

June 21, 2012

# Highlights of 2010–2011 Selected Indicators Describing the Birthing Process in Canada

## Background

This document summarizes key information on 2010–2011 selected indicators that describe the birthing process in Canada, which is now available through CIHI's Quick Stats. These childbirth indicators are available from 2001–2002 onwards by province/territory and health region. Data on Quick Stats was obtained from the 2010–2011 Hospital Morbidity Database (HMDB).

The 2010–2011 HMDB was made available to external clients in March 2012.

## Highlights

### Newborns and Low Birth Weight

In 2010–2011, more than 371,000 babies were born in Canadian hospitals. Although the number of babies born annually decreased steadily between 1995–1996 and 2000–2001 (dropping by 13.1%, or about 50,000 newborns during that period) (Figure 1), the next nine years saw an increase in births, such that the number of babies born in 2009–2010 mirrored that in 1995–1996. However, 2010–2011 saw a decrease in births (a drop of 1.5%, or about 5,600 newborns) compared with 2009–2010. Over this one-year period, all jurisdictions except Yukon had decreases in hospital births.

In 2010–2011, 6.1% of babies born in a Canadian hospital had a low birth weight (weight between 500 grams and 2,499 grams); this was identical to the rate in 2009–2010 (Figure 2). At the provincial level, rates of low birth weights ranged

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from 5.4% in Prince Edward Island, Manitoba and Saskatchewan to 6.6% in Ontario and 6.7% in Alberta (Table 1). While the rates in Manitoba, Saskatchewan, British Columbia and Quebec were significantly below the national rate, those in Ontario and Alberta were significantly higher. Among the provinces, the low birth weight rate remained fairly stable from 2006–2007 to 2010–2011, while Newfoundland and Labrador demonstrated the largest increase (from 4.9% in 2006–2007 to 6.1% in 2010–2011), followed by P.E.I. (from 5.1% to 5.4%) and New Brunswick (from 5.3% to 5.6%).

### Preterm Birth Rate

The in-hospital preterm birth rate represents the proportion of babies born in a Canadian hospital before 37 completed weeks of gestation. In 2010–2011, the Canadian in-hospital preterm birth rate was 7.9%. This rate remained fairly stable since 2006–2007 (8.1%) (Figure 2).

The highest provincial preterm birth rates were observed in Alberta (8.6%) and Ontario (8.1%) (Table 1), both of which were significantly above the Canadian rate. The lowest rates were seen in Nova Scotia (7.3%), Quebec (7.3%) and Saskatchewan (7.4%); only Quebec was significantly below the national rate. Among the provinces, the preterm birth rate remained fairly stable from 2006–2007 to 2010–2011.

### Small-for-Gestational-Age Rate

The in-hospital small-for-gestational-age (SGA) rate represents the proportion of singleton babies born in a Canadian hospital with a birth weight below the 10th percentile for their gestational age and sex. In other words, babies classified as SGA are smaller than 90% of the babies from a standard reference population of the same gestational age and sex. The Canadian in-hospital SGA rate was 8.7% in 2010–2011 among singletons, a significant increase from 8.3% in 2006–2007 (Figure 2).

As with the low birth weight and preterm birth rates, Ontario and Alberta demonstrated the highest SGA rates among the provinces (9.3% and 9.0%, respectively) (Table 1); only Ontario was significantly higher than the Canadian average. P.E.I. (6.3%) and Saskatchewan (7.3%) had the lowest provincial rates, which were also significantly lower than the national figure; the SGA rates in Manitoba and B.C. (7.6% and 7.8%, respectively) were also significantly lower than the national figure. Among the provinces, Newfoundland and Labrador, Quebec and Ontario demonstrated significant increases from 2006–2007 to 2010–2011 (5.9% to 8.6%; 7.8% to 8.5%; and 8.9% to 9.3%, respectively).

### Assisted Deliveries

In 2010–2011, the rates of overall assisted delivery, vacuum-assisted delivery and forceps-assisted delivery in Canada were 13.5%, 9.6% and 3.2%, respectively.

