

Evidence-Based  
Childbirth Education:  
A Key Strategy  
to Improve U.S.  
Childbirth Outcomes

## Challenge

The increased use of non-medically indicated birth interventions, such as early admission to the hospital in labor, elective inductions, and cesarean births, has contributed to the rise of childbirth complications and costs in the United States.

With fewer women (and their partners) participating in evidence-based childbirth education classes, expecting parents have fewer opportunities to learn from trained and certified instructors about navigating the maternity-care system and optimizing their chances of having a safe and healthy birth.

## Background

Approximately four million women give birth in the United States each year [1]. As the most common reason for inpatient hospitalization in the United States, the costs of pregnancy and childbearing significantly contribute to the rising costs of health care [2, 3]. When these births involve non-medically indicated procedures, the expenses are even greater. For example, one study showed that early elective delivery (EED) increases the costs of childbirth by 17.4 percent [4], largely due to the complications that can arise from the need for subsequent interventions. Babies that are induced before 39 weeks are at a greater risk of morbidity and mortality, and are more susceptible to respiratory and other problems that often require neonatal-intensive care [5].

Several factors explain the rise in elective interventions, one of which is the increase in labor inductions, which increases the likelihood of cesarean births for all women, especially for low-risk women [6, 7]. Between 1996 and 2007, U.S. cesarean births increased 50 percent [8]. While cesarean deliveries are sometimes medically necessary, the prevalence of non-medically indicated procedures creates unnecessary risks—as well as additional costs [9, 10].

### Elective-Labor Induction

Elective-labor induction occurs when neither the mother nor the baby has a precipitating medical event that necessitates delivery [11]. These inductions are done for many non-medical reasons such as the convenience of the practitioner or patient [12]. Labor induction has a rippling effect, as it interferes with the release of the natural hormones that help a woman's body prepare for labor, facilitate labor's progression, and help a woman manage the pain of labor contractions. Disrupting this physiologic process increases the likelihood that a woman will need additional interventions, such as pain medication, continuous electronic-fetal monitoring, and cesarean sections [13].

### Low-Risk Cesarean Births

Cesarean births, which accounted for 32.2 percent of U.S. births in 2014 [1], double the cost of vaginal birth [14], require longer hospital stays, and place the woman at greater risk of infection and hospital readmission [15-17]. The indications for cesarean births include in order of frequency: stalled labor, abnormal or indeterminate fetal heart rate tracing, fetal malpresentation, multiple gestation, and large babies [18].

Reducing cesarean births has become a national priority, as Healthy People 2020 has called for a 10-percent reduction in cesarean births for low-risk women. The American College of Obstetricians and Gynecologists, the Society for Maternal Fetal Medicine, the American College of Nurse Midwives, and others have called for a reduction in the rate of cesarean births [19]. The focus of their work is particularly on a low-risk cesarean category known as the NTSV cesarean: Nulliparous (first time) Term (>37 weeks) Singleton (one baby) Vertex (head down). Approximately 60 percent of NTSV cesareans occur because of non-reassuring heart-rate tracings and perceived longer labors [18]. The Joint Commission has included NTSV cesarean rates as one of five perinatal core measures that every hospital with more than 1,100 annual births must report. In 2016, hospitals with more than 300 births per year will be required to report this information [20, 21].

In addition, the Centers for Medicare and Medicaid Services' Hospital Value-Based Purchasing Program will include elective deliveries in its Patient-Safety domain beginning in FY17 [22]. Hospitals that do not reduce their EED rate could be financially penalized.

Elective obstetrical practices, such as elective-labor induction and early labor admission, influence the NTSV cesarean birth rate [23]. Reducing the number of women who are admitted in the latent phase of labor or who agree to an elective-labor induction prior to 39 weeks, can lower the risks of having a cesarean birth for low-risk women. While more research is needed on the mechanism by which early admission increases the incidence of cesarean section and other interventions, the evidence to support the outcomes is compelling [24]. Any progress made to reduce the NTSV cesarean birth rate could have a significant impact, as just a 17-percent reduction in U.S. cesarean births would save \$1.25 billion each year [25].

