

Listening to Mothers II

Report of the Second National U.S. Survey of Women's Childbearing Experiences

Eugene R. Declercq
Carol Sakala
Maureen P. Corry
Sandra Applebaum



Listening to Mothers II

Report of the Second National U.S. Survey of Women's Childbearing Experiences

Eugene R. Declercq
Carol Sakala
Maureen P. Corry
Sandra Applebaum

October 2006

Conducted January – February 2006 for Childbirth Connection by Harris Interactive®
in partnership with Lamaze International



Recommended citation:

Declercq ER, Sakala C, Corry MP, Applebaum S.

Listening to Mothers II: Report of the Second National U.S. Survey of Women's Childbearing Experiences.

New York: Childbirth Connection, October 2006. Available at:

www.childbirthconnection.org/listeningtomothers/

© Childbirth Connection 2006

Written permission from Childbirth Connection is required prior to distributing, releasing, or reproducing excerpts of the information contained in this report or the report in full in any electronic or printed format.

ISBN-13: 978-0-9789720-2-8

ISBN-10: 0-9789720-2-3

The authors and issuing organization declare that they have no proprietary, financial, professional or other interest that could be construed as influencing the content of this report.

To purchase a paperbound copy of this report, or obtain without charge an electronic file of the full report, along with electronic files of the full survey questionnaires and other related documents, visit the Childbirth Connection website at:

www.childbirthconnection.org/listeningtomothers/

Childbirth Connection

281 Park Avenue South, 5th Floor

New York, NY 10010

p 212.777.5000

f 212.777.9320

Contents

List of Tables & Figures	III
Preface	V
Acknowledgments	VII

Executive Summary	1
--------------------------	----------

Introduction	11
Who was Included in Our Sample, and How We Reached Them	12
A Note on Reading the Text, Tables and Figures	14
A Note on the Selection of Quotations from Participants	14
Project Responsibility	15
Recommendations	15

Part 1: Planning for Pregnancy and the Pregnancy Experience	17
Planning for a Healthy Pregnancy	18
Assistance in Getting Pregnant	20
Prenatal Care	20
Sources of Information about Pregnancy and Birth	23
Childbirth Education	23
TV Shows Depicting Birth	24
Feelings as Labor Approached	25
Summary	25

Part 2: Women's Experiences Giving Birth	27
Caregiver Who was the Primary Birth Attendant	28
Labor Induction	28
Supportive Care During Labor	30
Interventions for Checking Fetal Well-Being and Relieving Labor Pain	31
Augmentation, Episiotomy, and Other Interventions	33
Freedom and Constraint in Labor	34
Mode of Birth	35
How Women Felt While Giving Birth	38
In the Hospital After the Birth	39
Baby's Birthweight, Gestational Age and Health	40
Lamaze International's Care Practices that Promote Normal Birth	40
Length of Stay	41
Summary	41

Part 3: Home with a New Baby	43
Maternity Care in the Postpartum Period	44
Breastfeeding	44
Physical Well-being in the Postpartum Period	44
Mental Health in the Postpartum Period	47
Summary	48
<hr/>	
Part 4: Mothers' Experiences with Employment and Health Insurance	49
Employment During Pregnancy and After Giving Birth	50
Paying for Maternity Care	53
Summary	53
<hr/>	
Part 5: Choice, Control, Knowledge and Decision Making	55
Opinions About Medical Intervention in the Birth Process	56
Rating the Maternity Care System	56
Opinions About Impact of Malpractice on Maternity Care	56
Knowledge of Legal Rights	57
Support for Choice Overall and in Mode of Birth	58
Pressure to Accept Interventions and Experience Refusing Them	59
Opinions About Information Needed for Decision Making	59
Knowledge About Impact of Interventions	60
Choosing a Cesarean without Medical Reason	61
Summary	61
<hr/>	
Part 6: Looking at Some Important Variations in Experience	63
Comparing Childbearing Experience and Mode of Birth	64
Comparisons by Race and Ethnicity	67
Summary	69
<hr/>	
Conclusion	71
<hr/>	
Appendix A	Methodology
	77
<hr/>	
Appendix B	Demographic Overview of Survey Participants
	81
<hr/>	
Appendix C	Comparing <i>Listening to Mothers II</i> Results and Federal Vital and Health Statistics
	82
<hr/>	
Appendix D	Major Survey Findings
	87
<hr/>	
Index	95
<hr/>	
About Childbirth Connection, Harris Interactive and Lamaze International	104
<hr/>	

List of Tables & Figures

Table 1	Mothers' reasons for visit to plan for a healthy pregnancy (w)	19
Table 2	Mothers' body mass index (BMI) and pregnancy weight gain	19
Table 3	Provider inquiry about abuse and depression during prenatal or postpartum visit	22
Table 4	Childbirth education class participation in current or past pregnancy	24
Table 5	Impact of TV shows dedicated to birth on mothers (p)	25
Table 6	Rates and effectiveness of attempted self-induction and medical induction	29
Table 7	Reasons for attempting self-induction and medical induction	29
Table 8	Effectiveness of pain relief methods	32
Table 9	Mode of birth	35
Table 10	Reasons for primary and repeat cesarean birth	36
Table 11	Mothers' feelings while giving birth, by mode of birth	38
Table 12	Hospital support for breastfeeding, by mothers' feeding intention	40
Table 13	Infant feeding intention and actual feeding practice from 1 week to 12 months after birth	45
Table 14	Physical problems in first 2 months and at 6 or more months after birth	45
Table 15	Mothers' experience of dimensions of depression in two weeks before survey	47
Table 16	Mothers' experience with paid maternity leave benefits	50
Table 17	Challenges in mothers' transition to employment (w)	52
Table 18	Sources of payment for maternity care	53
Table 19	Mothers' attitudes about interfering with birth process	56
Table 20	Mothers' knowledge of right to informed choice (w)	58
Table 21	Mothers' support for maternal choice in mode of birth (w)	58
Table 22	Mothers' interest in knowing about complications of specific interventions	59
Table 23	Mothers' knowledge of cesarean complications (w)	60
Table 24	Mothers' knowledge of labor induction complications (w)	60
Table 25	Variation in experiences of first-time mothers, by mode of birth	65

Table 26	Variation in experiences of experienced mothers, by mode of birth	66
Table 27	Variation in experiences, by race/ethnicity	68
Table 28	Unweighted and weighted demographic profile of survey participants	81
Table 29	Comparison of <i>Listening to Mothers II</i> survey results and federal vital and health statistics	84
Figure 1	Reasons for choosing maternity care provider (p)	21
Figure 2	Number of ultrasounds	22
Figure 3	Sources of pregnancy and childbirth information, by birth experience (w)	23
Figure 4	Use of drug-free pain relief methods (w)	32
Figure 5	Use of selected interventions, by mode of birth	34
Figure 6	Initiation and timing of decision to have a cesarean	37
Figure 7	Mothers fully or partially experiencing Lamaze International's "normal birth" care practices	41
Figure 8	Degree to which pain interfered with routine activities in first two months after birth, by mode of birth	46
Figure 9	When mothers began employment after giving birth	51
Figure 10	Mothers' perspectives on impact of malpractice (w)	57

Preface

Childbirth Connection's ongoing *Listening to Mothers*[®] Initiative is devoted to understanding experiences and perspectives of childbearing women and using this knowledge to improve maternity policy, practice, education and research. *Listening to Mothers* surveys are central to this initiative. They enable us to compare actual experiences of childbearing women and newborns to mothers' preferences, as well as to optimal evidence-based care, optimal outcomes, and protections granted by law. Identified gaps present opportunities to improve conditions during this crucial developmental period for over four million mothers and babies annually in the United States.

The landmark *Listening to Mothers I* survey (2002) was the first time that women in the United States were polled at the national level about their maternity experiences. It offered an opportunity to understand many dimensions of the maternity experience that had not previously been measured nationally, and provided what are likely to be much more accurate figures for numerous items that are measured but have been shown to be undercounted in other national data sources. *Listening to Mothers I* results have been well received and widely cited. Most importantly, health plans, hospitals, professional organizations, advocacy groups and others have used the survey results to inform their efforts to improve maternity care and women's satisfaction with their maternity experiences.

Listening to Mothers II, a national survey of U.S. women who gave birth in 2005, continues to break new ground. In addition to continuing to document many core items measured in the first survey, the second survey also explored some topics in greater depth and some new and timely topics. We recontacted mothers six months after they participated in *Listening to Mothers II*, and most also participated in a follow-up survey that focused on their postpartum experiences. We will issue a separate report with results from the postpartum survey in 2007. However, this report presents results for the few follow-up survey items relevant to the mothers' experiences of being pregnant and giving birth. Childbirth Connection's *Listening to Mothers II* surveys were conducted by Harris Interactive[®] and carried out in partnership with Lamaze International. The *Listening to Mothers II* National Advisory Council provided guidance on survey development, implementation and reporting.

Numerous documents related to this report are or will be available, with a full inventory at www.childbirthconnection.org/listeningtomothers/. Survey questionnaires and a PDF file of the Executive Summary of this report are freely available on the website. Print or electronic versions of the full *Listening to Mothers II* report can be purchased there, and the *Listening to Mothers II* postpartum survey report will likewise be available in 2007. After publication of that report, Childbirth Connection will issue and post online recommendations based on results of *Listening to Mothers II* surveys.

This report and the upcoming postpartum survey report present just a small portion of results from this rich and extensive combined dataset. Additional analysis will go into greater depth about many specific topics. In addition to journal articles, we will issue and publish online free quarterly briefs that provide detailed coverage of such topics as pelvic

floor health, vaginal birth after cesarean, labor pain, labor induction, breastfeeding, comparison of results from the 2002 and 2006 surveys and examination of disparities in maternity care. A registration service for receiving email notices when new briefs are published is at www.childbirthconnection.org/register.asp

The *Listening to Mothers* survey questionnaires are valuable tools that can be applied to other populations — to understand, for example, maternity experiences at the state level, within a health plan, among women using a particular hospital, or at the national level in another country. We would welcome the opportunity to collaborate with others who wish to better understand mothers' experiences in a diverse range of contexts in order to improve conditions for mothers, babies and families.

The survey results reported here reveal a broad array of gaps between the actual experiences of mothers and babies and more optimal conditions. We hope that those involved with maternal and infant health will review the results and identify priority areas for quality improvement within their own work. We also hope survey results will increase awareness among childbearing women of these widespread concerns and motivate them to learn more about safe and effective care, understand their maternity rights and seek the best possible care and life circumstances for themselves and their babies.

Acknowledgments

We want to express our gratitude to the mothers across the United States who freely shared their maternity experiences with us at a time when, as they told us, relatively few were feeling rested and organized. Special thanks to Childbirth Connection's Board of Directors for its vision and financial commitment to Childbirth Connection's *Listening to Mothers*[®] Initiative. We are also grateful to Lamaze International for providing partial financial support and working with us to plan the survey and disseminate survey results. Jason Pike, Paul Robinson and David Liana at Harris Interactive[®] provided exemplary programming and data analysis support. Betsy Urick Johnson of Integrate, Inc. designed this report. Eugene Declercq's work was partially supported by grants from the Robert Wood Johnson Foundation and Childbirth Connection. He was assisted in his work by Boston University School of Public Health students Shaula Forsythe, Debbie Cunningham and Megan Smith.

We are grateful to members of the *Listening to Mothers II* National Advisory Council, who attended a national planning meeting and provided interim support on the development, implementation, and reporting of the survey. Their multi-disciplinary perspectives have strengthened this project in many ways. They are:

Eugene R. Declercq, PhD, MBA

Council Chairperson, Boston University School of Public Health

Cheryl Beck, DNSc, CNM, FAAN

University of Connecticut, School of Nursing

Katherine Browne, MPH

National Partnership for Women and Families

Carol Bryce-Buchanan

Families and Work Institute

Kathryn Phillips Campbell, MPH

National Business Group on Health

Maureen P. Corry, MPH

Childbirth Connection

Lisa Eng, DO

American College of Obstetricians and Gynecologists, District II

Joel Evans, MD

Childbirth Connection Board of Directors

Robin Field, MD

Society for Maternal-Fetal Medicine

Lynda Garrett, RN, MPH

Kaiser Foundation Hospitals

Ann F. Grauer, CD(DONA), LCCE, PCD(DONA)

DONA International

Linda L. Harmon, MPH

Lamaze International

Jane Honikman, MS

Postpartum Support International

Holly Powell Kennedy, CNM, PhD, FACNM

American College of Nurse-Midwives

Danielle Laraque, MD, FAAP

American Academy of Pediatrics

Judiith Lothian, RN, PhD, LCCE, FACCE

Lamaze International

Élan McAllister

Choices in Childbirth

Judy Meehan,

National Healthy Mothers, Healthy Babies Coalition

Christopher Parker, PhD, MPH, MPA

National Center on Birth Defects and Developmental Disabilities, Centers for Disease Control and Prevention

Joann R. Petrini, PhD, MPH

March of Dimes

Richard G. Roberts, MD, JD

American Academy of Family Physicians

Carol Sakala, PhD, MSPH

Childbirth Connection

Debora Sawyer, MD

Permanente Medical Group

Kathleen Rice Simpson, PhD, RNC, FAAN

Association of Women's Health, Obstetric and Neonatal Nurses

The authors and issuing organization bear full responsibility for the content of this report, which does not necessarily reflect the views of other individuals and groups named above.

Executive Summary



Childbirth Connection's ongoing *Listening to Mothers*[®] Initiative is devoted to understanding experiences and perspectives of childbearing women and using this knowledge to improve maternity policy, practice, education and research. *Listening to Mothers* surveys enable us to compare actual experiences of childbearing women and newborns to mothers' preferences, as well as to evidence-based care, optimal outcomes, and protections granted by law. Identified gaps present opportunities to improve conditions for this large and important population during this crucial period.

The landmark *Listening to Mothers I* report (2002) described the first national United States survey of women's maternity experiences. It offered an unprecedented opportunity to understand attitudes, feelings, knowledge, use of obstetric practices, outcomes and other dimensions of the maternity experience. *Listening to Mothers II*, a national survey of U.S. women who gave birth in 2005, continues to break new ground. While continuing to document many core items measured in the first survey, the second survey included much new content to explore earlier topics in greater depth and some new and timely topics. Most mothers who participated in *Listening to Mothers II* also participated in a follow-up survey that focused on their postpartum experiences. *The Listening to Mothers II* survey report presents results of *Listening to Mothers II* and the few items from the follow-up survey about pregnancy and birth experiences. A future report will focus on postpartum experiences explored in the follow-up survey.

The Survey

The *Listening to Mothers II* survey was developed through collaborative efforts of core teams from Childbirth Connection, Boston University School of Public Health and Harris Interactive[®], with the support of the *Listening to Mothers II* National Advisory Council and in partnership with Lamaze International. Harris Interactive administered the survey.

For *Listening to Mothers II*, 200 mothers were interviewed by telephone, and 1,373 completed an online version of the survey. All 1,573 survey participants had given birth to a single baby (mothers with multiple births were excluded) in a hospital in 2005. The interviews, averaging approximately 30 minutes in length, were conducted in January-February 2006. There were many indications that the mothers were exceptionally engaged in the survey and interested in having their voices heard, including their willingness to take more time answering questions than typical survey respondents and to provide detailed responses to open-ended questions that asked about best and worst aspects of their experiences while giving birth. We took special efforts to ensure a representative national sample through over sampling of mothers who were ethnic minorities in the telephone portion of the survey. To develop a national profile of childbearing women, the data were adjusted with demographic and propensity score weightings using methodology developed and validated by Harris Interactive. The resulting survey population is representative of U.S. mothers 18-45 who gave birth to a single infant in a hospital in 2005. The respondents are generally comparable to published national data for U.S. birthing mothers on critical factors such as age, race/ethnicity, parity, birth attendant and method of birth.

A total of 903 of the original mothers participated in the postpartum survey, either online or by phone, in July-August 2006, and those data were likewise weighted to obtain a nationally representative view of the target population.

Planning for Pregnancy and the Pregnancy Experience

Survey topics relating to planning for pregnancy and being pregnant were designed to increase understanding of mothers' readiness for pregnancy, their experiences with prenatal care, and various influences on their knowledge, attitudes and feelings at this time.

Our results identified areas for improvement relating to readiness for pregnancy; more than four out of ten mothers did not intend to be pregnant, either by that time or at all; about half had a body mass index considered to be "overweight" or "obese" when they became pregnant; and most did not have a visit to plan for a healthy pregnancy.

On the plus side, most mothers learned of their pregnancies in the early weeks of pregnancy, started prenatal care well within the first trimester and when they wanted to, and saw the same provider throughout pregnancy. However, just a small proportion of mothers visited multiple providers before selecting their own or sought a provider or hospital matching their own philosophy. Most obtained care from obstetricians as opposed to family physicians and midwives. Virtually all women had ultrasounds, and most had several. Though most mothers reported that caregivers did not ask about abuse or depression during pregnancy, most were informed during prenatal visits about signs of prematurity and were confident of being able to recognize them.

First-time mothers identified books as their most important source of information about pregnancy and childbirth, and those who had given birth before relied most on their own prior experiences. Far more mothers were exposed to childbirth through TV shows than through childbirth education classes. As they neared the end of pregnancy, most women felt confident and a majority also felt fearful about their upcoming birth.

Women's Experiences Giving Birth

In the United States, the great majority of pregnant women are healthy and have good reason to anticipate uncomplicated childbirth, so we wanted to understand who provided care for the women and what their experiences were at this time.

When giving birth, most mothers again received care from obstetricians (79%), with a minority having family physicians or midwives as birth attendants. Most had as their birth attendant the person who had been their primary prenatal caregiver, but a large minority had never or had only briefly met their birth attendant. Nearly all mothers (96%) reported receiving supportive care (comfort, emotional support, information) for some period while in labor from at least one person, most often husbands/partners or the nursing staff. Mothers generally rated sources of support highly, with doulas receiving more favorable ratings than others.

Despite the primarily healthy population and the fact that birth is not intrinsically pathologic, technology-intensive childbirth care was the norm. Each of the following interventions was experienced by most mothers: continuous electronic fetal monitoring, one or more vaginal exams, intravenous drip, epidural or spinal analgesia, and urinary catheter. Half of the mothers experienced one or more methods of inducing labor (attempted

medical and/or self-inductions), and a notable minority experienced each of the following: labor that was induced, synthetic oxytocin (Pitocin) during labor, artificially ruptured membranes during labor, narcotics, cesarean section, episiotomy, perineal stitches, staff-directed pushing and a staff member pressing on the mother's belly to help push the baby out. The combination of interventions depended to a large degree on whether the birth was vaginal or cesarean.

About one mother in three (32%) gave birth by major abdominal surgery, evenly divided between first-time and repeat cesareans. Although the media and some health professionals have given much attention to the phenomenon of "maternal request" cesareans, just one mother among the 252 survey participants with an initial (primary) cesarean reported having had a planned cesarean at her own request with no medical reason. Similarly, just one mother (in a repeat cesarean) reported having a cesarean in the belief that it would help avoid incontinence later in life, despite extensive media and professional focus on cesarean as a purported preventive measure for long-term pelvic floor problems. A small proportion of mothers with a previous cesarean (11%) had a VBAC (vaginal birth after cesarean), though quite a few would have liked to have had the choice but had providers or hospitals unwilling to support their vaginal births.

Small proportions of women experienced numerous forms of care that are especially appropriate for healthy low-risk women, including: use of several highly rated drug-free methods of pain relief (e.g., immersion in a tub, shower, use of large "birth ball"), monitoring the baby with handheld devices, drinking fluids or eating during labor, moving about during labor, giving birth in non-supine positions, and pushing guided only by their own reflexes.

About one-quarter or more mothers said that they had felt "weak," "overwhelmed" and other negative feelings while giving birth, and about one-fifth or more chose "powerful," "unafraid" and other positive feelings.

Despite the importance of early contact for attachment and breastfeeding, most babies were not in their mothers' arms during the first hour after birth, with a troubling proportion with staff for routine, non-urgent care (39%). For the rest of the hospital stay, most mothers and babies experienced rooming in. Although 61% of the mothers wanted to breastfeed exclusively as they neared the end of their pregnancy, just 51% of all mothers were doing so one week after birth, a troubling missed opportunity. Babies of many mothers who intended to breastfeed exclusively were given formula or water "supplements" (38%) and a pacifier (44%), and most of their mothers received formula samples or offers (66%). Over one-third of mothers perceived that the staff was neutral about feeding method or preferred formula.

A very tiny minority (2%) experienced all of the care practices that promote normal birth and are endorsed by Lamaze International.

Home with a New Baby

Being pregnant, giving birth and becoming a new parent present challenges to many women. As described in the previous section, most women experience a range of

consequential surgical and other interventions while in labor and giving birth. We developed a series of questions to understand how the mothers were doing physically and emotionally in the postpartum period as they recovered from birth experiences, continued to undergo physical changes and took on new responsibilities.

Nearly all mothers had at least one maternity care office visit from 3 to 8 weeks after giving birth. Only a small proportion of providers asked about verbal or physical abuse, while most asked about depression.

Among mothers who had given birth at least seven months earlier, 27% met the international standard of exclusive breastfeeding for at least 6 months.

Nearly all mothers gave high ratings to the health of their infants, but many indicated that they themselves experienced various new-onset health problems in the first two months after birth. Most mothers identified physical exhaustion (62%) and sore nipples/breast tenderness (59%) as problems, and most mothers with cesareans identified pain at their incision site as a problem (79%). Notable minorities experienced numerous other problems. In the first two months, several problems were significantly more likely among women who had had cesareans or episiotomies, and urinary problems were more common among women with vaginal births. More so than other conditions, physical exhaustion (25% of all mothers) and pain at the cesarean incision site (18% of cesarean mothers) persisted to six months or more. Many mothers, and especially cesarean mothers, reported that pain had interfered with everyday activities in the first two months after birth. At the time of the survey, most mothers had a body mass index considered to be “overweight” or “obese,” with little change in the distribution between 3 and 12 months postpartum.

The Postpartum Depression Screening Scale (PDSS) Short Version, with items measuring 7 symptoms that are common features of postpartum depression, revealed that almost two out of three mothers (63%) were suffering some degree of depressive symptoms in the two weeks before the survey. The most common symptoms were shifting emotions and difficulty sleeping even when the baby was sleeping. About one in five mothers had consulted a professional with concerns about her mental health since giving birth, and those with higher PDSS scores were more likely to have done so.

Mothers' Experience with Employment and Health Insurance

Many new mothers face challenges in taking time off from employment to care for their babies and themselves and in balancing family responsibilities and employment. We developed a series of questions to better understand the transition of mothers from and to employment or their decision to stay home with the baby. We also asked mothers about maternity leave benefits and sources of payment for their maternity care.

Most mothers who were employed during pregnancy worked at their jobs until very shortly before their due dates. Most survey participants received no financial support at all for maternity leave. Most who did receive paid maternity leave received 8 weeks or less and at least half of their salary. Fully 84% of mothers who had been employed during pregnancy and had returned to paid work had done so within 12 weeks of giving birth. Overall, 36% of mothers had assumed responsibility for paid work by 12 weeks postpartum.

Most mothers who had returned to paid work by the time of the survey reported that they had not been able to stay home with their babies as long as they liked. The most common challenge in their transition to employment was being apart from their babies, followed by making child care arrangements and breastfeeding issues. Most mothers who were not employed at the time of the survey and had given birth at least three months earlier reported that they were not employed because they chose to stay home with their babies.

Private insurance paid for all or some of the maternity care bills for most (60%) mothers. More than four in ten (41%) received Medicaid or similar government benefits for all or some of their care. Over one-third (37%) paid for some maternity care bills out of pocket, and the median expense for those mothers was \$1,000. One percent of mothers were responsible for the entire bill.

Choice, Control, Knowledge and Decision Making

In addition to exploring women's experiences over the course of the childbearing period, we wanted to understand their views about the birth process, maternity decision making and the care to which they had access.

Despite experiencing high rates of a broad range of interventions while giving birth, half felt that giving birth is a process that should not be interfered with unless medically necessary, while others were divided evenly between feeling uncertain and disagreeing.

Mothers generally gave high ratings to the quality of the United States health care system and even higher ratings to the quality of maternity care in the U.S. Their opinions about the impact of the malpractice environment on maternity care, however, recognized concerns. Large proportions felt that malpractice pressures led to increased charges and unnecessary tests and cesareans, and caused providers to stop offering maternity services. On the other hand, most felt that the malpractice environment caused providers to take better care of their patients.

By law and through ethics statements of leading professional organizations, women are entitled to full informed consent or informed refusal before experiencing any test or treatment. Most mothers stated that they had fully understood that they had a right to full and complete information about any care that was offered and to accept or refuse any offered care. A similar understanding was reflected in their views of a woman's right to choose her mode of birth: nearly all felt a woman with no previous cesarean should be able to have a vaginal birth if she wanted and the great majority (85%) supported the right to choose a VBAC (vaginal birth after cesarean); fewer than half, however, supported the right to choose an initial cesarean.

A small proportion of mothers reported experiencing pressure from a health professional to have labor induction (11%), epidural analgesia (7%) and cesarean section (9%). We asked mothers whether they had declined any forms of care for themselves or their babies during their hospital stay. Despite the very broad array of interventions presented and experienced, widespread belief in the value of avoiding unnecessary interference, and a high degree of understanding about the right to informed refusal, just a small

proportion (10%) had refused anything during this period. Of concern, the great majority of mothers who had experienced episiotomy (73%) stated that they had not had a choice in this decision.

We asked mothers about knowledge needed about side effects of labor induction, epidural analgesia and cesarean before deciding to have these interventions. In every case, virtually everyone felt that all (78-81%) or most (17-19%) complications should be disclosed. However, whether mothers had had the specific intervention or not, they were poorly informed about a series of complications of labor induction and cesarean section: most had an incorrect understanding or were not sure.

Finally, we asked mothers whether in a future birth they would be inclined to choose a cesarean for no medical reason if they had the option. Despite their support for a woman's choice and their limited understanding of adverse effects of cesareans, nearly all women who had given birth vaginally would not be inclined to choose an elective cesarean, while those who had had a cesarean were evenly divided.

Looking at Some Important Variations in Experience

Women's childbearing experiences can vary considerably depending on their circumstances. It is important to go beyond overall responses to understand the experiences of key subgroups.

For some matters, there are little or no differences between cesarean and vaginal mothers, between experienced and first-time mothers, and across three race/ethnicity groupings. However, we found many areas where experiences varied markedly through the course of the maternity period.

In comparison with first-time mothers with a vaginal birth, those with a cesarean had different: personal traits (less confident as they approached labor), care arrangements (less likely to have midwife), feelings while giving birth (less capable and powerful), and interaction with newborns (less contact in hospital).

In comparison with experienced mothers with a vaginal birth, those with a cesarean had different: personal traits (less confident as they approached labor), care arrangements (less likely to have midwife), birth interventions (less medical induction and epidural analgesia), feelings while giving birth (less capable and powerful, more frightened and overwhelmed), interaction with newborns (less contact in hospital), and infant feeding experiences (less breastfeeding at one week).

Comparing first-time and experienced mothers overall, experienced mothers had different: childbirth education experiences (less likely to take a class), personal traits (more confident as they approached labor), birth interventions (less likely to use pain medications), attitudes (more likely to support avoiding medically unnecessary intervention), infant feeding experiences (less likely to intend to breastfeed, more likely to achieve goal of breastfeeding).

Comparing the major race/ethnicity groupings of white non-Hispanic, black non-Hispanic and Hispanic mothers identified notable differences. White non-Hispanic mothers were least likely to have an unplanned birth, have their birth paid for by Medicaid or another government program, report feeling powerful during birth, and support unnecessary intervention in the birth process. They were most likely to experience a medical induction, intend to exclusively breastfeed and be breastfeeding at one week, and support the right to choose a VBAC. Black non-Hispanic mothers were least likely to have a midwife or family physician, have met their birth attendant prior to the birth, be married or have a partner at the time of birth, and rate the U.S. maternity care system positively. They were most likely to have a provider discuss prematurity with them and to have experienced a cesarean. Hispanic mothers were least likely to experience a primary cesarean and support a mother's right to choose a VBAC, while they were most likely to want to know the sex of their baby before it was born, feel capable and overwhelmed and have the baby in their arms immediately after birth.

Conclusion

What happens to childbearing women, infants and families matters deeply. A vast body of evidence is accumulating about lifelong implications for babies of the medical, physical, and social environment during this crucial period. Growing evidence also supports the long-term impact on maternal well-being of conditions at this time — for example, whether mothers have a cesarean or breastfeed. *Listening to Mothers II* survey results allow us to identify opportunities to improve these conditions by comparing actual experiences of mothers and their infants to their preferred experiences, to care to which they are legally entitled, to care supported by best evidence, and to optimal outcomes.

Some survey results indicate that U.S. maternity experiences are generally on track. The predominant picture that emerges from our data, however, is of large segments of this population experiencing clearly inappropriate care that does not reflect the best evidence, as well as other undesirable circumstances and adverse outcomes. It is reasonable to project that concerns involving a majority of mothers impact millions of mothers or babies annually. With 4 million U.S. births annually, a single percentage point represents about 40,000 mothers and babies per year.

Concerns were documented through the entire childbearing cycle, beginning with high levels of unplanned pregnancies, entering pregnancy with excess weight, and low levels of prenatal screening for abuse and depression. Women's typical experiences during labor and birth were especially troubling. Many women did not have the childbirth choices or knowledge they wanted. Support for women's intrinsic capacity for physiologic childbirth appeared to be extremely limited. Large proportions experienced numerous labor and birth interventions of benefit for mothers with specific risk conditions, but inappropriate as routine measures. These interventions left healthy women immobilized, vulnerable to high levels of surgery and burdened with health concerns while caring for their newborns. Most mothers did not have paid maternity leave, and many assumed employment responsibilities within weeks of giving birth. Most who had been employed during pregnancy reported being unable to stay home with their babies as long as they liked. Just about one in four met the international standard for duration of exclusive breastfeeding.