As in 2009–2010, Alberta had the highest overall assisted-delivery rate (16.8%) among the provinces in 2010–2011; this was followed by Saskatchewan (15.8%). Manitoba and P.E.I. had the lowest overall assisted-delivery rates (9.1% and 5.3%, respectively).

## Highlights

Rates of vacuum-assisted delivery remained fairly stable between 2006–2007 and 2010–2011, while significant declines in rates of forceps-assisted delivery continued to be observed in Ontario (from 3.8% in 2006–2007 to 3.1% in 2010–2011), Saskatchewan (from 2.6% to 2.0%), B.C. (from 4.6% to 4.0%) and for Canada overall (from 3.5% to 3.2%) (Figure 3). In contrast, Alberta was the only province to see a significant increase in forceps-assisted deliveries (from 3.8% in 2006–2007 to 4.2% in 2010–2011).

### Epidural Indicators

In 2010–2011, epidural rates among vaginal and all deliveries continued to vary widely among the provinces. About two-thirds of vaginal deliveries in Quebec (70.0%) and Ontario (61.5%) were preceded by an epidural—nearly double the rates in Manitoba (37.5%) and B.C. (32.5%).

Between 2006–2007 and 2010–2011, there was a significant increase—from 53.2% to 56.7%—in epidural rates among vaginal deliveries in Canada. Significant increases were also seen in P.E.I., Nova Scotia, Quebec, Ontario, Alberta and B.C. over this time frame. In contrast, Manitoba was the only province to see a decrease in epidural rates among vaginal deliveries (from 38.3% to 37.5%) during this period (Figure 4). Among all the jurisdictions, B.C. continued to have the lowest epidural rates among vaginal deliveries; however, it experienced the largest increase in this rate since 2009–2010 (from 30.3% to 32.5%). For epidural rates among all deliveries, Newfoundland and Labrador experienced the largest increase since 2009–2010 (from 38.3% to 45.1%), followed by B.C. (from 29.1% to 31.3%).

### Primary and Repeat Caesarean Sections

The primary Caesarean section (C-section) rate is defined as the proportion of women who underwent a C-section for the first time. In 2010–2011, the Canadian primary C-section rate was 18.1%. Among the provinces, Newfoundland and Labrador and B.C. continued to have the highest primary C-section rates (23.5% and 22.9%, respectively), while Saskatchewan and Manitoba had the lowest rates (14.7% and 14.4%, respectively).

As shown in Figure 5, Canadian women age 35 and older had significantly higher primary C-section rates than their younger counterparts (23.1% versus 17.1%). Among the provinces, the primary C-section rates in women age 35 and older ranged from highs of 30.3% in Newfoundland and Labrador and 28.3% in B.C. to lows of 20.4% in Saskatchewan and 18.9% in Quebec.

The Canadian repeat C-section rate—the proportion of women who underwent a C-section with a history of a previous C-section—was 82.3% in 2010–2011. Among the provinces, P.E.I. (92.9%) and Newfoundland and Labrador (92.6%) had the highest repeat C-section rates, while Saskatchewan and Manitoba had the lowest rates (73.5% and 71.1%, respectively) (Figure 6). These figures remained fairly stable between 2006–2007 and 2010–2011.

For more information, please go to CIHI's website ([www.cihi.ca](http://www.cihi.ca)), click on "Quick Stats," select "Interactive Data" under "Type" and "Hospital Care" under "Topic," then select from the "DAD/HMDB Childbirth Indicators by Place of Residence" or "DAD/HMDB Newborns Born in Hospital" statistics.

Information on total C-section rates for 2010–2011 will be released in the *Health Indicators 2012* report.