## Solution: Achieving Improved Maternity Care Outcomes via Evidence-Based Childbirth Education

Evidence-based childbirth education can help expecting parents prepare for labor, understand the risks associated with elective inductions and cesarean births, and effectively cope with early labor at home. National initiatives to reduce elective deliveries, early admission, and cesarean births among low-risk, first-time pregnant women are underway, and Lamaze childbirth education can be a key solution to improve childbirth outcomes in the United States.

### The Benefits of Evidence-Based Childbirth Education

Evidence-based childbirth education helps a woman prepare for labor and childbirth by teaching pain-management strategies, providing information on informed consent during the pre-labor and labor processes, and instilling confidence in her ability to cope with her labor. Childbirth education helps lower a woman's fear and anxiety regarding labor and birth [26, 27], and has been shown to be a critical factor in reducing EED by induction [28]. Healthy People 2020's developmental goal to increase the number of women who attend childbirth classes affirms the critical role that it plays in healthy birth outcomes [29].

### The Benefits of Lamaze

Lamaze International is uniquely qualified to meet the needs of pregnant women and their families via childbirth education classes and resources. As the only NCCA-accredited childbirth educator certification program in the United States, Lamaze childbirth classes have been shown to reduce the number of elective inductions [28], an early trigger for other labor interventions. Lamaze's six evidence-based Healthy Birth Practices [30-35] are the foundation for Lamaze childbirth education classes and have helped prevent increased harm from routine procedures such as EED and early admission in labor.

Lamaze Certified Childbirth Educators complete a rigorous program and exam to earn the LCCE credential. They teach women about the physiologic process of birth, the coping skills necessary for labor, as well as what to expect in a hospital setting. They are on hand to help communicate complex medical information to expecting parents. LCCE educators also educate women on the risk of early labor admission, elective delivery, and NTSV cesarean deliveries, as well as encourage them to proactively discuss these topics with their practitioners.

# Lamaze Six Healthy Birth Practices

1



**LET LABOR BEGIN ON ITS OWN**

2



**WALK, MOVE AROUND AND CHANGE POSITIONS THROUGHOUT LABOR**

3



**BRING A LOVED ONE, FRIEND OR DOULA FOR CONTINUOUS SUPPORT**

4



**AVOID INTERVENTIONS THAT ARE NOT MEDICALLY NECESSARY**

5



**AVOID GIVING BIRTH ON YOUR BACK AND FOLLOW YOUR BODY'S URGE TO PUSH**

6



**KEEP YOUR BABY WITH YOU - IT'S BEST FOR YOU, YOUR BABY AND BREASTFEEDING**

### Utilization

Approximately 50 percent of pregnant women attend childbirth classes in the United States [12], leaving close to half of U.S. women and their partners inadequately prepared for the labor and childbirth processes. Evidence-based childbirth education taught by certified instructors prepares women and their partners for labor and delivery by enabling women to advocate for themselves during labor, helping them to understand the informed-consent process, and critically evaluating their own need for non-medically necessary interventions.

### Barriers to Utilization

There are many barriers to increasing the number of women who utilize childbirth classes such as: 1) the financial outlay required for the classes, 2) accessibility to classes, both in terms of time and geography, and 3) the perception that women already receive evidence-based care by default and do not need to additional education on the childbirth process. Inadequate insurance coverage for classes and the lack of reimbursement for certified childbirth educators contribute to these barriers. About half of the women who do take childbirth education classes attend just one or two sessions, instead of the recommended multi-week format [12].

These factors contribute to the socioeconomic disparities in childbirth outcomes. Coverage for childbirth classes under Medicaid, for example, significantly varies by state. Currently, 27 of the 44 states surveyed by the Kaiser Family Foundation cover childbirth education for Medicaid recipients as part of their perinatal services [36]. Low-provider reimbursement further limits many women's access to childbirth education.

Lamaze International is addressing the aforementioned access and utilization barriers to childbirth education by implementing new initiatives to increase the LCCE educator workforce and offering online tools to help meet the needs of families who are unable to attend childbirth classes. This includes a series of infographics, blogs articles, a mobile application, and online specialty classes (vaginal birth after cesarean, breastfeeding, early pregnancy, etc.). These tools are designed to reach a wide variety of women with varied educational backgrounds and more will be available in Spanish within the next year.

