Hospital Births in Canada: A Focus on Women Living in Rural and Remote Areas

Executive Summary

Types of Care

Canadian Institute for Health Information
Institut canadien d'information sur la santé

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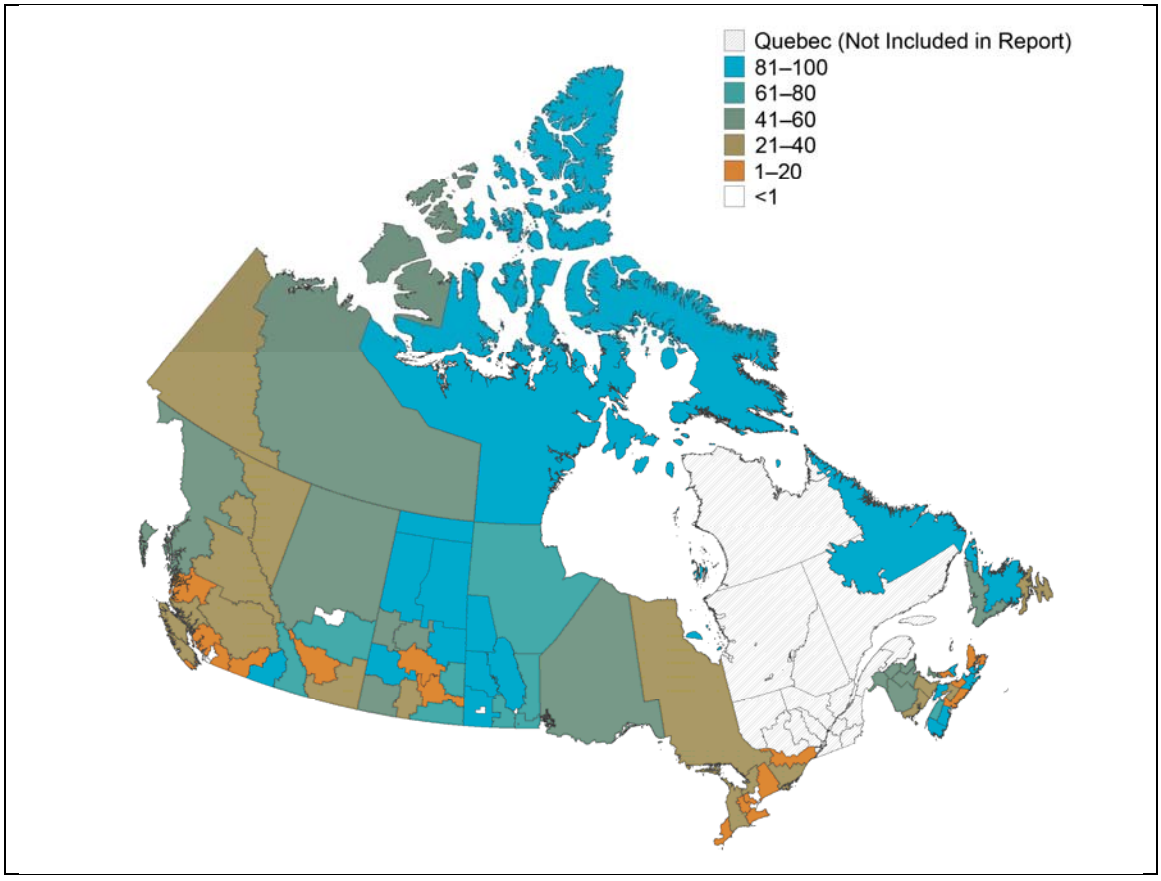
Executive Summary

Ensuring the adequacy of services for pregnant women who live in Canada's rural and remote areas can be a challenge for health planners. Communities with few births may not be able to support the array of complex care required by mothers and their newborns. Pregnant women in such communities often face the prospect of travelling great distances to deliver, especially if identified risk factors suggest they will need intervention by a specialist. This report provides information about the delivery experience and birth outcomes of women from rural and remote areas who gave birth in hospitals across Canada over a five-year period. The purpose of the report is to assist health care decision-makers as they plan services for women and newborns in their health regions and jurisdictions.