## Highlights

**Table 1:**

### Low Birth Weight, Preterm Birth and Small-for-Gestational-Age Rates in Canada, 2010–2011

Province/Territory	Low Birth Weight Rate (500–2,499 Grams)		Preterm Birth Rate (<37 Weeks)		Small-for-Gestational-Age Rate	
	Rate	(95% CI)	Rate	(95% CI)	Rate	(95% CI)
Newfoundland and Labrador	6.1	(5.4–6.7)	7.9	(7.1–8.6)	8.6	(7.8–9.5)
Prince Edward Island	5.4	(4.2–6.6)	8.1	(6.6–9.5)	6.3	(5.0–7.6)
Nova Scotia	5.8	(5.3–6.3)	7.3	(6.7–7.8)	8.2	(7.6–8.8)
New Brunswick	5.6	(5.1–6.1)	7.5	(6.9–8.1)	8.0	(7.3–8.6)
Quebec	5.7	(5.5–5.8)	7.3	(7.1–7.5)	8.5	(8.3–8.7)
Ontario	6.6	(6.4–6.7)	8.1	(8.0–8.2)	9.3	(9.1–9.4)
Manitoba	5.4	(5.0–5.7)	7.8	(7.4–8.2)	7.6	(7.2–8.0)
Saskatchewan	5.4	(5.0–5.8)	7.4	(6.9–7.8)	7.3	(6.9–7.7)
Alberta	6.7	(6.5–6.9)	8.6	(8.4–8.9)	9.0	(8.7–9.2)
British Columbia	5.6	(5.4–5.9)	7.6	(7.4–7.9)	7.8	(7.5–8.0)
Yukon	6.4	(3.9–8.9)	9.6	(6.6–12.6)	5.0	(2.7–7.2)
Northwest Territories	3.5	(2.1–4.8)	5.2	(3.5–6.8)	6.5	(4.6–8.4)
Nunavut	6.7	(4.9–8.4)	10.7	(8.5–12.9)	6.3	(4.6–8.0)
<b>Canada</b>	<b>6.1</b>	<b>(6.0–6.2)</b>	<b>7.9</b>	<b>(7.8–7.9)</b>	<b>8.7</b>	<b>(8.6–8.7)</b>

**Notes**

Data represents the province or territory the patient was from (excluding non-residents of Canada).

95% CI: 95% confidence interval.

Note that significant differences were determined by the second decimal place (not shown).

**Coverage issues:**

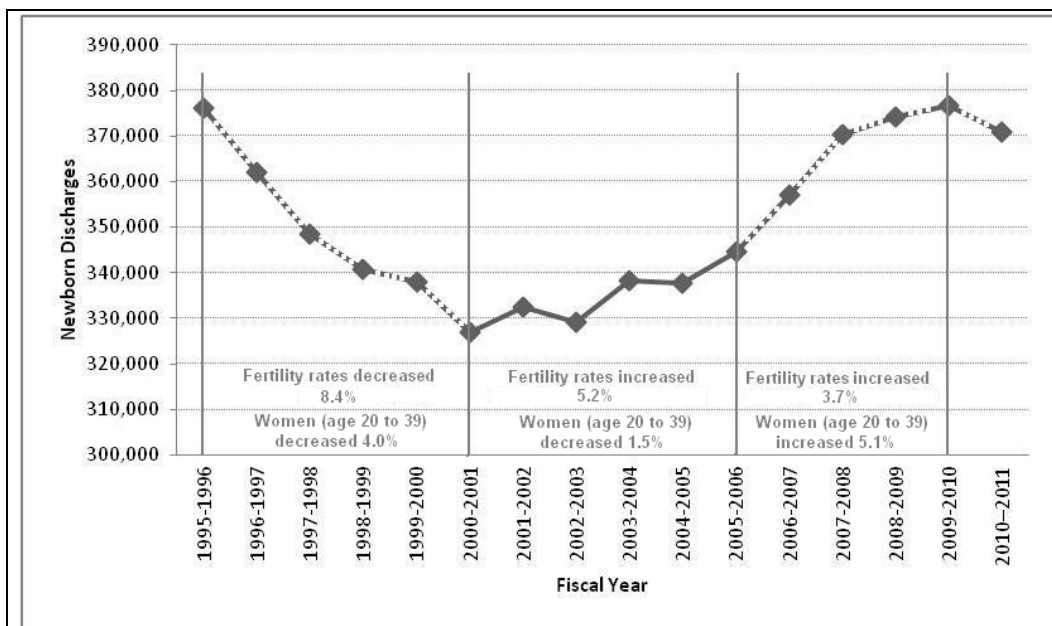
Two small acute care facilities in Ontario did not submit data to CIHI in 2010–2011.

