

# An evaluation of geographic and socioeconomic factors affecting the delivery of bariatric surgery in Canada

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## Background

In universal healthcare systems, the delivery of care should be driven by need. However, other factors, such as proximity to local facilities or neighbourhood socioeconomic status, may be more important. The objective of this study was to evaluate what geographic and socioeconomic factors affect the delivery of bariatric care in Canada.

## Methods

This was a national retrospective cohort study of all adult patients undergoing bariatric surgery from April 2008 until March 2015 in Canada (excluding Quebec). The main outcome of interest in this study was neighbourhood rate of bariatric surgery per 1000 individuals with obesity (BMI > 30). A geographic cluster analysis and multilevel ordinal logistic regression were used to identify high use clusters and evaluate the effect of geographic and socioeconomic factors on care delivery.

## Results

Having a bariatric facility within the same public health unit as the neighbourhood was associated with a 6.6 times higher odds of being in a bariatric high use cluster (95%CI 1.9-22.9 p=0.003). This finding was

consistent across provinces after adjusting for utilization rates. Additionally, neighbourhoods closer to bariatric centers and those with higher obesity rates were also more likely to be within high use clusters. After adjustment, rurality and socioeconomic status were not significantly associated with high use status.

### **Conclusion**

In this study across high and low utilization provincial healthcare systems, the delivery of care was driven by the presence of local facilities and neighbourhood obesity rates. In addition, increasing distance to bariatric centers substantially impacted care delivery at distances as low as 50 km.