Our survey results identify many opportunities to close gaps between actual and more optimal experiences through policy, practice, education and research. It is important to implement strategic clinical, public health, payment, and family support policies at national, state, local and corporate levels. In clinical and health systems practice, there is a critical need to ensure access to safe, effective care that is appropriate for childbearing women and to honor women's legal right to truly informed choice. Education priorities include strengthening all phases of health professions education and improving the knowledge and skills of childbearing women. Knowledge of evidence-based maternity care and skills for achieving safe vaginal birth are urgent priorities for health professions education. Greater transparency about health system options (including performance at provider and hospital levels) and responsible high-quality mass media content can play major roles in helping women make wise choices. We have growing and extensive knowledge about safe and effective maternity practice, so research priorities must focus on filling in gaps and better understanding how to translate our knowledge into practice. With the will and the skill, we can seize these opportunities to enhance the well-being of mothers, babies and families.

Introduction



This report continues an ongoing initiative of Childbirth Connection (formerly Maternity Center Association) to focus the discussion of maternity care in the United States on the people who care about it the most: mothers themselves. *Listening to Mothers I* (2002) and the present *Listening to Mothers II* surveys are the first systematic national studies of U.S. mothers' perceptions of their childbearing experiences. They have documented for the first time at the national level the frequency of many practices and experiences from before pregnancy through the postpartum period that have been recorded only at the clinical, community or state level, if at all, in the past. The surveys also document many data items that are also collected in the federal vital and health statistics system. The results of the *Listening to Mothers* surveys thus offer the opportunity for an unprecedented level of understanding about many dimensions of the experience of childbearing in the United States.

The study reported here was developed through the collaborative efforts of a core team from Childbirth Connection, Boston University School of Public Health and Harris Interactive, with the support of the *Listening to Mothers II* National Advisory Council (see Acknowledgments for a list of council members) and in partnership with Lamaze International. Harris Interactive administered the survey.

Who was Included in Our Sample, and How We Reached Them

Core Survey

From January 20 through February 21, 2006, 200 mothers were interviewed by telephone, and 1,373 completed an online version of the survey. We took special efforts to ensure a representative national sample through over sampling of mothers who were ethnic minorities in the telephone portion of the survey. All 1,573 survey participants were 18-45 years of age and had given birth to a single, still living baby (mothers with multiple births were excluded) in a hospital in 2005 and could respond to a survey that was in English. We excluded mothers with multiple births and with out-of-hospital births as their experiences are quite different from other mothers and the numbers that would have been included in the sample would have been too small to analyze. Mothers whose babies had died were excluded to avoid causing them added grief. If a contacted mother had lost a child, she was offered contact information for several national organizations that provide support to bereaved parents. Apart from questions about reproductive history, the survey focused on the births that had taken place in 2005. The survey took place early in 2006 to maximize maternal recall. Looking at the results by time elapsed since giving birth (0 to 12 months) allows us to cross-sectionally analyze the postpartum experiences of mothers at different periods since the birth. On average, the survey took approximately 30 minutes to complete.

Online Subsample

Because surveys administered online take less time than those administered over the phone, we had the opportunity to ask additional questions of the online sample and we took advantage of that. However, this required decisions about which questions to ask of all participants and which to ask of just online participants. In many instances, we asked a question of only the 1,373 online respondents when repeating a topic from the 2002 survey and/or following-up on a question asked of all mothers.

When a finding refers to a question asked only of those participating through the World Wide Web, it is noted by the inclusion of the symbol “(w)” in the sentence discussing the finding and in any tables or figures based on this sample.

Postpartum Survey

Childbirth Connection also sponsored a follow-up survey (from July 20 to August 23, 2006) among *Listening to Mothers II* participants 6 months after administering *Listening to Mothers II*. While the follow-up survey primarily focused on the mothers’ life experiences since giving birth, we did include several additional questions related to their pregnancy and birth experiences. As the pregnancy and birth items relate most directly to the topics discussed in this report, we have included that handful of results here and will describe remaining results in a future report. As with online respondents, we make clear when a result is drawn from the postpartum survey by including the symbol “(p)” indicating a specific result from the postpartum survey. The postpartum survey was shorter than the original survey and we were able to ask all participants all of the questions.

Postpartum survey results are based on completed questionnaires from 903 mothers (859 online and 44 telephone participants) who had given birth in 2005. The online survey took approximately 20 minutes to complete, and the same questions in telephone format took approximately 30 minutes to complete.

Survey Questionnaires

The complete *Listening to Mothers II* survey questionnaire and *Listening to Mothers II* postpartum survey questionnaire are available on Childbirth Connection’s website at: www.childbirthconnection.org/listeningtomothers/. Individuals citing *Listening to Mothers II* results are encouraged to consult the questionnaires to understand the specific questions posed, choices offered and groups of women (“base”) who responded to the questions, whether all mothers or specific subgroups.

Mothers’ Survey Participation Experience

There were many indications that *Listening to Mothers II* participants were exceptionally engaged in the survey and interested in having their voices heard, including their willingness in both the online and telephone components of the survey to take more time answering questions than typical survey respondents. Moreover, a substantial majority responded to open-ended questions, most indicated a willingness to participate in follow-up research, and in fact 57% (903) responded to the postpartum survey.

Data Weighting

To develop a national profile of childbearing women aged 18 through 45 and giving birth to single babies in hospitals, the data were adjusted with demographic and propensity score weightings using methodology developed and validated by Harris Interactive. The propensity score, a measure of the propensity to be online, adjusts for the qualities of the online participants to result in a weighted sample that is more representative of mothers 18-45 as a whole. Because of the slightly different makeup of original and postpartum survey participants, a separate weighting system was developed for the postpartum results.

Demographic Profile of Respondents

The combination of the targeted telephone sampling of mothers of color and the careful weighting of data results in a population of respondents that closely mirrors the target

population — mothers 18-45 who gave birth to a single infant in a hospital birth in 2005. The profile of our respondents generally parallels a comparable national birthing population in terms of race/ethnicity, age, birth attendant, method of birth and number of times the mother had given birth.

Supplementary Material in Appendices

Appendix A provides a detailed methodology of the survey, including discussion of the relationship between the phone and online samples and of processes for weighting the results. An overview of the demographic profile of the unweighted and weighted samples appears in Appendix B. Appendix C compares *Listening to Mothers II* results to a comparable series of the most recent available figures in the federal vital and health statistics system and shows the sample to be demographically and experientially representative of the U.S. birthing population. For those interested in a brief summary of the major results, Appendix D provides a concise overview.

A Note on Reading the Text, Tables and Figures

In the tables, a pound sign (#) means that fewer than one-half percent (0.5%) of the mothers who were asked that question chose that response, and a dash (—) means that none of the mothers chose that response. Percentages may not always add up to 100% because of rounding, the acceptance of multiple answers from respondents, or exclusion of rarely chosen response categories from a table.

The term “base” is used to identify the total number of respondents answering that question. Since many questions are only asked of a subgroup of the sample (e.g., only women who had had labor induction were asked about the reason for their induction) some results may be based on small sample sizes. Caution should be used in drawing conclusions from results based on smaller samples. Readers should also be alert to exactly which population is being referred to in the tables and text since in some cases we probe the data through several layers. We try to make clear throughout exactly who is being referred to. Although this can lead to some inelegant, if accurate phrasing (e.g. “among mothers who were working full-time during pregnancy, received maternity benefits and returned to work...”), our primary goal was clarity.

As noted above, the text and figures/tables use (w) to indicate when a finding is based only on Internet respondents from *Listening to Mothers II* and use (p) to indicate results from postpartum follow-up survey respondents.

When subgroup comparisons are presented in tables, comparisons where the differences are statistically significant at the $p < .01$ level based on a chi-square test are indicated by an asterisk. When occasional comparisons noted in the text are not described in an accompanying table and are significant at the $p < .01$ level, this is noted in the text.

A Note on the Selection of Quotations from Survey Participants

Women who participated in the *Listening to Mothers II* survey were offered three opportunities to provide fully open-ended comments. We asked them to describe (1) the best thing

about their experience of giving birth, (2) the worst thing about their experience, and (3) anything else they would like to tell us about any aspect of their maternity experience. The very small subset of mothers who indicated they had a primary cesarean for no medical reason were asked to discuss the nature of the decision that led to the cesarean. A remarkable number of mothers took the time to respond to one or more of these invitations. We received many vivid and moving stories, observations, and opinions that bring the women's experiences to life. Faced with the challenge of selecting comments for this report from among this large and important set of remarks, we gave priority to either contrasts that suggest the range of women's experiences or those that illustrate notable survey results. Some quotes illustrate a situation of concern for a relatively small proportion that nonetheless impacts many mothers or babies, since over four million women give birth annually in the United States. The quotations in this report reproduce the women's exact words, though we have in some cases corrected spelling and punctuation. Additional quotations from survey participants are available at www.childbirthconnection.org/quotesfrommothers/

Project Responsibility

The survey questionnaire was developed collaboratively by Childbirth Connection, Boston University, and Harris teams and the *Listening to Mothers II* National Advisory Council. The Advisory Council met once as a group to plan and develop the questionnaire and continued to communicate by email as the survey was refined, carried out and reported. The Harris team responsible for management of the project and initial analysis of results was led by Sandra Applebaum, Research Manager, and Jennifer Colamonico, Research Manager. The data presented in this report were reviewed and in many instances further analyzed by the core team of Eugene Declercq, Boston University, Chair, *Listening to Mothers II* National Advisory Council; Carol Sakala and Maureen Corry of Childbirth Connection; and Sandra Applebaum, Harris Interactive. Harris Interactive has reviewed the entire report and finds it to be a fair and accurate depiction of the survey results.

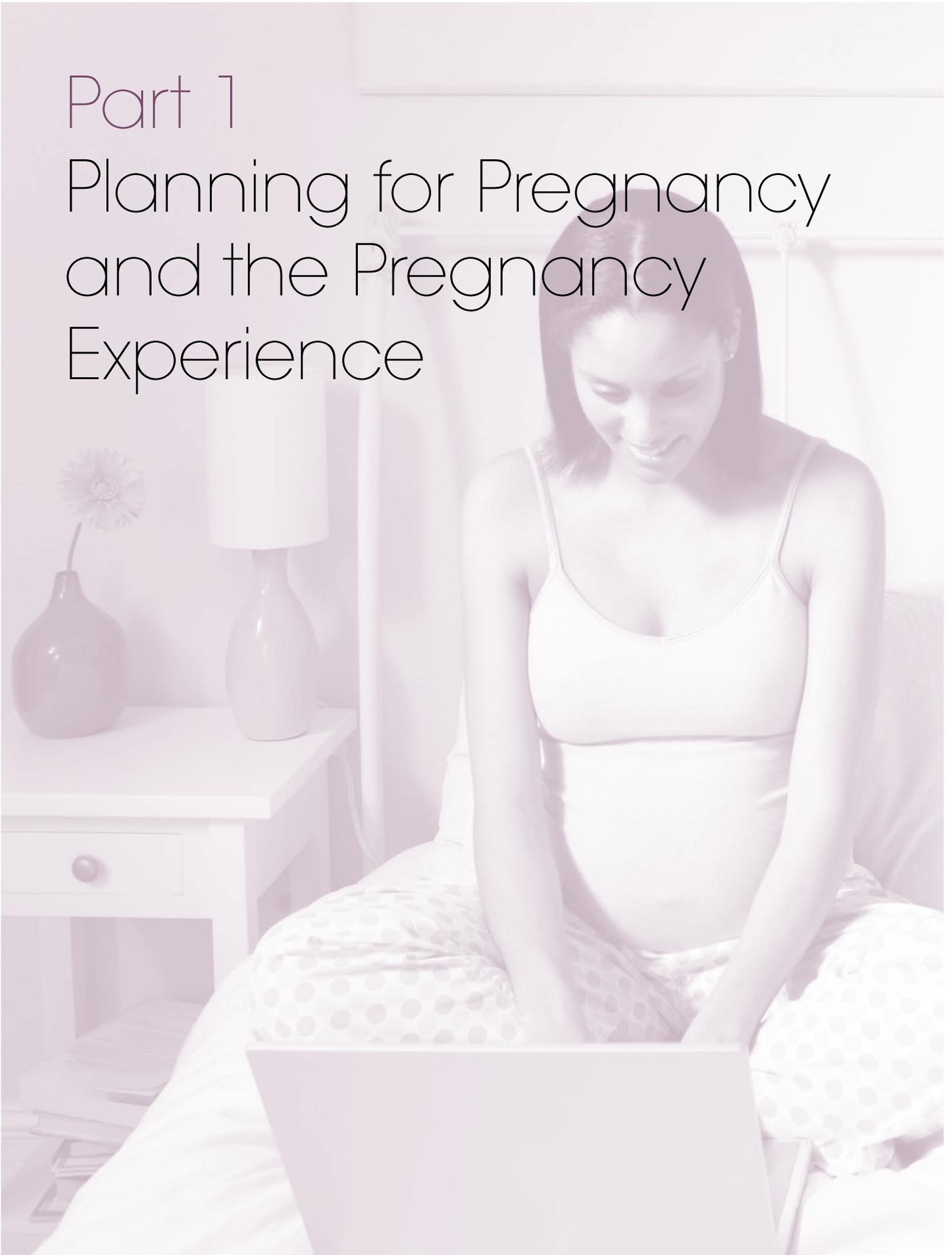
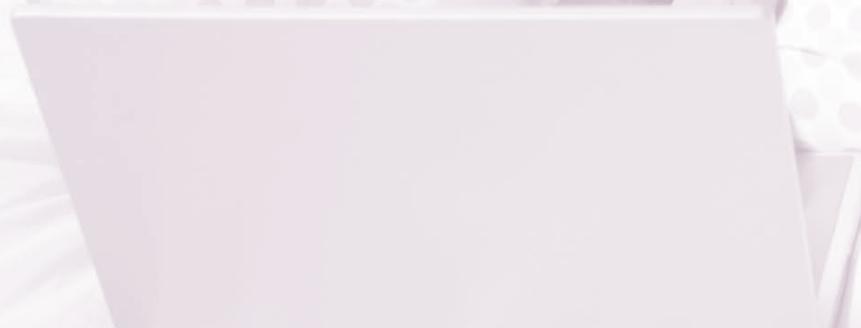
As with all Harris Interactive surveys, *Listening to Mothers* surveys comply with the code and standards of the Council of American Survey Research Organizations and the code of the National Council of Public Polls. Dr. Declercq's involvement was reviewed by the Institutional Review Board at the Boston University School of Medicine, and he was granted exempt status since the data were collected and housed securely by Harris Interactive and he and the other non-Harris authors had access to only a de-identified file provided by Harris Interactive.

Recommendations

To address issues raised by results of the *Listening to Mothers II* survey and *Listening to Mothers II* postpartum survey, Childbirth Connection is developing a set of recommendations, which will be available at www.childbirthconnection.org/listeningtomothers/ after postpartum survey results are released in 2007.

Part 1

Planning for Pregnancy and the Pregnancy Experience



Survey topics in the area of planning for pregnancy and being pregnant were designed to increase our understanding of mothers' readiness for pregnancy, their experiences with prenatal care, and various influences on their knowledge, attitudes and feelings at this time. Given increasing recognition of the importance of the period before and between pregnancies and of conditions under which women enter pregnancy, we looked at whether the pregnancies were intended, whether women began pregnancy with excess weight, and whether they saw a provider ahead of time for help with chronic conditions or other matters. Prenatal care topics included how women selected caregivers, when they started prenatal care and whether the timing suited them, whether prenatal visits covered several major concerns (abuse, depression, prematurity), and their experience with ultrasounds and learning the sex of the babies. We asked mothers to identify their most important sources of information about pregnancy and childbirth, to describe their experience with and impact of both childbirth education and TV shows designed to depict birth experiences, and their feelings as they approached labor. We did not cover some important prenatal topics (e.g., smoking, alcohol use) that are included on birth certificates and/or in large public health surveys.

Planning for a Healthy Pregnancy

Pregnancy Intendedness

Reflecting on their births in 2005, most survey participants wanted to become pregnant either prior to (15%) or at the time (42%) they became pregnant. However, for more than four out of ten women, this pregnancy was unplanned, that is, they did not want to become pregnant at that time, including about a third of all mothers (34%) who had hoped to become pregnant at some time in the future, and one in twelve (8%) who indicated that she never wanted to become pregnant.

Pregnancy Planning Visits

Excluding those mothers who never wanted to be pregnant, about three in ten women (28%) had a visit to a health care provider to plan their pregnancy (preconception visit). *Listening to Mothers II* asked those mothers (web survey only – “w”) who did have a visit why they saw a health care professional to plan for their pregnancy, and the reasons are summarized in Table 1. In most cases, mothers who had a visit were interested in checking on their overall health (for 69% of mothers, this was either their first or second most common response) or addressing miscarriage or other problems experienced with a prior pregnancy (24%), with smaller proportions mentioning an ongoing health condition (14%) or getting their weight under control (12%).

Table 1. Mothers' reasons for visit to plan for a healthy pregnancy (w)

(choose most and second most important reason)

Base: mothers who had visit to plan for a healthy pregnancy (w) <i>n</i> =406	Most Important reason	Second most important reason	Total
Wanted to check overall health	50%	19%	69%
Had problems with prior pregnancy/miscarriage/infant death	19%	5%	24%
To get weight under control	8%	4%	12%
Has ongoing health condition	7%	7%	14%
Concerned about emotional health	1%	3%	4%
Concerned about genetic disease	1%	2%	3%
Concerned about own or partner's exposure to chemicals at work	1%	1%	2%
Wanted information about smoking, drinking or substance use before getting pregnant	—	1%	1%
Other: write-ins included concerns about age, infertility, and getting prescriptions for prenatal vitamins			

Mothers' Weight

We asked mothers to report their weight at three different time periods: at the time they became pregnant; at the time of birth; and at the time of the survey. Since we also asked the mother's height, we were able to calculate Body Mass Index (BMI) and compare the results for our mothers against standardized tables that allow the BMI to be categorized into one of four groups: underweight; normal weight; overweight and obese. The results are presented in Table 2, with one fourth (25%) of the mothers in the study classified as "obese" when they became pregnant and another fourth (26%) being "overweight" as they began their pregnancy. At the time of the survey three in five mothers (w) (61%) remained overweight or obese, a finding that was largely consistent, regardless of how much time had passed since the birth. Mothers reported gaining, on average, 30 pounds during their pregnancy.

The findings on weight varied substantially by race/ethnicity, with black non-Hispanic mothers more likely to report a body mass index at the time of their pregnancy that was overweight or obese (60%) compared to white non-Hispanic (49%) or Hispanic mothers (51%). Weight gain in pregnancy was comparable across these groups but black non-Hispanic mothers generally reported losing less weight postpartum. The result was that black non-Hispanic mothers were more likely to report a current BMI in the overweight and obese range compared to white non-Hispanic or Hispanic mothers ($p < .01$).

Table 2. Mothers' body mass index (BMI) and pregnancy weight gain

Base: all mothers <i>n</i> = 1573	BMI at beginning of pregnancy	Median pregnancy weight gain	BMI at time of survey (w)
Underweight (BMI <18.5)	4%	34 lbs	3%
Normal weight (BMI 18.5-24.9)	46%	33 lbs	37%
Overweight (BMI 25.0-29.9)	26%	31 lbs	29%
Obese (BMI 30.0+)	25%	22 lbs	32%
Median weight gain in pregnancy		30 lbs	
Median weight loss postpartum (for mothers having given birth at least 3 months earlier) <i>n</i> =1087 (w)		22 lbs	

Learning about Pregnancy

We asked mothers in the postpartum survey (postpartum survey only – “p”) how they learned they were pregnant and when they learned they were pregnant, and 83% indicated they learned about their pregnancy through a home pregnancy test (on average after 5.6 weeks), while 17% indicated it was a health professional who informed them (6.6 weeks).

Assistance in Getting Pregnant

We asked mothers if they had received special medical help from a doctor or clinic to become pregnant, and 4% indicated that they had. The fact that our sample is limited to single births results in an underestimate of any national rate since assisted reproductive technologies are strongly related to multiple births. Not surprisingly, the use of infertility services was strongly related to a mother’s age and if she had given birth before, with 20% of first-time mothers who were 35 or older indicating that they received medical help to become pregnant.

Prenatal Care

First Prenatal Visit and Choosing a Provider.

We also asked mothers in the postpartum survey (p) if they were able to have their first prenatal visit at the point in their pregnancy when they wanted to; if they had visited maternity care providers before choosing one; and what their most important reasons were for choosing a provider. Most mothers (71%) indicated that they were able to have their first prenatal visit when they wanted to. Of those who did not, 6% stated it took a while to decide where they got their prenatal care and 17% simply could not get an appointment as soon as they wished, while 6% cited another reason. The overwhelming majority of mothers (83%) indicated that they did not meet with multiple providers before choosing their prenatal care provider. On average mothers had their first visit in their ninth week of pregnancy.

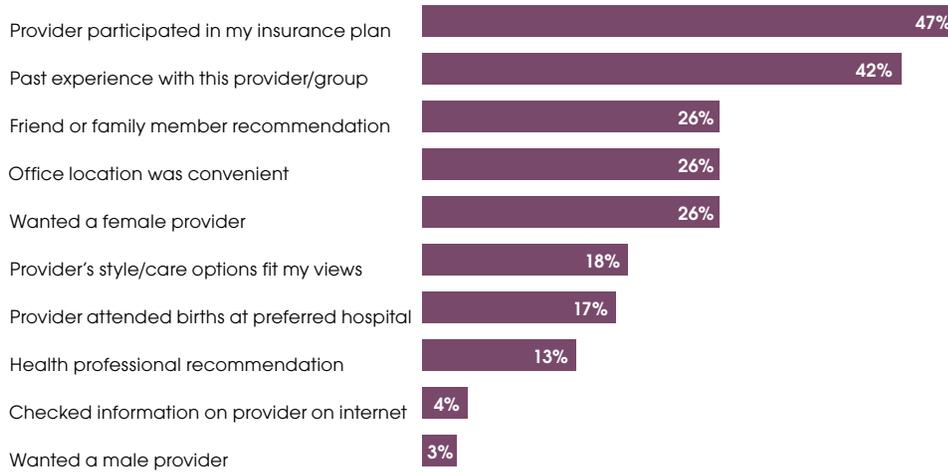
Figure 1 shows the most commonly cited reasons (p) for choosing a particular prenatal care provider. Mothers were asked to identify the three most important considerations, and the most common reasons were participation in their insurance plan (47%) and past experience with this provider or group (42%), followed by recommendation from family or friend (26%), nearby office (26%), desire for a female provider (26%), provider style that fit the mother’s philosophy (18%), and provider attended birth at a preferred hospital (17%).

“It was very disappointing to discover that my ob/gyn would not see me until the 12th week when they would start prenatal care. This is because insurance only pays a set amount per pregnancy/delivery.... This is when serious damage can be done to the fetus and the mother should be under care and not left on her own. This was not really a problem for me because I knew what to do and how to get information from other sources. However, higher-risk mothers should not be left alone for this period.”

Figure 1. Reasons for choosing maternity care provider (p)

(Choose 3 most important reasons)

Base: all mothers (p) n=903



Type of Prenatal Caregiver

For a substantial majority of our respondents (79%), an obstetrician-gynecologist was the type of caregiver most directly involved with providing prenatal care. The women who took the *Listening to Mothers II* survey indicated that in about 8% of cases, family physicians provided their prenatal care and for 9% of mothers a midwife was the primary provider of prenatal care, with the remainder scattered across nurses who are not midwives, physician assistants, unknown type of doctor and “not sure.”

Travel Distance to Care

We asked in the postpartum survey (p) how far mothers had to travel for their prenatal visits and to the hospital where they gave birth, and the average one-way distance traveled for prenatal care was 12 miles and for giving birth was 14 miles. About two-thirds of mothers traveled 10 miles or less for their prenatal visits and 15 miles or less to their place of birth.

Number of Prenatal Caregivers

The majority of women (w) always or almost always (73%) saw the same maternity caregiver for their prenatal care. Almost three in ten (27%) women, however, reported that two or more people took the lead in providing their prenatal care, and one in eight (12%) told us that four or more took the lead.

Screening for Abuse and Depression

We asked mothers if their prenatal providers had asked if they had experienced physical or verbal abuse during pregnancy and if they were experiencing feelings of depression. Overall, 35% of mothers indicated they had been asked about abuse, and 47% were asked about depression. Later in the survey, the same questions were posed concerning their postpartum visit, and those results are also reported in Table 3 and noted later in the report.

I just didn't like the fact that I had 8 people seeing me during the pregnancy and I had no idea which one would be delivering my baby. Turns out that the person who delivered my baby had only interacted with me ONCE during the many ob/gyn visits...so I wasn't that comfortable with her anyway.

Table 3. Provider inquiry about abuse and depression during prenatal or postpartum visit

Did any of your caregivers ask you if you were experiencing...?

Base: all mothers <i>n</i> =1573	Physical or verbal abuse	Feelings of depression
During prenatal visit	35%	47%
During postpartum visit	22%	58%

Signs and Symptoms of Premature Labor

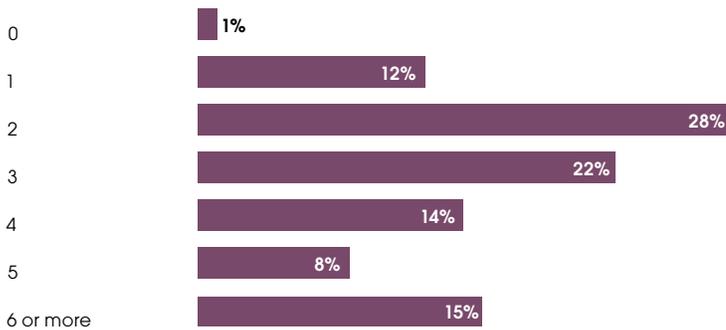
We asked mothers if their providers had discussed signs and symptoms of premature labor and how confident mothers felt about recognizing such signs. A total of 76% of mothers indicated that the issue had been discussed with them, and 87% indicated that they were somewhat or very confident of recognizing signs of premature labor.

Ultrasounds

Virtually all the mothers (99%) indicated they had had an ultrasound during their pregnancy, with a majority (59%) having 3 or more and 15% having 6 or more (Figure 2). Slightly more than half of study participants reported (w) that the ultrasound was used to predict the baby’s birthweight, with 16% of these predicting birthweights of greater than 8 pounds, 14 ounces (4000 grams), a standard used to define large (“macrosomic”) babies. As it turned out, only 12% of the babies were that large. Likewise, in 8% of cases, babies were estimated to to be in the low birthweight range (less than 5 pounds, 9 ounces, or 2500 grams), when in fact only 5% actually were.

Figure 2. Number of ultrasounds

Base: all mothers *n*=1573



Identifying the Baby’s Sex

Virtually all mothers (99%) reported (w) having the option of learning their baby’s sex from imaging (such as ultrasound) or a medical test before the birth. Most mothers (86%) indicated that they wanted to know, while 13% did not. Of those mothers who reported a prediction was made, one in fifty (2%) reported that the prediction was wrong (evenly divided between male and female babies).

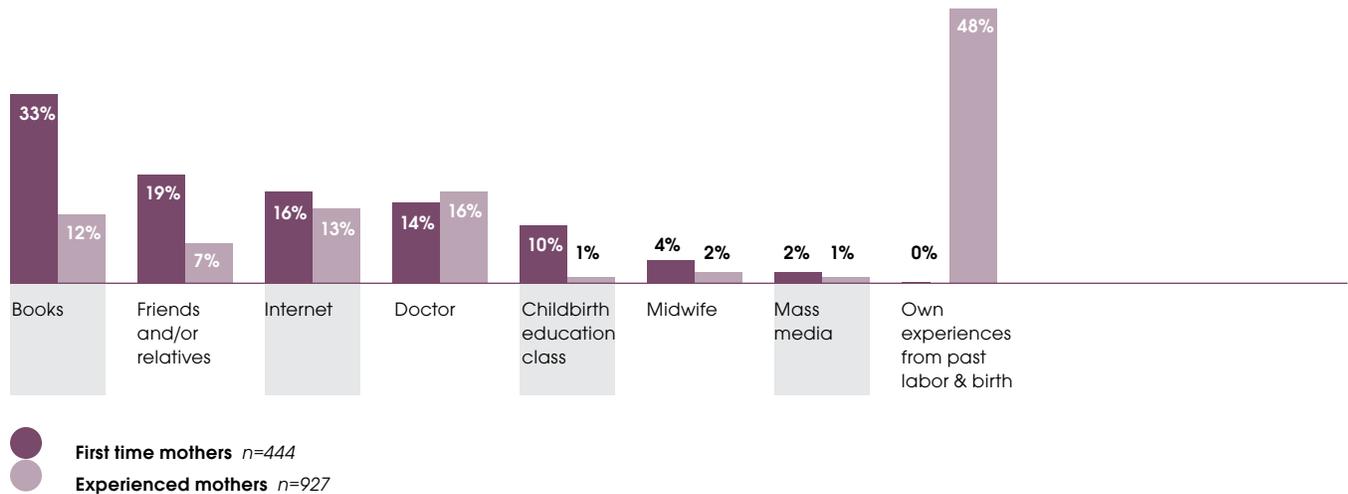
Sources of Information about Pregnancy and Birth

We asked mothers (w) to identify their most important source of information while pregnant concerning pregnancy and birth, and first-time and experienced mothers differed in their responses (Figure 3). Not surprisingly, experienced mothers primarily relied on their past experience (48%), followed by their doctor or midwife (18%), the Internet (13%) and books (12%). First-time mothers had a decidedly different pattern, with heaviest reported reliance on books (33%), friends and relatives (19%), their provider (18%) and the Internet (16%).