**Source**

Hospital Morbidity Database, Canadian Institute for Health Information.

## Highlights

Figure 1:  
Total Newborn Discharges From Acute Care Institutions in Canada, 1995–1996 to 2010–2011



### Explanation

Although changes in the number of births are influenced by many factors, the two key factors are **fertility rates** and the **number of women in their childbearing years** (age 20 to 39).

1. 1995 to 2001: The drop in the number of newborns is largely the result of a decrease of 8.4% in fertility rates and a decrease of 4.0% in the population of women age 20 to 39.
2. 2001 to 2006: The number of newborns was fairly stable largely, the result of an increase of 5.2% in fertility rates and a decrease of 1.5% in the population of women age 20 to 39.
3. 2006 to 2009: The increase in the number of newborns is largely the result of an increase of 3.7% in fertility rates and an increase of 5.1% in the population of women age 20 to 39.
4. The slight drop in newborn volumes in 2010–2011 will be monitored in future fiscal years.

### Notes

Newborn discharges from acute care institutions in Canada may include non-residents of Canada.

### Coverage issues:

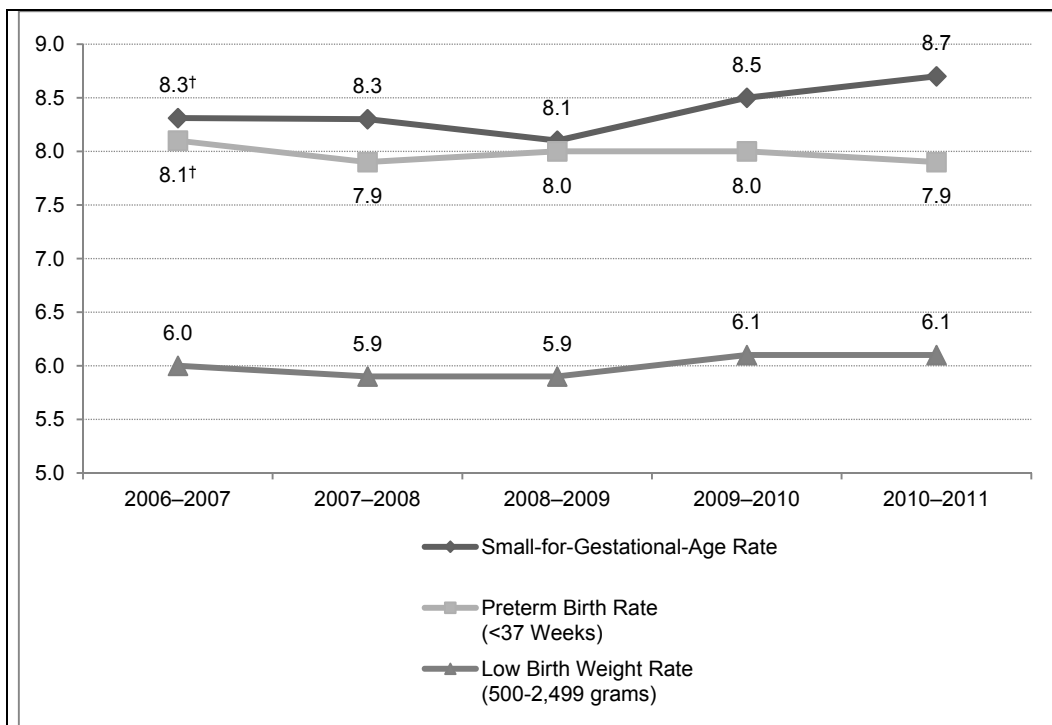
- In 2002–2003, Nunavut did not submit discharge data to CIHI. As such, Canadian figures for 2002–2003 do not include Nunavut and are not comparable with figures from other fiscal years.
- One hospital in New Brunswick did not submit four periods of data to CIHI in 2004–2005.
- One hospital in Quebec did not submit two periods of data to CIHI in 2005–2006.
- Two hospitals in Alberta did not submit two periods of data to CIHI in 2005–2006, and a third hospital did not submit three periods of data; one acute care facility in Alberta did not submit three periods of data to CIHI in 2006–2007 and two periods of data in 2008–2009.
- Two small acute care facilities in Ontario did not submit data to CIHI in 2009–2010 and 2010–2011.

