## Why is the U.S. Cesarean Section Rate So High?

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When first measured in 1965, the national U.S. cesarean birth rate was 4.5%.<sup>1</sup> Since then, large groups of healthy, low-risk American women who have received care that supported their bodies' innate capacity for giving birth have achieved 4% to 6% cesarean birth rates and good overall birth outcomes.<sup>2,3,4</sup> However, the national cesarean rate has increased seven-fold. It peaked in 2009 at 32.9% and had dropped slightly, to 32.2%, in 2014.<sup>5</sup> So, about one mother in three now gives birth by cesarean section – the nation's most common operating room procedure.<sup>6</sup>

The nation's leading professional obstetric societies conclude that women and babies have not benefited from this increase in cesarean section, which is "overused." While cesarean birth is safer than vaginal birth for certain high-risk conditions, it likely poses greater risk of harm in low-risk women. They recommend safe, appropriate prevention of overuse.<sup>7</sup>

Cesarean section is major surgery and increases the likelihood of many short- and longerterm adverse effects in mothers and babies (some of these harms are listed below). There are clear, authoritative recommendations for more judicious use of this procedure.<sup>8,9</sup> Why, then, is the cesarean rate so high?

## Three Myths about the Cesarean Section Rate

To explain the high cesarean birth rate, health professionals and journalists often point the spotlight on mothers themselves. Many assume that leading factors in the trend are: 1) more and more women are asking for cesarean sections that have no medical rationale, 2) the number of women who genuinely need a cesarean is increasing, and 3) liability pressure is driving rates up. None appears to account for a large portion of the growth in the cesarean rate since it began to rise in 1996.

Despite a lot of talk about "maternal request" cesareans, <u>few women appear to be taking</u> <u>this step</u>. Childbirth Connection's national <u>Listening to Mothers survey</u> of women who gave birth in hospitals in 2011-2012 polled U.S. women about these decisions. Just one percent of women who had had initial ("primary") cesareans said that they had planned and carried out surgical birth with the understanding that there had been no medical reason for this procedure.<sup>10</sup> Researchers who have looked at this question in other countries have found similar results.<sup>11</sup>

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Many have also pointed to changes in the population of childbearing women, such as more older women who have developed medical conditions and more women with extra challenges of multiple births. While there are some overall changes in this population, researchers have found that cesarean section rates have gone up for all groups of birthing women, regardless of age, the number of babies they are having, the extent of health problems, their race/ethnicity, or other characteristics.<sup>12</sup> In other words, there is a change in practice standards that reflects an increasing willingness on the part of professionals to follow the cesarean path under all conditions. In fact, one quarter of the *Listening to Mothers* survey participants who had cesareans reported that they had experienced pressure from a health professional to have a cesarean.<sup>13</sup>

Finally, fear of malpractice liability is frequently cited as a major driver of the extensive use of cesarean section. However, a series of studies have examined this question and have concluded that the role of liability pressure is modest at best and can account for just a fraction of the steep recent rise.<sup>14</sup> Further, this factor is overpowered by the role of variation in professional practice style.<sup>15</sup>

## Reasons for the High Cesarean Section Rate

The following interconnected factors appear to contribute to the high cesarean rate.

- Low priority of enhancing women's own abilities to give birth. Care that supports physiologic processes, such as providing the midwifery model of care, doula care providing continuous support during labor, and using hands-to-belly movements to turn a breech (buttocks- or feet-first) baby to a head-first position, reduces the likelihood of a cesarean section.<sup>16</sup> Quite a few cesareans are carried out because the fetus seems large, even though this estimate is often wrong and a cesarean has not been shown to offer benefits in this situation. The decision to switch to cesarean is often made during labor when caregivers could use patience and watchful waiting, positioning and movement, comfort measures, oral nourishment and other approaches to facilitate comfort, rest, a calm environment and labor progress. Providing more women with such care would lower the cesarean section rate.
- Side effects of common labor interventions. Current research suggests that quite a few labor interventions make cesarean birth more likely. For example, <u>labor induction</u> among first-time mothers and/or when the cervix is not soft and ready to open appears to increase the likelihood of cesarean birth. Continuous electronic fetal monitoring (versus periodic listening to the fetal heartbeat with a hand-held device) increases the likelihood of a cesarean. Having an epidural without a high-dose boost of synthetic oxytocin ("Pitocin") seems to increase the likelihood of cesarean performed in response to "fetal distress." Lying in bed during labor (versus being upright and mobile) also has this effect.
- Refusal to offer the informed choice of vaginal birth. Many health professionals and/or hospitals are unwilling to offer the informed choice of vaginal birth to women in certain circumstances. The Listening to Mothers survey found that many women with a previous cesarean would have liked the option of a vaginal birth after cesarean (VBAC) but did not have it because health professionals and/or hospitals were unwilling.<sup>17</sup> About nine out of ten women with a previous cesarean section are having repeat cesareans in the United States. Similarly, few women with a fetus in a breech position