While the Internet may have been the primary source of information for only about one in six mothers, three in four (76%) used it at some point during pregnancy for information about pregnancy and birth (w). Among those who did (w), usage was heavy, with a median number of 20 visits reported during pregnancy, and with 19% of mothers who used the Internet reporting 100 or more Internet visits to get information on pregnancy and birth. It is important to note that the questions on Internet usage were asked only of those mothers completing the online version of the survey, which may have resulted in unusually high levels of reported usage.

Figure 3. Sources of pregnancy and childbirth information, by birth experience (w)

While pregnant, most important source of information about being pregnant and giving birth



Childbirth Education

Only one-fourth (25%) of women reported taking childbirth education classes, though this varied widely, with a majority of new mothers (56%) taking classes while only one in eleven (9%) experienced mothers took classes (Table 4). In the case of experienced mothers, almost half (47%) had taken classes in an earlier pregnancy. Combining these figures, we can say that roughly half of all mothers reported taking a childbirth education class at some point. We asked the mothers (w) where they took their classes with this pregnancy and more than four out of five (87%) attended classes at a hospital site (82%) or a doctor's or midwife's office (5%), while a few took classes in a home (2%), a health clinic (4%) or at a community site (4%).

We asked mothers (w) who took classes with this pregnancy why they did so. They could select multiple answers, and most (82%) were interested in information on labor and birth, while a third (37%) were interested in preparing for a natural birth and a fourth (26%) indicated their caregiver recommended they go. About one in nine (11%) viewed childbirth education classes as a routine part of pregnancy.

We also asked mothers (w) about the impact of childbirth education classes, and almost nine out of ten (88%) stated they had a better understanding of their maternity care options, three fourths (78%) of mothers stated they felt more confident in their ability to give birth and were able to better communicate with their caregivers (70%). A majority reported having greater trust in their hospital (60%); being less afraid of medical interventions (58%); and having greater trust in their caregivers (54%). Only one in seven (14%) felt the classes made them more afraid of birth.

Table 4. Childbirth education class participation in current or past pregnancy

	First-time mothers n=519	Experienced mothers n=1054	All mothers n=1573
Yes	56% *	9%	25%
No	44%		75%
No, took classes before		47%	
No, never took classes		44%	

*p < .01 for difference between first-time and experienced mothers

TV Shows Depicting Birth

We asked mothers (p) if during their recent pregnancy they had watched one or more of the many television shows created specifically to depict childbirth, and fully two-thirds (68%) stated they had. We provided a list of eight shows and asked how often, if at all, they watched them during pregnancy. "A Baby Story" (Learning Channel) was the show most often (47% of those who watched any of these TV shows; 32% of all mothers) "regularly" viewed by mothers, followed by "Birth Day" (Discovery Health) (35% regularly viewed by TV viewers), "Babies Special Delivery" (Discovery Health) (32%), Maternity Ward (Discovery Health) (23%) and Bringing Home Baby (Learning Channel (20%). We then asked (p) those mothers who had watched these shows what impact the shows had on them as a pregnant woman (Table 5). The most common response was "helped me to feel excited about birth" (62%) followed by "helped me understand what it would be like to give birth" (51%), though 32% of first-time mothers reported they felt more worried about their birth after watching the shows.

It was a wonderful experience. It was not at all as painful and dramatic as they show on TV during Maternity Ward or things like that.... I did not do all that screaming. It's about control and being calm.

After watching several maternity programs, I am very pleased with the delivery options at my little hospital ... Pain medication is not pushed, rooming-in is not only allowed but encouraged, they let you have as long as you want after delivery to bond before taking measurements, fully support breastfeeding, the list can go on.

Table 5. Impact of TV shows dedicated to birth on mothers (p)**What impact did the program have on you as a pregnant woman?**

	First-time mothers <i>n</i> =272	Experienced mothers <i>n</i> =337	All mothers <i>n</i> =609
Base: Watched TV shows on birth (p) <i>n</i>=609			
Helped me understand what it would be like to give birth	72%	34%	51%
Helped me feel excited about upcoming birth	59%	64%	62%
Helped me think about my past births	na	52%	na
Helped me learn about medical words and technology	48%	35%	41%
Helped me clarify my preferences for birth	38%	32%	35%
Caused me to worry about my upcoming birth	32%	15%	22%

Feelings as Labor Approached

About seven mothers in ten (71%) reported feeling confident as they approached labor. A slight majority also felt fearful (53%), and one in four felt unprepared (24%). These responses were strongly related to whether or not the mothers had given birth in the past, with first-time mothers less likely to feel confident (61% to 76%) ($p < .01$) and more likely to report being fearful (65% to 48%) ($p < .01$) and unprepared (36% to 19%) ($p < .01$) than mothers who had given birth before.

Summary

Our results identified areas for improvement relating to readiness for pregnancy with respect to mothers who: experienced unplanned pregnancies; had a body mass index considered to be “overweight” or “obese” when they became pregnant; and had not had a visit to plan for a healthy pregnancy.

Results were more favorable regarding when mothers learned of their pregnancies, when they started prenatal care, whether they first got care when they wanted it, and whether they had continuity of caregiver in pregnancy. Few, however, visited multiple providers before selecting theirs or sought a provider or hospital that matched their own philosophy. Most obtained care from obstetricians as opposed to family physicians and midwives. Most caregivers did not ask about abuse or depression during pregnancy, but did inform mothers about signs of prematurity.

Books were the most important source of information about pregnancy and childbirth for first-time mothers, while experienced mothers relied most on their own prior experiences. Far more mothers were exposed to childbirth through TV shows than through childbirth education classes. As they neared the end of pregnancy, most women felt confident and a majority also felt fearful about their upcoming birth.

Part 2

Women's Experiences Giving Birth



In the United States, the great majority of pregnant women are healthy and have good reason to anticipate uncomplicated childbirth, so we wanted to understand who provided care for the women and what their experiences were at this time. We asked about both the maternity caregiver who attended their birth and sources of supportive care during labor. We also documented use of many labor and birth interventions, including labor induction, ways of monitoring fetal well-being and helping with labor pain, numerous other interventions, and the actual mode of birth — exploring variations in vaginal birth and cesarean section. We also looked at constraints women experienced and their feelings while giving birth. And we were interested in understanding women’s experiences in the hospital after the birth and whether care at that time facilitated attachment and breastfeeding. The survey was also able to shed some light on whether U.S. women who gave birth in 2005 experienced a series of care practices that Lamaze International identifies as promoting normal birth.

Caregiver Who was the Primary Birth Attendant

Obstetricians were the primary caregivers attending the births of most (79%) of our respondents, while family physicians were birth attendants for another 7% and an additional 3% of mothers reported a doctor as the birth attendant but did not know the specialty. One out of twelve women (8%) reported that a midwife attended her birth, while in about 3% of cases, mothers reported the primary birth attendant was a nurse who wasn’t a midwife or was a physician assistant. We asked (p) about the gender of the birth attendant, and it split almost evenly between females (52%) and males (48%). Among those who had an obstetrician attend their birth, 54% were males and 46% females. Among those who said they chose their prenatal caregiver because they wanted a female provider, 86% had their birth attended by a woman.

We also asked mothers if the person who was their primary birth attendant had been their primary prenatal provider, and in the clear majority of cases (71%), it was. For nearly one in three women, however, it was someone she had either met briefly (9%) or had never met (19%). Most (74%) of the cases of births attended by nurses who weren’t midwives or by physician assistants involved someone who was unfamiliar to the mother. To get a sense of whether mothers who had given birth before had chosen their prior provider again, we also asked (p) if the person who attended their birth in 2005 had also attended a previous birth with them, and a total of 43% indicated this was the case.

Labor Induction

Self-Induction

We asked mothers if they tried to begin their labor on their own, and 22% indicated that they did. For about one in five of these mothers (21%), the self-induction worked (Table 6), meaning about 4% of all mothers in our study started their own labors. Among those mothers (w) who tried to self-induce, a variety of approaches were used, most notably walking or exercise (82%), sexual intercourse (71%) and nipple stimulation (41%). As Table 7 indicates, the most common reason (w) for attempted self-induction was a desire to “get the pregnancy over with” (58%), followed by the desire to avoid a medical induction (33%), control the timing of birth (15%) and respond to caregiver-initiated concerns about the size of the baby (10%) (mothers could select more than one response).

“The worst thing for me was not being able to see the same provider each time I went and not meeting the delivery doctor until I was already in labor.”

“I feel like I am a lucky person to have a doctor that I trust as much as I do. I am comfortable asking her any question ... I am very lucky to have found her and have her involved in very important decisions in my life and the lives of my children.”

“I totally totally recommend midwives. They are SO MUCH more involved. They coach you, console you, and don’t force you to do things you don’t want to (medical intervention). They don’t just show up at the last second to pull the baby out. They actually care!”

“The doctor was not there when I delivered. The nurse had to run in the room and catch the baby (literally).”

Table 6. Rates and effectiveness of attempted self-induction and medical induction

Base: all mothers <i>n</i> =1573	Self-induction	Medical induction	Total *
Attempted to cause labor to start	22%	41%	50%
Proportion of all labors begun	4%	34%	39%

*Total is mothers who used one or both methods

Table 7. Reasons for attempting self-induction and medical induction

(choose all that apply)

Self-induction <i>n</i> =326	Reason (w)
Mother wanted to get pregnancy over with	58%
Trying to avoid a medical induction	33%
Mother wanted to control timing of birth	15%
Caregiver concern about size of baby	10%
Caregiver concern mother was "overdue"	7%
Mother wanted to give birth with a specific provider	7%
Maternal health problem required quick delivery	4%
Concern with baby's health	2%
Broken water led to fear of infection	2%

Medical induction <i>n</i> =646	Reason (all mothers)
Caregiver concern that mother was "overdue"	25%
Maternal health problem required quick delivery	19%
Mother wanted to get pregnancy over with	19%
Caregiver concern about size of baby	17%
Water broken and fear of infection	9%
Concern with baby's health	9%
Mother wanted to control timing of birth	8%
Mother wanted to give birth with a specific provider	8%
Other: write-ins included "already dilated," "speed up labor," "close to due date"	

Medical Induction

More than four out of ten respondents (41%) indicated that their caregiver tried to induce their labor. When asked if the induction caused labor to begin, more than four out of five of those women (84%) indicated that it did, resulting in an overall provider induction rate of 34%.

Overall, half (50%) of mothers experienced medical and/or self attempts to induce labor, and 39% of labors were started either medically or through self-induction (Table 6), mostly through medical intervention. There was considerable overlap between attempted self-induction and provider induction. Three-fourths of those mothers who reported they tried to self-induce but were unsuccessful experienced an attempted induction by their provider. Of those who had an unsuccessful self induction followed by a medical induction, 84% resulted in the onset of labor. There was also overlap in the case of one technique — walking or exercise — which was both encouraged by some providers and widely used by mothers who attempted to self-induce.

"I think that my induction and delivery went very well. I have no complaints."

"I wanted to have a more natural birth, but the induction took longer than we planned. I was tired and we started the epidural along with the pitocin."

By far the most common means (w) of attempted medical induction was the use of synthetic oxytocin (Pitocin) (80% of those experiencing medical induction attempt), followed by breaking of membranes with a small tool similar to a crochet hook (49%). About one out of three women with attempted induction had a finger inserted into her cervix to “sweep” or “strip” the membranes loose (33%), and about one out of four reported a prostaglandin gel, pouch, or tablet placed near her cervix (24%). Most of the mothers who reported an attempted medical induction experienced 2 or more of the methods, the most common combination being the use of synthetic oxytocin and breaking of membranes (45% of attempted medical inductions).

The mothers reported that their caregivers had tried to induce labor for both medical and non-medical reasons. Mothers could select more than one response (Table 7), and the leading reason mothers cited was a caregiver concern that they were “overdue” (25%), followed by a maternal health problem that required the induction (19%), the mother’s desire to get the pregnancy over with (19%), and caregiver concern about the size of the baby (17%). Those mothers who cited being “overdue” as a reason for an attempted medical induction gave birth on average at 41 weeks, while those mothers who did not cite this gave birth at 39 weeks on average. Those mothers who cited “wanted to get pregnancy over with” had on average the same length of pregnancy (39.5 weeks) as those who did not cite it. Overall, 79% of mothers cited one or more of the medical reasons listed as the reason for the induction, while 35% cited one or more of the non-medical reasons (mothers could choose any that applied).

Supportive Care During Labor

Individuals Who Provided Supportive Care During Labor

While in labor and giving birth, almost all women (96%) reported (w) having received some type of supportive care. This care included helping to make them more comfortable physically, providing emotional support, or providing information. Typically, a husband or partner (82%) or the nursing staff (56%) provided this type of support. In about one third of the cases it was provided by another family member or friend (38%), a doctor (34%) or, much less frequently, by a midwife (8%), a doula (trained labor assistant) (3%), or some other person (3%).

We asked mothers about their marital status at the time of the birth and 70% reported that they were married, 24% unmarried with a partner and 5% unmarried with no partner. Of those mothers who were unmarried with no partner, 76% reported having a friend or family member with her in labor.

Knowledge of Doulas (Trained Labor Assistants)

Although only a small minority of women (3%) actually received supportive care from a doula (a trained labor assistant) during labor, four out of five of women (w) (81%) who did not receive care from a doula had heard about this type of caregiver and care, including a majority (61%) who said that they had had a clear understanding of this type of caregiver and care.

Access to Supportive Care and Quality of Supportive Care

While 37% of women (w) whose maternity caregiver was an obstetrician felt that they had

“I loved that my husband could be involved in every step. He was with me during labor and helped me walk the hospital halls. He was with me in the delivery room and helped me push. He was able to stay in the hospital with me until I went home.”

“I believe if I’d had someone there to encourage me I could have had a non-medicated birth, which is what I had planned for throughout the pregnancy.”

“The midwife and nurses that assisted with the birth were excellent in keeping me calm and comfortable.”

received supportive care in labor from a physician, 44% of women whose birth attendant was a family physician felt that they had received such care from a physician, and 66% of women whose birth attendant was a midwife felt that they had received supportive care from a midwife. Fully 100% of women who had had access to doula care felt that the doula had provided such support. Eighty-nine percent of women with a husband or partner felt that they received supportive care during labor from their husband or partner.

Mothers (w) tended to give high ratings to the quality of supportive care they received while in labor from all those listed, with more than 90% of mothers describing the quality of care as good or excellent for all six sources of supportive care. Although doulas provided supportive care to the smallest proportions of women, they were by far the most likely to be given an “excellent” rating (88%). The proportions of “excellent” ratings given to others were, in descending order: family member (other than partner/husband) or friend (73%), partner or husband (72%), doctor (71%), midwife (68%) and nursing staff (68%).

Interventions for Checking Fetal Well-Being and Relieving Labor Pain

Fetal Monitoring During Labor

For more than nine out of ten women (w) in labor (94%), electronic fetal monitoring (EFM) was used to record the baby’s heartbeat, either alone (79%) or in combination with a handheld device such as a “Doppler” or stethoscope (15%). Among women using EFM, 93% were monitored either continuously throughout labor (76%) or for most of the time during labor (17%). Only small proportions were monitored intermittently (4%) or as a baseline measure (i.e., for only a short period of time) (2%).

Seven out of ten (71%) women (w) whose baby’s heartbeat was monitored using EFM were monitored externally (i.e., around their belly only). One out of four (25%) was monitored both externally (around their belly) and internally (attached to the baby’s head), and a very small proportion (3%) was monitored internally only. Overall, only about one in thirty (3%) women were not attached to a fetal monitor and had their baby’s heartbeat monitored exclusively with a handheld device.

Use of Pain Medications

While 14% of mothers reported using no pain medication, the vast majority of women (86%) used one or more types of medication for pain relief for at least some of the time during labor. Epidural or spinal analgesia was, by far, the most common (76% of all women) form of medication used in both vaginal (71%) and cesarean (88%) births. Two out of ten women (22%) reported they were given narcotics such as Demerol or Stadol, while a small proportion underwent general anesthesia (3% overall – 7% of cesareans), used nitrous oxide gas (3%), or had pudendal or other local block injections (1%). A small proportion of mothers (8%) indicated they used pain medications but weren’t sure what they were. One in six mothers (17%) reported receiving both a narcotic and epidural or spinal analgesia.

Use of Drug-Free Methods for Labor Pain Relief

Women (w) who experienced labor used a variety of drug-free methods to increase comfort and relieve pain (Figure 4). Fully 69% used at least one non-pharmacologic method of pain relief, though none of the techniques were used by a majority of mothers.

“My doctor ... stayed with me the entire delivery and personally saw to my care ... During my past deliveries the doctor ‘called the shots’ by telephoning and arriving just in time to catch the baby. It really wasn’t a personal relationship.”

“The staff was so supportive, and my doctor really believed in me. I might’ve had a (cesarean) section with a different practitioner, but my doctor and the staff knew I did not want surgical intervention unless there was some kind of emergency.”

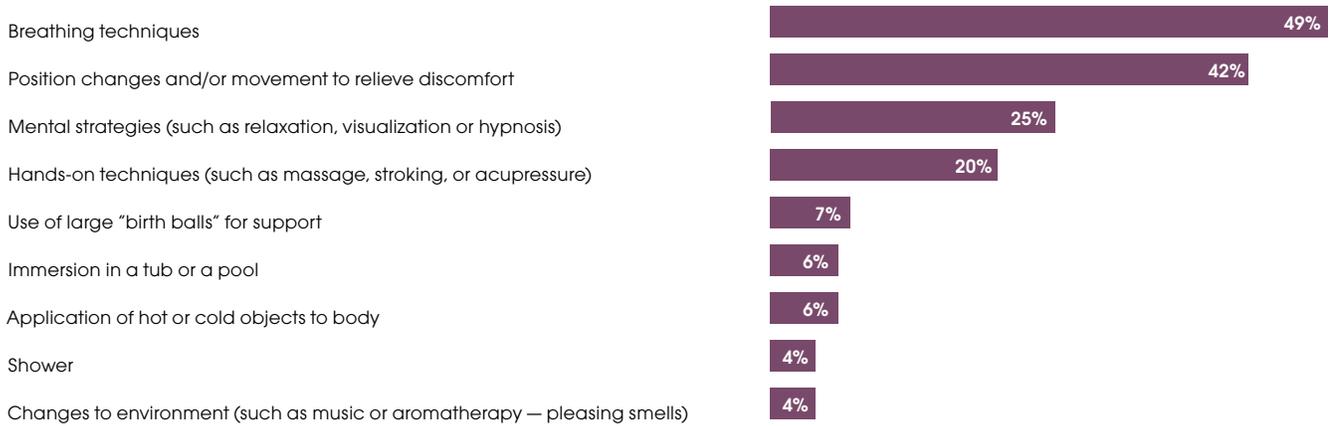
“I was able to have a completely natural childbirth (no drugs) And I was NOT in a lot of pain! I was able to get up and walk and go into a whirlpool tub throughout my labor.”

“I had an extremely long labor, and having the option of an epidural when I couldn’t stand the pain anymore was a life-saver!”

Almost half (49%) used breathing techniques, and 42% used position changes and/or movement to relieve discomfort. One out of four (25%) used mental strategies such as relaxation, visualization or hypnosis, and one in five (20%) used hands-on techniques (such as massage, stroking, or acupressure). Less frequently used methods included use of large inflatable “birth balls” (7%), immersion in a tub or pool (6%), application of hot or cold objects (6%), changes to the environment (such as music or aromatherapy) (4%) or showering (4%).

Figure 4. Use of drug-free pain relief methods (w)

Base: experienced labor (w) n=1135*



**“Experienced labor” includes mothers with a vaginal birth and those mothers with a cesarean who experienced labor before their surgery

Effectiveness of Methods for Labor Pain Relief

Table 8 presents mothers’ (w) ratings of the effectiveness of the pain relief measures they experienced. Epidurals or spinal were rated very positively as a means of pain relief, with nine out of ten (91%) women who had an epidural or spinal considering it to be “very” helpful (81%) or somewhat helpful (10%) in making them more comfortable and relieving their pain, and only 4% rated it as not helpful. Seventy-five percent of those using narcotics (e.g., Demerol or Stadol) rated them as at least somewhat helpful.

Table 8. Effectiveness of pain relief methods

Pain relief method	Base: all mothers n=1573		Base: used specified method of pain relief (w)			
	Overall using	Very helpful	Somewhat helpful	Not very helpful	Not helpful at all	
Epidural or spinal analgesia	76%	81%	10%	5%	4%	
Immersion in tub or pool	6%	48%	43%	5%	3%	
Hands on techniques (e.g., massage)	20%	40%	51%	7%	2%	
Narcotics	22%	40%	35%	15%	11%	
Birthing ball	7%	34%	33%	21%	12%	
Shower	4%	33%	45%	7%	12%	
Application of hot or cold	6%	31%	50%	13%	4%	
Mental strategies (e.g., relaxation)	25%	28%	49%	15%	8%	
Position changes	42%	23%	54%	17%	7%	
Changes to environment (e.g., music)	4%	21%	57%	20%	2%	
Breathing techniques	49%	21%	56%	17%	5%	

Mothers (w) who used the drug-free pain relief methods also generally rated them positively, with at least two-thirds of those who used each of the listed techniques finding them to be either somewhat or very helpful. Notably, mothers rated some of the less utilized methods as most helpful, particularly immersion in a tub or pool (91% at least somewhat helpful, with 48% very helpful), though just 6% of all respondents used this technique. The use of hands-on techniques (91% with 40% very helpful), application of heat or cold (81% somewhat or very helpful), showers (78%) changes in environment (78%), position changes (78%) and breathing techniques (77%) were also rated highly. One-third of mothers who used birthing balls found them to be very helpful, and another third (33%) rated them somewhat helpful, though just 7% used them.

Voluntary open-ended comments presented a more complex picture of women's use of epidurals, with mothers describing experiences such as not having access to this type of pain relief when they wanted it, getting uneven pain relief on different sides, and experiencing headaches and other adverse effects.

Augmentation, Episiotomy, and Other Interventions

Women typically experienced a variety of other interventions during labor and birth, regardless of whether or not they experienced a vaginal or cesarean birth (Figure 5). Almost one-third of mothers had a cesarean birth, which is described in greater detail below. As shown in Figure 5, in vaginal births in addition to the high levels of attempted induction, electronic fetal monitoring and pain medications described above, a substantial majority of mothers reported being given one or more vaginal exams (81%) and having intravenous (IV) fluids administered through a blood vessel in their arm (80%). More than half of mothers in vaginal births also reported receiving the following interventions: stitches near the vagina to repair a tear or cut (61%), membranes broken to release amniotic fluid after labor had begun (59%), and synthetic oxytocin (Pitocin) to strengthen or speed up contractions after labor had begun (55%). Substantial proportions of vaginal birth mothers also had a catheter to remove urine (43%) or an episiotomy (25%). One in fourteen (7%) had an enema or laxative, and 3% had their public hair shaved.

The one-third of mothers with cesarean births experienced a different combination of interventions, including 90% with an IV, 88% with an epidural, 86% with continuous fetal monitoring, 85% with a bladder catheter, and 67% with shaved public hair. One fourth (25%) of mothers with a cesarean had experienced an attempted induction, 30% received synthetic oxytocin to speed labor, and 22% experienced broken membranes, also in an attempt to speed labor.

Overall, 83% of mothers reported being on an IV, 76% had an epidural, 75% had one or more vaginal exams, 56% were catheterized, 47% reported that their membranes had been broken after labor began, and 47% were given synthetic oxytocin to speed up labor. In all, to induce and/or speed up labor, 50% of the mothers experienced synthetic oxytocin and 65% had their membranes broken.

“I was ... impressed with just how much pain I could tolerate and I found myself to be a stronger woman than I thought.”

“Taking a labor class is a good idea, even if you do plan on taking some type of pain killers, because women need to know all of their options.”

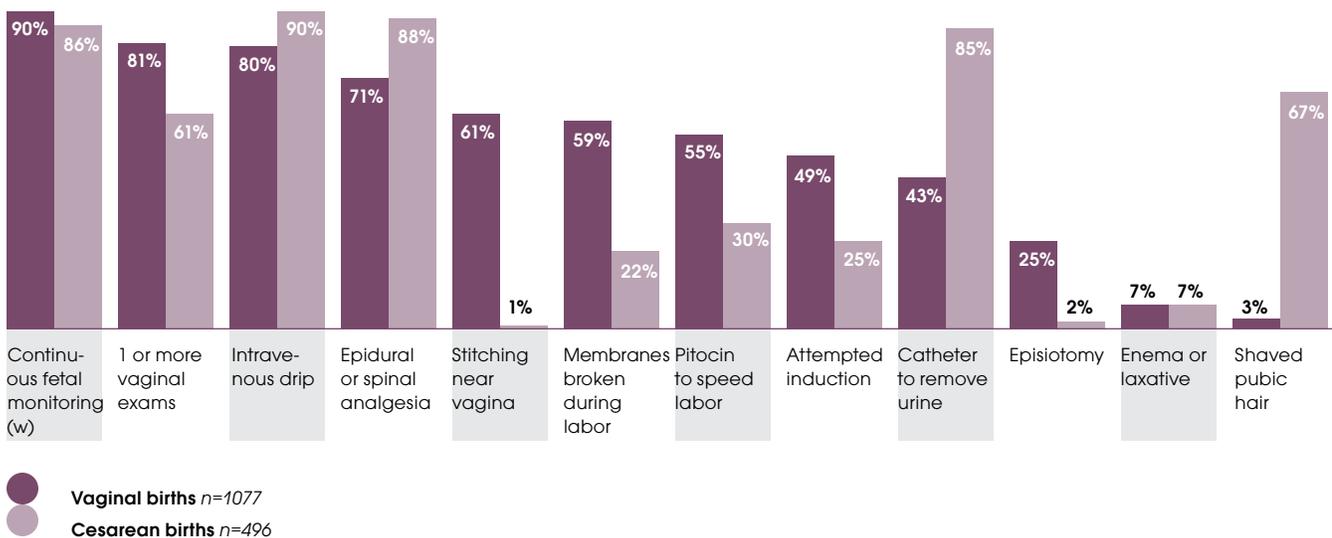
“I had little control over the course of labor since my water broke before it began. The worst thing is that I feel that the induction and subsequent drugs and cesarean were a greater risk to the health of my baby than the risk of infection from a broken amniotic sac.”

“The worst thing was when they had to give me Pitocin. It gave me really strong contractions and they didn't let up until I pushed the baby out.”

“I think they use Pitocin to hurry up your labor so the doctor/staff can get done.”

Figure 5. Use of selected interventions, by mode of birth

Base: all mothers $n=1573$



Freedom and Constraint in Labor

Eating and Drinking During Labor

About two in five mothers (w) (40% overall and 43% among vaginal births) said that they drank something during labor, and 15% indicated they ate during labor, a rate that was comparable for cesarean and vaginal births.

Movement During Labor

Only about a quarter (24%) of women in our survey who experienced labor walked around once they were admitted to the hospital and regular contractions had begun, with mothers having a vaginal birth (25%) only slightly more likely to have done any walking than those who had a cesarean and had experienced a period of labor (19%).

Position Used in a Vaginal Birth

More than half (57%) of women who gave birth vaginally reported that they lay on their backs while pushing their baby out and giving birth. Slightly more than one-third (35%) indicated they gave birth in a propped up (semi-sitting) position, while the remainder gave birth either on their side (4%), upright (e.g. squatting or sitting) (3%) or in a hands-and-knees position (1%).

Pushing the Baby Out

We asked mothers (p) if they experienced what has been termed an “urge to push,” and among those mothers with a vaginal birth, 19% indicated they had a mild urge and 49% stated they had a strong urge to push the baby out. This rate was powerfully related to whether or not a mother received an epidural, with 77% of those not having epidural citing a strong urge to push compared to 41% of those mothers with an epidural ($p < .01$). We also asked what determined when and how hard they pushed, and 21% of mothers relied on their body’s own sensations, 28% pushed when a nurse or provider told them to and 47% indicated they used both. Additionally, mothers were asked if they experienced

“I think women should be allowed to eat during labor. I ate at 6 PM. They induced my labor at 4 AM and I gave birth at 7:31 PM. I didn’t get to eat or have anything but ice chips for over 24 hours.”

“My first delivery I had a nurse yelling at me that I had to push, and this time around ... it was the same scenario. A nurse that had not been in my room the whole time I was there, was in there yelling at me, telling me that I had to push.”

fundal pressure, that is, a health professional pressing down on their belly to help push the baby out, and 17% stated they had experienced such pressure.

Average Length of Labor

We asked women who did not have a scheduled cesarean to estimate the total amount of time they were in labor (w). The median length of labor cited by respondents was 8 hours, with an average length of 10.2 hours. Four out of ten (41%) women reported a labor of six hours or less, and about one in sixteen (6%) was in labor for more than twenty-four hours. Experienced mothers had substantially shorter labors (median of 6 hours) compared to first-time mothers (median 11 hours).