### Sources

Discharge Abstract Database and Hospital Morbidity Database, Canadian Institute for Health Information; Fichier des hospitalisations MED-ÉCHO, ministère de la Santé et des Services sociaux du Québec.

## Highlights

**Figure 2:**  
**Low Birth Weight,\* Preterm Birth and Small-for-Gestational-Age Rates in Canada, 2006–2007 to 2010–2011**



**Notes**

\* Low birth weight rates shown in this figure include babies weighing between 500 and 2,499 grams only.

† Data on the small-for-gestational-age rate and preterm birth rate in 2006–2007 was originally presented in *Too Early, Too Small: A Profile of Small Babies Across Canada*, a CIHI report published in 2009.

Data represents the province the patient was from (excluding non-residents of Canada).

**Coverage issues:**

One acute care facility in Alberta did not submit three periods of data to CIHI in 2006–2007 and two periods of data in 2008–2009.

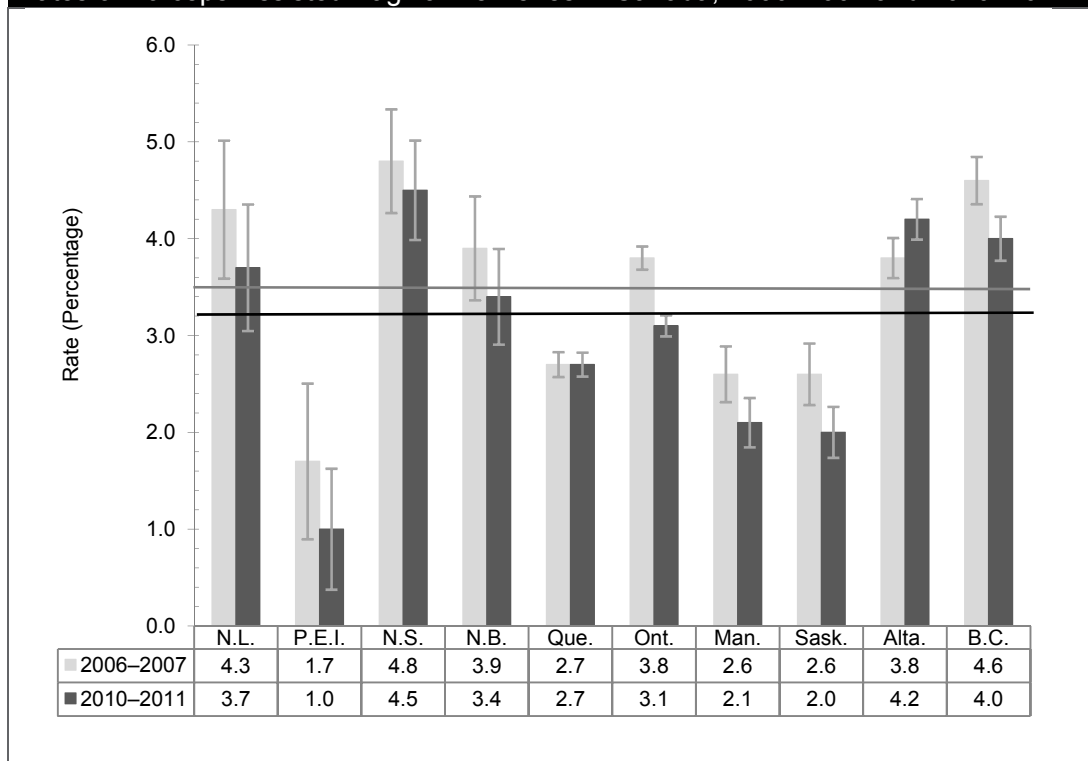
Two small acute care facilities in Ontario did not submit data to CIHI in 2009–2010 and 2010–2011.

