

ECONOMIC IMPACT OF BARIATRIC SURGERY IN AUSTRALIA: A LONGITUDINAL DATA LINKAGE STUDY OF ADULTS AGED 45 YEARS AND OLDER

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INTRODUCTION

- Obesity (defined as a body mass index $\geq 30\text{kg/m}^2$) brings health concerns as well as economic burden.
- Bariatric (weight loss) surgery is considered the most clinically efficacious intervention for severe and resistant obesity.^[1]
- The demand of bariatric surgery is increasing, and has outstripped the supply in many countries.^[2]
- Previous economic evaluation of bariatric surgery are based on limited sample sizes, short-term costs and did not consider full range of costs (e.g., indirect costs).^[3]

AIMS

- To identify the long-term economic impacts of bariatric surgery compared with a matched control group.
- To examine the impact of indirect costs on economic value of bariatric surgery.

METHODS

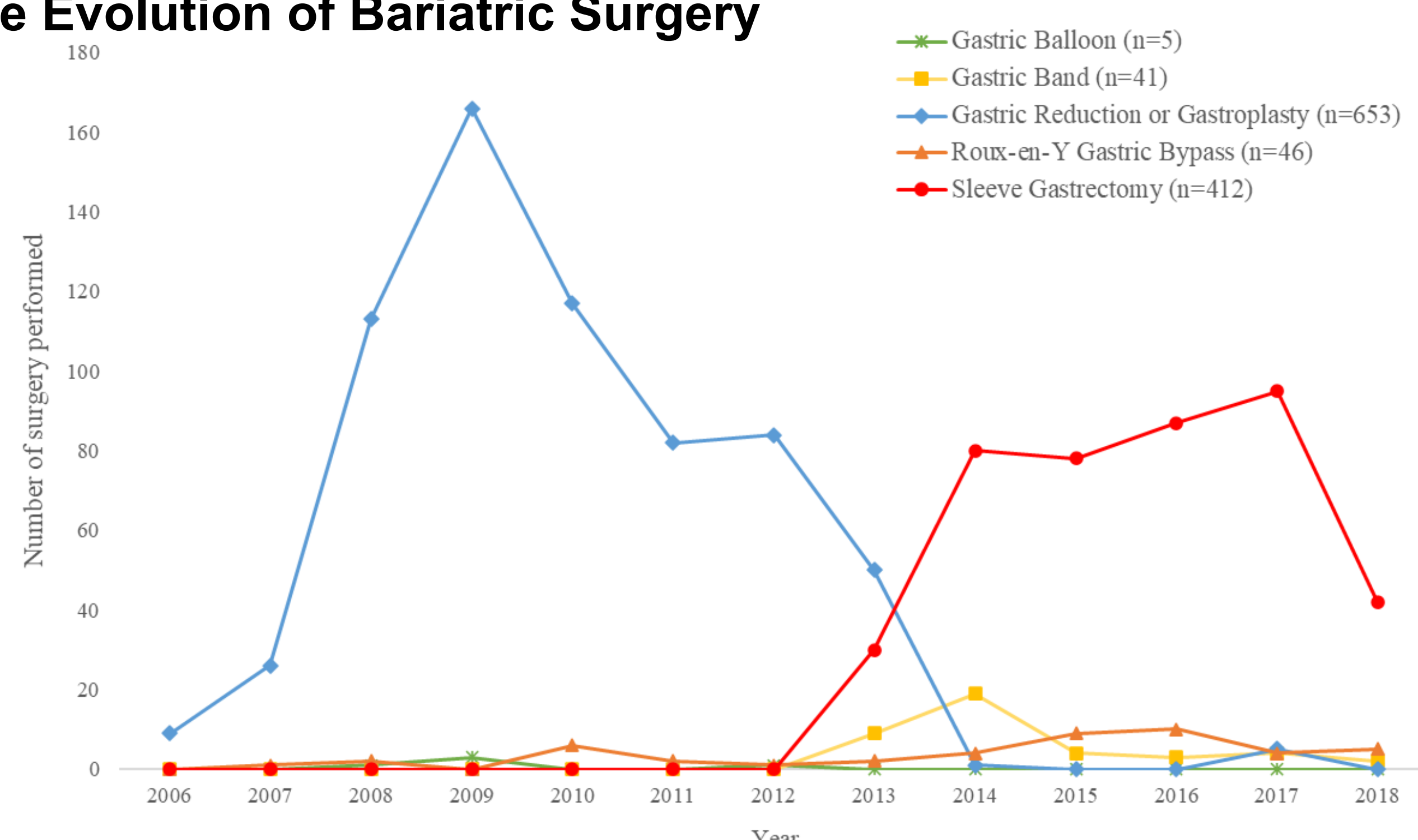
- **Data sources:** 45 and Up Study (baseline and follow-up surveys) and linked state and national administrative health datasets.
- **Participants:** 1,157 operated and 1,157 non-operated patients.
- **Primary outcome** – average annual (direct medical) cost per patient.
- **Cost analysis:**
 - ⇒ Linear mixed-effects (LME) regression to predict the cost trajectory 8 years before and 8 years after surgery.
 - ⇒ Difference-in-differences (DID) approach to evaluate the economic impact of bariatric surgery.
 - ⇒ Subgroup analysis were performed to investigate the impact of surgery type.
 - ⇒ Sensitivity analyses were performed to investigate the impact of including an approximation of indirect costs.

