



PREGNANCY RISK ASSESSMENT MONITORING SYSTEM  
A survey for healthier babies in New Jersey

[NJ.gov/health/fhs/professional/PRAMS.shtml](http://NJ.gov/health/fhs/professional/PRAMS.shtml)

*NJ-PRAMS is a joint project of the New Jersey Department of Health and Senior Services and the Centers for Disease Control and Prevention (CDC). Information from PRAMS is used to help plan better health programs for New Jersey mothers and infants—such as improving access to high quality prenatal care, reducing smoking, and encouraging breastfeeding. ▫ One out of every 50 mothers are sampled each month, when newborns are 2-6 months old. Survey questions address their feelings and experiences before, during and after their pregnancy. ▫ From 2002 to 2009, over 14,000 mothers were interviewed with a 72% response rate.*

## Cesarean Delivery and Maternal Choice (March 2011)

New Jersey’s cesarean delivery rate is among the highest in the nation and has grown rapidly over the past decade (1997-2008) to nearly 40% of all births. Among notable components of the trend are cesareans without a trial of labor (TOL) among *standard deliveries*: singleton, full-term (37 completed weeks) with head-down presentation:

- 3.7-fold increase to 8% among first-time mothers (*nulliparas*)
- 2.8-fold increase to 5% among repeat mothers with no prior cesarean (*multiparas*)
- doubling of the repeat cesarean rate from 40% to 85% (*multiparas with previous cesarean*).

Only a small portion of these trends can be attributed to concurrent changes in maternal health (see *Resources* for further references). This brief explores another hypothesized factor—women’s preferences. Beginning in 2009, NJ-PRAMS includes two questions exploring each mother’s expectations about delivery:

*When you first learned you were pregnant with your new baby, did you prefer that it be delivered vaginally (naturally) or by cesarean?*

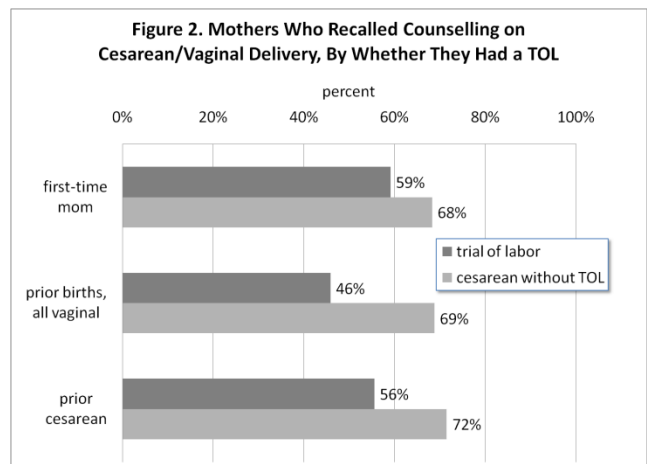
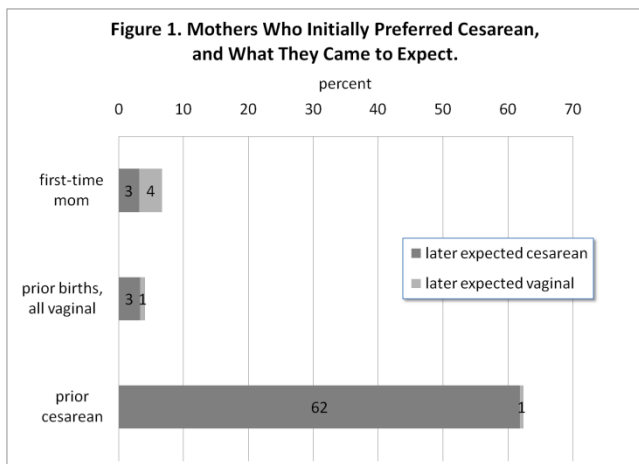
*A week before your baby was born, did you expect it to be delivered vaginally (naturally) or by cesarean?*

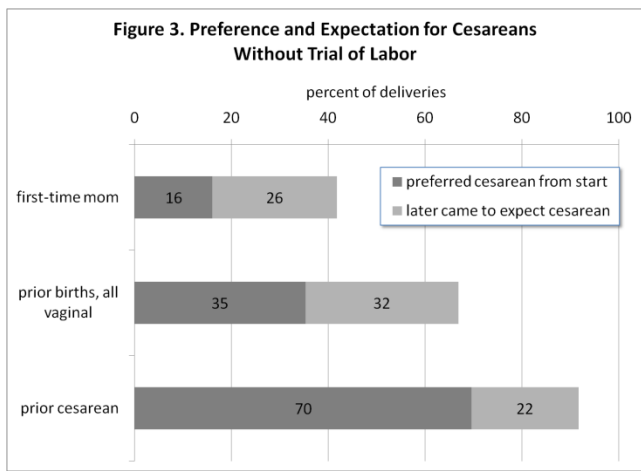
The two questions together address each woman’s preferences and the medical advice and other factors in tension with what she may have considered ideal.