Despite efforts to educate and disseminate, evidenced-based childbirth education continues to be underutilized.

## Addressing Gaps: Action Needed

To help **improve childbirth care**, stakeholders should further collaborate to **identify barriers** and opportunities to **increase evidence-based childbirth education** access and utilization.

### Acknowledgements

Lamaze International acknowledges the important contributions made by the following people on the development and review of this Policy Brief:

Robin Elise Weiss, PhD, MPH, CD(DONA), LCCE, FACCE, *Lead Author*

Christine Morton, PhD, *Reviewer*

Judith A. Lothian, PhD, RN, LCCE, FACCE, *Reviewer*

## Bibliography

- Martin JA, H.B., Osterman MJK, et al., *Births: Final data for 2013, in National vital statistics reports*. 2015, National Center for Health Statistics: Hyattsville, MD.
- Xu, X., et al., *Wide Variation Found In Hospital Facility Costs For Maternity Stays Involving Low-Risk Childbirth*. Health Affairs, 2015. **34**(7): p. 1212-9.
- Pfuntner, A., L. Wier, and C. Stocks, *Most frequent conditions in U.S. hospitals, 2011, in HCUP Statistical Brief*. 2013: Rockville, MD.
- King, V., R. Pilliod, and A. Little, *Medicaid-Evidence-Based Decisions Project (MED) Rapid review: elective inductions of labor*. September 17, 2010.
- Clark, S., et al., *Neonatal and maternal outcomes associated with elective term delivery*. Am J Obstet Gynecol, 2009. **156**(February): p. e1-e4.
- Jacquemyn, Y., I. Michiels, and G. Martens, *Elective induction of labour increases caesarean section rate in low risk multiparous women*. J Obstet Gynaecol, 2012. **32**(3): p. 257-9.
- Grivell, R., et al., *Maternal and neonatal outcomes following induction of labor: A cohort study*. Acta Obstet Gynecol Scand, 2012. **91**(2): p. 198-203.
- Menacker, F. and B.E. Hamilton, *Recent trends in cesarean delivery in the United States*. NCHS data brief, 2010. **35**(35): p. 1-8.
- Silver, R., *Implications of the first cesarean: perinatal and future reproductive health and subsequent cesareans, placentation issues, uterine rupture risk, morbidity, and mortality*. Semin Perinatol, 2012. **36**(5): p. 315-23.
- Solheim, K., et al., *The effect of cesarean delivery rates on the future incidence of placenta previa, placenta accreta, and maternal mortality*. J Matern Fetal Neonatal Med, 2011. **24**(11): p. 1341-6.
- American College of Obstetricians and Gynecologists, *Nonmedically indicated early-term deliveries. Committee Opinion No. 561*. Obstet Gynecol, 2013. **121**: p. 991-5.
- Declercq, E., et al., *Listening to Mothers III: Pregnancy and Childbirth*. 2013, Childbirth Connection.
- Buckley, S., *Hormonal Physiology of Childbearing: Evidence and Implications for Women, Babies, and Maternity Care*. 2015: Childbirth Connection Programs, National Partnership for Women & Families.
- Hsia, R., et al., *Analysis of variation in charges and prices paid for vaginal and caesarean section births: a cross-sectional study*. BMJ Open, 2014. **4**(1): p. e004017.
- Clark, S., et al., *Maternal death in the 21st century: causes, prevention, and relationship to cesarean delivery*. Am J Obstet Gynecol, 2008. **199**(36): p. e1-5.
- Liu, S., et al., *Maternal mortality and severe morbidity associated with low-risk planned cesarean delivery versus planned vaginal delivery at term: maternal health study group of the Canadian perinatal surveillance system*. Cmaj, 2007. **176**: p. 455-60.