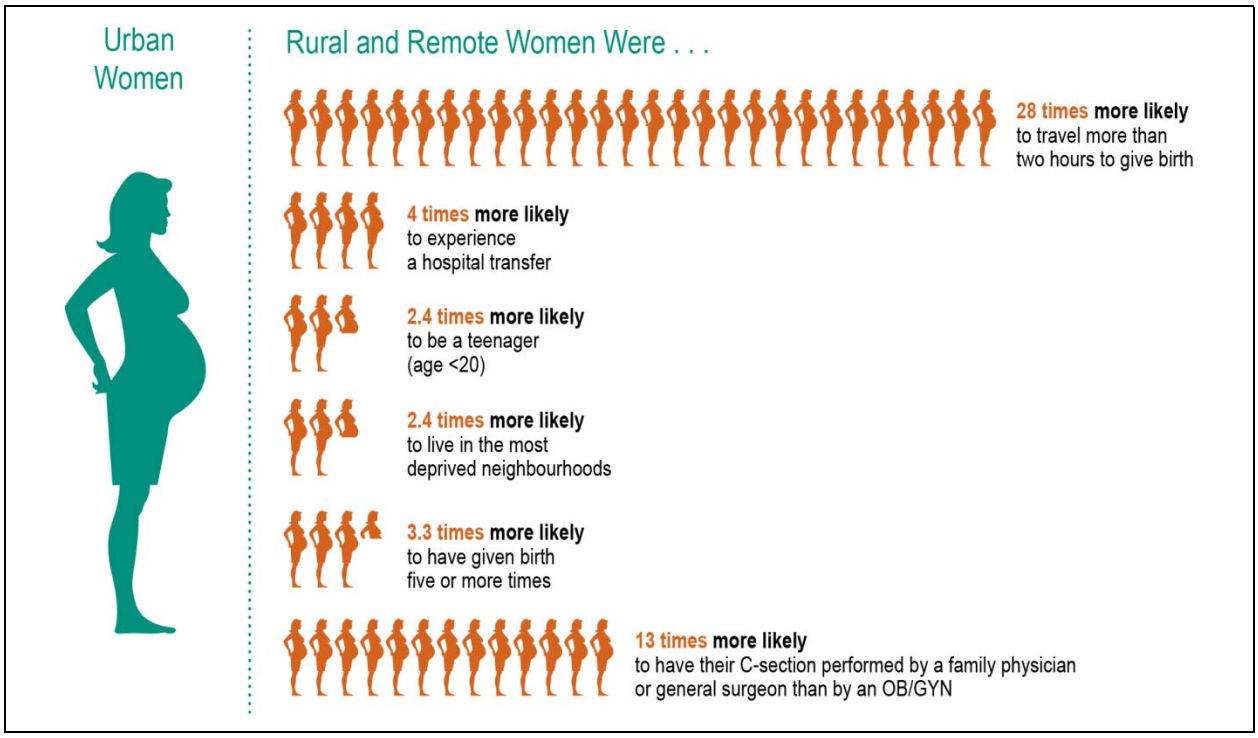
From 2007–2008 to 2011–2012, there were 242,550 in-hospital deliveries for women from rural areas in Canada (excluding Quebec), representing 18% of all hospital deliveries. However, in many of Canada's health regions, especially those in the Far North, the majority of deliveries were for women living in rural and remote areas. The following findings are based on the linkage of hospital records of mothers to those of their live births for the five-year period 2007–2008 to 2011–2012 (excluding Quebec).

Deliveries for Rural Women as a Percentage of All Deliveries, by Health Region, Selected Provinces/Territories, 2007–2008 to 2011–2012



Source
Discharge Abstract Database, 2007–2008 to 2011–2012, Canadian Institute for Health Information.

A Comparison of Urban and Rural Women on Selected Experiences and Characteristics, Selected Provinces/Territories, 2007–2008 to 2011–2012



Source
Discharge Abstract Database, 2007–2008 to 2011–2012, Canadian Institute for Health Information.

The Birth Experience

The intrapartum experience of rural women was quite distinct from that of their urban counterparts—rural women were more likely to have lengthy travel times to give birth, to experience a hospital transfer and to have their birth attended by a family physician rather than an obstetrician/gynecologist. The majority (67%) of rural women gave birth in urban hospitals, and 17% travelled more than two hours to deliver their baby.

Maternal Characteristics

Women living in rural areas had certain characteristics that placed them at increased risk of poor maternal and infant birth outcomes, such as relatively high rates of teen births and living in socio-economically disadvantaged neighbourhoods. However, from a pan-Canadian perspective, rural women had a risk profile similar to that of urban women in terms of the prevalence of diabetes and hypertension, either pre-existing or gestational.

