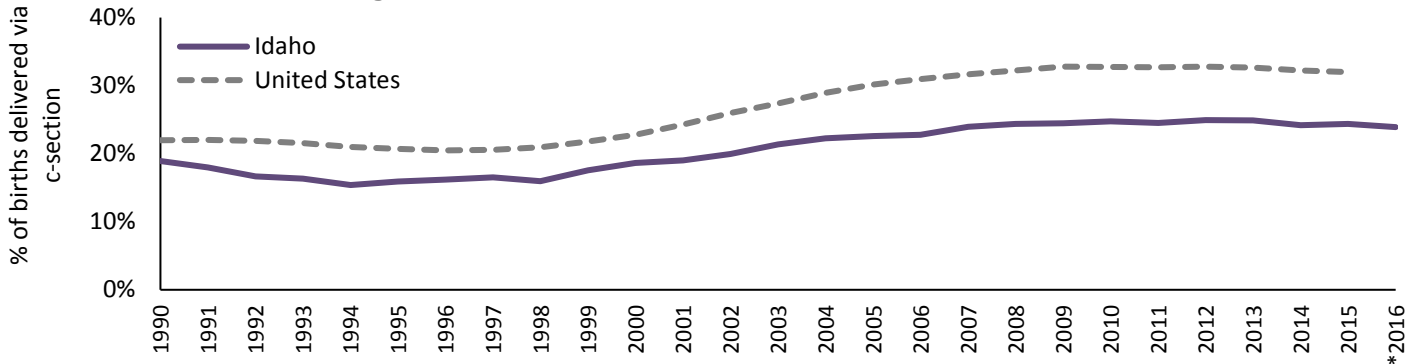


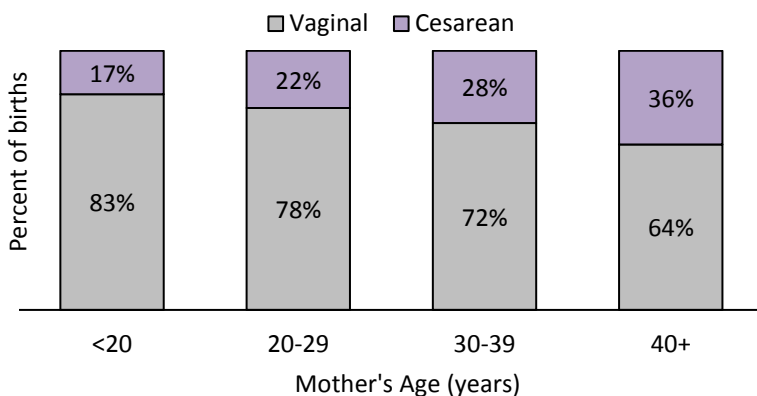
# Cesarean Deliveries

Percentage of births delivered via cesarean section trend: Idaho residents, 1990-2016



\*2016 data for the United States are not available.

Delivery method by the mother's age: Idaho residents, 2014-2016



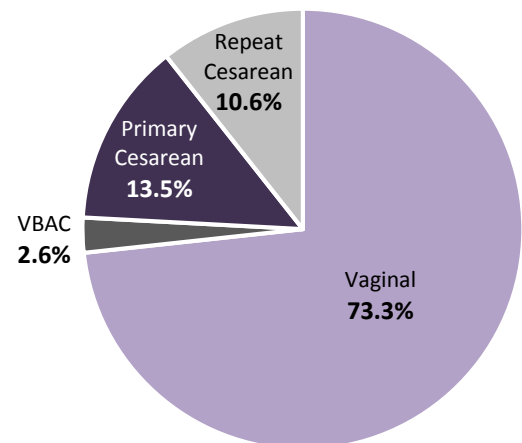
During 2014-2016, there were 16,465 cesarean section (c-section) deliveries, accounting for 24.1% of total births. Further, 44.1% of c-sections were repeat c-sections. Vaginal births following a previous c-section (VBAC) were uncommon and accounted for just 3.4% of vaginal births.

Maternal characteristics affected the likelihood of delivery via c-section. Mothers age 40 and older had the highest percentage of births delivered via c-section; more than twice the percentage of mothers age less than 20. Further, mothers who were overweight or obese before becoming pregnant were more likely to deliver via c-section. Births where the mother was obese before becoming pregnant (BMI>29) were 1.8 times as likely to be delivered via c-section compared with births where the mother was normal or underweight.

## IDAHO HIGHLIGHTS

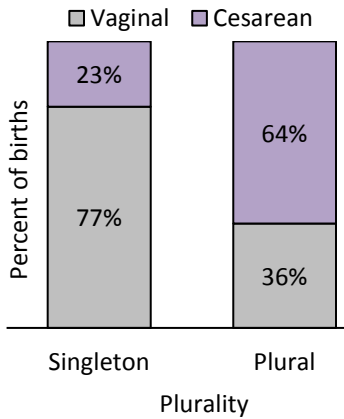
- In 1990, 19% of births were delivered via c-section, compared with 24% in 2016
- During 2014-2016, mothers age 40 and older had the highest percentage of births delivered via c-section
- 46% of births at gestational age<37 weeks were delivered via c-section
- Mothers who were obese prior to becoming pregnant were more likely to deliver via c-section compared with mothers who were not obese
- 19% of low risk births were delivered via cesarean section.<sup>1</sup>

Delivery method: Idaho residents, 2014-2016



VBAC=Vaginal birth following a previous cesarean section delivery

**Delivery method by plurality:  
Idaho residents, 2014-2016**



Pregnancy characteristics also affected the likelihood of delivery via c-section. Plural deliveries (multiple infants) were twice as likely to be delivered via c-section compared with deliveries of singletons; 64% of plural births were delivered via c-section compared with only 23% of singleton births. More than 50% of births with one or more risk factors were delivered via c-section, compared with only 13% of births without any risk factors. Risk factors included the mother having diabetes, hypertension, or eclampsia; a previous preterm birth, other poor pregnancy outcome, or c-section; or fertility treatment.