Mode of Birth

Types of Vaginal and Cesarean Births

National data on mode of birth have generally classified births into either two categories, vaginal birth (68% in our survey) or cesarean (32%), or have subdivided those two based on whether or not a woman’s previous birth was vaginal or cesarean, resulting in four possible categories: vaginal birth with no previous cesarean (66% of all births in our survey); vaginal birth after cesarean (VBAC, 2% of all births); primary (first) cesarean (16%) and repeat cesarean (16%). In addition to figures for these categories, the *Listening to Mothers II* survey allows further breakdowns according to whether or not the vaginal birth involved vacuum extraction or forceps (an “assisted” or “instrumental” birth) and whether or not the cesarean birth was planned (took place before labor) or unplanned (took place during labor) (Table 9).

Three in five mothers (61%) reported having an unassisted vaginal birth, with virtually all of them (60%) having an unassisted vaginal birth without having had a previous cesarean, while the remainder (1%) had an unassisted vaginal birth after a previous cesarean. Overall, 7% of all mothers had an assisted vaginal birth, with most of those (5%) being by vacuum extraction and the remainder (2%) by forceps.

Table 9. Mode of birth

Base: all mothers n=1573

	Vaginal 68%	
	Vaginal/no previous cesarean 66%	Vaginal birth after cesarean (VBAC) 2%
Unassisted	60%	1%
Vacuum or forceps assisted	6%	1%
	Cesarean 32%	
	Primary (first) cesarean 16%	Repeat cesarean 16%
Unplanned	13%	3%
Planned	3%	13%

Percent is proportion of all respondents

“I was very against having another c-section because of all the risks associated with another major surgery. One week after my c-section, I returned to the hospital for severe hemorrhaging. I had a uterine infection and required a D & C and 2 units of blood. Whether this was related to the c-section, my health care provider wouldn’t say. In my heart, I really wish I would have been given the opportunity to give birth, not have another surgery. Maybe then I would not have missed a week with my daughters while I recuperated in the hospital from the infection.”

“This second one was especially easier because it was a planned cesarean... No stress, no worries about when labor would start, just go in looking and feeling beautiful and have a baby.”

The almost one-third (32%) of all births that were cesareans were mostly either unplanned first-time (primary) cesareans (13% of all births) or planned repeat cesareans (13% of all births). The planned primary cesareans do not typically represent the mother’s choice in the absence of a medical rationale, but rather a pre-existing condition (e.g., breech presentation) that led to the decision to plan a cesarean, a point we explore further below. Among those mothers with a primary cesarean, almost seven in ten (69%) spent some time in labor before having the cesarean, while among repeat cesareans, only one in four (27%) did.

Vaginal Birth After Cesarean (VBAC)

Among only those women who had had a cesarean in the past, 11% had a vaginal birth after cesarean for the most recent birth, while 89% had a repeat cesarean. We asked women with a previous cesarean about their decision-making relating to a VBAC and found that 45% were interested in the option of a VBAC. We also asked if mothers were given the option of a VBAC, and a clear majority (57%) of mothers who had a previous cesarean and were interested in a VBAC were denied that option. We then asked what reason was given for the denial of a VBAC, and the leading responses were unwillingness of their caregiver (45%) or the hospital (23%), followed by a medical reason unrelated to the prior cesarean in 20% of the cases.

Reasons for Cesarean

We asked mothers what the main reason was for their cesarean, and their answers differed substantially depending on whether it was their first or a repeat cesarean (Table 10).

Among those with a primary cesarean, responses clustered around 4 major categories:

“I had an easier time with this labor. Since my previous pregnancy ended in C-section birth, I was pleased with the fact that I successfully attempted a VBAC, resulting in a much more pleasant birth and postpartum.”

“I was forced to have a c-section because of a prior c-section (1st baby was breech). Hospital did not allow VBACs.... The closest hospital willing to do a VBAC is 2 hours away.”

“I changed OBGYN’s at 32 weeks because my first one was unsupportive of me having a VBAC.”

Table 10. Reasons for primary and repeat cesarean birth

(Choose reason that best applies)

Base: had cesarean n=496

Primary cesarean n=247

Baby was in the wrong position	25%
Fetal monitor showed the baby was having problems during labor	25%
Labor was taking too long/ mother was exhausted	14%
Maternity care provider worried that the baby was too big	12%
Problem with the placenta	3%
No medical reason	2%
Past my due date	#
Thought it would help with incontinence later in life	—
Other: write-ins included baby wasn’t coming out, maternal health problems, preeclampsia	—

Repeat cesarean n=249

I had had a prior cesarean	78%
Fetal monitor showed the baby was having problems during labor	5%
Maternity care provider worried that the baby was too big	4%
Baby was in the wrong position	2%
Problem with the placenta	1%
Labor was taking too long/exhausted	1%
Past my due date	1%
Thought it would help with incontinence later in life	#
No medical reason	—
Other: write-ins included toxemia	—

baby was in the wrong position (25%), fetal monitor reading showed a problem (25%), labor was taking too long (14%), and caregiver was worried about a large baby (12%). Among those mothers who had a repeat cesarean, the overwhelming response (78%) was that the mother had experienced a prior cesarean, followed by concern about a fetal monitor reading (5%), concerns with the size of the baby (4%) and malpresentation (2%). Less than 2% of mothers with a primary cesarean indicated there was no medical reason for the operation. Despite considerable medical and media attention given to proposed benefits of cesarean birth in avoiding later incontinence and protecting a mother's pelvic floor, less than 1% of mothers with either a primary or a repeat cesareans cited this as a justification for their cesarean.

Cesarean Decision Making

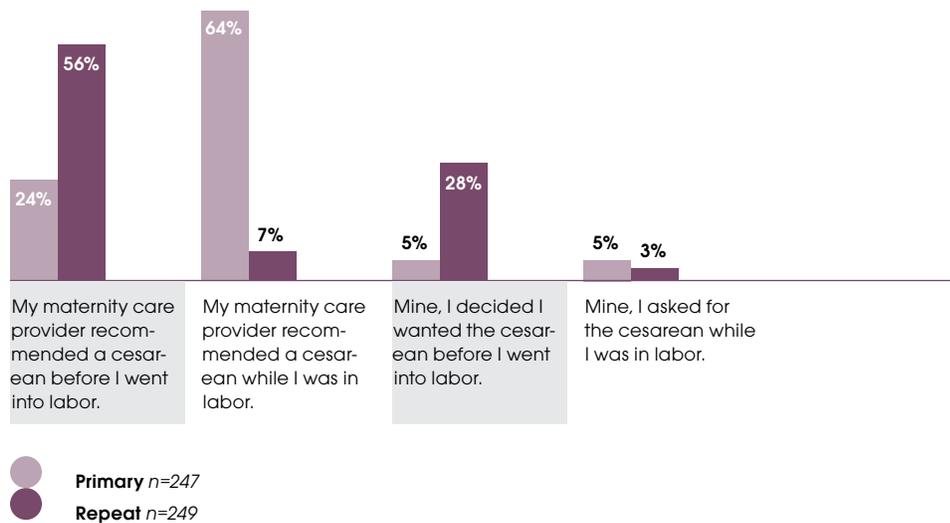
We asked mothers who made the decision concerning a cesarean and when they made it in the case of both primary and repeat cesareans (Figure 6). Mothers with primary cesareans indicated their provider was the predominant decision maker either during (64% of the time) or before (24%) labor. Mothers said they themselves had made the decision 10% of the time, evenly divided between before and during labor. The pattern was quite distinct for mothers with a repeat cesarean, with most decisions made before labor either by the provider (56%) or the mother herself (28%) reflecting the earlier noted limits on the VBAC option. In the small number of repeat cesareans where decisions were made during labor, the provider was cited more often (7%), than the mother (3%).

C-sections HURT. I wouldn't wish that on anyone.

Figure 6. Initiation and timing of decision to have a cesarean

Whose idea was it for you to have a cesarean? (choose response that best describes)

Base: had cesarean n=496



In the postpartum survey we asked mothers (p) if, during their pregnancy, they asked their provider to plan for a cesarean delivery, and 10% of mothers indicated they had done so. The overwhelming majority of those mothers asking about a planned cesarean (79%) had experienced a cesarean in the past and were planning a repeat cesarean. Of the remaining 21% who asked about a planned cesarean and had not experienced a prior cesarean, most (15%) ultimately had a vaginal birth, while the remainder (5%) had a

primary cesarean, in each case related to a medical reason or provider concern that their baby was going to be too big. Likewise, those with a prior cesarean cited either a medical reason for it or provider concern that their baby was going to be too big as the reason for the cesarean.

Rarity of Maternal Choice Primary Cesareans

We combined the reason for cesarean with the question on who made the decision. Just three mothers with a primary cesarean reported that there had been no medical reason for the cesarean, and only one respondent out of 252 (unweighted) with a primary cesarean (0.4% of primary cesareans) said she had chosen that option for herself in the absence of a medical reason (her comment about this choice appears on this page). In two other cases where mothers had indicated there was no medical reason for the cesarean, the mothers said that their provider had made the decision.

How Women Felt While Giving Birth

We asked women to select from a list of randomly ordered positive and negative words any that described how they felt while giving birth. In no case did a majority of mothers choose any option. The most commonly cited positive terms were alert (45%), capable (43%) and confident (42%), while the most frequently mentioned negative terms were overwhelmed (44%), frightened (37%) and weak (30%). Responses varied by method of birth, as seen in Table 11, with mothers having a vaginal birth more likely to say they felt capable and confident and less likely to state they felt frightened. The remarkable range of sometimes conflicting emotions women felt in the course of childbirth was also manifested by mothers who gave responses indicating they felt both “confident” and “overwhelmed” (14%), “groggy” and “alert” (8%), “agitated” and “calm” (5%), and “powerful” and “weak” (5%).

“I think that (cesarean) is ... the best way ... to give birth. It is a planned way, no hassle, no pain, the baby doesn't struggle to come out, the baby is not pressed to come out ... I think that ... everybody should have the baby by cesarean section.”

“The drugs made me dizzy and unsure of what was going on, so when the doctor (whom I had never met before) came in and began asking me questions, I was very much out of it and not sure what was going on.”

“Educating myself about the process of birth and the risks of medical interference helped me to have a confident birth.”

“I was amazed and overwhelmed all at the same time, at the fact that the human body was capable of such a glorious feat.”

“Childbirth is a trial by fire. It is the most physically and emotionally intense and challenging thing I have ever been through in my life. Getting through it made me feel like superwoman, like, wow, if I can get through that, I CAN DO ANYTHING!!”

Table 11. Mothers’ feelings while giving birth, by mode of birth

Base: all mothers	Vaginal births <i>n</i> =1077	Cesarean <i>n</i> =496	All mothers <i>n</i> =1573
Alert	46%	44%	45%
Overwhelmed*	42%	49%	44%
Capable*	52%	24%	43%
Confident*	47%	33%	42%
Frightened*	30%	52%	37%
Calm	37%	32%	36%
Weak*	32%	25%	30%
Agitated*	31%	21%	28%
Groggy*	21%	36%	26%
Helpless*	19%	34%	24%
Unafraid*	24%	14%	21%
Powerful*	24%	7%	18%

**p* < .01 for difference between mothers with and without a cesarean

In the Hospital After the Birth

Baby's Location Just after Birth and for Remainder of Hospital Stay

About one mother in three said that during the first hour after birth, her newborn was mainly in her arms (34%), and about one in seven indicated the new baby was mainly in her husband or partner's arms (14%). Almost half of all babies were primarily with hospital staff during this period, some because of the need for special care (10% overall), but most for routine care (39%). The method of birth had a major impact, since among vaginal births, 43% of the time the baby was in the mother's arms immediately after birth, compared to 14% when the mother had a cesarean ($p < .01$).

Over half (59%) of women said that after the first hour of birth, their baby stayed with them all of the time (typically termed "rooming in") for the rest of the hospital stay. This figure rises to 63% when we exclude cases where the baby was in the neonatal intensive care unit (NICU). One out of four women (24%) said that her baby stayed with her during the day, but was returned to the nursery at night, and one out of sixteen (6%) that her baby stayed in the NICU. The remaining cases were evenly split between the baby being with the mother mainly for feedings (5%) or generally in the nursery (5%). Even when we limit our analysis to cases where the baby was not in the NICU, once again method of birth was strongly related to rooming in, with 69% of mothers with a vaginal birth reporting rooming in compared to 49% among cesareans ($p < .01$).

Newborn Feeding

As women neared the end of their pregnancies, three out of five (61%) hoped to breast-feed exclusively, while one out of five (19%) planned to use a combination of breastfeeding and formula, and an equal proportion (20%) planned to use formula only.

Most women (63%), regardless of whether they intended to breastfeed or not reported that the hospital staff, on the whole, encouraged breastfeeding, but a third (34%) perceived that the staff expressed no preference for either breastfeeding or formula feeding and a tiny proportion (3%) reported that the staff encouraged formula feeding. Of those mothers who intended to exclusively breastfeed, fully 66% were given free formula samples or offers, 44% of their babies were given pacifiers by staff and more than a third (38%) were given formula or water to supplement their breast milk during the hospital stay (see Table 12).

One week after giving birth, half (51%) of the mothers reported feeding their babies breast milk only, including 75% of mothers who had intended as they came to the end of their pregnancy to breastfeed their baby exclusively. A small proportion of mothers who intended to combine breast and formula feeding or to use formula alone were also exclusively breastfeeding at one week.

THAT was awesome. To this day, I can recall that moment and that wonderful feeling of holding her right away. I got to have the bonding time needed with the baby.

The worst thing was being separated from my baby for more than 5 hours... It was excuse after excuse with things that could've either waited or been done in my room. I told them I did not want my baby given a bottle, but they did it anyway. Since I had a cesarean section, I was unable to go to my baby in the nursery. I still get emotional when I think about it.

I did not have any preparation or classes in breastfeeding and was completely ignorant and overwhelmed when it came time for me to try.

And to top it off I had some nurse trying to pressure and scare me into giving my baby formula when I expressed that I was going to breastfeed only. She would say things like she's not getting enough to eat and if she doesn't gain any weight by the time you're discharged, we're going to keep her here for failure to thrive.

Table 12. Hospital support for breastfeeding, by mothers' feeding intention

Base: intended to exclusively or partially breastfeed	Intended to exclusively breastfeed <i>n</i> =963	Intended to mix breast & formula feeding <i>n</i> =300	Intended any breastfeeding <i>n</i> =1263
Helped you get started breastfeeding when you and your baby were ready	77%	74%	76%
Encouraged you to feed "on demand"	76%	67%	74%
Gave you free formula samples or offers*	66%	81%	69%
Showed you how to position your baby to limit nipple soreness	66%	67%	66%
Told you about community breastfeeding support resources for ongoing help	65%	67%	66%
Gave baby a pacifier*	44%	56%	47%
Provided formula or water to supplement your breast milk*	38%	68%	45%

**p* < .01 for difference between mothers who intended to exclusively to breastfeed and those who intended to mix formula and breastfeeding

Baby's Birthweight, Gestational Age and Health

The average birthweight mothers reported for their newborn was 7 pounds, 5 ounces. Five percent of the newborns were in the low birthweight range (less than five pounds, 9 ounces or 2500 grams), and 12% weighed 8 pounds, 14 ounces or more at birth (4000 grams), a standard frequently used to define large babies. In terms of gestational age, 6% of the babies had a reported gestational age of less than 37 weeks (considered preterm), 48% were born at 37-39 weeks, 29% in the week of their due date and 18% after their due date. An overwhelming majority of women rated their child's health since birth as either excellent (75%) or good (22%).

"The hospital staff was very supportive and helpful in learning how to nurse my child."

Lamaze International's Care Practices that Promote Normal Birth

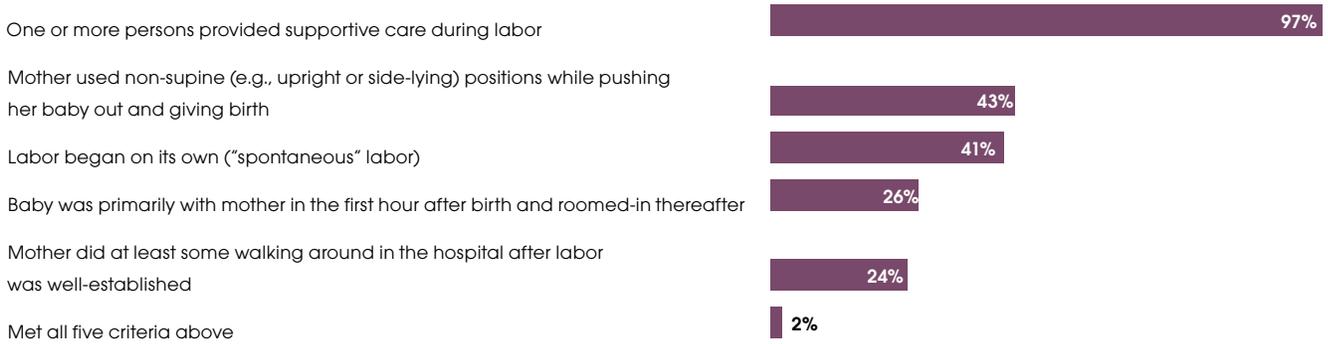
Lamaze International has identified six evidence-based standards adapted from the World Health Organization that support what they term a "normal birth," and the measures in our survey that most closely represent those are presented in Figure 7. Five of those standards are presented, since the sixth, "no routine interventions," can't be measured with this dataset. Our survey measures are likely to overstate the number of mothers meeting the standard, since for example, while the Lamaze criterion is "freedom of movement throughout labor," we simply asked mothers if they walked at all once they were admitted to the hospital and labor and contractions were well-established. Likewise, the Lamaze standard is continuous labor support, and we simply asked if anyone provided supportive care. In one of the five cases (support in labor) more than half of mothers reported meeting that standard. When we combined all criteria measured, we found 2% of mothers meeting the overall standard, likely a generous estimate given the limitations noted above.

"I was able to give birth naturally with no medical assistance. I didn't have an IV, medication, or any assistance. I was able to do it myself!"

"It gave me a sense of pride and built my self-esteem to be able to say that I gave birth to my daughter."

Figure 7. Mothers fully or partially experiencing Lamaze International's "normal birth" care practices

Base: all mothers $n=1573$



Note: sixth criterion, mother did not receive any routine interventions, could not be assessed with this survey.

Length of Stay

Four out of five mothers (w) (80%) with a vaginal birth reported staying in the hospital for two days or less. Mothers who had a cesarean generally reported staying in the hospital for three (34%), four (28%) or 5+ (16 %) days. We also asked (p) about infant length of stay, which generally corresponded to the mothers' length of stay, though in a small number of cases (5%) infants stayed in the hospital 7 or more days, whereas only 2% of all mothers had a stay longer than 5 days.

Summary

The birth attendant for most mothers was an obstetrician (79%), with a minority having family physicians or midwives. For most, their birth attendant had been their primary prenatal caregiver, but a large minority had never or had only briefly met their birth attendant. Virtually all mothers (96%) reported receiving supportive care (comfort, emotional support, information) during labor from at least one person, most often husbands/partners or the nursing staff. Mothers generally rated support sources highly, with doulas receiving most favorable ratings.

Despite the primarily healthy population and the fact that birth is not intrinsically pathologic, technology-intensive care was the norm during childbirth. Each of the following interventions was experienced by most mothers: continuous electronic fetal monitoring, one or more vaginal exams, intravenous drip, epidural or spinal analgesia, and urinary catheter. Half of the mothers experienced one or more methods of inducing labor (attempted medical and/or self-inductions), and a notable minority experienced each of the following: labor that was induced, synthetic oxytocin (Pitocin) during labor, artificially ruptured membranes during labor, narcotics, cesarean section, episiotomy, perineal stitches, staff-directed pushing and a staff member pressing on the mother's belly to help push the baby out. The combination of interventions depended to a large degree on whether the birth was vaginal or cesarean.

Nearly one-third (32%) had cesareans, evenly divided between first-time and repeat cesareans. Despite extensive media and professional focus on these matters, just one

mother among the 252 survey participants with a primary cesarean reported having had a planned cesarean at her own request with no medical reason, and just one mother (in a repeat cesarean) reported having a cesarean in the belief that it would help avoid incontinence problems later in life. A small proportion of mothers with a previous cesarean (11%) had a VBAC (vaginal birth after cesarean), though quite a few would have liked this choice but had providers or hospitals unwilling to support their vaginal births.

Only small proportions experienced numerous forms of care that are especially appropriate for healthy low-risk women, including: several highly rated drug-free methods of pain relief, monitoring the baby with handheld devices, drinking fluids or eating during labor, moving about during labor, giving birth in non-supine positions, and pushing guided only by their own reflexes.

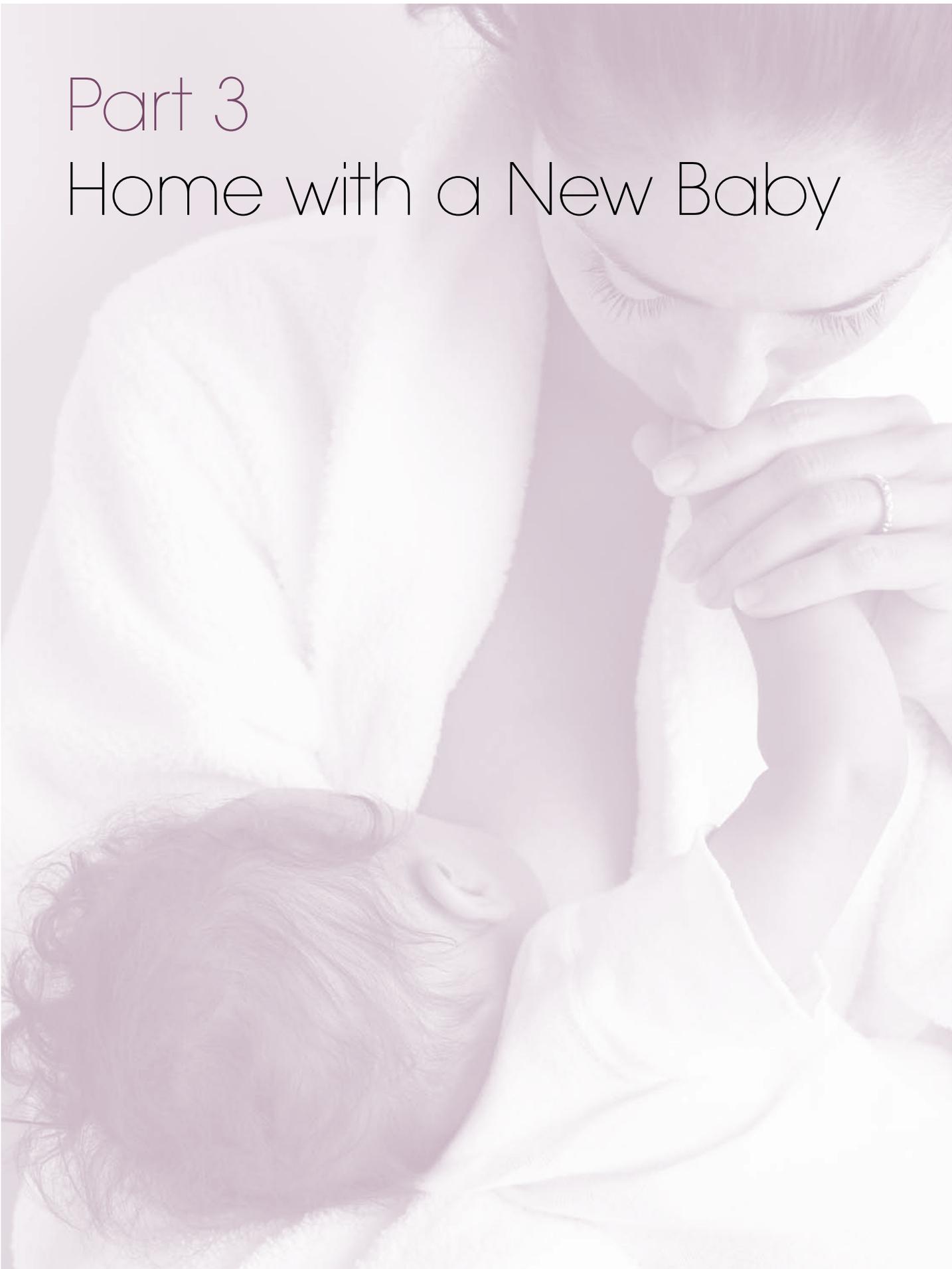
About one-quarter or more mothers said that they had felt “weak,” “overwhelmed” and other unsettled feelings while giving birth, and about one-fifth or more chose “powerful,” “unafraid” and other positive feelings.

Despite the importance of early contact for attachment and breastfeeding, most babies were not primarily in their mothers’ arms during the first hour after birth, with a troubling proportion (39%) with staff for routine care. For the rest of the hospital stay, most mothers and babies experienced rooming in. Although 61% of the mothers wanted to breastfeed as they neared the end of their pregnancy, just 51% were doing so one week after birth, a troubling missed opportunity. Babies of many mothers who intended to breastfeed exclusively were given formula or water “supplements” (38%) and a pacifier (44%), and most of their mothers (66%) received formula samples or offers. Many mothers perceived the staff to be neutral about feeding method or prefer formula.

A tiny minority experienced all of the evidence-based care practices that promote normal birth identified by Lamaze International, to the extent that the survey could measure these.

Part 3

Home with a New Baby



As noted in the Introduction, Childbirth Connection sponsored an additional postpartum survey following up with the same mothers who participated in the survey reported here. The main postpartum results from that survey (covering additional topics and a longer period of time after the birth) will be presented in a separate report in 2007.

Being pregnant, giving birth and becoming a new parent present challenges to many women. As described in the previous section, most women experience a range of consequential surgical and other interventions while in labor and giving birth. We developed a series of questions to understand how the mothers were doing physically and emotionally in the postpartum period as they recovered from birth experiences, continued to undergo physical changes and took on new responsibilities. We asked mothers about new physical problems that they had not previously experienced and about the degree to which pain had interfered with daily activities. We also included a postpartum depression screening tool, and asked about mothers' consultation for mental health concerns. Finally, we explored the conclusion of their maternity care and infant feeding experiences.

Maternity Care in the Postpartum Period

Postpartum Office Visits

Almost all (94%) women had at least one office visit with their maternity caregiver between 3 and 8 weeks after the birth of their child. Almost half (48%) had one office visit, approximately one out of three (30%) had two visits, and one out of six (16%) had three or more visits.

During those office visits, about one in five (22%) providers inquired about verbal or physical abuse, and more than half (58%) asked about depression.

Breastfeeding

A week after giving birth, 51% of mothers were breastfeeding exclusively, 27% fed their babies formula alone, and 21% combined the two (Table 13). Among mothers who had given birth at least 7 months earlier, 27% met the international standard of exclusive breastfeeding for at least 6 months. (This figure was obtained by combining data from two questions: mothers who were still exclusively breastfeeding and had given birth at least 6 months earlier were added to those who were no longer exclusively breastfeeding but reported having done so for at least six months.) Table 13 presents a different breakdown, looking at mothers by three-month periods, and illustrates the changing pattern of infant feeding across these postpartum periods.

Physical Well-being in the Postpartum Period

Mothers' Postpartum Weight

We asked mothers (w) what their weight was at the time of the survey. Among those mothers who had given birth at least 3 months earlier, average weight loss after birth was 22 pounds, a figure that remained constant for mothers 3 to 12 months after giving birth. Since mothers on average gained 30 pounds during their pregnancy, the net result was a

weight gain of 8 pounds, which resulted in 61% of mothers with a Body Mass Index in the overweight (29%) and obese (32%) range, compared to 51% at the beginning of pregnancy.

Table 13. Infant feeding intention and actual feeding practice from 1 week to 12 months after birth

Base: all mothers n=1573	Intention at end of pregnancy	One week	Current feeding method (months since birth)			
			0-3 months n=192	4-6 months n=469	7-9 months n=465	10-12 months n=447
Breast only	61%	51%	22%	12%	6%	3%
Formula only	20%	27%	54%	28%	22%	21%
Both	19%	21%	20%	8%	2%	2%
Solid food, with any of above or alone	na	na	4%	53%	71%	74%

Burden of Physical Health Concerns After Birth

The *Listening to Mothers II* survey asked women about their physical and mental health following the birth of their child (Table 14). We first asked whether or not they had experienced any of a list of postpartum health concerns as new problems (as opposed to continuing chronic difficulties) within the first two months after birth. The problem cited by the greatest proportion of women was among those women who had experienced a cesarean section: eight out of ten women with cesareans (79%) considered pain at the site of the incision to have been a problem in this period, with one-third (33%) citing it as a major problem.

“I would much rather have the day of labor pain than the weeks of recovering from major surgery with a newborn to take care of. With my first daughter I labored for 21 hours of back labor and looking back that was a piece of cake compared to recovering from surgery.”

Table 14. Physical problems in first 2 months and at 6 or more months after birth

	In first 2 months			Problem persisted to at least 6 months*
	Major new problem	Minor new problem	Major/minor new problem	
Cesarean only n=496				
Cesarean incision site pain	33%	45%	79%	18%
Cesarean incision site infection	8%	11%	19%	1%
Vaginal only n=1077				
Painful perineum	15%	33%	48%	2%
Infection from cut/torn perineum	1%	4%	5%	1%
All n= 1573				
Physical exhaustion	24%	38%	62%	25%
Sore nipples/breast tenderness	19%	39%	59%	4%
Other breastfeeding problems	14%	15%	30%	
Painful intercourse	12%	20%	32%	10%
Bowel problems	9%	20%	29%	6%
Urinary problems	7%	17%	24%	11%
Breast infection	3%	5%	9%	—

*Base: those mothers responding at least 6 months after the birth with a cesarean (n=357) or vaginal (n=751) birth or either (n=1108)

Three out of five (62%) of all women said that physical exhaustion had been a problem (24% said it was a major problem, and 38% said it was a minor problem) and a similar proportion said that sore nipples/breast tenderness had been a problem (19% major, 39% minor). Almost half (48%; 15% major) of mothers with a vaginal birth cited a painful perineum as a problem. Perineal pain as a major problem was strongly related to whether or not a mother experienced an episiotomy (27% or did not (11%) ($p < .01$). Almost one in three mothers cited painful intercourse (32%) (30% without episiotomy; 44% with episiotomy, $p < .01$) and breastfeeding problems other than infection (30%) as problems. About one in four women identified bowel problems (29% overall; 28% in vaginal and 31% in cesarean births) and urinary problems (24% overall; 29% in vaginal and 17% in cesarean births; $p < .01$) as difficulties in the first two months, and one in five (19%) reported an infection associated with her cesarean.