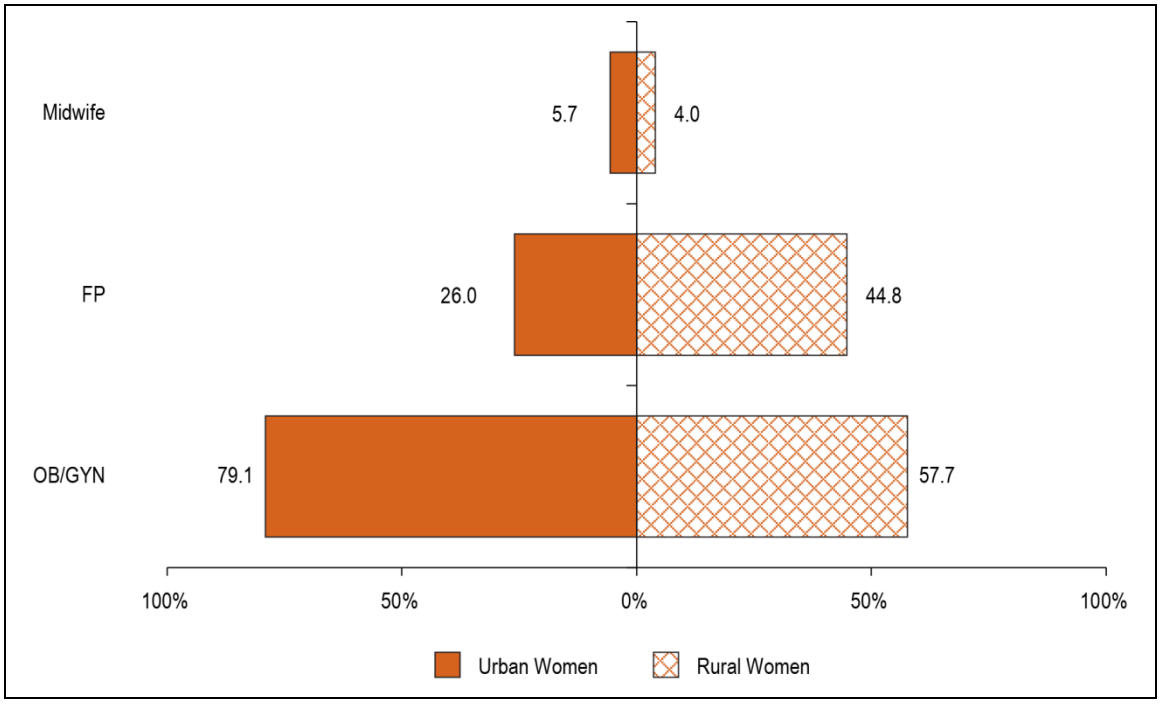
Mode of Delivery

Women from rural areas were less likely than those from urban areas to have a Caesarean section (25.6% versus 28.6%) or assisted vaginal birth (8.6% versus 10.6%), and they were more likely to have a spontaneous vaginal birth (65.8% versus 60.8%).

Providers

Deliveries for rural women were more likely than deliveries for urban women to be attended by a family physician (44.8% versus 26.0%) and less likely to be attended by an obstetrician/gynecologist (57.7% versus 79.1%) or midwife (4.0% versus 5.7%).[i] Among women with a Caesarean section, rural women were less likely than urban women to have their birth attended by an obstetrician/gynecologist (75.8% versus 97.7%).

Percentage of Deliveries for Urban and Rural Women, by Type of Provider Attending, Selected Provinces/Territories, 2007–2008 to 2011–2012



Notes
FP: family physician.
OB/GYN: obstetrician/gynecologist.
Attending provider types sum to greater than 100.0% because a delivery may be attended by more than one type of provider.
Source
Discharge Abstract Database, 2007–2008 to 2011–2012, Canadian Institute for Health Information.

Maternal and Infant Outcomes

After controlling for socio-demographic characteristics, comorbidity and aspects of the delivery, the study found that

- While relatively rare in Canada, severe maternal morbidity was a somewhat more common occurrence for rural women than for urban women (2.4% versus 1.7%; odds ratio [OR] 1.4; 95% confidence interval [CI] 1.3 to 1.4). Similarly, unplanned hospital readmissions were rare, affecting 1.2% of urban women and 1.4% of rural women (1.4% versus 1.2%; OR 1.2; 95% CI 1.1 to 1.2).

i. Percentages in this section sum to more than 100% because births may be attended by more than one type of provider.

- Newborns born to women living in rural areas were more likely to be large for gestational age (12.5% versus 9.4%; OR 1.4; 95% CI 1.4 to 1.4) but were less likely to be small for gestational age (8.2% versus 10.3%; OR 0.7; 95% CI 0.7 to 0.7) or preterm (7.6% versus 8.1%; OR 0.9; 95% CI 0.9 to 1.0).

There was significant variation in these delivery and birth outcomes among rural health regions, with some regions doing significantly better and others significantly worse; few clear regional patterns emerged.

Travel time to delivery beyond two hours was associated with higher rates of preterm and large for gestational age births among rural women. This could reflect success in referring high-risk pregnancies from rural and remote areas to distant specialized care. It could also indicate that lengthy travel times to delivery are a risk to pregnancies. The data available for this report cannot distinguish between these potential explanations.

Rural women who delivered in urban hospitals had markedly higher rates of preterm birth than those delivering in rural hospitals (9.7% versus 3.1%). This could potentially be due to effective triaging of women at high risk of this outcome. However, this data cannot be used to explain the observed differences.

Conclusions

From a pan-Canadian perspective, small but significant differences in birth outcomes of rural and urban women were evident from 2007–2008 to 2011–2012, with some outcomes better for urban women and babies and some outcomes better for rural women and babies. During this period, rural women's birth experiences were quite distinct from those of their urban counterparts; for example, they were more likely to have lengthy travel times to deliver and were more likely to have intrapartum care provided by a family physician rather than an obstetrician. There was significant variation in maternal and infant outcomes among rural women across Canada's health regions. Information from the administrative data used in this report cannot fully explain this variation. The report's findings can be used by health planners to further explore their outcomes, taking into account regional differences in systems of care.

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