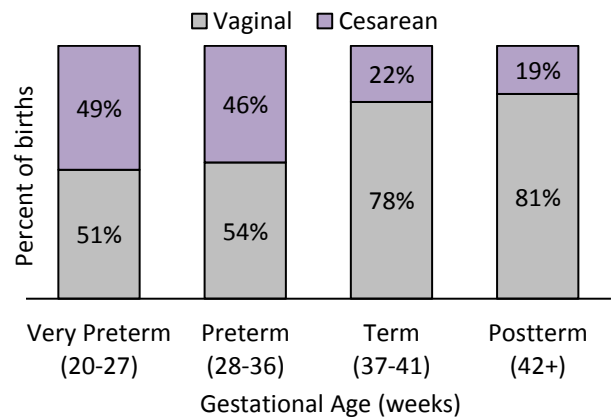
Gestational age also affected the likelihood of delivery via c-section. Approximately half of very preterm births (gestational age < 28 weeks) and 46% of preterm births (gestational age 28-36 weeks) were delivered via c-section, nearly 2.2 and 2.1 times the percentage of term births delivered via c-section, respectively.

There has been a national effort to reduce c-sections that are not medically indicated.<sup>1</sup> Low risk c-section delivery is defined as a c-section delivery of a term (gestational age 37 weeks or more), singleton infant in a non-breach position where

the mother is giving birth for the first time.<sup>1</sup> Approximately 30% of all births in Idaho during 2014-2016 were low risk. Of these, nearly 1/5 were delivered via c-section; though, trial labor was attempted first in most cases.

Delivery via c-section involves major abdominal surgery and, as a result, has been shown to increase the risk of maternal morbidities compared with vaginal delivery.<sup>2</sup> However, this did not appear to be the case for Idaho. In fact, maternal morbidities were experienced in only 1% of births delivered via c-section, compared with 2% of births delivered vaginally. Maternal morbidities included transfusion, third- or fourth-degree perineal lacerations, ruptured uterus, unplanned hysterectomy, intensive care unit admission, or an unplanned operating room procedure following delivery.

**Delivery method by the infant's gestational age:  
Idaho residents: 2014-2016**

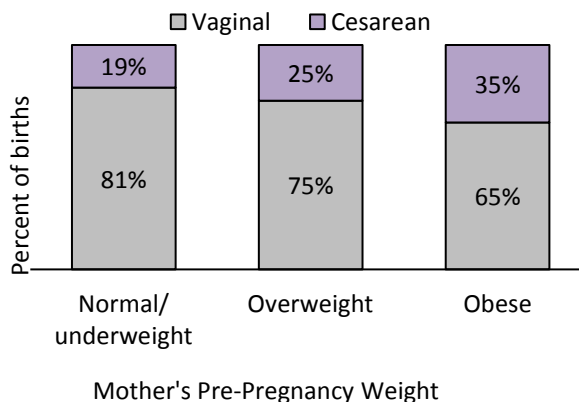


<sup>1</sup>Osterman, M. J., and Martin, J.A. "Trends in low-risk cesarean delivery in the United States, 1990-2013." *National vital statistics reports: from the Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System* 63.6 (2014): 1-16.

<sup>2</sup>Kuklina, Elena V., et al. "Severe obstetric morbidity in the United States: 1998-2005." *Obstetrics and gynecology* 113.2 Pt 1 (2009): 293.

<sup>3</sup>Liston, Fiona A., et al. "Neonatal outcomes with caesarean delivery at term." *Archives of Disease in Childhood-Fetal and Neonatal Edition* 93.3 (2008): F176-F182.

**Delivery method by the mother's pre-pregnancy weight: Idaho residents, 2014-2016**



**Newborn Abnormal Conditions**

Delivery via c-section has also been shown to increase the risk of certain complications for the newborn.<sup>3</sup> However, this is confounded by the fact that infants in distress or with risk factors are often delivered via c-section.<sup>3</sup> In Idaho, nearly 25% of newborns delivered via c-section had one or more abnormal conditions compared with only 11% of newborns delivered vaginally. Almost 22% of newborns delivered via c-section were admitted to the NICU and 12% required assisted ventilation compared with only 8% and 4% of newborns delivered vaginally, respectively. Further, 6% of newborns delivered via c-section were given antibiotics for suspected neonatal sepsis compared with only 2% of newborns delivered vaginally.

Data Source: Bureau of Vital Records and Health Statistics

Idaho Department of Health and Welfare · Division of Public Health · Bureau of Vital Records and Health Statistics · January 2018 · Prepared by Briana Coles, MPH · <http://www.healthstatistics.dhw.idaho.gov>