- Hannah, M., et al., *Maternal outcomes at 2 years after planned cesarean section versus planned vaginal birth for breech presentation at term: the international randomized term breech trial; term breech trial collaborative group*. Am J Obstet Gynecol, 2004. **191**: p. 917-27.
- Barber, E., et al., *Indications contributing to the increasing cesarean delivery rate*. Obstet Gynecol, 2011. **118**(1): p. 29-38.
- Caughey, A., et al., *Safe prevention of the primary cesarean delivery*. Am J Obstet Gynecol, 2014. **2014**(210): p. 3.
- The Joint Commission. *Performance Measures: Expanded threshold for reporting Perinatal Care measure set*. 2015; Available from: <http://www.jointcommission.org/issues/article.aspx?Article=A9Im9xfNbBo97ZcgWQAJ/SE+KRiZjsPtdFLyHUR1bZU=>.
- The Joint Commission. *Specifications Manual for Joint Commission National Quality Measures (v2013A1): Measure Set: Perinatal Care (PC)*. 2013; Available from: <https://manual.jointcommission.org/releases/TJC2013A/MIF0167.html>.
- Centers for Medicare and Medicaid Services. *Fiscal Year (FY) 2016 Results for the CMS Hospital Value-Based Purchasing Program*. 2015 [cited 2015 November 15]; Available from: <https://www.cms.gov/Newsroom/MediaReleaseDatabase/Fact-sheets/2015-Fact-sheets-items/2015-10-26.html>.
- Main, E., et al., *Is there a useful cesarean birth measure? Assessment of the nulliparous term singleton vertex cesarean birth rate as a tool for obstetric quality improvement*. Am J Obstet Gynecol, 2006. **194**(1644-51).
- Neal, J., et al., *Outcomes of nulliparous women with spontaneous labor onset admitted to hospitals in preactive versus active labor*. J Midwifery Womens Health, 2014. **59**(1): p. 28-34.
- Caesar's Ghost: *The Effect of the Rising Rate of C-Sections on Health Care Costs and Quality, in National Health Policy Forum*. 2012.
- Ferguson, S., D. Davis, and J. Browne, *Does antenatal education affect labour and birth? A structured review of the literature*. Women and Birth, 2013. **26**(1): p. e5-8.
- Miquelutti, M., J. Cecatti, and M. Makuch, *Antenatal education and the birthing experience of Brazilian women: a qualitative study*. BMC Pregnancy Childbirth, 2013. **13**: p. 171.
- Simpson, K., G. Newman, and O. Chirino, *Patients' perspectives on the role of prepared childbirth education in decision making regarding elective labor induction*. J Perinat Educ, 2010. **19**(3): p. 21-32.
- U.S. Department of Health and Human Services. Office of Disease Prevention and Health Promotion. *Maternal infant and child health. Healthy People 2020*. 2010 [cited 2015 January 10]; Available from: <http://www.healthypeople.gov/2020/topics-objectives/topic/maternal-infant-and-child-health/objectives>.
- Amis, D., *Healthy Birth Practice #1: Let Labor Begin on Its Own*. J Perinat Educ, 2014. **23**(4): p. 178-88.

31. Lothian, J., *Healthy Birth Practice #4: Avoid Interventions Unless They Are Medically Necessary*. J Perinat Educ, 2014. **23**(4): p. 198-207.
32. Difranco, J. and M. Curl, *Healthy Birth Practice # 5 : Avoid Giving Birth on Your Back and Follow Your Body's Urge to Push*. J Perinat Educ, 2-14. **23**(4): p. 207-11.
33. Crenshaw, J., *Healthy Birth Practice #6: Keep Mother and Baby Together - It's Best for Mother, Baby, and Breastfeeding*. J Perinat Educ, 2014. **23**(4): p. 211-8.
34. Green, J. and B. Hotelling, *Healthy Birth Practice #3 : Bring a Loved One, Friend, or Doula for Continuous Support*. J Perinat Educ, 2014. **23**(4): p. 194-8.
35. Ondeck, M., *Healthy Birth Practices #2: Walk, Move Around, and Change Positions Throughout Labor*. J Perinat Educ, 2014. **23**(4): p. 188-93.
36. Ranji, U., et al., *State Coverage of Perinatal Services*. 2009, Kaiser Family Foundation.