did health care providers treat you with courtesy and respect?]

[IF GAVE BIRTH AT HOME (Q1115/4), DISPLAY: DISPLAY: How often did your health care providers treat you with courtesy and respect?]

1 Never
2 Sometimes
3 Usually
4 Always
999 Blank/No answer

BASE: GAVE BIRTH IN HOSPITAL (Q1115 NE 2,3,4) OR TRANSPORTED AFTER DELIVERY (Q1127/1,2)

Q1625 During your hospital stay, how often did the doctors treat you with courtesy and respect?

1 Never
2 Sometimes
3 Usually
4 Always
999 Blank/No answer

BASE: GAVE BIRTH IN HOSPITAL (Q1115 NE 2,3,4) OR TRANSPORTED AFTER DELIVERY (Q1127/1,2)

Q1630 During this hospital stay, how often did doctors explain things in a way you could understand?

1	Never
2	Sometimes
3	Usually
4	Always
999	Blank/No answer

BASE: GAVE BIRTH IN HOSPITAL (Q1115/1) AND MIDWIFE DELIVERED BABY (Q1250/3)

Q1633 During this hospital stay, how often did midwives explain things in a way you could understand?

1	Never
2	Sometimes
3	Usually
4	Always
999	Blank/No answer

BASE: DELIVERED IN HOSPITAL (Q1115/1)

Q1635 Using a scale from 0 to 10, where "0" is the worst hospital possible and "10" is the best hospital possible, what number would you use to rate this hospital during your stay?

0	0 Worst hospital possible
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10 Best hospital possible
999	Blank/No answer

BASE: DELIVERED IN HOSPITAL (Q1115/1)

Q1640 Overall, would you recommend this hospital to your family and friends?

1	Definitely no
2	Probably no
3	Probably yes
4	Definitely yes
999	Blank/No answer

BASE: DELIVERED IN HOSPITAL (Q1115/1)

Q1645 When I left the hospital, I had a good understanding of what I needed to do to care for myself and my [IF HAD ONE BABY (Q1105/2), DISPLAY: baby IF HAD MORE THAN ONE BABY (Q1105/1), DISPLAY: babies].

1	Strongly disagree
2	Somewhat disagree
3	Neither agree nor disagree
4	Somewhat agree
5	Strongly agree
999	Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q1650 What was your overall experience of your birth?

0	0 Extremely bad
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10 Extremely good
999	Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q1655 Did the birth go as you expected?

1	No it was better
2	No it was worse
3	Yes, as expected
4	Neither better nor worse
999	Blank/No answer

BASE: ALL QUALIFIED RESPONDENTS

Q1660 I had the following type of insurance coverage for my childbirth.

1	Private insurance
2	Public insurance (for example, Medicaid/Medi-Cal)
3	I have no insurance or my insurance does not cover childbirth
999	Blank/No answer

BASE: GAVE BIRTH AT HOME (Q1115/4)

Q1665 Did your health insurance pay for your home birth?

1	Yes, completely
2	Yes, partially
3	No, I have to pay the total amount
4	I don't have health insurance
8	I don't know
999	Blank/No answer

Disclaimer:

The [views, statements, opinions] presented in this report are solely the responsibility of the author(s) and do not necessarily represent the views of the Patient-Centered Outcomes Research Institute® (PCORI®), its Board of Governors or Methodology Committee.

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