**Sources**

Discharge Abstract Database and Hospital Morbidity Database, Canadian Institute for Health Information; Fichier des hospitalisations MED-ÉCHO, ministère de la Santé et des Services sociaux du Québec.

## Highlights

**Figure 3:**  
**Rates of Forceps-Assisted Vaginal Deliveries in Canada, 2006–2007 and 2010–2011**



### Notes

The territorial rates were suppressed for privacy reasons.

Data represents the province the patient was from (excluding non-residents of Canada).

I represents the 95% confidence interval.

The grey line is the 2006–2007 Canadian rate; the black line is the 2010–2011 Canadian rate.

### Coverage issues:

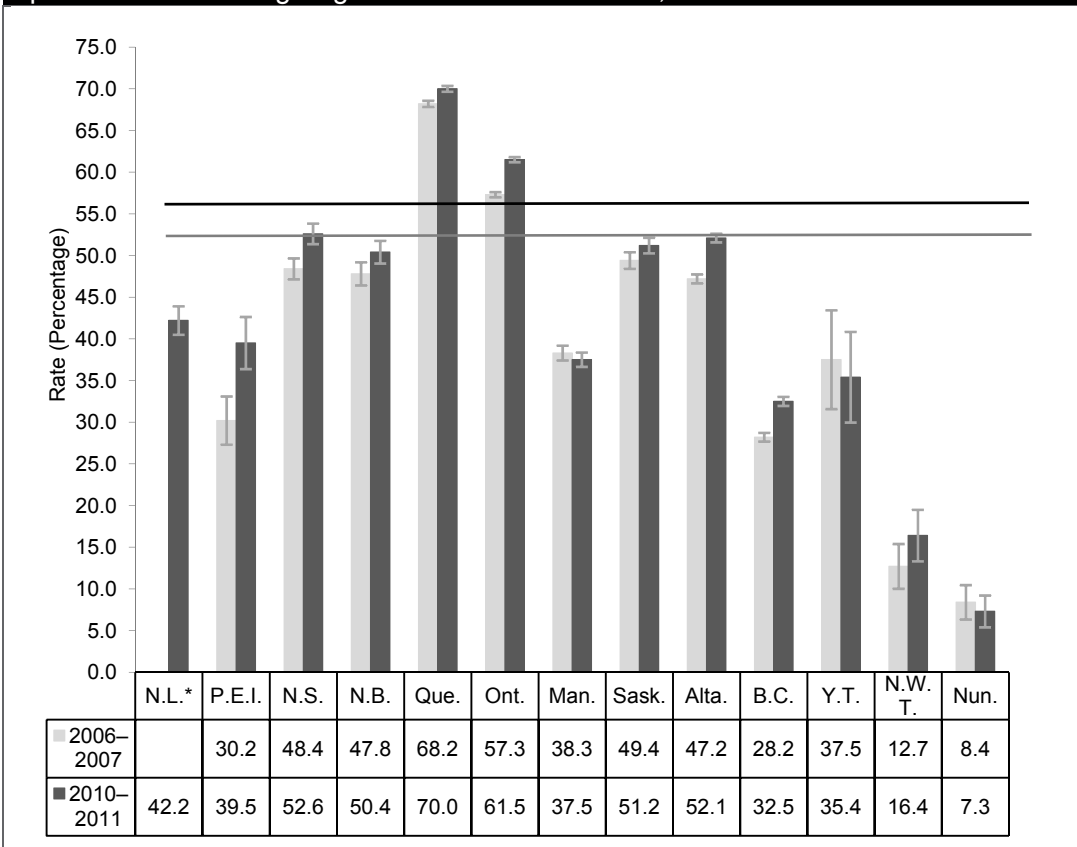
One acute care facility in Alberta did not submit three periods of data to CIHI in 2006–2007.