“Having the episiotomy (was the worst thing about my birth experience). It really made healing a lot more difficult.”

Persistent Health Problems

We also asked mothers if they were still experiencing the difficulty at the time of the survey. Among those mothers who had given birth at least 6 months earlier, 25% cited continuing problems with exhaustion, 18% of those with a cesarean had ongoing pain at the site of the cesarean scar, 11% cited continuing urinary problems and 10% painful intercourse.

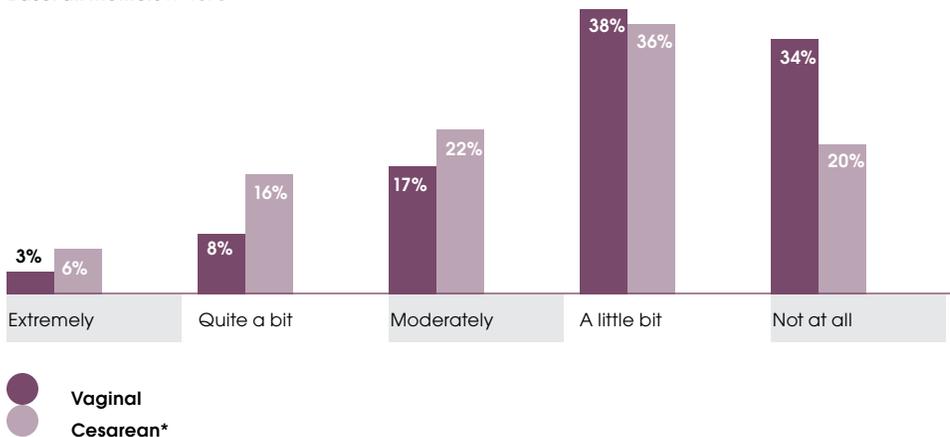
Pain and Everyday Activities

We asked mothers about the degree to which pain interfered with their everyday activities in two time periods: the first two months after birth and in the two weeks prior to the survey, with 5 response choices ranging from “not at all” to “extremely.” Seven in ten (70%) mothers said that pain did interfere at least “a little bit” in their routine activities in the first two months, with 14% indicating that pain interfered either “quite a bit” (10%) or “extremely” (4%). These findings varied widely depending on type of birth (Figure 8), with 22% of mothers with a cesarean describing at least “quite a bit” of interference with routine activities compared to 10% of mothers with a vaginal birth ($p < .01$).

“I didn’t know that it would hurt more to have a c section than a vaginal birth.”

Figure 8. Degree to which pain interfered with routine activities in first two months after birth, by mode of birth

Base: all mothers $n=1573$



* $p < .01$ for difference between mothers by mode of birth

When mothers were asked if pain interfered with their activities in the 2 weeks prior to the survey, four in five (80%) indicated it did not, and only 3% said “quite a bit” or “extremely,” and these were most likely to be mothers who had given birth more recently.

Mental Health in the Postpartum Period

We asked mothers who participated in the *Listening to Mothers II* survey to answer the seven-question short version of the Postpartum Depression Screening Scale (PDSS) developed by Cheryl Beck, DNSc, and Robert K. Gable, EdD (for details, see Appendix A, Methodology). The questions asked mothers about their feelings during the past two weeks, and it is important to note that our respondents had given birth anywhere from a few weeks to 12 months earlier. In clinical settings, the seven-question instrument is used as an initial screening tool, and mothers who score 14 or higher are then encouraged to complete the more comprehensive 35-question version of PDSS. This cut-off point is intended to be inclusive of minor and major depressive symptoms.

Almost two out of three (63%) mothers scored 14 or above on the PDSS, indicating that this considerable proportion was likely to be suffering some degree of depressive symptoms in the two weeks before the survey. This varied very slightly by time since birth with mothers who had given birth 0-3 months or 4-6 months earlier both scoring 14 or higher 67% of the time, a figure that drops to 62% for 7-9 months postpartum and 59% for 10-12 months postpartum. One out of five (20%) of all survey participants also said that they had consulted a health care or mental health professional with concerns about their emotional or mental well-being since giving birth. Mothers who scored 14 or more on the PDSS were much more likely (26%) than those who did not (8%) to have done so ($p < .01$).

The PDSS short version includes questions about each of seven dimensions that have been found to be concerns in women experiencing depression after childbirth, and Table 15 presents a summary of those responses. Experiences of shifting emotions and sleep disturbance (even when baby was sleeping) were most common. Quite a few mothers also reported anxiety about their baby, loss of a sense of self, mental confusion or guilt. A smaller (5%) but very troubling proportion of the mothers reported having suicidal thoughts in the two-week period prior to taking the survey.

I have the most beautiful little boy on earth, but it shocks me how depressed I still am 11 months later.

Having suffered post-partum depression with my first child, I knew what to look for with my second child, but still felt a bit 'outside the box'. PPD is still a disease that is very much neglected, swept under the rug, etc. Everyone expects you to be deliriously happy, and while you are happy at times, the PPD is overwhelming and you often feel very alone in your suffering. A support group through the hospital would be an excellent resource.

I am just a new person from it all. And I've never had such happiness or love in my heart.

Table 15. Mothers' experience of dimensions of depression in two weeks before survey*

Base: all mothers $n=1573$	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Had shifting emotions	26%	15%	10%	27%	21%
Experienced sleep disturbance	32%	19%	6%	25%	17%
Felt anxious about baby	29%	23%	15%	21%	11%
Experienced loss of sense of self	40%	21%	11%	16%	11%
Had mental confusion	43%	19%	12%	17%	9%
Felt guilty about mothering behavior	44%	24%	11%	12%	8%
Had suicidal thoughts	78%	11%	5%	3%	2%

*Results of short version of Postpartum Depression Screening Scale (PDSS), which was licensed and used in survey; contact Western Psychological Services for exact language of this proprietary screening tool

Summary

Nearly all mothers had at least one maternity care office visit from three to eight weeks after giving birth. Although only a small proportion of providers asked about verbal or physical abuse, most asked about feelings of depression.

Among mothers who had given birth at least 7 months earlier, 27% breastfed exclusively for six months or more, and thus met this international pediatric and public health standard.

Nearly all mothers rated the health of their infants highly, but notable proportions said that they themselves experienced many new-onset health problems in the first two months after birth. Most identified physical exhaustion (62%) and sore nipples/breast tenderness (59%) as problems, and most mothers with cesareans identified pain at their incision site as a problem (79%). Notable minorities experienced numerous other problems. In the first two months, several problems were significantly more likely among women who had had cesareans or episiotomies, and urinary problems were more common among women with vaginal births. More so than other conditions, physical exhaustion (25% of all mothers) and pain at incision site (18% of cesarean mothers) persisted to six months or more. Many mothers, and especially cesarean mothers, reported that pain had interfered with everyday activities in the first two months after birth. At the time of the survey, most had a body mass index considered to be “overweight” or “obese,” with little change in the distribution between 3 and 12 months postpartum.

We included the Postpartum Depression Screening Scale (PDSS) Short Version, with items measuring 7 symptoms that are common features of postpartum depression. Nearly two mothers out of three (63%) reported some degree of depressive symptoms in the two weeks before the survey. About one in five (20%) had consulted a professional with concerns about their mental health since giving birth; those with higher PDSS scores were more likely to have done so.

Part 4

Mothers' Experiences with Employment and Health Insurance



Many new mothers face challenges in taking time off from employment to care for their new babies and themselves and in balancing family responsibilities and employment. We developed a series of questions to better understand the transition of mothers from and to employment or their decision to stay home with the baby. We also asked mothers about maternity leave benefits and sources of payment for their maternity care.

Employment During Pregnancy and After Giving Birth

Working to the Due Date

More than half (58%) of mothers indicated they worked during their pregnancy, primarily as full-time (40%) or part-time (14%) employees for someone else. A small number (4%) of mothers were self-employed. About two in five mothers (41%) were not employed during their pregnancy, though that varied widely with only 27% of first-time mothers but 49% of experienced mothers at home during their pregnancy. Of those mothers who were employed, most worked almost to their due date, stopping on average about 10 days before their due date, with 39% working until there was less than a week before their due date.

Paid Maternity Leave Benefits

Of those mothers who worked for someone else, 40% indicated that the company they worked for provided paid maternity leave benefits, with 50% of those working full-time and 14% of those working part-time having access to these benefits. We asked mothers how long they had to be working for their employer to be eligible for such benefits, and a third were not sure. Among those who were aware, the median number of weeks of employment required to qualify for maternity benefits was 12. Among mothers who received maternity benefits (Table 16), half indicated they received 100% of pay, and four out of five received at least half their regular salary. The time period for which mothers received pay varied widely with three key periods dominant: 6 weeks (27% of mothers receiving paid leave); 8 weeks (24%) and 12 weeks (16%). Looking at the subset of mothers who received 100% of their pay in maternity benefits, the average length of time of coverage was 8 weeks with almost nine out of ten (89%) of those mothers getting at least 6 weeks of coverage.

“The maternity leave policy in this country is embarrassing and insulting. All politicians preach ‘family values’ — why don’t they make paid maternity leave a law?”

“The biggest concern since I gave birth is how VERY far behind the U.S. is with providing paid maternity leave, and the length of maternity leave compared to its counterparts (i.e., Europe, Canada, etc.).”

Table 16. Mothers’ experience with paid maternity leave benefits

Base: mothers who were employed full-time during pregnancy n=622

Number of weeks received maternity leave	Mothers employed full-time		
	Mothers employed full-time	Percent of regular salary received during maternity leave	
None	50%	None	50%
1-4	6%	1-25%	3%
5-8	28%	26-50%	6%
9-12	13%	51-75%	12%
13-16	2%	76-99%	2%
17+	1%	100%	26%

Note: 40% of survey participants indicated they had worked full-time during pregnancy

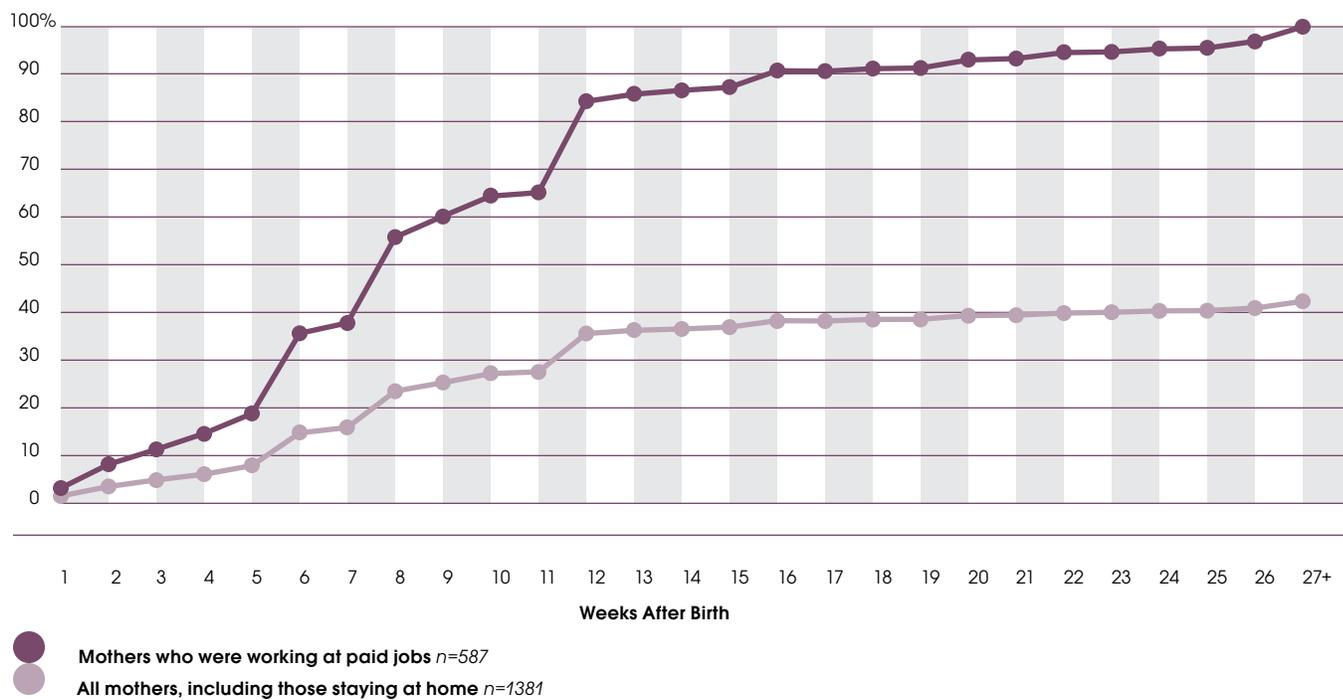
Putting this in the context of the entire sample, we can say that *of those women employed full-time outside of their home while pregnant*, 23% received at least 6 weeks of their full pay as a maternity benefit and 38% received at least 6 weeks of half-pay or more as a maternity benefit.

Returning to Employment

We asked mothers about their employment patterns after they had their baby. For those who had been employed during pregnancy, 68% indicated they had returned to work by the time they participated in the survey, and 32% had not. Among those mothers who had returned to paid work, most (84%) were back to work by 12 weeks. This represented 57% of all formerly employed mothers. They typically returned to the same work setting (full-time, part-time or self-employed) that they had been in during pregnancy. Overall 36% of mothers were working by 12 weeks after the birth. Figure 9 summarizes the timing of returning mothers, focusing only on those mothers who had given birth at least 3 months earlier.

Figure 9. When mothers began employment after giving birth

Base: mothers who had given birth 4 or more months earlier $n=1381$



When mothers did return to work, in three out of four (74%) of the cases it was to the same situation they had been previously employed in (e.g., full-time for outside employer). Smaller proportions came back to their former full-time employer now in a part-time role (10%), switched employers (13%) or some other combination (3%).

We asked mothers who had returned to work if they were able to stay home as long as they liked before they returned, and slightly less than half (46%) said they were. There was a strong relationship to the number of weeks they had spent at home. *Looking only at*

mothers who had given birth at least three months earlier, we found a clear majority (61%) of those who had gone back to work in less than 6 weeks responding that they had stayed home as long as they liked. That figure dropped to 28% among mothers who stayed home 6-7 weeks and then rose steadily the longer mothers stayed home, reaching 100% for those mothers who stayed home 27 or more weeks. It is important to keep in mind that these figures are based only on those mothers who did return to work, and roughly one-third of mothers had not returned to work at the time of the survey.

Mothers Who were Not Employed During Pregnancy or at Time of Survey

A total of 41% of mothers responding to the survey were not employed during their pregnancy. As noted earlier, this was strongly related to whether they had given birth before, with those mothers who had given birth in the past much more likely to not be employed. It was also related to age, with those mothers 24 or younger (52%) and those over 40 (48%) most likely to not be employed. The combination of age and women's status as a new or experienced mother was very powerful: only 13% of first-time mothers between 25 and 39 were not employed during their pregnancy. We asked those mothers who had not been employed during pregnancy if they had been employed since giving birth. Again, looking only at those mothers who had given birth at least three months earlier, 14% of mothers who had not been employed during pregnancy were now employed, most in a part-time capacity.

We asked all mothers currently not employed (and having given birth 3 or more months earlier), regardless of earlier employment experience, why they were not employed and the overwhelming majority (74%) cited the desire to stay home with their baby. Other reasons frequently cited included their own health (6%), difficulty in affording child-care (5%) and inability to arrange a schedule flexible enough to meet their needs (5%).

Challenges in the Transition to Employment

We asked those mothers who were currently employed, regardless of prior employment, about some commonly cited challenges for mothers in transitioning to paid work (w) (Table 17). Easily the biggest dilemma for mothers was being apart from their baby, which was cited by 79% of mothers, with 49% rating it a major challenge. Half (51%) of the mothers also cited difficulties in making child care arrangements, while more than a third (36%) identified breastfeeding issues in returning to work (with 58% of those who were exclusively breastfeeding at 1 week citing breastfeeding challenges) and amount of support from their partner/spouse (36%). A smaller proportion cited lack of workplace support for a new mother (29%), though that figure was higher (36%) among mothers working full-time.

“Children are our future, and mothers have to go back to work because they can't afford not to most of the time... I think the government should give us an option to be paid 80% of our pre-baby salary to stay home with our kids for at least a year.”

“I find it unfortunate in the U.S. the lack of support for new mothers, especially working mothers. I have chosen to breastfeed based on the benefits for my child. However, while at work, I must pump in a janitor closet. When I brought this up before I returned to work, the HR representative did not see this as a problem. I believe companies should provide clean, comfortable places for women who choose to breastfeed.”

Table 17. Challenges in mothers' transition to employment (w)

In returning to work, how challenging were the following issues?

Base: mothers who were employed at time of survey (w) n=704	Not a challenge	A minor challenge	A major challenge
Being apart from my baby	14%	30%	49%
Child care arrangements	42%	30%	20%
Breastfeeding issues	42%	21%	16%
Amount of support from my partner/spouse	59%	22%	14%
Lack of support in the workplace for me as new mother	62%	16%	13%

Paying for Maternity Care

Mothers had different approaches to paying for maternity care (Table 18), with 60% indicating that private insurance paid for all (21%) or some (39%) of their maternity care expenses, while two in five mothers (41%) had Medicaid or a similar government program pay for all (35%) or some (7%) of their care. More than a third of mothers (37%) reported paying for some of the costs themselves, with these mothers reporting a median payment of \$1000. For the handful (1%) of mothers who reported paying for all maternity costs themselves, they reported an average cost of \$8,865.

Table 18. Sources of payment for maternity care

(choose all that apply)

Base: all mothers <i>n</i> =1573	Paid for all	Paid for some	Paid for none
Medicaid or similar government program	35%	7%	57%
Private insurance	21%	39%	39%
Self/family pay (out-of-pocket)	1%	37%	61%

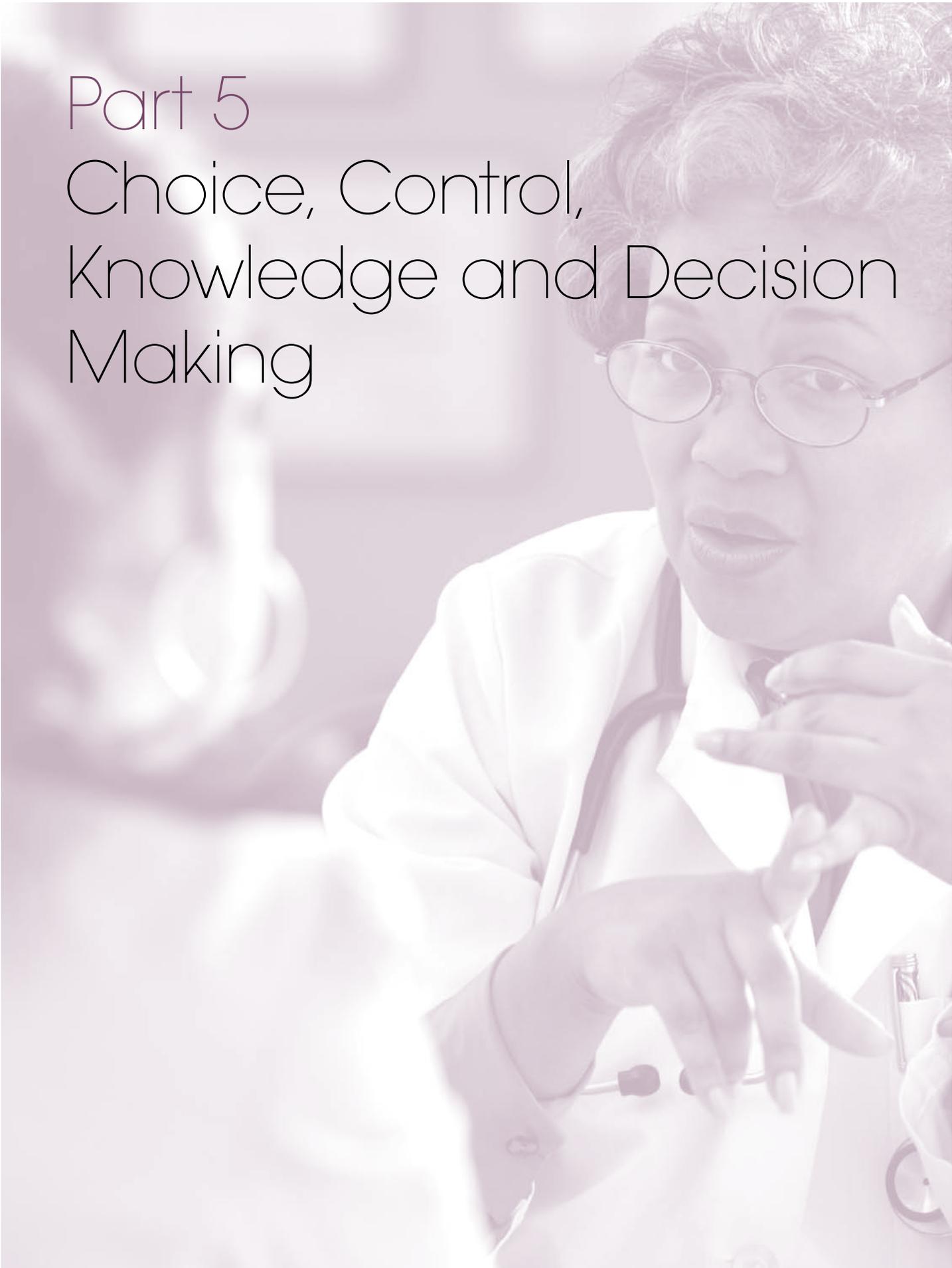
Summary

Most mothers who were employed during pregnancy worked at their jobs until very shortly before their due dates. Most survey participants received no financial support at all for maternity leave. Most who did receive paid maternity leave received 8 weeks or less and at least half of their salary. Most formerly employed mothers who returned to paid jobs (84%) were back to paid jobs within 12 weeks, and 36% of all mothers were working at paid jobs by that time. Most mothers who had returned to paid work by the time of the survey reported that they had not been able to stay home with their babies as long as they liked. When asked about challenges they faced in their transition to employment, the most common difficulty cited was being apart from their babies. Most mothers who were not employed at the time of the survey and had given birth at least three months earlier reported that they were not employed because they chose to stay home with their babies.

For most mothers (60%), private insurance paid for all or some of their maternity care bills. More than four in ten (41%) received Medicaid or similar government benefits for all or some of their care. Over one-third (37%) paid for some of the bills out of pocket, and the median expense for those mothers was \$1,000. One percent of mothers were responsible for all of the bills.

I just had sooo many medical bills afterward. With my previous pregnancies, I had a different insurance and it paid more maternity benefits. This time my husband and I paid our ObGyn every month and still owed them a lot of money afterwards. Also, we owed labs and had several different charges/bills that could not be combined from the hospital. Then I had to have my gall bladder out, and now every month I am making payments to 14 different bills.

Part 5
Choice, Control,
Knowledge and Decision
Making



In addition to exploring women’s experiences over the course of the childbearing period, we wanted to understand their overall views about the birth process and the care to which they had access, their understanding of their right to informed consent and their views about women’s right to make maternity decisions. We also asked about any experience the mothers had had with pressure to accept interventions and refusal of care that was offered, their views on the importance of knowing harms associated with interventions they might undergo, and their knowledge of harms of common interventions, as well as their thoughts about desired mode of birth for a hypothetical future birth.

Opinions About Medical Intervention in the Birth Process

Women had mixed views on whether medical intervention in the birth process is a good or bad thing, but appear, on the whole, to be against intervention unless medically necessary (Table 19). Although only half of respondents agreed with the statement, “Giving birth is a process that should not be interfered with unless medically necessary,” respondents were twice as likely to agree with this statement (50%) than disagree with it (24%). One out of four respondents (25%) neither agreed nor disagreed. Experienced mothers, particularly those with at least 3 births (61%) were more likely to agree with this statement than those who have experienced 2 births (50%) or 1 (41%) birth ($p < .01$).

“I have delivered all naturally with both of my children and it was a wonderful experience. I felt in control and felt strong and felt that a natural child-birth was best for me and my baby.”

Table 19. Mothers’ attitudes about interfering with birth process

How much do you agree or disagree with the following statement? Giving birth is a process that should not be interfered with unless medically necessary. Do you...?

	First-time mothers n=520	Experienced mothers n=1053	All mothers n=1573
Disagree strongly	11%	6%	8%
Disagree somewhat	21%	14%	17%
Neither agree nor disagree	27%	25%	25%
Agree somewhat	25%	27%	26%
Agree strongly	16%	28%	24%

* $p < .01$ for difference between mothers by prior birth experience

“I had to switch OB’s because the one I had was going out of business because of the price of malpractice insurance. He could no longer afford to deliver babies, which he loved and was good at... I think this is happening all over, and I think something should be done.”

Rating the Maternity Care System

We asked mothers to rate both the quality of health care overall (w) and the quality of maternity care (all mothers) in the U.S. Mothers were generally positive about both, but particularly so in the case of maternity care. A total of 17% of the mothers rated the U.S. health care system as “excellent” compared to 35% for the maternity care system, while 30% rated the overall system as “fair” or “poor” compared to only 16% in the case of the maternity care system.

“I really appreciated being given the chance to avoid a c-section the second time. I think it is a terrible shame that so many doctors won’t even give VBAC as an option because of all of the malpractice suits.”

Opinions About Impact of Malpractice on Maternity Care

Mothers were asked if they thought the current malpractice system had an impact on provider behavior, and in general they thought it did (Figure 10). Many mothers thought it

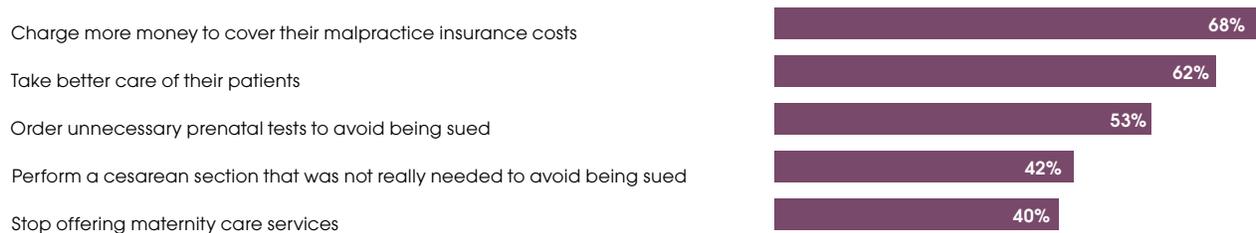
caused providers to charge more to cover malpractice insurance (68%), order unnecessary tests (53%), perform unnecessary cesareans (42%) and stop offering maternity care services (40%). Notably, three in five (62%) thought it caused providers to take better care of their patients.

“I was lucky to have had a good experience. I think the ob/gyn docs have a very hard career and the malpractice issue makes it much harder.”

Figure 10. Mothers’ perspectives on impact of malpractice (w)

Do you think the current malpractice system causes providers of maternity care to do these things, or don't you think so?

Base: all mothers (w) n=1373



Knowledge of Legal Rights

We asked about knowledge of specific elements of women’s legal right to fully informed consent, and most women reported (w) that while they were pregnant and giving birth they had been aware of certain rights (Table 20). Three out of four (75%) respondents said that during that period they had fully understood their right to receive clear and full explanations of any procedure, drug, or test offered to them — including benefits, risks, and alternatives, while an additional 16% said that they had had some knowledge of these rights but did not know the details. Eight percent said that they had not known that they had these legal rights.

Three out of four women (78%) said (w) that at the time they were pregnant and giving birth, they had fully understood that they had the right to accept or refuse any procedure, drug, or test offered, while an additional 15% reported having had some knowledge of this right, but did not know the details, and 8% said that they had not known that they had this legal right.

“You can speak with your doctors and decide on your care. Be aware that you have another human inside you and everything you do affects that life that you are responsible for.”

“My doctors were truly concerned with the outcome of my pregnancy and allowed me to make decisions. Even though they didn’t always agree with me, they included my input and didn’t brush aside my concerns.”

Table 20. Mothers' knowledge of right to informed choice (w)

While pregnant and giving birth, a woman has the legal right to receive clear and full explanations of any procedure, drug, or test offered to her—including benefits, risks and alternatives. During the time you were pregnant and giving birth,....?

Base: all mothers (w) n=1373

Did you <u>fully</u> understand that you <u>had</u> this legal right	75%
Did you have <u>some</u> knowledge about this right but didn't know the details	16%
Did you <u>not</u> know that you had this legal right	8%

While pregnant and giving birth, a woman has the legal right to accept or refuse any procedure, drug, or test offered to her. During the time you were pregnant and giving birth,....?

Base: all mothers (w) n=1373

Did you <u>fully</u> understand that you <u>had</u> a right to accept or refuse	78%
Did you have <u>some</u> knowledge but didn't know the details	15%
Did you <u>not</u> know that you had this legal right	8%

Support for Choice Overall and in Mode of Birth

We asked mothers (w) who should make most decisions about their labor and birth experience, assuming there are no medical complications. Most (73%) said that they should make the decisions after consulting their caregiver, and others (23%) supported shared mother-caregiver decision-making. A very small proportion (3%) felt that caregivers should make decisions after consulting with mothers, and virtually none felt that this should be wholly in caregivers' hands.

