

Using Canadian data linkage to investigate the socioeconomic patterning of hospital burden for childbirth

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Objectives

Birth and delivery in hospital is one of the most common medical procedures in Canadian hospitals, and can be used to assess equity in the delivery of health care. This study investigates the association between socioeconomic status and hospital burden for childbirth using linked Canadian survey and administrative databases, accounting for a wide array of other individual and health-care related characteristics.

Approach

A population-based record linkage between national health survey data and the Canadian Discharge Abstract Database (a census of all Canadian hospital separations) allowed the tracking of hospital utilization between 2005 and 2009 for which individual-level socioeconomic and demographic factors were also available. Length of stay for delivery, risk of pre-delivery hospitalization within 30 days of admission for delivery, and risk of maternal readmission within 30 days of discharge for delivery were the three measures of hospital utilization modeled.

Results

Complete information for 7,163 deliveries of 5,568 women was available and used in the models of length of stay and risk of maternal admission pre- and post-delivery. In fully adjusted models, predicted length of stay was graded by household income with longest stays for lowest income women (2.79 days, 95% CI 2.61-2.92), followed by middle income women (2.63 days, 95% CI 2.50-2.76) and high income women (2.56 days, 95% CI 2.49-2.63). Factors intrinsic to routine hospital care and protocol such as province and vaginal versus Cesarean section delivery were stronger predictors of length of stay than income. Additionally, Aboriginal status, compounded with residing in a rural

setting was associated with higher predicted probability of maternal readmission.

Conclusions

Low income women have marginally longer stays in hospital following birth events than do middle and high-income women in Canada that persist after adjustment for strong drivers of length of stay (parity and birth mode). While this may suggest that more complicated cases are benefiting from longer stays in hospital, it provokes the question as to whether there may be additional reductions in length of stay that could be achieved through resource redistribution to the prenatal period. Overall, the results suggest that equity goals of the Canadian health care system are being achieved for birth-related hospitalizations, and the availability of these linked data will be key for further comprehensive evaluation of population health status.

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