have the option to plan a vaginal birth, and twins are increasingly born via planned cesarean section.

- Casual attitudes about surgery and variation in professional practice style. Our society is more tolerant than ever of surgical procedures, even when not medically needed. This is reflected in the comfort level that many health professionals, insurance plans, hospital administrators and women themselves have with cesarean trends. Further, the cesarean rate varies quite a bit across states and areas of the country, hospitals, and maternity professionals. Most of this variation is due to "practice style" rather than differences in the needs and preferences of childbearing women.<sup>18</sup>
- Limited awareness of harms that are more likely with cesarean section. Cesarean section is a major surgical procedure that increases the likelihood of many types of harm for mothers and babies in comparison with vaginal birth. Short-term harms for mothers include increased risk of unintended surgical cuts, infection, blood clots, emergency hysterectomy, going back into the hospital, a challenging recovery, and death. Babies born by cesarean section are more likely to have breathing problems and to develop several chronic diseases: childhood-onset diabetes, allergies with cold-like symptoms, and asthma in childhood and beyond. Perhaps due to the common surgical side effect of scarring and "adhesion" formation, cesarean mothers are more likely to have ongoing pelvic pain and to experience infertility in the future. Of special concern after cesarean are various serious conditions for mothers and babies that are more likely in future pregnancies. For mothers, these include ectopic pregnancy, placenta previa, placenta accreta, placental abruption, emergency hysterectomy, and uterine rupture. Babies in future pregnancies are more likely to need breathing help and have extended hospital stays. Preliminary research suggests that many other harms are more likely with cesarean section, and more studies are needed.<sup>19</sup>
- Incentives to practice in a manner that is efficient for providers. Many health
  professionals are feeling squeezed by tightened payments for services and increasing
  practice expenses. The flat "global fee" method of paying for childbirth does not provide
  any extra pay for providers who patiently support a longer vaginal birth. Some
  payment schedules pay more for cesarean than vaginal birth. Even when payment is
  similar for both, a planned cesarean section is an especially efficient way for
  professionals to organize their hospital and office work. Average hospital payments are
  much greater for cesarean than vaginal birth, and may offer hospitals greater scope for
  profit.
- Professional expectations for work-life balance. Compared with the past, health professionals have greater expectations for work-life balance. In maternity care, this is seen in reduced willingness to attend births at night and on weekends and holidays, and more births that are scheduled to take place on weekdays.
- ▶ Women's great trust in their maternity care. The national Listening to Mothers survey found that women may have very little awareness of the extent to which practice variation and other non-medical factors and side effects of interventions impact their care and outcomes. Large proportions reported that their maternity care providers were "completely" (47%) or "very" (33%) trustworthy, and that the quality of the maternity care system is "excellent" (36%) or "good" (47%).<sup>20</sup>

All of these factors contribute to a current national cesarean section rate of over 30%, although we increasingly understand that this rate could and should be much lower.