We gave mothers a series of three statements concerning choice in mode of birth and asked if they agreed or disagreed with them. We asked if mothers should have the right to choose a cesarean birth, a vaginal birth and a vaginal birth after cesarean (VBAC) if they wished, and there was generally strong support for mothers having control, most notably in the case of vaginal birth (93% agreed; 1% disagreed) and VBAC (85% agreed; 5% disagreed). In the case of a cesarean, the findings were more mixed with 46% stating a mother should have a choice and 31% disagreeing, with 23% of mothers in the middle (see Table 21).

I felt so out of control... I hated that they were all over my child as soon as he was born instead of giving us some quite time alone. I hated that they cut his cord almost immediately despite our often-spoken agreement to NOT do so. I hated that I was given Pitocin without my prior agreement. I hated that my child was given a shot without my prior agreement. I hated that the stuff was put into my child's eyes almost immediately without my agreement, before pictures were taken...so the pictures I have of my child's birth were of a cold, screaming baby with eyes squeezed shut with fluid running out of them because they took him off me to do this stuff to him... The worst thing? Being out of control of what should have been an experience that is so personal, so intimate, it should have been entirely within my control.

Table 21. Mothers' support for maternal choice in mode of birth (w)

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

Base: all mothers (w) n=1373	Disagree strongly	Disagree somewhat	Neither agree nor disagree	Agree somewhat	Agree strongly
If a woman who has never had a cesarean wants to have a cesarean, she should be able to do so.	14%	17%	23%	20%	26%
If a woman who has never had a cesarean wants to have a vaginal birth, she should have the opportunity to do so.	#	1%	7%	13%	80%
If a woman who had a previous cesarean wants to have a vaginal birth, she should have the opportunity to do so.	1%	4%	10%	29%	56%

Pressure to Accept Interventions and Experience Refusing Them

We asked mothers if they felt pressure from a health professional to have any of three interventions, and about 90% of mothers indicated they did not feel any pressure, though the proportions reporting pressure varied slightly by intervention: epidural (7%), cesarean section (9%) or induction (11%).

We looked at these findings by whether or not mothers had the specific intervention and while that distinction made no difference in the case of epidurals, there was a difference in the case of induction, with 17% of mothers who received an induction citing pressure compared to 7% who did not have an induction ($p < .01$). Most notably, there was a difference in the case of cesarean sections, with 25% of those mothers who received a cesarean saying they had felt pressure compared to 2% of those mothers with a vaginal birth ($p < .01$). This figure did not vary by whether or not a mother was having her first cesarean (26%) or a repeat cesarean (25%).

We asked mothers in the postpartum survey (p) if they ever refused to accept any care that was offered to them or their baby during the hospital stay, and 10% indicated they had done so. In a further question about the details, many of those women told us that they had refused interventions with their baby after the birth (such as being taken to the nursery, given water or formula, or given eye treatment) or various pain medications for themselves. We also asked mothers who had experienced an episiotomy if they had any part in that decision, and only 18% said they had a choice in that decision.

Opinions About Information Needed for Decision Making

We randomly divided the sample into 3 groups and asked each subset of mothers how much information they should be given concerning possible complications associated with several widely used interventions: labor induction, epidural analgesia and cesarean section. Their answers were remarkably consistent, with about four out of five (78 to 81%) saying it would be necessary to know every complication, and nearly one in five (17 to 19%) saying it was necessary to know most complications (Table 22).

Table 22. Mothers' interest in knowing about complications of specific interventions*

Quite a few women experience _____ while giving birth. Before consenting to a _____, how important is it to learn about possible side effects of a _____?

	Labor induction	Cesarean section	Epidural analgesia
It is necessary to know <u>every</u> complication	78%	81%	79%
It is necessary to know <u>most</u> complications.	19%	17%	18%
It is necessary to know <u>some</u> of the complications.	2%	2%	2%
It is <u>not</u> necessary to know any complications.	1%	—	1%

*Each survey respondent was randomly assigned to respond to this question with respect to either labor induction, cesarean section or epidural analgesia.

I had a lot of pressure from the nursing staff to take Pitocin and to have an epidural. I felt like the birth experience was severely impacted by this pressure, as if the most important thing to the nurses was for me to have the baby quickly. My doctor is a big fan of induction, which is not my cup of tea. I had an induction with my first child and wanted desperately to avoid one this last time. Luckily, I was able to.

My goal, this time, was to not get pressure about doing anything against my wishes because my first birth was a genuine nightmare with unnecessary induction, tons of drugs and medical students watching me push! I stayed home most of the labor to make sure I wouldn't get any of that. And I didn't, everything was perfect. It's all in choosing the right doctor first.

The power of knowledge is an incredible thing. It enabled me to be in control of my experience instead of just participating in it. It was very freeing.

Women need to take charge of their health and read, read, read.

Knowledge About Impact of Interventions

We provided mothers (w) with statements concerning adverse effects of cesarean section and induction and asked if they agreed or disagreed with those statements. In no case did a majority of mothers cite the “correct” response. Notably, with regard to cesarean section, pluralities of mothers were “not sure” in every instance. When mothers did respond, they were as likely to be incorrect as correct, with one exception. Mothers were more likely to recognize that babies born by cesarean section were not less likely to experience respiratory difficulties. Mothers who had received a cesarean were no more likely to be correct than mothers who had not (Table 23).

“My first was borderline on being big and they wanted to do a c-section, but I refused. With my second they made me do a c-section whether I wanted to or not. They said that the baby was too big and that no doctor in California would deliver natural, so I did a c-section.”

“I persisted for no drugs to induce labor and got my way, but had to be very persistent.”

“I feel that I was railroaded into labor, pain medication and subsequently a cesarean section. The baby then had to be protected by my husband from a spinal tap immediately after birth. I did not get to hold my baby for hours after birth. It was not enjoyable only interfered with by health care workers.”

“My doctor tried to ‘scare’ me into being induced prior to my due date because, as it turns out, he was going on vacation the week I was due.”

Table 23. Mothers’ knowledge of cesarean complications (w)

Proportion recognizing that cesarean section...

Base: random selection of respondents n=745	Correct	Incorrect	Not sure
Does not lower the chance that a baby will have breathing problems at the time of birth	36%	22%	43%
Does not prevent problems with incontinence (leaking urine) later in life	28%	28%	45%
Increases the chance that a woman will have a blood transfusion or emergency hysterectomy	26%	33%	42%
Increases the chance of serious problems with the placenta in any future pregnancies	24%	31%	46%

Note: each online participant was randomly assigned to respond to questions about effects of cesareans (Table 23) or of labor induction (Table 24).

In the case of induction, mothers were correct when they agreed that the drugs used in induction could increase the chance of a baby experiencing distress and correct when they disagreed that induction decreased the chances for a cesarean. A majority (57%) was incorrect in agreeing that induction was warranted for concerns about a large baby. Once again, having experienced an intervention did not improve performance. Mothers who experienced an attempted medical induction were more likely to be incorrect in two cases (large babies and distress) (Table 24).

Table 24. Mothers’ knowledge of labor induction complications (w)

Proportion recognizing that labor induction ...

Base: random selection of respondents n=625	Correct	Incorrect	Not sure
Involves drugs that increase the chance of the baby’s distress	46%	27%	28%
Does not lower the chance that a woman will give birth by cesarean	45%	21%	34%
Is not supported if a baby appears to be large at the end of pregnancy	28%	56%	16%

Note: each online participant was randomly assigned to respond to questions about effects of cesareans (Table 23) or of labor induction (Table 24).

Choosing a Cesarean without Medical Reason

We asked mothers if in the future they were pregnant, had no medical reason for a cesarean, and could decide for themselves, how likely they would be to choose a cesarean. One in five (20%) women said they would be likely to choose elective cesarean birth if given the choice in the future, though, as might be expected, these figures are strongly related to recent birth experience. Fewer than one in sixteen (6%) mothers who had not had a prior cesarean and recently experienced a vaginal birth responded that they might choose what would be an elective primary cesarean in the future, while women who had experienced a cesarean in their last birth were almost evenly split (52% unlikely; 47% likely) in their preference for a repeat cesarean.

Summary

Though mothers had experienced high rates of a broad range of interventions while giving birth, about half felt that giving birth should not be interfered with unless medically necessary, while others were divided evenly between feeling uncertain or disagreeing.

Mothers generally rated the quality of the U.S. health care system highly and the quality of maternity care in the United States even higher. Opinions about the impact of the malpractice environment on maternity care, however, recognized concerns.

By law and within professional ethics statements, women are entitled to full informed consent or informed refusal before experiencing any test or treatment. Most mothers stated that they had fully understood that they had a right to full and complete information about any care that was offered, and to accept or refuse any offered care. A similar understanding was reflected in their views of a woman's right to choose her mode of birth: nearly all felt a woman with no previous cesarean should be able to have a vaginal birth if she wanted (93%), and the great majority (85%) supported the right to choose a VBAC (vaginal birth after cesarean); fewer than half (46%), however, supported the right to choose an initial cesarean.

A small proportion of mothers reported experiencing pressure to have labor induction (11%), epidural analgesia (7%) and cesarean section (9%), respectively. Despite the very broad array of interventions presented and experienced, widespread belief in the value of avoiding unnecessary interference, and a high degree of understanding about the right to informed consent, just a small proportion (10%) of mothers reported that they had refused any form of care for themselves or their babies during their hospital stay. Of concern, the great majority of mothers who had experienced episiotomy (73%) stated that they had not had a choice about it.

We asked mothers what knowledge they needed about side effects of labor induction, epidural analgesia and cesarean before deciding to have these interventions. In every case, virtually all felt that all (78-81%) or most (17-19%) complications should be disclosed. However, whether mothers had had the specific intervention or not, they were poorly informed about several complications of labor induction and cesarean section: most had incorrect knowledge or were not sure.

“Well I would’ve rather preferred if the doctor would’ve waited a little longer for me to have a natural childbirth instead of you know being rushed into the c-section. The recovery of the cesarean was way too painful.”

“I was given an episiotomy after I told them I didn’t want one. Then, the doctor pulled on the umbilical cord til it broke from the placenta, and then there was fear of me bleeding to death. I asked the doctor to let the placenta deliver at its own time, but she was in a hurry, so she wanted it out as soon as the baby was delivered. I feel that everything we had talked about before the labor didn’t matter. She did what was best for her, not me.”

“There is a huge difference from hospital to hospital. Nursing staff and their level of expertise also varies greatly. Making sure you are well informed and having a birthing plan that you stand up for is very important. Many in healthcare seem to have forgotten how natural giving birth is.”

Finally, we asked mothers whether in a future birth they would be inclined to choose a cesarean for no medical reason if they had the option. Despite their support for a woman's choice and their limited understanding of adverse effects of cesareans, nearly all women who had given birth vaginally would not be inclined to choose an elective cesarean, while those who had had a cesarean were mixed.

Part 6

Looking at Some Important Variations in Experience



Women's childbearing experiences can vary considerably depending on their circumstances. It is important to go beyond overall responses to understand the experiences of key subgroups. We examined three dimensions that are in many respects associated with quite different experiences: whether the birth was vaginal or cesarean, whether the woman was a first-time or experienced mother, and the race/ethnicity of the mother.

Comparing Childbearing Experience and Mode of Birth

Mothers generally reported substantially different birth experiences depending on whether they had a vaginal or cesarean birth and whether it was their first birth or they had given birth before. In some cases, we have already identified in this report specific differences in mothers' responses related to these factors. Table 25 summarizes differences throughout the survey by mode of birth for first-time mothers, while Table 26 does the same for experienced mothers. There are many ways cesarean and vaginal birth data could be compared (e.g., primary cesareans versus repeat cesareans versus vaginal births after cesareans versus vaginal births with no previous cesarean; planned versus unplanned cesareans), but in this section we are simply comparing those mothers whose most recent birth was vaginal with those whose most recent birth was a cesarean. Likewise, we only compare first births with all those mothers who had experienced one or more prior births.

First-Time Mothers by Mode of Birth

For first-time mothers, there were no major differences by type of birth in several areas, including: general attitudes toward the birth process, the likelihood of taking childbirth education classes, whether induction was attempted, or intention to breastfeed. Typically, however, the differences were quite pronounced, usually in expected directions. In comparison with first-time mothers with a vaginal birth, a first-time mother who had a cesarean was less likely to have: felt confident as she approached labor; had a midwife for prenatal care; tried to self-induce; had the baby in her arms immediately after birth; had rooming in; reported feeling capable or powerful during the birth process, and rated the Internet as her prime source of prenatal information. She was more likely to have used the Internet at some point, and to believe a woman should have the right to a cesarean if she wanted one.

Experienced Mothers by Mode of Birth

Many of the same patterns emerge when considering experienced mothers, with those who had cesareans less likely than those with a vaginal birth to have: a midwife as prenatal provider, felt confident approaching labor, tried to self induce; had the baby in their arms after birth, had rooming in, or felt capable or powerful while giving birth. There were several areas where there were differences for experienced mothers that weren't seen for first-time mothers. Experienced mothers having vaginal births were much less likely to have an epidural and to describe themselves as frightened during birth, and were more likely to use no pain medications during labor and be breastfeeding at one week than experienced mothers who had a cesarean. Also, while there was no difference by method of birth in the likelihood of an attempted medical induction among first-time mothers, there was a substantial one for experienced mothers with those with a vaginal birth much more likely to be induced, reflecting the large proportion of planned repeat cesareans. This was true even when we limited the analysis to only unplanned cesareans.

Table 25. Variation in experiences of first-time mothers, by mode of birth

Base: had not previously given birth	First-time mothers		
	Vaginal n=346	Cesarean n=173	All n=519
Prenatal			
Prenatal provider was a midwife*	15%	4%	11%
Took childbirth classes this pregnancy	55%	60%	56%
Felt confident as approached labor*	72%	60%	68%
Internet was most important information source	17%	12%	16%
Used Internet as a source*	74%	86%	78%
Tried to self-induce*	26%	12%	21%
Health professional attempted induction	48%	47%	48%
Labor, birth, postpartum			
Had epidural	81%	88%	84%
Used no pain medications during labor	8%	4%	7%
Baby primarily in mother's/partner's arms first hour after birth*	48%	33%	43%
Had rooming in*	64%	47%	58%
Intended to exclusively breastfeed	69%	71%	70%
Breastfeeding at 1 week	52%	44%	50%
Feelings while giving birth			
Capable*	50%	27%	43%
Frightened	40%	51%	44%
Overwhelmed	56%	59%	57%
Powerful*	27%	8%	20%
Attitudes			
Birth should not be interfered with unless medically necessary	41%	42%	41%
Woman has right to choose a cesarean	51%	62%	55%
Woman has right to choose a VBAC	85%	87%	85%
Quality of U.S. maternity care good or excellent	85%	86%	85%

*p < .01 for difference between mothers with and without a cesarean

Table 26. Variation in experiences of experienced mothers, by mode of birth

Base: had previously given birth 1 or more times	Experienced mothers		
	Vaginal <i>n</i> =731	Cesarean <i>n</i> =323	All <i>n</i> =1054
Prenatal			
Prenatal provider was a midwife*	11%	2%	9%
Took childbirth classes this pregnancy	10%	7%	9%
Felt confident as approached labor*	85%	77%	83%
Internet was most important information source	13%	12%	13%
Used Internet as a source	69%	77%	71%
Tried to self-induce*	30%	9%	23%
Health professional attempted induction*	49%	13%	38%
Labor, birth, postpartum			
Had epidural*	67%	87%	73%
Used no pain medications during labor*	22%	7%	17%
Baby primarily in mother's/partner's arms first hour after birth*	58%	38%	51%
Had rooming in*	66%	45%	59%
Intended to exclusively breastfeed	60%	51%	57%
Breastfeeding at 1 week*	57%	43%	53%
Feelings while giving birth			
Capable*	53%	22%	44%
Frightened*	25%	53%	33%
Overwhelmed*	35%	44%	38%
Powerful*	22%	6%	17%
Attitudes			
Birth should not be interfered with unless medically necessary	55%	54%	55%
Woman has right to choose a cesarean	39%	45%	42%
Woman has a right to choose a VBAC*	86%	84%	85%
Quality of U.S. maternity care good or excellent	83%	84%	83%

**p* < .01 for difference between mothers with and without a cesarean

First-Time and Experienced Mothers

Comparing mothers across experience levels (examining results in Tables 25 versus Table 26) also reveals some interesting patterns (all of the following differences were significant at $p < .01$). Experienced mothers were less likely to take a childbirth education class and have an epidural with a vaginal birth; and they were more likely to report feeling confident as they approached labor, use no pain medications during labor and see birth as a process that shouldn't be interfered with. One of the most notable distinctions occurs with regard to breastfeeding where about seven in ten mothers in their first birth were likely to intend to exclusively breastfeed regardless of method of delivery. However, experienced mothers were generally less likely to intend to breastfeed and those who had a cesarean were particularly less likely (51%) to have that intention. Experienced mothers were, however, generally much more likely to fulfill their intention to breastfeed than first-time mothers with the largest decline (from 71% intending to 44% achieving this goal at 1 week) among first-time mothers with a cesarean and the smallest (60% to 57%) among experienced mothers with a vaginal birth.

“The best thing I can say that has come from me giving birth would have to be the knowledge I've gained from all of this. I know what questions to ask now, and I also know what risks MY body and MY next baby could possibly go through.”

“Went much easier the 2nd time. Knowing what to expect made it much better.”

Comparisons by Race and Ethnicity

The generally representative *Listening to Mothers II* data allow us to examine results by race/ethnicity with a focus on three major groupings: black non-Hispanics, white non-Hispanics and Hispanics. We chose not to present results for the other major U.S. race/ethnicity category, Asian mothers, because they constituted too small a proportion of our sample to result in meaningful analysis. Some of those results are presented in Table 27. It is perhaps best to begin noting some areas where there were not substantial differences across the groupings: confidence as labor approached; Internet as the most important information source; and use of rooming in.

The differences are of great interest as well, and they arise in several areas. White non-Hispanic mothers are least likely to rely on Medicaid or similar public programs for all or part of their birth-related costs. White non-Hispanic mothers were least likely to want to know their baby's sex (15%) and to have an unplanned birth (38%); most likely to use the Internet (79%), try to self-induce (25%) and have a provider try to induce them (43%); and they were tied with Hispanic mothers (10% each) in the use of a midwife for prenatal care.

Table 27. Variation in experiences, by race/ethnicity

Demographics	White non-Hispanic n=980	Black non-Hispanic n=191	Hispanic n=329
Medicaid /other government program paid all or part of birth costs*	36%	51%	52%
At birth, unmarried with partner*	19%	32%	34%
At birth, unmarried with no partner*	5%	9%	4%
Prenatal			
Pregnancy unplanned*	38%	51%	47%
Prenatal provider was a midwife*	10%	5%	10%
Prenatal provider asked about abuse	34%	44%	38%
Prenatal provider talked about prematurity*	79%	87%	78%
Did not want to know baby's sex*	15%	10%	9%
Took childbirth classes, first-time mothers	58%	60%	51%
Felt confident as approached labor	70%	71%	74%
Internet was most important information source	12%	12%	16%
Used Internet as a source*	79%	68%	61%
Tried to self-induce*	24%	17%	18%
Health professional attempted induction	43%	34%	40%
Labor, birth, postpartum			
If episiotomy, had choice	16%	4%	24%
Family physician or midwife attended birth*	15%	7%	19%
Did not meet birth attendant until birth*	16%	25%	23%
First-time mother had a cesarean*	33%	49%	24%
Baby was in mother's/partner's arms after birth*	48%	33%	60%
Had rooming in	59%	56%	62%
Intended to exclusively breastfeed*	65%	52%	54%
Breastfeeding at 1 week*	55%	42%	46%
Pain interfered with routine activities in 1st 2 months, vaginal birth	9%	14%	10%
Pain interfered with routine activities in 1st 2 months, cesarean birth*	18%	20%	38%
Feelings while giving birth			
Capable*	39%	47%	55%
Frightened	37%	31%	38%
Overwhelmed*	43%	38%	52%
Powerful*	16%	23%	25%
Attitudes			
Birth should not be interfered with unless medically necessary*	45%	58%	57%
Woman has right to choose a cesarean*	45%	52%	41%
Woman has right to choose a VBAC*	87%	81%	77%
Quality of U.S. maternity care good or excellent*	86%	76%	83%

*p < .01 for difference between mothers across race/ethnicity groups.

Black non-Hispanic mothers were most likely to report being unmarried with no partner (9%), having their provider discuss prematurity (87%) and among first-time mothers having a cesarean (49%). They were also least likely to have a family doctor or midwife as their birth attendant (7%); have the baby in their or their partner's arms after birth (33%); and intend to and actually breastfeed exclusively. Hispanic mothers were most likely to have the baby in their or their partner's arms immediately after birth (60%); and those with a cesarean were far more likely to report pain interfered with their routine activities (38%).

With respect to the attitudinal measures, white non-Hispanic mothers were least likely to report feeling capable and think that birth should not be interfered with, and more supportive of a women's right to a VBAC. Black non-Hispanic mothers were most supportive of a women's right to a cesarean; and though they rated the U.S. maternity care system quite positively, they did so at a lower rate than white or Hispanic mothers.

Summary

For some matters, there are little or no differences between cesarean and vaginal mothers, between experienced and first-time mothers, and across three race/ethnicity groupings. However, we found many areas where experiences varied markedly through the course of the maternity period.

In comparison with first-time mothers with a vaginal birth, those with a cesarean had different: personal traits (less confident as they approached labor), care arrangements (less likely to have midwife), feelings while giving birth (less capable and powerful), and interaction with newborns (less contact in hospital).

In comparison with experienced mothers with a vaginal birth, those with a cesarean had different: personal traits (less confident as they approached labor), care arrangements (less likely to have midwife), birth interventions (less medical induction and epidural analgesia), feelings while giving birth (less capable and powerful, more frightened and overwhelmed), interaction with newborns (less contact in hospital), and infant feeding experiences (less breastfeeding at one week).

Comparing first-time and experienced mothers overall, experienced mothers had different: childbirth education experiences (less likely to take a class), personal traits (more confident as they approached labor), birth interventions (less likely to use pain medications), attitudes (more likely to support avoiding medically unnecessary intervention), infant feeding experiences (less likely to intend to breastfeed, more likely to achieve goal of breastfeeding).

Comparing the major race/ethnicity groupings identified notable differences. White non-Hispanic mothers were least likely to have an unplanned birth, have their birth paid for by Medicaid or another government program, report feeling powerful during birth, and support unnecessary intervention in the birth process. They were most likely to experience a medical induction, intend to exclusively breastfeed and be breastfeeding at one week, and support the right to choose a VBAC. Black non-Hispanic mothers were least likely to have a midwife or family physician, have met their birth attendant prior to the birth, be married or have a partner at the time of birth, and rate the U.S. maternity

care system positively. They were most likely to have a provider discuss prematurity with them and to have experienced a cesarean. Hispanic mothers were least likely to experience a primary cesarean and support a mother's right to choose a VBAC, while they were most likely to want to know the sex of their baby before it was born, feel capable and overwhelmed and have the baby in their arms immediately after birth.

Conclusion



Listening to Mothers II survey results offer an unprecedented look at experiences of childbearing women and their infants in the United States. Working with a leading survey research firm, we reached and polled a sample that closely resembles the survey's target population — mothers 18 to 45 who gave birth to a single baby in U.S. hospitals in 2005, with the baby still living at the time of the survey early in 2006. This large population is primarily, but not exclusively, healthy and at low risk.

What happens to childbearing women, infants and families matters deeply. A vast body of evidence is accumulating about lifelong implications for babies of the medical, physical, and social environment during this crucial period.¹ Though this question is less studied in mothers, growing evidence suggests that conditions at this time (for example, whether they have a cesarean or breastfeed) also have a long-term impact on maternal well-being.

Survey results allow us to identify opportunities to improve these conditions by comparing actual experiences of mothers and their infants to their preferred experiences, to care to which they are legally entitled, to care supported by best evidence, and to optimal outcomes.

Some survey results indicate that U.S. maternity experiences are generally on track. For example, the great majority of women initiated prenatal care early in pregnancy and when they wanted to, were confident about knowing signs of premature labor, and reported experiencing supportive care during labor.

Various other survey results help us better understand maternity experiences and reflect important social changes rather than exemplary or inappropriate practices. For example, most women learned of their pregnancy through a home test, and first-time mothers indicated that books were their most important source of information about being pregnant and giving birth.

The predominant picture that emerges from our data, however, is of large segments of this population experiencing clearly inappropriate care that does not reflect the best evidence, as well as other undesirable circumstances and adverse outcomes. Concerns involving most survey participants likely impact millions of mothers or babies annually. Even when relatively small proportions of mothers reported undesirable experiences, it is important to keep in mind that with four million births annually, each percentage point represents about 40,000 mothers and babies every year in the United States.

At the start, large proportions had unplanned pregnancies and entered pregnancy with excess weight. While pregnant, mothers were much more likely to watch TV shows about giving birth than learn about this topic in a childbirth education class. Most were not asked during prenatal visits about the common and consequential experiences of physical or verbal abuse and depression.

Women's typical experiences during labor and birth were especially troubling. Support in this overwhelmingly healthy population for women's intrinsic capacity for physiologic childbirth appeared to be extremely limited. While giving birth, large proportions experienced numerous labor and birth interventions with various degrees of invasiveness and risk. While these practices may be of value for selected mothers with specific concerns,

they are ill-considered as common measures in healthy women. There were signs of failure to implement standards of informed consent, and many women did not have the childbirth choices or knowledge they wanted. Most who had experienced specific consequential interventions lacked an accurate understanding of associated side effects. In open-ended comments, many mothers described indignities and treatment that expressly violated their wishes. Far too many indicated that they felt overwhelmed, frightened or weak during this pivotal event.

In the hospital after birth, large proportions experienced practices that have been found to interfere with breastfeeding, such as separating mothers and babies in the absence of a problem, providing pacifiers and formula or water supplements, and giving free formula samples/offers. These childbirth and early postpartum experiences may explain the troubling drop-off between first-time mothers' intention to breastfeed and actual breastfeeding a week after birth. Mothers provided a range of comments describing their struggles with the staff at this time to be with their babies, avoid interference with breastfeeding, and protect their newborns from unwanted intervention.

The new mothers experienced a notable burden of physical and emotional problems at the challenging and important time when they took on responsibility for care of their newborns. Those who had had an episiotomy or cesarean section had an increased burden of pain, infection and disruption of their routine activities. Mothers generally lost less weight in the year after the birth than they had gained during the pregnancy, resulting in an overall weight increase. Most were experiencing some depressive symptoms around the time of the survey, yet just one survey participant in five had sought professional help for mental health.

Most mothers lacked access to even a minimal paid maternity leave benefit to support their recovery and work caring for their infants. A majority of mothers who had been employed during pregnancy were back to paid work by 12 weeks postpartum, and most were unable to stay home with their babies as long as they wanted. Overall, more than a third had assumed paid work responsibilities by 12 weeks. Being apart from their babies was a challenge for the great majority of the mothers who were employed at the time of the survey, and childcare arrangements, breastfeeding issues and adequate spouse/partner support were other widely experienced concerns.

We found many gaps between actual and more optimal experiences and outcomes, including results that were jarring when juxtaposed. Examples of these "disconnects" include:

- within this largely healthy population, four labors in ten were started artificially, one mother in three had a cesarean, and most did not experience "spontaneous" labor brought on by physiologic interplay of mother and baby;
- the great majority felt that a woman who wants a VBAC (vaginal birth after cesarean) should be able to have one, but most women who were interested in a VBAC were denied this option;
- virtually all women felt that it is important to know all or most side effects of labor induction or cesarean section before agreeing to these procedures, yet those who experienced them had poor knowledge of their adverse effects;
- only a small fraction of mothers used simple, low-risk, highly rated, drug-free measures for labor pain relief such as tubs, showers and birth balls;

- half felt that the birth process should not be interfered with unless medically necessary and another quarter were uncertain, yet just a tiny fraction experienced the care practices that Lamaze International identifies, on the basis of World Health Organization guidelines, that protect, promote and support normal birth.

Our maternity care system is profoundly failing to provide care that many mothers told us they want and that is in the best interest of themselves and their babies. Large-scale prospective North American studies show that few healthy low-risk mothers require technology-intensive care when given good support for physiologic labor,² yet the typical childbirth experience has been transformed into a morass of wires, tubes, machines, and medications that leave healthy women immobilized, vulnerable to high levels of surgery and burdened with health concerns while caring for their newborns. Moreover, this extremely and unnecessarily expensive style of care³ places a considerable burden on governments, employers and families who pay the bills for four million plus births in the United States every year. The Institute of Medicine's landmark *Crossing the Quality Chasm* report exposed the gulf between where our health care system is and where it should be with respect to safety, effectiveness, patient-centeredness, timeliness, efficiency and equity. Follow-on work from that respected organization identified pregnancy and childbirth as a national priority area for health care quality improvement.⁴ The *Listening to Mothers* surveys are signposts that can help achieve these aims for improvement in care for pregnancy, childbirth and the postpartum period.

Childbearing families are also hampered by policies and trends beyond the health care system. For example, reproductive health policies that fail to minimize unplanned pregnancies have considerable repercussions for families that carry on with those pregnancies. In the public health arena, the national epidemic of obesity has an increasingly recognized impact on childbearing women and babies, as do tobacco, alcohol and other exposures beyond the scope of this report but covered in statewide surveys of childbearing women. In *Listening to Mothers II*, we have also identified concerns about national U.S. policy relating to maternity leave: among 20 affluent industrialized nations, only the U.S., Australia and New Zealand do not ensure paid maternity or paternity leave.⁵

Finally, survey results point to the need for mothers themselves to take an increased role in the challenging yet crucial responsibility to become informed, understand their maternity rights and make wise decisions about matters that impact the health and well-being of themselves and their babies.

