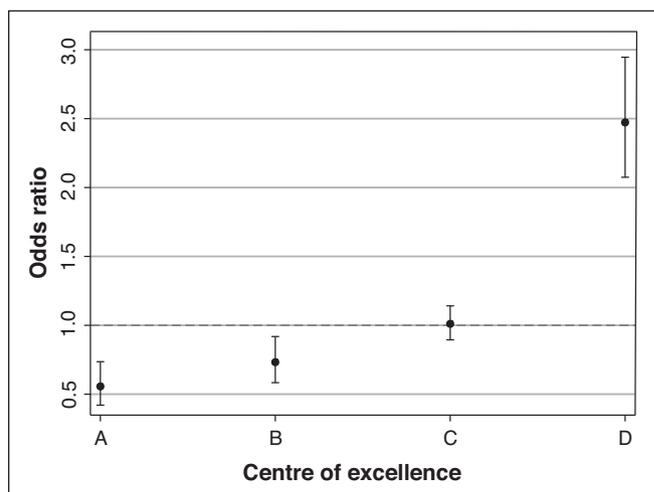


## HIGHLIGHTS

### Outcomes of bariatric surgery

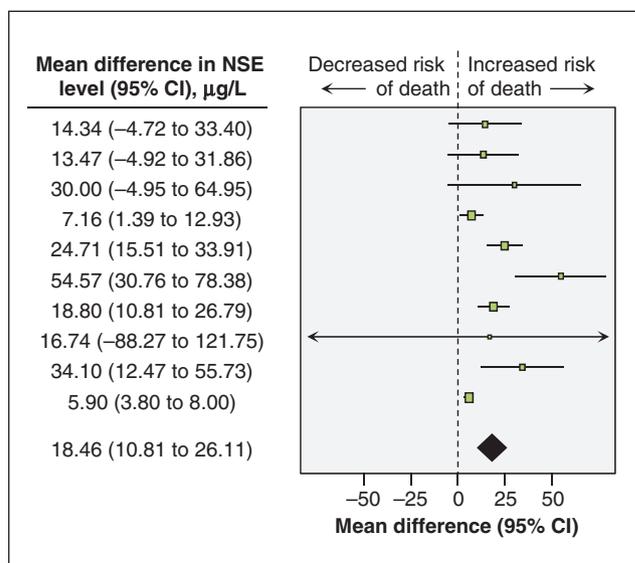
Bariatric surgery centres of excellence are relatively new in Canada and were first started in Ontario in 2009. How do short-term outcomes in Canada's largest regional bariatric surgery program compare with those of other international centres? This cohort study included all adult patients who received a Roux-en-Y gastric bypass ( $n = 4591$ ) or sleeve gastrectomy ( $n = 416$ ) in the 4 centres of excellence in Ontario from 2009 to 2012. Most participants were female (81.9%), and mean age was 44.6 years. Over the 3-year study period, the overall complication rate was 11.7% (95% confidence interval [CI] 10.8%–12.6%), with rates of reoperation 4.6% (95% CI 4.0%–5.2%), anastomotic leak 0.84% (95% CI 0.61%–1.13%) and death 0.16% (95% CI 0.07%–0.31%). Risk factors for overall complications included male sex and chronic kidney disease. Odds ratios varied among the 4 centres, with a fivefold difference between the lowest and highest performing centres (Figure 1). The authors conclude that short-term outcomes of bariatric surgery in Ontario appear comparable to those of other major centres and are improving over time. However, further studies are needed to explore the cause of variation between centres. *CMAJ Open* 2016;4:E383-89.



**Figure 1:** Adjusted odds ratios comparing overall complications of bariatric centres of excellence to the mean overall complication rate. Results adjusted for sex, age, procedure, diabetes, renal failure, hyperlipidemia, obstructed sleep apnea, coronary artery disease, chronic obstructive pulmonary disease, gastroesophageal reflux and osteoarthritis.

### Predictive value of neuron-specific enolase for prognosis in traumatic brain injury

Prognosis is difficult to establish early after moderate or severe traumatic brain injury, despite representing a concern for patients, families and medical teams. Biomarkers, such as neuron-specific enolase (NSE), have been proposed as potential early prognostic indicators. This systematic review and meta-analysis of observational studies ( $n = 29$ ) and randomized controlled trials ( $n = 1$ ) evaluated the prognostic value of NSE to predict mortality or Glasgow Outcome Scale score in patients with moderate or severe traumatic brain injury. Appropriate adjustment for confounding factors was lacking in most included studies, and the summary effect measures were marked by considerable heterogeneity. In patients with moderate or severe traumatic brain injury, increased NSE serum levels were associated with unfavourable outcomes, with a significant positive association between enolase levels and mortality (10 studies,  $n = 474$ ; mean difference [MD] 18.46  $\mu\text{g/L}$ , 95% confidence interval [CI] 10.81–26.11) (Figure 2) and Glasgow Outcome Scale score  $\leq 3$  (14 studies,  $n = 603$ ; MD 17.25  $\mu\text{g/L}$ , 95% CI 11.42–23.07). However, the authors were unable to determine a clinical threshold value with the available patient data. They conclude that the optimal NSE threshold value to predict unfavourable prognosis remains unknown, and enolase levels should not be used in clinical decision-making. *CMAJ Open* 2016;4:E371-82.



**Figure 2:** Mean differences of neuron-specific enolase (NSE) blood levels in patients with moderate or severe traumatic brain injury, by mortality. A mean difference above zero indicates an increased risk of death. CI = confidence interval.