Figure 1 presents, for selected types of delivery, mothers’ early preferences about cesarean and how those preferences were sustained to the end of the pregnancy. Among nulliparas, and among multiparas who had never had a cesarean before, early preference for cesarean was quite low, and in particular more than half of first-time moms changed their expectation later to vaginal delivery.

Figure 1 also shows that 63% of women who previously had a cesarean delivery were already primed for another—much lower than the current repeat cesarean rate. (See *Agenda for Action* for discussion.) There were no consistent differences in these preferences by age, education, race, or work status during pregnancy in any of the three groups.

Since women’s expectations are sometimes affected by information on benefits and risks they receive from obstetric providers, we asked women if they recalled any discussion of risks and benefits during their prenatal care. As Figure 2 shows, about one third of women did not recall such counseling, especially if they had a trial of labor (whether or not it ended with cesarean).





Do preferences and counseling account generally for cesareans actually performed? Figure 3 presents responses among women whose deliveries were by cesarean without any trial of labor. For nulliparas, 16% of sections were to women who said they preferred them at the start of their pregnancies and whose expectations did not change. Another 26% of sections were to women who had initially preferred vaginal delivery, but whose expectations had changed. The remaining 58% of cesareans were to women who were not expecting it.

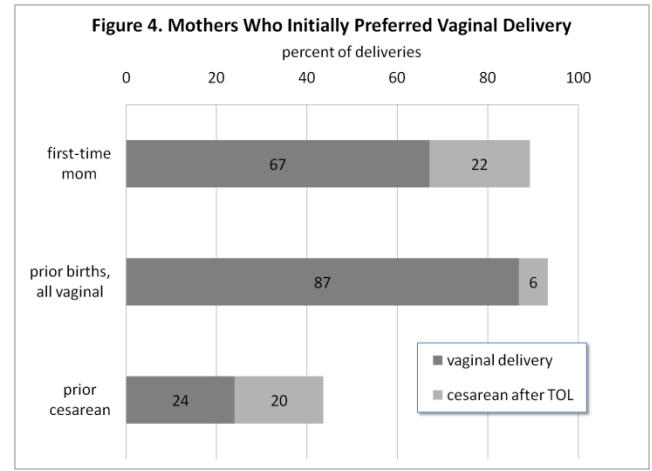
Multiparas were about twice as likely to have preferred their cesarean from the outset (35%), and four times more likely if they had had a previous cesarean (70%). These two groups were comparable in the proportion coming to a later expectation of cesarean.

We noted above that more than 90% of first-time mothers prefer a vaginal delivery at the start of pregnancy. Figure 4 shows that among those women, 89% had a trial of labor and 67% had a vaginal delivery as desired. Among multiparas with no prior cesarean, a (preferred) trial of labor occurred for 93%. By contrast, among women with a prior cesarean, only 44% of those who preferred a trial of labor had one, including 20% whose trial of labor ended with cesarean.

### Agenda for Action

It is unlikely that maternal demand for cesarean delivery has driven New Jersey's rates to their current unprecedented heights. Preference for *primary* (first-time) cesarean at the outset of pregnancy is well below 10% for standard deliveries, and the share of cesareans actually performed that were the initial preference of the mother ranged from a sixth for nulliparas to a third for multiparas. Imagine that those proportions were zero a decade ago; all else equal, these levels of preference would have increased primary no-trial cesarean rates by 20% (one more per five) and 50% (one more per two), respectively. They actually increased many times that.

A somewhat larger share of primary cesareans come to be expected after an initial predisposition toward vaginal delivery. Some degree of change is to be



expected from informed decision-making as the medical situation is assessed.

Patient preferences appear to be generally honored. Except for women with previous cesareans, most women who preferred a vaginal delivery in fact had a trial of labor. Some communication gaps exist, however, especially for first-time moms. Every resource should be developed to:

- Support obstetric providers in presenting a balanced assessment of cesarean's risks and benefits, and counseling patients to best suit their values.
- Support the mother and family in acquiring and processing information, including use of new media.
- Publish meaningful measures of quality obstetric care.
- Promote evidence-based strategies for labor support that minimize the risk of cesarean after trial of labor.

In 2010 a NIH Consensus Development Conference challenged health systems and regulators to expand access to vaginal birth after previous cesarean (VBAC). Many women with a prior cesarean are viable candidates for vaginal delivery, and perhaps as many as a third would prefer that option. However, screening tools, education materials, and transparency of providers' policy toward VBAC all need improvement.

**Resources**

NJ Department of Health and Senior Services, Maternal and Child Health Epidemiology Series: Cesarean Delivery in New Jersey.  
<http://nj.gov/health/fhs/professional/mchepti.shtml>

NIH State-of-the-Science Conference Cesarean Delivery on Maternal Request.  
<http://consensus.nih.gov/2006/cesarean.htm>

NIH Consensus Development Conference on Vaginal Birth After Cesarean: New Insights.  
<http://consensus.nih.gov/2010/vbac.htm>

An educational website, by our Canadian colleagues.  
[http://www.sogc.org/health/pregnancy\\_e.asp](http://www.sogc.org/health/pregnancy_e.asp)