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**Title:** Social determinants of access to timely elective surgery in Ontario, Canada: a cross-sectional population level study

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**Reviewer 1:** Dr. Erica Lester

**Institution:** Faculty of Medicine and Dentistry, University of Alberta

General comments (author response in bold)

Excellent analysis. Authors have considered collinearity of covariates and other pit falls. A few minor points:

1. Can they include statements regarding the procedures? The link between QoL and these? I don't disagree intuitively that it makes sense, however I'm a surgeon so my understanding is different. Many people with severely symptomatic hernias are classified as urgent (depending on the definition used here?) and others opt to undergo repair of asymptomatic hernias for cosmetic reasons.

**We added a statement in the Methods (Outcome and Exposure) that "In general, these procedures are performed to improve quality of life." And that we excluded urgent operations (e.g., for hernias with emergency or urgent complications: "We excluded procedures that were classified as having a higher degree of urgency."** (Page 4; line 3-7 and line 12-13)

2. Why are DAs organized into quintiles? It seems they can be ranked ordered, which in essence could be used as a continuous variable and an association be found (with minor modeling adjustments). I note you do mention concept in the discussion regarding the wait time, which I also wondered about in reading this. A patient that waits one day over target, or one day under, is not that different. However, this is minor overall, given you are really at the population level here.

**DA-level groups were organized into quintiles for ease of analysis, and interpretability of the findings.**

3. Finally, geographically: are these patients all having surgeries at local hospitals? Or are some being transferred to larger centers? Evidently, there is likely an association between that occurrence and the comorbidity score. That certainly does impact wait times overall in other places: if you are well enough to be operated on in a smaller center with no ICU or other complex support, that will alter your wait time.

**It was beyond the scope of this current research to distinguish whether patients were treated locally or transferred to larger centres due to complexity. This is a limitation of the analysis. We added a sentence to the Study Setting: Patients can receive surgery at smaller hospitals or large referral centres.** (Page 2; line 33)

4. Finally, A few of the statements in the discussion/conclusion are confusing. Are you stating this is a significant finding, or a relatively small one? I understand overall, but it just seems inconsistent.

**We tried to clarify that the result was statistically significant but small in the first paragraph of the Interpretation section.** (Page 9; line 20-21)

Overall, no major concerns, and while it is long (and the results section is quite dense), this is certainly near publishable in its current form with very minor adjustments. Well done.

**Reviewer 2:** Dr. Fady Balaa

**Institution:** University of Ottawa

General comments (author response in bold)

Thank you for the opportunity to review this manuscript by Dr de Jager that furthers our understanding on the interplay between social determinants and access to surgical care in the province of Ontario. This work is high quality, significant, and timely as we grapple with healthcare reform, and surgical wait times in Ontario.

The authors main conclusion " we found marginalization had a limited and inconsistent impact on the risk of receiving care within surgical wait time targets for patients in Ontario", reminds us of the important advantages around health equity in a single payer system. This is particularly relevant as the government of Ontario currently explores shifting segments of surgical care into for-profit models. A few minor suggestions:

1. Could the authors further elaborate on how they decided on these specific 7 procedures, and whether these procedures alone can be relied on as index measure of performance of a surgical system. would we expect the results to be different for different priorities (i.e., P2)? or different indications including malignancy (i.e., Cancer Care Ontario P3 cases)?

**Added to "Outcome and Exposure":**

**We chose these procedures because they were among the most common elective surgical procedures done in Ontario and were not highly time-sensitive interventions like emergency surgery, cancer surgery, or cardiac procedures; long wait times are common for these procedures and non-clinical determinants of access are arguably more influential for these procedures**

**We excluded urgent (priority 1 and 2 procedures), so we don't know whether they would have had similar effects. However, we hypothesize that any differences would likely be smaller, due to the higher acuity of these situations. (Page 4; line 3-7)**

2. While this was not main intent of the study, could the authors further elaborate on the regional variation observed, Toronto vs remainder of Ontario. Are there geographic trends in social and economic marginalization across the province? Is there a disproportionate surgical supply in Toronto per capita compared to rest of the province?

**We added a sentence to the first paragraph of the Interpretation:**

**Geographic disparities in wait time were consistently found across all seven procedures, with patients from regions outside Toronto having a significantly higher probability of exceeding target wait times. These findings could be explained by differences in resource distribution access geographic regions in Ontario. (Page 9; line 16-20)**