Our survey results identify many opportunities to close gaps between actual and more optimal experiences through policy, practice, education and research. It is important to implement strategic clinical, public health, payment, and family support policies at national, state, local and corporate levels. In clinical and health systems practice, there is a critical need to ensure access to safe, effective care that is appropriate for childbearing women and to honor women's legal right to truly informed choice. Educational priorities include strengthening all phases of health professions education and improving the knowledge and skills of childbearing women. Knowledge of evidence-based maternity care and skills for achieving safe vaginal birth are urgent priorities for health professions education. Greater transparency about health system options (including performance at provider and hospital levels) and responsible high-quality mass media content can play major roles in helping women make wise choices. We have growing and extensive

knowledge about safe and effective maternity practice, so research priorities must focus on filling in gaps and better understanding how to translate our knowledge into practice. With the will and the skill, we can seize these opportunities to enhance the well-being of mothers, babies and families.

Notes

1. Odent M. The long term consequences of how we are born. *Primal Health Research* 2006 14(1):22p.; Gluckman PD, Hanson MA, Morton SMB, Pinal CS. Life-long echoes: A critical analysis of the developmental origins of adult disease model. *Biol Neonate* 2005 87(2):127-38; Olsen J. Prenatal exposures and long-term health effects. *Epidemiol Rev* 2000 22(1):76-81.
2. Johnson KC, Daviss B-A. Outcomes of planned home births with certified professional midwives: Large prospective study in North America. *BMJ* 2005;330(7505):1416; Rooks JP, Weatherby NL, Ernst EK, Stapleton S, Rosen D, Rosenfield A. Outcomes of care in birth centers: The National Birth Center Study. *New Engl J Med* 1989;321(26):1804-11. The experiences of women in these two large prospective studies were dramatically different from our national survey results. For example, whereas the *Listening to Mothers II* mothers had an extraordinary 32% cesarean rate, both of these studies reported 4% cesarean rates (with no indication that the low rate of intervention or out-of-hospital settings involved excess risk when compared with low-risk women giving birth in hospitals).
3. Childbirth Connection. Facility labor and birth charges, U.S., 2003, by site and method of delivery. New York: Childbirth Connection, 2005. Available at www.childbirthconnection.org/pdfs/birthcharges.pdf; Merrill C, Steiner C. *Hospitalizations related to childbirth*, 2003. Agency for Healthcare Research and Quality, August 2006. (Healthcare Cost and Utilization Project, Statistical Brief 11.) Whereas the average hospital charge for uncomplicated vaginal birth was \$6,200 in 2003, the average birth center charge was \$1,600 during the same period. Moreover, unlike hospital care, birth centers do not have additional charges for newborn care and anesthesia services. The average 2003 hospital charge for cesareans was \$11,500 (without complications) or \$15,500 (with complications). "Mothers's pregnancy and delivery" and "newborn infants" are the second and third most expensive U.S. hospital conditions, and by far the most expensive when combined, for all public, private and other payers combined. Russo CA, Andrews RM. *The national hospital bill: The most expensive conditions, by payer*, 2004. Agency for Healthcare Research and Quality, September 2006. (Healthcare Cost and Utilization Project, Statistical Brief 13.) Both Statistical Briefs are available at www.hcup-us.ahrq.gov/reports/statbriefs.jsp
4. Institute of Medicine, Committee on Quality of Health Care in America. *Crossing the Quality Chasm: A New Health System for the 21st Century*. Washington, DC: National Academy Press, 2001; Institute of Medicine, Board on Health Care Services, Committee on Identifying Priority Areas for Quality Improvement. *Priority Areas for National Action: Transforming Health Care Quality*. Washington, DC: National Academies Press, 2003.

5. Mishel L, Bernstein J, Allegretto S. for Economic Policy Institute. *The State of Working America 2004/2005*. Ithaca: Cornell University Press, 2005. The 20 countries are members of Organization of Economic Cooperation and Development.

Appendix A

Methodology

Harris Interactive® conducted *Listening to Mothers II: The Second National U.S. Survey of Women's Childbearing Experiences* on behalf of Childbirth Connection. The survey consisted of 1,373 online and 200 telephone interviews with women who had given birth in 2005, with weighting of data (see "Weighting") to reflect the target population. Interviews were conducted from January 20 through February 21, 2006, and the survey took approximately 30 minutes to complete.

The Survey Questionnaire

All interviews were conducted in English. The questionnaires used for the online and telephone interviews differed slightly in wording to reflect the specific requirements of these two different modes of interviewing. The full survey questionnaire is available at: www.childbirthconnection.org/listeningtomothers/

Eligibility Requirements

All respondents were asked a series of preliminary questions to determine their eligibility for the survey. To be eligible, respondents had to be 18 through 45 years of age, to have given birth in 2005 in a hospital to a single baby (multiple births were excluded), to have that child still living at the time the survey was conducted and to be able to respond to a survey in English. We decided to examine only singleton births because the relatively small proportion of multiple births in the United States is distinct from all births (for example, 68% of babies born in multiple births were delivered by cesarean in 2003), and would yield too few participants for us to examine separately. Likewise we focused on hospital births because there are so few home (0.6%) or freestanding birth center births (0.2%) that we would not have sufficiently large subgroups to analyze these. Moreover, question wording was considerably simplified and clearer for respondents by referring to the hospital experience and birth of a single child. We eliminated births to mothers whose babies were not living at the time of the survey for several reasons. From an ethical perspective, we felt that survey participation could be distressing to this group of mothers, from the perspective of data analysis they are another distinctive and small group, and questionnaire wording would have been complicated. To minimize bias, the screening questions were designed so that the eligibility criteria were not readily apparent. As we had in our earlier survey, we limited respondents to mothers 18 or older.

The Online Sample

Potential respondents for the online portion of the survey were drawn from the very large Harris Poll Online (HPOL) panel of U.S. adults. This very large panel has been recruited from a variety of sources, including: co-registration offers on partner websites, targeted emails sent by online partners to their audience, graphical and text banner placements on partner websites, refer-a-friend program, client supplied sample opt-ins, trade show presentations, targeted postal mail invitations, TV advertisements, and telephone recruitment of targeted populations.

Online Interviewing

An email was sent to a sample of women age 18-45 drawn from the HPOL panel inviting them to participate in the survey. Embedded in the invitation was a direct link to the survey website enabling recipients to proceed to the survey immediately or at a later time more convenient to them. The survey was hosted on a Harris server and used advanced web-assisted interviewing technology.

After proceeding to the survey website, respondents were screened to determine their eligibility. Respondents satisfying the eligibility requirements were able to proceed into the actual survey. Once in the survey, respondents could complete the entire questionnaire in one session, or could choose to complete it in multiple sessions, an important consideration for the mother of an infant.

A number of steps were taken to maintain the integrity of the online sample and to maximize response to the survey. Among these measures was the use of password protection, whereby each email invitation contained a password that was uniquely assigned to the email address to which it was sent. Respondents were required to enter this password to gain access into the survey, ensuring that only one survey could be completed for each email invitation sent.

Additional steps taken to maximize response included offering respondents a brief summary of survey results, and sending "reminder" invitations to respondents who did not respond to the initial invitation within four days of receiving it.

Telephone Sample

To improve the study's representativeness of the broader population of birthing mothers, the online sample was supplemented with a telephone sample of 200 Hispanic and black non-Hispanic mothers. A telephone-based approach helps reduce biases associated with Internet-only data collection and provides an outlet for participation to Hispanic and black non-Hispanic women who may not have access to the Internet. Hispanic and black non-Hispanic women were recruited from a list of households with a baby provided by Survey Sampling International. Calls were made to zip codes with large minority populations, respondents to the telephone survey were screened for race/ethnicity, and only underrepresented minorities were included in the phone subsample.

Telephone Interviewing

Telephone interviewing was conducted from Harris Interactive's telephone center in Orem, Utah. Up to six attempts were made over a four-week period to complete an interview with each potential respondent. Interviewing staff was monitored on an ongoing basis to maintain interviewing quality. Due to the sensitive nature of many of the questions, all interviewing was conducted by female interviewers.

Data Processing

All data were tabulated, checked for internal consistency and processed by computer. A series of computer-generated tables was then produced showing the results of each survey question, both by the total number of respondents and by key subgroups.

Weighting

To more accurately reflect the target population, the data were weighted by key demo-

graphic variables, as well as by a composite variable known as a propensity score, intended to reflect a respondent's propensity to be online. Demographic variables used for weighting included educational attainment, age, race/ethnicity, geographic region, household income, and time elapsed since last giving birth, using data from the March 2005 Supplement of the U.S. Census Bureau's Current Population Survey and national natality data. The propensity score took into account selection biases that occur when conducting research using an online panel, and included measures of demographic, attitudinal, and behavioral factors that are components of the selection bias. A series of articles describe this methodology and report experiences with validating applications of the methodology.¹

As a consequence of the methodology described, the *Listening to Mothers II* survey was designed to be representative of the national population of women giving birth in 2005, with the following exclusions: teens younger than 18 and new mothers older than 45, mothers who had given birth outside of a hospital, women with multiple births and with babies who had died, and women who do not speak English as a primary or secondary language.

Note about the Postpartum Depression Screening Scale

The *Listening to Mothers II* survey included the 7-question Postpartum Depression Screening Scale (PDSS) Short Form through a licensing arrangement with Western Psychological Services.² According to developers' recommendation, we used the score cut-point of 13/14 as indicating that a woman was experiencing notable symptoms of depression in the two weeks before taking the survey. In clinical settings using this screening tool, it is recommended that women scoring 14 or higher be administered the longer 35-item version. If the longer version identifies notable depressive symptoms, caregivers are urged to refer a mother for professional evaluation and possible diagnosis.

The PDSS manual describes work establishing the reliability, internal consistency and validity of the PDSS Short Form, as well as its strong correlation with the full PDSS and the basis for the recommended cut point. Our national results (means score 16.5) are quite consistent with reported means for development (16.6) and diagnostic samples (14.3) within the range of possible scores (7-35).² We tested our survey results for internal consistency among the 7 items and obtained a favorable Cronbach's alpha of .84.

Comparing Subgroups

When testing for differences between subgroups, it is common to accept a $p < .05$ level of chance of error. To be even more confident in interpreting our results, when comparisons are made, we used $p < .01$ as the cutoff for identifying differences in the groups being compared. This reduces the possibility that the differences cited are based on random variation.

Non-Sampling Error

Sampling error is only one type of error encountered in survey research. Survey research is also susceptible to other types of error, such as data handling error and interviewer recording error. The procedures followed by Harris Interactive, however, are designed to keep errors of these kinds to a minimum.

Postpartum Survey

Childbirth Connection also sponsored a follow-up survey (from July 20 to August 23, 2006)

among *Listening to Mothers II* participants 6 months after the administration of *Listening to Mothers II*. All online *Listening to Mothers II* participants who had not unsubscribed from the Harris Poll Online (HPOL) panel (that is, 1,347 of 1,373 mothers from the earlier survey) were invited to take the postpartum survey. A reminder email was sent to non-responders after 6 days, and another was sent to non-responders after 4 more days. Potential respondents were asked a few preliminary questions to determine whether they were the same person who took the *Listening to Mothers II* survey.

Attempts were also made to contact all of the Hispanic and black non-Hispanic participants from the *Listening to Mothers II* telephone sample who said they would be willing to participate in follow-up research at the time of completing the earlier survey (that is, to reach and include 181 of 200 mothers from the earlier telephone group). Original telephone participants who were interested in further participation and provided email addresses were sent an email message inviting them to participate. Those who did not respond to the email within 5 days were contacted by a telephone interviewer to invite them to take the survey.

The postpartum survey results are based on completed questionnaires from 903 mothers (859 online and 44 telephone participants) who had given birth in 2005. The online survey took approximately 20 minutes to complete, and the same questions in telephone format took approximately 30 minutes to complete.

Notes

1. Smith R, Brown HH. Assessing the quality of data from online panels: Moving forward with confidence. Harris Interactive White Paper, n.d.; Terhanian G, Bremer J. Confronting the selection-bias and learning effects problems associated with Internet research. Harris Interactive White Paper, August 16, 2000; Terhanian G, Bremer J, Smith R, Thomas R. Correcting data from online surveys for the effects of nonrandom selection and nonrandom assignment. Harris Interactive White Paper, 2000; Taylor H, Bremer J, Overmeyer C, Siegel JW, Terhanian G. Touchdown! Online polling scores big in November 2000. *Public Perspective* 2001 March/April;12(2):38-39; Taylor H, Terhanian G. Heady days are here again. *Public Perspective* 1999 June/July;10(4):20-23. Additional information about Harris Interactive methodology is available at: www.harrisinteractive.com
2. Beck CT, Gable RK. *Postpartum Depression Screening Scale (PDSS): Manual*. Los Angeles: Western Psychological Services, 2002.

Appendix B

Demographic Overview of Survey Participants

Table 28. Unweighted and weighted* demographic profile of survey participants

Base: all mothers

Age	Unweighted number	Unweighted	Weighted
18 – 24	347	22%	28%
25 – 29	539	34%	27%
30 – 34	454	29%	25%
35 – 39	188	12%	14%
40 – 45	45	3%	6%

Education

High school or less	316	20%	44%
Some college	732	47%	28%
College graduate	330	21%	20%
Post-graduate	195	12%	8%

Income

< \$25,000	308	21%	24%
\$25,000 – \$34,999	249	17%	12%
\$35,000 – \$49,999	280	19%	16%
\$50,000 – \$74,999	371	25%	20%
\$75,000+	255	17%	28%

Race/Ethnicity

White non-Hispanic	1081	70%	63%
Black non-Hispanic	198	13%	12%
Hispanic	204	13%	21%
Asian and other	70	5%	4%

Maternal birth place

United States	1472	94%	93%
Other country	97	6%	7%

Number of times has given birth

One	548	35%	33%
Two	599	38%	38%
Three or more	426	27%	29%

*See Appendix A for a description of weighting procedures

Appendix C

Comparing *Listening to Mothers II* Results and Federal Vital and Health Statistics

The *Listening to Mothers II* survey collected data on many maternity practices and interventions that have not been examined nationally within the U.S. vital and health statistics system. For example, survey results include national-level data about preconception visits, attempted induction (in addition to labor that was actually induced) by providers and mothers themselves, induction agents and techniques, narcotic and drug-free measures for labor pain relief, urinary catheterization in labor, eating and drinking in labor, mobility in labor, position used for giving birth, use of doulas and other providers of supportive care during labor, and specialty of physicians who were primary birth attendants.

The survey also collected data on a series of items that have been included on birth certificates and in national hospital discharge records. Table 29 compares many of these data items using birth certificate data from 2003, the most recent year for which complete final federal data were available, while *Listening to Mothers II* respondents described events that primarily occurred in 2005. To better assess comparability, we present national natality data for mothers 18–45 years of age with singleton births in a hospital to mirror the *Listening to Mothers II* survey population (see Appendix B).

Listening to Mothers II respondents are largely representative of the national population of mothers with singleton hospital births in terms of birth attendant, mother's age and education (with slightly more older, better educated mothers in the sample), race/ethnicity (white non-Hispanic mothers were slightly overrepresented), and method of birth. In the latter case, our higher cesarean rate may simply reflect two factors: (a) the two-year time difference — the rapidly growing U.S. cesarean rate may reach a more comparable figure when 2005 births are reported; and (b) more repeat cesareans due to the larger proportion of mothers who had given birth at least twice in our survey (67%) in comparison to the birthing population as a whole (61%).

There are, however, some greater discrepancies in figures from the two sources for obstetric procedures. In addressing discrepancies, it is again important to note the two-year difference in time frame between U.S. (2003) and *Listening to Mothers II* (2005) births. As the recent trend of some items in the federal data system is for progressively increasing rates (e.g., of induced labor and electronic fetal monitoring, in addition to cesarean section) or for progressive decrease (e.g., vaginal birth after cesarean), it is likely that some discrepancies would be altered by comparing *Listening to Mothers* results to final federal data from 2005, a more optimal time frame. However, 2005 data will likely not be available until late 2007.

It is possible that information from mothers was less accurate than information collected by people who may have greater understanding of clinical matters. To increase validity, we avoided technical topics requiring specialized knowledge and information that women might not have been apprised of in the first place, and worked to develop clear,

unambiguous language for included survey items. When exploring experience with obstetric practices, we frequently provided both a description of what would have taken place and the medical term. We obtained feedback on a near-to-final version of the survey questionnaire from members of the *Listening to Mothers II* National Advisory Council, pilot-tested the questionnaire with mothers who met survey eligibility requirements, and used feedback from those groups to refine question wording.

A series of validation studies have examined the accuracy of women's recall and reporting about pregnancy and childbirth. Overall, they provide support for the validity of data from mothers themselves. The studies found that it is inappropriate to assume that medical records are consistently more accurate, that mothers may be more reliable sources for many data items, that maternal reporting can provide more complete information than medical records, that sensitive topics may be more accurately reported with data collection that is not face to face, and that the accuracy of maternal recall can persist over many years.¹ The longest period of recall potentially required for data reported here was 18 months for those handful of items included in the postpartum survey. The overwhelming majority of data items involved recall of a year or less, with 42% of the mothers having given birth within six months of participating in the survey.

Perhaps the most important consideration for understanding the discrepant figures is extensive evidence of undercounting of some items in the federal natality reporting system. Numerous validation studies have examined the accuracy of birth certificate data when compared to medical records, hospital discharge records, and maternal reporting and have concluded that many items were underreported in federal sources, with some substantially underreported.² These studies identify considerable variation in accuracy of reporting across hospitals and other units, and in some instances clarify that procedures for compiling the data differ in ways that could influence the accuracy and completeness of reporting.³

Although results of these studies cannot be used to specify the magnitude of underreporting nationally, they nonetheless identify some data items for which a considerable proportion of actual occurrences of procedures do not appear to be identified (low "sensitivity") in the federal reporting system. Our overall rates of ultrasound, labor augmentation, labor induction, electronic fetal monitoring and episiotomy were substantially higher than those reported in national birth certificate data (or, for episiotomy, in hospital discharge data), and the studies we examined generally found quite low sensitivity for these procedures. Ultrasound sensitivity ranged from 37% (Piper) to 44% (Reichman) to 51% (Zollinger) to 63% (Dobie). Sensitivity of labor augmentation ranged from 26% (Piper) to 34% (Lydon-Rochelle) to 94% (Zollinger), and sensitivity of labor induction ranged from 45% (Yasmeen) to 52% (Lydon-Rochelle) to 56% (Parrish) to 61% (Piper) to 96% (Zollinger). Validation studies of electronic fetal monitoring found sensitivities of 33% (Zollinger), 74% external/77% internal (Piper) and 78% (Dobie). Episiotomy validation studies, which were checks on hospital discharge records, found sensitivities ranging from 56% (Parrish) to 70% (Yasmeen) to 84% (Lydon-Rochelle). *Listening to Mothers II* identified a slightly higher rate of vaginal birth after cesarean (VBAC) than national birth certificate data, which is consistent with studies reporting sensitivity concerns for this measure: sensitivity of VBAC ranged from 42% (Green) to 48% (Reichman) to 53% (Piper) to 61% (DiGiuseppe) to 62% (Lydon-Rochelle) to 70% (Parrish) to fully 100% (Roohan).

Table 29. Comparison of Listening to Mothers results and federal vital and health statistics

Data item	<i>Listening to Mothers II</i> (2005)	Singleton Hospital Births to mothers 18+* (2003)
Birth attendant		
Doctor	92%	92%
Midwife	8%	8%
Mother's race/ethnicity		
White non-Hispanic	63%	58%
Black non-Hispanic	12%	14%
Hispanic	21%	22%
Asian and other	4%	6%
Mother's age		
18-24	28%	34%
25-29	27%	28%
30-34	25%	25%
35-39	14%	12%
40+	6%	3%
Number of times has given birth		
1	33%	39%
2	38%	33%
3+	29%	28%
Mother's education		
High school or less	44%	51%
Some college	28%	22%
College and post-graduate	28%	27%
Method of birth		
Vaginal	68%	73%
Vaginal, vacuum extraction or forceps	6%	6%
Vaginal birth after cesarean	2%	1%
Cesarean	32%	27%
Primary cesarean	16%	16%
Repeat cesarean	16%	11%
Procedures		
Induced Labor	34%	21%
"Augmentation" of labor (synthetic oxytocin in labor)	47%	17%
Electronic fetal monitoring	94%	86%
Ultrasound	99%	68%
Episiotomy, among vaginal births	25%	23%

*All figures from annual reporting of birth certificate data, except episiotomy is from 2004 National Hospital Discharge Survey.

We believe *Listening to Mothers II* results have important strengths relative to other sources. Mothers have been shown to provide accurate information about many dimensions of their childbearing experiences. Our survey included data items that are not otherwise available at the national level. For other topics, our survey went into greater depth and was more finely nuanced than other national data. Of considerable importance, we believe that *Listening to Mothers* surveys begin to clarify the magnitude of undercounting of specific data items in some leading sources of national maternity data.

Notes

1. Tomeo CA, Rich-Edwards JW, Michels KB, Berkey CS, Hunter DJ et al. Reproducibility and validity of maternal recall of pregnancy-related events. *Epidemiology* 1999 10(6):774-7; Yawn BP, Suman VJ, Jacobsen SJ. Maternal recall of distant pregnancy events. *J Clin Epidemiol* 1998 51(5):399-405; Lederman SA, Paxton A. Maternal reporting of prepregnancy weight and birth outcome: Consistency and completeness compared with the clinical record. *Matern Child Health J* 1998 2(2):123-6; Olson JE, Shu XO, Ross JA, Pendergrass T, Robison LL. Medical record validation of maternally reported birth characteristics and pregnancy-related events: A report from the Children's Cancer Group. *Am J Epidemiol* 1997 145(1):58-67; Simkin P. Just another day in a woman's life? Part II: Nature and consistency of women's long-term memories of their first birth experiences. *Birth* 1992 19(2):64-81; Oakley A, Rajan L, Robertson P. A comparison of different sources of information about pregnancy and childbirth. *J Biosoc Sci* 1990 22(4):477-87; Martin CJ. Monitoring maternity services by postal questionnaire: Congruity between mothers' reports and their obstetric records. *Stat Med* 1987 6(5):613-27; Hewson D, Bennett A. Childbirth research data: Medical records or women's reports? *Am J Epidemiol* 1987 125(3):484-91.
2. Zollinger TW, Przybylski MJ, Gamache RE. Reliability of Indiana birth certificate data compared to medical records. *Ann Epidemiol* 2006 16(1):1-10; Yasmeen S, Romano PS, Schembri ME, Keyzer JM, Gilbert WM. Accuracy of obstetric diagnoses and procedures in hospital discharge data. *Am J Obstet Gynecol* 2006 194(4):992-1001; Lydon-Rochelle MT, Holt VL, Nelson JC, Cárdenas V, Gardella C et al. Accuracy of reporting maternal in-hospital diagnoses and intrapartum procedures in Washington State linked birth records. *Paediatr Perinat Epidemiol* 2005 19(6):460-71; Roohan PJ, Josberger RE, Acar J, Dabir P, Feder HM, Gagliano PJ. Validation of birth certificate data in New York State. *J Community Health* 2003 28(5):335-46; DiGiuseppe DL, Aron DC, Ranbom L, Harper DL, Rosenthal GE. Reliability of birth certificate data: A multi-hospital comparison to medical records information. *Matern Child Health J* 2002 6(3):169-79; Reichman NE, Hade EM. Validation of birth certificate data: A study of women in New Jersey's HealthStart Program. *Ann Epidemiol* 2001 11(3):186-93; Dobie SA, Baldwin L-M, Rosenblatt RA, Fordyce MA, Andrilla CH, Hart LG. How well do birth certificates describe the pregnancies they report? The Washington State experience with low-risk pregnancies. *Matern Child Health J* 1998 2(3):145-54; Green DC, Moore JM, Adams MM, Berg CJ, Wilcox LS, McCarthy BJ. Are we underestimating rates of vaginal birth after previous cesarean birth? The validity of delivery methods from birth certificates. *Am J Epidemiol* 1998 147(6):581-6; Parrish KM, Holt VL, Connell FA, Williams B, LoGerfo JP. Variations in the accuracy of obstetric procedures and diagnoses on birth records in Washington State, 1989. *Am J Epidemiol* 1993 138(2):119-27; Piper JM, Mitchel EF Jr, Snowden M, Hall C, Adams M,

Taylor P. Validation of 1989 Tennessee birth certificates using maternal and newborn hospital records. *Am J Epidemiol* 1993;137(7):758-68.

3. Smulian JC, Ananth CV, Hanley ML, Knuppel RA, Donlen J, Kruse L. New Jersey's electronic Birth certificate program: Variations in data sources. *Am J Public Health* 2001 91(5):814-6.

Appendix D

Major Survey Findings

Planning for Pregnancy and the Pregnancy Experience

Pregnancy Intendedness

More than four in ten (42%) mothers indicated that they did not intend to become pregnant at this time, with 8% saying they never intended to become pregnant and 34% preferring to become pregnant later.

Pregnancy and Weight

Half of the mothers (51%) reported a prepregnancy weight that, given their height, would be classified as overweight. Mothers reported a typical weight gain of 30 pounds in pregnancy and, for mothers who gave birth at least 3 months earlier, a loss of 22 pounds since giving birth.

Learning about Pregnancy (p)

Most (83%) mothers first learned about their pregnancy from a home pregnancy test, usually in the fifth week of their pregnancy.

Prenatal Care Provider

An obstetrician was the prenatal care provider for 79% of mothers, followed by midwives (9%) and family physicians (8%). The majority of women (w) (73%) always or almost always saw the same maternity caregiver for their prenatal care.

Screening for Abuse and Depression

Almost half (47%) of mothers were asked during a prenatal visit about feelings of depression, and one in three (35%) about physical or verbal abuse.

Ultrasounds

Almost all the mothers (99%) indicated they had had an ultrasound during their pregnancy, with a majority (59%) having 3 or more and 15% having 6 or more.

Identifying Baby's Sex

Almost every mother (99%) had the option of learning her baby's sex, and 86% wanted to know. In 2% of cases, the prediction was wrong.

Childbirth Education

One in four (25%) mothers had taken a childbirth class with this pregnancy, with new mothers (56%) more likely than experienced mothers (9%) to have taken a current class. Almost half (47%) of the experienced mothers had taken classes with a prior pregnancy.

Sources of Information about Pregnancy and Birth

When asked (w) to identify their most important source of information on pregnancy and birth while pregnant, experienced mothers primarily relied on their past experience (48%), followed by their doctor or midwife (18%), the Internet (13%) and books (12%). First-time

Note, (w) refers to findings based on respondents to online survey only, and (p) refers to findings from postpartum survey only.

mothers reported reliance on books (33%), friends and relatives (19%), their provider (18%) and the Internet (16%).

TV Shows Depicting Birth

Two-thirds (68%) of mothers (p) had watched one or more of the television shows specifically depicting childbirth. "A Baby Story" (Learning Channel) was the most commonly watched show, with 47% of those who watched any of these TV shows reporting regular viewing.

Feelings as Labor Approached

About seven mothers in ten (71%) reported feeling confident as they approached labor, while 53% felt fearful and 24% felt unprepared.

Women's Experiences Giving Birth

Primary Birth Attendant

Obstetricians were the primary birth attendants (79%) of our mothers, followed by midwives (8%) and family physicians (7%). Among obstetricians who were attendants, 54% were male and 46% female (p). In the clear majority of cases (71%) the birth attendant was also the prenatal care provider, but for 28% of women it was someone they had either met briefly (9%) or had never met (19%).

Self-Induction of Labor

One in five (22%) mothers tried to start their labor on their own, with 21% of these leading to labor for an overall a self-induction rate of 4%. The most commonly used methods were walking or exercise (82%), sexual intercourse (71%) and nipple stimulation (41%).

Medical Induction of Labor

More than four out of ten mothers (41%) indicated that their caregiver tried to induce their labor, and 84% of the time that led to labor, resulting in an overall provider induction rate of 34%. Among all mothers who experienced attempted medical inductions, 79% cited at least one medical reason, while 35% cited at least one non-medical reason (mothers could choose more than one reason).

Overall, half (50%) of mothers experienced medical and/or self attempts to induce labor, and 39% of labors were started either medically or through self-induction.

Individuals Who Provided Supportive Care During Labor.

Almost all women (96%) reported (w) having received some type of supportive care for some period while in labor, typically from a husband or partner (82%), the nursing staff (56%), another family member or friend (38%), a doctor (34%), a midwife (8%) and/or a doula (trained labor assistant) (3%).

Fetal Monitoring During Labor

For 94% of women (w) in labor, electronic fetal monitoring (EFM) was used to record the baby's heartbeat, and among women using EFM, 93% were monitored continuously (76%) or most of the time (17%) in labor.

Use of Pain Medications

While 14% of mothers reported using no pain medication, the vast majority of women

(86%) used one or more types of medication for pain relief for at least some of the time during labor. Epidural or spinal analgesia was most common (76%), used by 71% of all women in vaginal and 88% in cesarean births.

Use of Drug-Free Methods for Labor Pain Relief

Women who experienced labor (w) used a variety of drug-free methods to increase comfort and relieve pain, with 69% using at least one non-pharmacologic method of pain relief, led by breathing techniques (49%), position changes (42%), mental strategies (e.g., relaxation) (25%) and hands-on techniques (e.g., massage) 20%.