RESULTS

Participants' characteristics

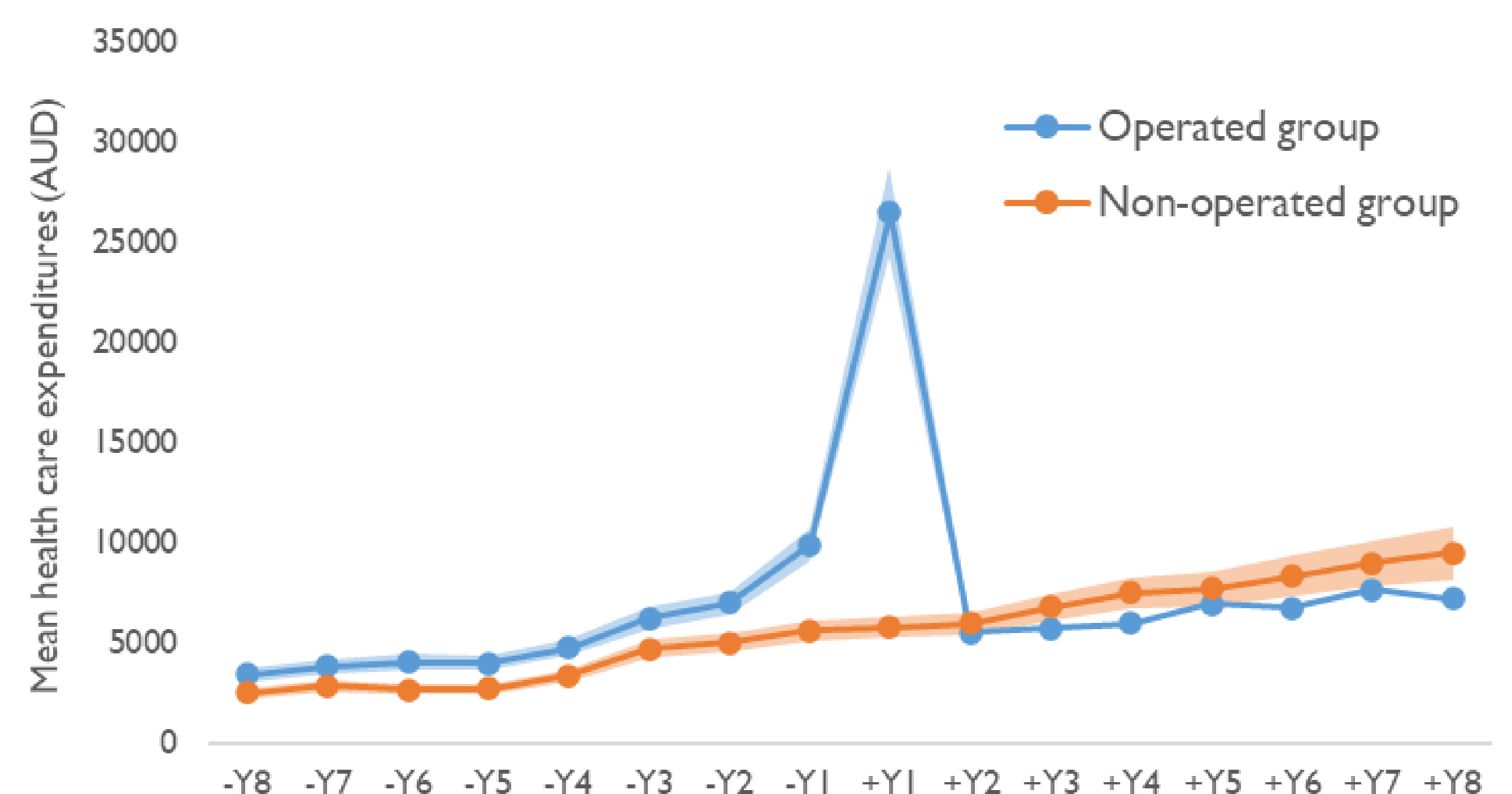
- The average age of the included participants was 58.1 years, ranging from 45.2 to 78.1. Female was predominant.
- More than 2/3 of participants lived in middle- to most-disadvantaged area. Most participants held the private health insurance.

The Evolution of Bariatric Surgery



Cost trajectory:

- ⇒ The costs in both groups increased over time.
- ⇒ The costs in the operated group additionally showed a large peak during the surgery year, and were then slightly but non-significantly higher than those of the non-operated group from the second year post surgery.
- ⇒ After including estimated indirect costs in sensitivity analyses, the costs for the operated group were lower than the non-operated group from the second year after surgery.



DID analysis:

- ⇒ DID results for Sensitivity analyses showed that, after the inclusion of indirect costs, cost savings were achieved in each year post surgery.
- ⇒ When a longer horizon was considered, economic benefits of bariatric surgery increase.

Cumulative cost:

- ⇒ Cost-saving in terms of the cumulative costs was not yet achieved even after considering the indirect cost during the study period.

Subgroup analysis:

- ⇒ SG is the best value for money option compared to other surgery types.
- ⇒ Cost savings in terms of cumulative cost was not achieved in SG

CONCLUSION

The economic value of bariatric surgery lies in the long-term benefits post-surgery, especially assessing from a societal perspective. Longer-term cost assessments that cover the full spectrum of obesity management costs are needed to capture the true economic impact of bariatric surgery.

REFERENCES

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