Two small acute care facilities in Ontario did not submit data to CIHI in 2010–2011.

### Sources

Discharge Abstract Database and Hospital Morbidity Database, Canadian Institute for Health Information; Fichier des hospitalisations MED-ÉCHO, ministère de la Santé et des Services sociaux du Québec.

**Figure 4:  
Epidural Rates Among Vaginal Deliveries in Canada, 2006–2007 and 2010–2011**



**Notes**

\* The 2006–2007 rate for Newfoundland and Labrador was suppressed due to under-reporting of epidural use.

Data represents the province or territory the patient was from (excluding non-residents of Canada).

I represents the 95% confidence interval.

The grey line is the 2006–2007 Canadian rate; the black line is the 2010–2011 Canadian rate.

**Coverage issues:**

One acute care facility in Alberta did not submit three periods of data to CIHI in 2006–2007.

Two small acute care facilities in Ontario did not submit data to CIHI in 2010–2011.

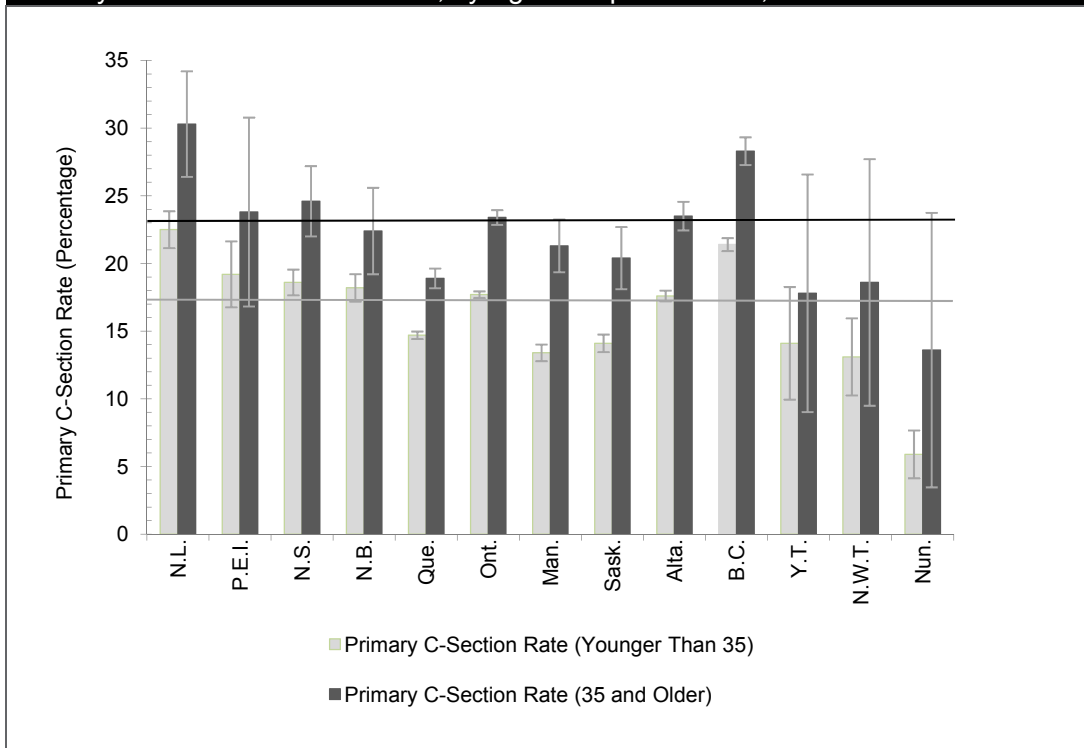
**Sources**

Discharge Abstract Database and Hospital Morbidity Database, Canadian Institute for Health Information; Fichier des hospitalisations MED-ÉCHO, ministère de la Santé et des Services sociaux du Québec.