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<sup>4</sup> Stapleton, S.R., Osborne, C., & Illuzzi, J. (2013). Outcomes of care in birth centers: Demonstration of a durable model. *Journal of Midwifery and Women's Health*, *58*(1), 3-14. Retrieved 24 September 2015, from http://onlinelibrary.wiley.com/doi/10.1111/jmwh.12003/full

<sup>2</sup> Hamilton, B.E., Martin, J.A., Osterman, M.J.K., & Curtin, S.C. (2015). Births: Preliminary data for 2014. National Vital Statistics Report, 64(6), 1-19. Retrieved 24 September 2015, from http://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64\_06.pdf

<sup>6</sup> Weiss, A.J., Elixhauser, A., & Andrews, R.M. (2014). Characteristics of operating room procedures in U.S. hospitals, 2011. *HCUP Statistical Brief* #170. Rockville, MD: Agency for Healthcare Research and Quality. Retrieved 24 September 2015, from http://www.hcup-us.ahrq.gov/reports/statbriefs/sb170-Operating-Room-Procedures-United-States-2011.pdf

<sup>7</sup> American College of Obstetricians and Gynecologists and Society for Maternal-Fetal Medicine. (2014). Safe prevention of the primary cesarean delivery. *Obstetric Care Consensus, March* (1). Retrieved 24 September 2015, from http://www.acog.org/Resources-And-Publications/Obstetric-Care-Consensus-Series/Safe-Prevention-of-the-Primary-Cesarean-Delivery.

<sup>8</sup> Ibid.

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<sup>10</sup> Declercq, E.R., Sakala, C., Corry, M.P., Applebaum, S., & Herrlich, A. (2013). *Listening to Mothers III: Pregnancy and birth*. New York: Childbirth Connection. Retrieved 24 September 2015, from http://www.childbirthconnection.org/listeningtomothers/

<sup>11</sup> McCourt, C., Weaver, J., Statham, H., Beake, S., Gamble, J., & Creedy, D.K. (2007). Elective cesarean section and decision making: A critical review of the literature. *Birth,* 34(1), 65-79. Retrieved 24 September 2015, from http://onlinelibrary.wiley.com/doi/10.1111/j.1523-536X.2006.00147.x/full

<sup>12</sup> Declercq, E., Menacker, F., & MacDorman, M. (2006). Maternal risk profiles and the primary cesarean rate in the United States, 1991-2002. American Journal of Public Health, 96(5), 867-72. Retrieved 24 September 2015, from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1470600/

<sup>13</sup> See note 10.

<sup>14</sup> Sakala, C., Yang, Y.T., & Corry, M.P. (2013 January). Maternity care and liability: Pressing problems, substantive solutions. *Women's Health Issues*, 23(1), e7-13. Retrieved 24 September 2015, from http://www.whijournal.com/article/S1049-3867(12)00090-4/fulltext

<sup>15</sup> Baicker, K., Buckles, K.S., & Chandra, A. (2006). Geographic variation in the appropriate use of cesarean delivery. *Health Affairs, 35*, w355-w367.

<sup>16</sup> Buckley, SJ. (2015). *Hormonal physiology of childbearing: Evidence and implications for women, babies, and maternity care.* Washington, DC: National Partnership for Women & Families. Retrieved 24 September 2015, from http://www.childbirthconnection.org/hormonalphysiology/

<sup>17</sup> See note 10.

<sup>18</sup> Clark, S.L., Belfort, M.A., Hankins, G.D.V., Meyers, J.A., & Houser, F.M. (2007). Variation in the rates of operative delivery in the United States. *American Journal of Obstetrics and Gynecology*, *196*(6), 526.e1-526.e5.

<sup>1</sup> Childbirth Connection. (2012). Vaginal or cesarean birth: What is at stake for women and babies? A best evidence review. New York: Childbirth Connection. Retrieved 24 September 2015, from http://transform.childbirthconnection.org/reports/cesarean/

See note 10.

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<sup>&</sup>lt;sup>1</sup> Taffel, S.M., Placek, P.J., & Liss, T. (1987). Trends in the United States cesarean section rate and reasons for the 1980-85 rise. *American Journal of Public Health, 77*(8), 955-959. Retrieved 24 September 2015, from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1647267/pdf/amjph00259-0027.pdf

<sup>&</sup>lt;sup>2</sup> Johnson, K.C. & Daviss, B.A. (2005). Outcomes of planned home births with certified professional midwives: Large prospective study in North America. *BMJ*, 330, 1416. Retrieved 24 September 2015, from http://www.bmj.com/cgi/content/full/330/7505/1416