Other Labor and Birth Interventions

Mothers reported high levels of intervention, with experiences varying by method of birth. Among vaginal births, these included intravenous (IV) fluids administered through a blood vessel in their arm (80%), stitches near the vagina to repair a tear or cut (61%), membranes broken to release amniotic fluid after labor had begun (59%), synthetic oxytocin (Pitocin) to strengthen or speed up contractions after labor had begun (55%), a catheter to remove urine (43%), an episiotomy (25%), an enema or laxative (7%), and shaving of their public hair (3%). In cesarean births, interventions included an IV (90%), a bladder catheter (85%), and shaved public hair (67%). One fourth (25%) of mothers with a cesarean experienced an attempted induction, 30% received synthetic oxytocin to speed labor, and 22% experienced broken membranes, also in an attempt to speed labor. Overall, 83% of mothers reported being on an IV, 76% had an epidural, 56% were catheterized, 47% reported that their membranes had been broken after labor began, and 47% were given pitocin to speed up labor.

Freedom and Constraint in Labor and Birth

One quarter (25%) of women in our survey with a vaginal birth walked around once they were admitted to the hospital and regular contractions had begun. More than half (57%) of women who gave birth vaginally reported that they lay on their backs while pushing their baby out and giving birth, while 35% indicated they gave birth in a propped up (semi-sitting) position. A total of 68% of mothers (p) with a vaginal birth experienced what has been termed an “urge to push,” with 49% indicating it was a strong urge.

Mode of Birth

Thirty-two percent (32%) of the mothers in our survey had a cesarean birth, evenly split between those having a primary or first-time cesarean (16%) and a repeat cesarean (16%). Among these cesareans, most of the repeat cesareans were planned and most of the primary cesareans had been unplanned. Three in five mothers (61%) had an unassisted vaginal birth, with the remainder having a vaginal birth assisted by forceps (2%) or vacuum extraction (5%).

Vaginal Birth after Cesarean (VBAC)

Among those women who had had a cesarean in the past, 11% had a vaginal birth after cesarean for the most recent birth, while 89% had a repeat cesarean. Of women with a previous cesarean, 45% were interested in the option of a VBAC, but most of these women (57%) were denied that option. The most common reasons for the denial of the VBAC were unwillingness of their caregiver (45%) or the hospital (23%), followed by a medical reason unrelated to the prior cesarean (20%).

Reasons for Cesarean

Among mothers with a primary cesarean, the four major reasons cited were: baby was in the wrong position (25%), fetal monitor reading showed a problem (25%), labor was taking too long (14%), or caregiver was worried about a large baby (12%). Among those mothers with a repeat cesarean, 78% cited their prior cesarean as the main reason with fetal monitor readings (5%), concerns with the size of the baby (4%) and poor position of baby (2%) following.

Cesarean Decision Making

In terms of who made the decision for a cesarean and when it was made, for mothers with primary cesareans the provider was the primary decision maker either during (64% of the time) or before (24%) labor, with mothers making the decision 10% of the time, evenly divided between before and during labor. For mothers with a repeat cesarean, most decisions were made before labor either by the provider (56%) or the mother herself (28%) with more of the decisions during labor (7%) made by the provider rather than the mother (3%).

Rarity of Maternal Choice Primary Cesareans

Just three mothers with a primary cesarean reported that there had been no medical reason for the cesarean, and only one respondent out of 252 with a primary cesarean (0.4%) said she had chosen that option for herself in the absence of a medical reason. In two other cases where mothers had indicated there was no medical reason for the cesarean, the mothers said that their provider had made the decision. Less than 1% of mothers with either a primary or a repeat cesarean cited benefits of cesarean birth in avoiding later incontinence as a justification for their cesarean.

In the Hospital After the Birth

During the first hour after birth, newborns were either mostly in mothers' (34%) or partners' (14%) arms. Half of all babies were primarily with hospital staff during this period, most for routine care (39%). After the birth, 63% of mothers whose babies were not in the NICU had the baby with them all the time (rooming in).

Newborn Feeding

As women neared the end of their pregnancies, 61% reported wanting to breastfeed exclusively, while 19% planned to use a combination of breastfeeding and formula, and 20% planned to use formula only. One week after giving birth, half (51%) of the mothers reported feeding their babies breast milk only. Among mothers who had given birth at least 7 months earlier, 27% reported exclusive breastfeeding for at least 6 months. Most women (63%), regardless of whether they intended to breastfeed or not reported that the hospital staff, on the whole, encouraged breastfeeding, but a third (34%) perceived that the staff expressed no preference for either breastfeeding or formula feeding and a very small portion (3%) perceived staff preference for formula.

Home with a New Baby

Burden of Physical Health Concerns after Birth

The most commonly cited postpartum health problem within the first two months after birth was among those women who had experienced a cesarean section: 79% reported pain at the site of the incision, with 33% citing it as a major problem. Sixty-two percent of all mothers cited physical exhaustion (24% major, 38% minor) and 58% cited sore nipples/breast tenderness (19% major, 39% minor). Among mothers with a vaginal birth, 48% (15%

major) cited a painful perineum as a problem, a finding strongly related to whether or not a mother experienced an episiotomy. We also asked mothers if they were still experiencing the difficulty at the time of the survey. Among those mothers who had given birth at least 6 months earlier, 25% cited continuing problems with exhaustion, and 18% of those with a cesarean had ongoing pain at the site of the cesarean scar.

Mothers' Postpartum Weight

Among those mothers who had given birth at least 3 months earlier, average weight loss after birth was 22 pounds, a figure that remained constant for mothers 3 to 12 months after giving birth. Since mothers on average gained 30 pounds during their pregnancy, the net result was a weight gain of 8 pounds.

Pain and Everyday Activities

Seven in ten (70%) mothers said that pain interfered at least a little in their routine activities in the first two months, with 14% indicating that pain interfered either quite a bit (10%) or extremely (4%). These findings varied widely depending on type of birth, with 22% of mothers with a cesarean describing at least quite a bit of interference with routine activities compared to 10% of mothers with a vaginal birth.

Mental Health in the Postpartum Period

Almost two out of three (63%) women who had given birth in the past year reported suffering some degree of depressive symptoms in the two weeks before the survey. One out of five (20%) of all survey participants also said that they had consulted a health care or mental health professional with concerns about their emotional or mental well-being since giving birth.

Mothers' Experience with Employment and Health Insurance

Working to the Due Date

Fifty-eight percent of mothers indicated they worked during their pregnancy, as full-time (40%) or part-time (14%) employees for someone else or they were self-employed (4%). Forty-one percent were not employed during their pregnancy. Among employed mothers, most worked almost to their due date, stopping on average about 10 days before their due date, with 39% working until there was less than a week before their due date.

Paid Maternity Leave Benefits

Of those mothers employed by someone else, 40% (50% among full-time and 14% among part-time) indicated that the company they worked for provided some paid maternity leave. Among mothers who received such benefits, half indicated they received 100% of pay, and four out of five received at least half their regular salary, for an average length of time of 8 weeks.

Returning to Employment

For mothers who had been employed during pregnancy, 68% indicated they had returned to work by the time they participated in the survey, and 32% had not, with most (57%) formerly employed mothers back to work by 12 weeks. Most who had been employed during pregnancy (52%) stated that they had not stayed at home as long as they liked.

Mothers Who were Not Employed During Pregnancy

A total of 41% of mothers were not employed during their pregnancy. Mothers 24 or younger

(52%) and those over 40 (48%) were most likely to not be employed. The combination of age and lack of other children was very powerful: only 13% of first-time mothers between 25 and 39 were not employed during pregnancy.

Challenges in the Transition to Employment

The biggest dilemma for mothers (w) returning to work was being apart from their baby (79%), with 49% rating it a major challenge. Half (51%) cited difficulties in making child care arrangements, while 36% identified breastfeeding issues in returning to work, and 36% noted the amount of support from their partner/spouse.

Paying for Maternity Care

Sixty percent of mothers indicated that private insurance paid for all (21%) or some (39%) of their maternity care expenses, while 42% had Medicaid or another government program pay for all (35%) or some (7%) of their care. More than a third of mothers (37%) reported paying for some of the costs themselves, and they had a median payment of \$1,000. Those mothers (1%) who reported paying for all maternity costs themselves reported an average cost of \$8,865.

Choice, Control, Knowledge and Decision Making

Opinions on Medical Intervention in the Birth Process

Half (50%) of the mothers agreed with the statement, “Giving birth is a process that should not be interfered with unless medically necessary,” while 24% disagreed. One out of four respondents (25%) neither agreed nor disagreed. The more often a mother had given birth, the more likely she was to agree with the statement.

Rating the Maternity Care System

Mothers generally rated the quality of the United States health care system highly (53% good; 17% excellent) and the quality of maternity care system in the U.S. even higher (48% good; 35% excellent).

Opinions on Impact of Malpractice on Maternity Care

Mothers thought the current malpractice system caused providers to charge more to cover malpractice insurance (68%), order unnecessary tests (53%), perform unnecessary cesareans (42%) and stop offering maternity care services (40%). Three in five (62%) thought it caused providers to take better care of their patients.

Knowledge of Legal Rights

Three out of four (75%) (w) mothers said that during pregnancy and birth they had fully understood their right to receive clear and full explanations of any procedure, drug, or test offered to them — including benefits, risks, and alternatives, while an additional 16% said that they had had some knowledge of these rights but did not know the details. Likewise, 78% said (w) they had fully understood that they had the right to accept or refuse any procedure, drug, or test offered, while an additional 15% reported having had some knowledge of this right.

Support for Choice in Mode of Birth

There was generally strong support for mothers having a choice in the method of birth (w), most notably in the case of vaginal birth (93% favored choice; 1% not) and VBAC (85% favored; 5% not). In the case of a first cesarean, the findings were more mixed, with 46% agreeing that a mother should have a choice, 31% disagreeing, with 23% of mothers in the middle.

Pressure to Accept Interventions and Experience Refusing Them

About 90% of mothers indicated they did not feel any pressure from a health professional to accept several interventions, though the proportions reporting pressure varied slightly by intervention: epidural (7%), cesarean section (9%) or induction (11%). For mothers with a cesarean, 25% stated they had felt pressure to have a cesarean compared to 2% of mothers with a vaginal birth. Mothers (p) were asked if they ever refused to accept any care that was offered to them or their baby during the hospital stay, and 10% indicated they had.

Opinions about Information Needed for Decision Making

When asked about information on side effects needed before agreeing to have labor induction, epidural analgesia or cesarean section, most (78-81%) mothers said that it is necessary to know every complication, and nearly all others (17-19%) said that it is necessary to know most complications.

Knowledge about Impact of Interventions

In no case did a majority of mothers (w) cite the "correct" response when given a series of statements concerning the adverse effects of cesarean section and induction, with "not sure" generally the most common response. When mothers did respond, they were as likely to be incorrect as correct. Having experienced the given intervention did not increase the proportion of correct answers.

Choosing a Cesarean without Medical Reason

By a margin of four to one (78% to 20%), mothers said they would be unlikely to choose elective cesarean birth if given the choice in the future. These figures were strongly related to recent birth experience, with most of those favoring the option having just had a cesarean. Fewer than one in sixteen (6%) mothers who had not had a prior cesarean and recently experienced a vaginal birth responded that they might choose what would be an elective primary cesarean in the future.

Looking at Important Variations in Experience

First-Time Mothers by Mode of Birth

In comparison with first-time mothers with a vaginal birth, first-time mothers who had a cesarean were less likely to have: felt confident as labor approached, had a midwife for prenatal care, tried to self-induce, had the baby in their arms immediately after birth, had rooming in, reported feeling capable or powerful during the birth process, and fulfilled their intention to breastfeed.

Experienced Mothers by Mode of Birth

In comparison with experienced mothers with a vaginal birth, experienced mothers with a cesarean were less likely to have: a midwife as prenatal provider, felt confident approaching labor, tried to self induce, had the baby in their arms after birth, had rooming in, or felt capable or powerful while giving birth. Experienced mothers having vaginal births were less likely to receive an epidural and to describe themselves as frightened during birth, and were more likely to use no pain medications during labor and be breastfeeding at one week than experienced mothers who had a cesarean.

Comparing First-Time and Experienced Mothers

Experienced mothers were less likely than first-time mothers to take a childbirth education

class and have an epidural with a vaginal birth; they were more likely to report feeling confident as they approached labor, use no pain medications and see birth as a process that shouldn't be interfered with. While experienced mothers were less likely to indicate an intention to exclusively breastfeed (57%) when compared to first-time mothers (70%), they were much more likely to fulfill that intention, resulting in higher rates of exclusive breastfeeding at one week (53% to 50%).

Differences by Race/Ethnicity

When comparing three race/ethnicity groupings, black non-Hispanic first-time mothers were most likely to have a cesarean and least likely to have a family doctor or midwife as their birth attendant (7%), have the baby in their or their partner's arms after birth (33%), and intend to and actually breastfeed exclusively. White non-Hispanic mothers were least likely to have an unplanned birth and most likely to try to self-induce (25%), have a provider try to induce them (43%) and be breastfeeding at one week. Hispanic mothers were most likely to have the baby in their or their partner's arms immediately after birth (60%); report feeling capable during birth and, for those with a cesarean, report that pain interfered with routine activities (38%).

Index

A

abuse, screening for physical and verbal, 3, 5, 8, 21–22, 68, 72, 87
African American mothers, see race/ethnicity of mothers
age of mothers, 81, 84
ambulation in labor, see mobility in labor
amniotomy, see breaking membranes in labor; labor induction, methods
anxiety, 47
assisted delivery, 35, 84, 89
augmentation of labor, see labor augmentation

B

birth balls, see labor pain, drug-free measures
birth center care, 75, 77
birth certificate data, 14, 82–86
birth process, attitudes toward, 6–8, 56, 64–69, 74, 92
birthweight, see newborn, birthweight
black mothers, see race/ethnicity of mothers
body mass index (BMI), 3, 5, 8, 19, 44–45, 72, 74, 87
books as information source, see information sources
Boston University School of Public Health, VII, 2, 12, 15
bowel problems after birth, see postpartum health concerns
breaking membranes in labor, 4, 33–34, 89
 see also labor induction, methods
breastfeeding
 challenges with employment, 6, 52, 73, 92
 and hospital routines, 4, 39–40, 73, 90
 intention at end of pregnancy, 4, 7–8, 39, 45, 64–69, 73, 90
 practice one week after birth, 4, 7–8, 39, 44–45, 64–69, 73, 90
 practice throughout first year, 5, 8, 44–45, 90
 supplementation, 4, 39–40, 73
breast symptoms after birth, see postpartum health concerns
breathing techniques, see labor pain, drug-free measures

C

caregivers, maternity
 childbirth, 3, 7–8, 28, 68, 84, 88
 continuity of caregiver, 3, 8, 21, 28, 68, 88
 gender of, 20–21, 28, 88
 as information source, 21, 23, 87

prenatal, 3, 20–21, 64–69, 82
selection of, 3, 20–21
support in labor, 30–31, 88

catheter, urinary, see urinary catheter while giving birth

cesarean section

comparison with vaginal birth, 4–5, 7, 33–34, 39, 41, 45–46, 59, 64–66, 89–93
decision making, 6–7, 36–38, 58–61, 90, 93
incision infection, 5, 45–46
incision pain, 5, 45–46, 73, 90
knowledge for decision making, 7, 59, 73, 93
knowledge of complications, 7, 60, 73, 93
maternal choice primary cesarean, 4, 6–7, 36, 38, 61, 90, 93
opinion about right to have, 6, 58, 64–66, 68–69, 92
pressure to have, 6, 59, 93
to prevent later incontinence, 4, 37, 90
primary cesarean, 4, 35–38, 84, 89
reasons, 4, 36–37, 90
repeat cesarean, 4, 35–37, 84, 89
unnecessary, 6, 57, 92
use, 4, 8, 35–36, 59, 68–69, 73, 75, 84, 89

Childbirth Connection, V, VII–VIII, 2, 12, 15, 44, 77, 104

childbirth education

class participation, 3, 7, 23–24, 64–68, 72, 87
impact of classes, 24
location of classes, 23
reasons for participation, 24
see also information sources

childcare arrangements, 6, 52, 73, 92

choices in childbirth, opinions about, 58–59, 61, 73, 92–93

coached pushing, see pushing the baby out, coached pushing

cold applications, see labor pain, drug-free measures

complications of interventions, 7, 59–60, 73

confidence, see feelings, maternal

continuity of caregiver, see caregivers, maternity

cost of maternity care, 6, 53, 57, 74–75, 92

see also insurance and payment for maternity care

country of birth, mothers', 81

Crossing the Quality Chasm, 74–75

c-section, see cesarean section

D

decision making, 57–61, 74

see also cesarean section, decision making

depression

mental health consultation, 5, 47, 73, 91
screening by professionals, 3, 5, 8, 21–22, 44, 72, 87
screening tool results, 5, 47, 73, 91

developmental origin of long-term problems, 8, 72, 75
distance to care, 20–21
doppler, see fetal monitoring while giving birth
doulas, see labor support
drinking fluids in labor, 4, 34

E

eating in labor, 4, 34
education of mothers, 81, 84
electronic fetal monitoring, see fetal monitoring while giving birth
emotions, shifting, 5, 47
employment

- after birth, 5–6, 51–52, 73, 91
- paid maternity leave, 5–6, 8, 50–51, 73–74, 76, 91
- during pregnancy, 5–6, 50–52, 91
- see *also* insurance and payment for maternity care

enema in labor, 33–34, 89
epidural or spinal analgesia

- knowledge for decision making, 7, 59, 93
- pressure to have, 6, 59, 93
- rating of pain relief, 32–33
- use, 3, 7, 31, 33–34, 59, 64–66, 89

episiotomy

- informed consent for, 7, 59, 68
- and postpartum pain, 46, 73, 90
- use, 4–5, 33–34, 83–84, 89

ethnicity, see race/ethnicity of mothers
exhaustion after birth, see postpartum health concerns

F

family members as information source, see information sources
family members as labor support providers, see labor support
family physicians, see caregivers, maternity
fear, see feelings, maternal
feelings, maternal

- while giving birth, 4, 7–8, 38, 64–66, 68–69, 73
- impact of childbirth education classes, 24
- impact of TV shows, 24–25
- in late pregnancy, 3, 7, 25, 64–68, 88
- see *also* Postpartum Depression Screening Scale (PDSS)

Ferguson reflex, see pushing the baby out, urge to push
fetal monitoring while giving birth, 3–4, 31, 33–34, 83–84, 88
fetal origin of long-term problems, 8, 72, 75
fetoscope, see fetal monitoring while giving birth
first-time versus experienced mothers, 3, 7, 23–25, 35, 52, 56, 64–67, 81, 84, 87–88, 92–94

forceps, see assisted delivery
formula, infant, see infant feeding; breastfeeding
friends as information source, see information sources
friends as labor support providers, see labor support
fundal pressure, 4, 34–35

G

gender of caregiver, see caregivers, maternity, gender
general anesthesia, see labor pain
gestational age, see newborn, gestational age
guilt, 47

H

harms of interventions, see complications of interventions
Harris Interactive, V, VII, 2, 12–13, 15, 104
health care quality, U.S., assessment of, 6, 56, 74–75, 92
health policies, 9, 74–75
heat applications, see labor pain, drug-free measures
Hispanic mothers, see race/ethnicity of mothers
home, staying, with baby, 52
home birth care, 75, 77
hospital length of stay, 41
husbands and partners

- mothers' marital/partner status, 30
- support in labor, 30–31, 88
- and transition to employment, 52, 73, 92
- with newborn, 39, 90

I

income of mothers, 81
induction of labor, see labor induction
infant feeding

- and hospital routines, 4, 39–40, 73, 90
- intention at end of pregnancy, 4, 39, 45, 64–69, 73, 90
- practice one week after birth, 4, 44, 45, 64–68, 73, 90
- practice throughout first year, 44–45, 90

infant health, mothers' assessment, 5, 40
infection, cesarean incision, see postpartum health concerns
infection, perineal, see postpartum health concerns
infertility treatment, 20
information sources, 3, 20–21, 23–25, 64–68, 87–88
informed consent and informed refusal, 6–8, 57–60, 68, 73–74, 92
Institute of Medicine, 74–75

instrumental delivery, see assisted delivery
insurance and payment for maternity care, 6, 8, 20–21, 53, 67–68, 92
Internet as information source, see information sources
intravenous drip in labor, 3, 33–34, 89

L

labor, length, 35
labor, spontaneous, 41, 73
labor augmentation, 4, 33–34, 83–84, 89
labor induction, 3–4

- attempted and achieved, 28–30, 33–34, 59, 73, 88–89
- knowledge for decision making, 7, 59, 73, 93
- knowledge of complications, 7, 60, 73, 93
- medical induction, 7–8, 28–30, 64–68, 83–84, 88
- methods, 28–30, 88
- pressure to have, 6, 59, 93
- reasons, 28–30
- self-induction, 28–29, 64–68, 88

labor stimulation, see labor augmentation
labor pain

- drug-free measures, 4, 31–33, 64–67, 73, 89
- medications, 3–4, 6–7, 31–34, 59, 88–89
- rating of pain relief, 4, 32–33, 73

labor support, 3, 30–31, 40–41, 88
Lamaze International, V, VII, 2, 4, 12, 28, 40–41, 104
Latinas, see race/ethnicity of mothers
laxative in labor, 33–34, 89
length of stay, see hospital length of stay
Listening to Mothers Initiative, V, 2
Listening to Mothers I, V–VI, 2, 12
Listening to Mothers II

- briefs, V–VI
- methodology, 2, 12–15, 77–80, 82–83
- National Advisory Council, V, VII–VIII, 2, 12, 15, 83
- open-ended questions, 2, 13–15, 33, 59, 73
- participants, VII, 2, 12–15, 77, 81–82
- postpartum survey, V, 2, 13, 15, 79–80
- recommendations, V, 15
- questionnaire, V–VI, 12–15, 77
- validity of results, 2, 12–15, 72, 82–86

M

malpractice environment, opinion about effects, 6, 56–57, 92
marital status, 8, 30, 68–69

- see also husbands and partners

mass media as information source, see information sources

maternal choice primary cesarean, see cesarean section, maternal choice primary cesarean

maternal health

- long-term perinatal effects, 8, 72
- see *also* preconception visit; obesity; postpartum health concerns

maternal recall, 82–83, 85

maternity care quality, U.S.

- assessment of, 6, 8, 56, 65–66, 68–69, 72–74, 92
- opportunities to improve, V–VI, 2, 8–9, 72, 74–75

Maternity Center Association, 12

maternity leave, see employment, maternity leave

Medicaid, see insurance and payment for maternity care

mental confusion, 47

mental health consultation, 5, 19, 47, 91

method of birth, see assisted delivery; cesarean section; vaginal birth; vaginal birth after cesarean (VBAC)

midwives, see caregivers, maternity

mobility in labor, 4, 8, 34, 40–41, 89

mode of birth, see assisted delivery; cesarean section; vaginal birth; vaginal birth after cesarean (VBAC)

mothers as data source, validity, 82–85

N

narcotics, see labor pain

National Hospital Discharge Survey, 82–84

neonatal intensive care unit, 39

newborn

- birthweight, 22, 40
- gestational age, 40
- location first hour after birth, 4, 7–8, 39, 41, 64–66, 68–69, 73, 90
- location rest of hospital stay, 4, 39, 41, 64–68, 90
- experience of hospital routines, 4, 39–41, 59, 90
- see *also* breastfeeding; infant feeding

normal birth care practices, 4, 8, 40–41, 74

nursing staff in hospital, see caregivers, maternity, childbirth; labor support; newborn, experience of hospital routines

O

obesity, see body mass index (BMI)

obstetricians, see caregivers, maternity

oxytocin, synthetic, see labor augmentation; labor induction

P

- pacifier use in hospital**, 4, 39–40, 73
- pain**, see labor pain; postpartum health concerns
- parity**, see first-time versus experienced mothers
- partners**, see husbands and partners; marital status
- payment for maternity care**, see insurance and payment for maternity care
- performance of providers and hospitals**, 74
- perinatal origin of long-term problems**, 8, 72, 75
- perineal stitches**, 4, 33–34, 89
- physicians as information source**, see information sources
- physiologic childbirth**, 40–41, 72, 74–75
- Pitocin**, see labor augmentation; labor induction
- planned pregnancy**, see pregnancy, intendedness
- position changes for comfort**, see labor pain, drug-free measures
- position while giving birth**, 4, 34, 41, 89
- Postpartum Depression Screening Scale (PDSS)**, 5, 47, 79–80
- postpartum health concerns**, 5, 40, 44–48, 68–69, 73, 90–91
- postpartum maternity care**
 - screening for abuse, 5, 22, 44
 - screening for depression, 5, 22, 44
 - visits, 5, 44
- preconception visit**, 3, 18
- pregnancy**
 - intendedness, 3, 8, 18, 67–68, 72, 74, 87
 - learning about, 3, 20, 87
 - see also prenatal care
- pregnancy test**, see pregnancy, learning about
- prematurity**
 - knowledge of signs, 3, 22
 - professional guidance, 3, 8, 22, 68–69
 - see also newborn, birthweight
- prenatal care**
 - identifying baby's sex, 22, 87
 - initiation, 3
 - preterm birth guidance, 3, 22
 - screening for abuse, 3, 21–22, 68, 72, 87
 - screening for depression, 3, 21–22, 72, 87
 - travel distance, 20–21
 - see also caregivers, maternity, prenatal
- pressure to have interventions**, 6, 59, 93
- Priority Areas for National Action: Transforming Health Care Quality**, 74–75
- prostaglandins for labor induction**, see labor induction, methods
- pushing the baby out**
 - coached pushing, 3, 34
 - urge to push, 4, 34, 89
 - see also fundal pressure

R

race/ethnicity of mothers, 7–8, 12–14, 19, 67–69, 78, 81, 84, 94
refusal of hospital practices, 57–59, 73, 93
relatives as information source, see information sources
rooming in, see newborn
rupture of membranes, see breaking membranes

S

self, loss of sense of, 47
separation, mother-baby
 and employment, 6, 52, 73, 92
 see also newborn
sex of baby, prenatal identification, 8, 22, 68, 87
sexual intercourse, painful, see postpartum health concerns
shaving of public hair while giving birth, 33–34, 89
showers, see labor pain, drug-free measures
side effects of interventions, see complications of interventions
sleep disturbance, 5, 47
sonogram, see ultrasound
spinal analgesia, see epidural or spinal analgesia
spontaneous labor, see labor, spontaneous
stimulation of labor, see labor augmentation
stripping membranes, see labor induction, methods
suicidal thoughts, 47
sweeping membranes, see labor induction, methods

T

television shows about childbirth
 impact of, 24–25
 viewing experience, 3, 24–25, 72, 88

U

ultrasound, 3, 22, 83–84, 87
unplanned pregnancy, see pregnancy, intendedness
urge to push, see pushing the baby out, urge to push
urinary catheter while giving birth, 3, 33–34, 89
urinary problems after birth, see postpartum health concerns

V

vacuum extraction, see assisted delivery

vaginal birth

- assisted, 35, 84, 89
- comparison with cesarean section, 4–5, 7, 33–34, 39, 41, 45–46, 59, 64–66, 89–93
- opinion about right to have, 6, 58, 92
- perineal infection, 45–46
- perineal pain, 45–46, 91
- rate, 35–36, 83–84, 89

vaginal birth after cesarean (VBAC)

- interest and access, 4, 36–37, 73, 89
- opinion about right to have, 6, 8, 58, 65–66, 68–69, 73, 92
- rate, 4, 35–36, 83–84, 89

vaginal exams in labor, 3, 33–34

Valsalva maneuver, see pushing the baby out

VBAC, see vaginal birth after cesarean (VBAC)

W

water, immersion or shower, see labor pain, drug-free measures

weight gain and loss, 18–19, 44–45, 73, 87, 91

see *also* body mass index (BMI)

About Childbirth Connection

Childbirth Connection is a national not-for-profit organization that was founded in 1918 as Maternity Center Association. Childbirth Connection has grown from a small group of influential community leaders that was successful in reducing maternal and infant deaths in New York City, to a nationally recognized advocacy organization working to promote high-quality maternity care. Childbirth Connection is a voice for the needs and interests of childbearing families. Our mission is to promote safe, effective and satisfying maternity care for all women and their families through research, education and advocacy. More information about Childbirth Connection may be obtained at www.childbirthconnection.org



About Harris Interactive

Harris Interactive is the 12th largest and fastest-growing market research firm in the world. The company provides research-driven insights and strategic advice to help its clients make more confident decisions which lead to measurable and enduring improvements in performance. Harris Interactive is widely known for The Harris Poll and for pioneering online market research methods. The company has built what is conceivably the world's largest panel of survey respondents, the Harris Poll Online. Harris Interactive serves clients worldwide through its United States, Europe and Asia offices, its wholly-owned subsidiary Novatris in France and through a global network of independent market research firms. More information about Harris Interactive may be obtained at www.harrisinteractive.com



About Lamaze International

Since its founding in 1960, Lamaze International has worked to promote, support and protect normal birth through education and advocacy through the dedicated efforts of professional childbirth educators, providers and parents. An international organization with regional, state and area affiliates, its members and volunteer leaders include childbirth educators, nurses, nurse midwives, physicians, students and consumers. More information about Lamaze International may be obtained at www.lamaze.org





**CHILDBIRTH
CONNECTION**

since 1918

*Helping women and health professionals
make informed maternity care decisions*

281 Park Avenue South, 5th Floor
New York, NY 10010

p 212.777.5000

f 212.777.9320

www.childbirthconnection.org

ISBN-13: 978-0-9789720-2-8