# Highlights

**Figure 5:**  
**Primary Caesarean Section Rates, by Age Group in Canada, 2010–2011**



**Notes**

Data represents the province or territory the patient was from (excluding non-residents of Canada).

I represents the 95% confidence interval.

The solid grey line is the Canadian primary C-section rate for women younger than age 35; the solid black line is the Canadian primary C-section rate for women age 35 and older.

**Coverage issues:**

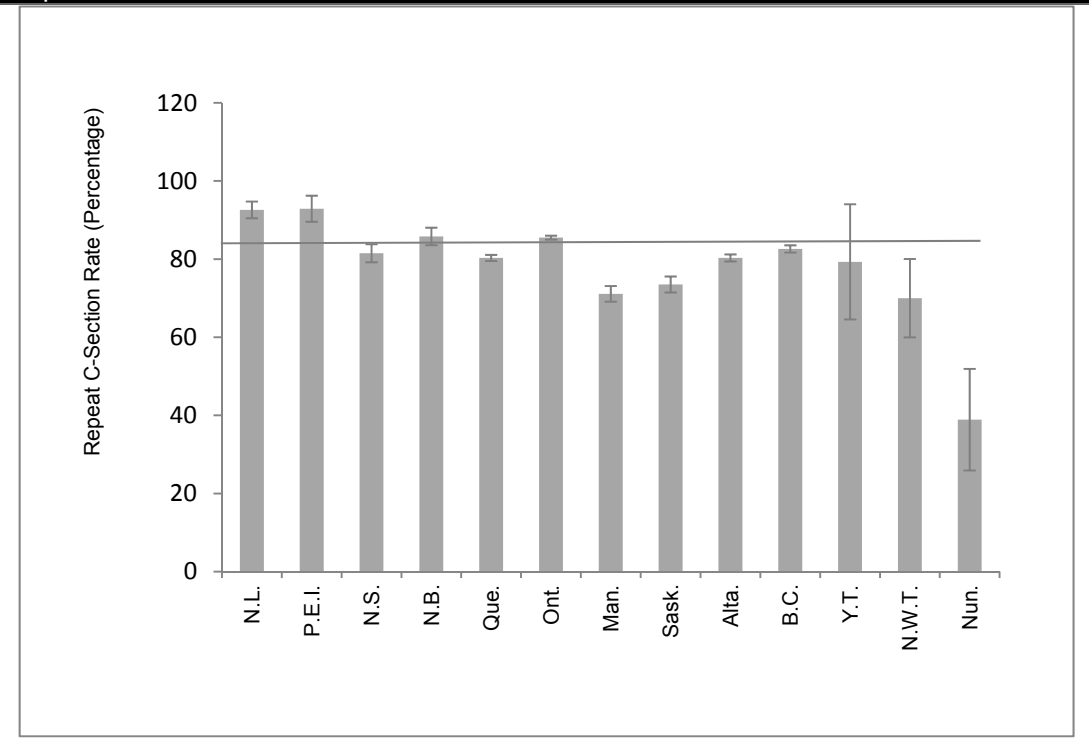
Two small acute care facilities in Ontario did not submit data to CIHI in 2010–2011.

**Source**

Hospital Morbidity Database, Canadian Institute for Health Information.

# Highlights

Figure 6:  
Repeat Caesarean Section Rate in Canada, 2010–2011



**Notes**

Data represents the province or territory the patient was from (excluding non-residents of Canada).

I represents the 95% confidence interval.

The solid grey line is the Canadian repeat C-section rate for all ages.

**Coverage issues:**

Two small acute care facilities in Ontario did not submit data to CIHI in 2010–2011.

**Source**

Hospital Morbidity Database, Canadian Institute for Health Information.