PRIORITIZING CATARACT PATIENTS POST COVID-19:
USING PATIENT-REPORTED MEASURES TO RAPIDLY TRIAGE SURGICAL PATIENTS

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INTRODUCTION

- Cataract surgery wait times in Canada are significantly prolonged, an ongoing issue that has been further exacerbated by delayed and cancelled operations due to COVID-19.[1,2]
- With no current standardized tool or policy to assess prioritization for non-urgent cataract surgery, cases are booked on a 'first-come, first-served' basis.[3] The ranking of patients with this existing method results in inequitable access to care, as there are patients with significant visual disability waiting just as long, if not longer, than a patient whose cataract has minimal impact on their daily life.[1]
- The Catquest-9SF questionnaire is a 9-item validated tool that has been used in multiple countries worldwide to measure and predict change in patient-reported visual function before and after cataract surgery.[4]
- To ensure that cataract patients with significant visual impairment are receiving timely access to surgery during and post COVID-19, this study aims to rapidly prioritize patients virtually in a standardized way, based on quality of life metrics.

OBJECTIVES

1. Demonstrate that an abridged 3-item version of the Catquest-9SF questionnaire can successfully stratify patients on a cataract surgery wait list.
2. Evaluate sensitivity of the abridged questionnaire responsiveness by comparing improvements in questionnaire score at varying parts of the list.
3. Explore potential strategies to best prioritize cataract surgery patients by modelling various weighting strategies for the questionnaire responses and how to best utilize pre-operative visual acuity in ranking patients.

METHODS

- A 3-item version of Catquest-9SF was developed by selecting questions with the highest precision, greatest impact on quality of life and functioning, and a wide distribution along the range of levels of difficulty.[5]
- Our 3-item questionnaire was prospectively administered via phone to 184 patients pre-operatively and 3 months post-operatively in Ontario from July 2020-March 2021.
- Based on the patients' pre-operative Catquest scores, a new rank order of the surgery waitlist was created to conduct analysis.
  - Using a Wilcoxon Signed-Rank test, we compared this new ranked list to the original first-come-first-serve waitlist pre-prioritization.
  - A paired t-test was used to analyze patients' change in visual function scores before and after surgery.
  - Spearman correlation coefficients were used to assess the relationship between rank order and score changes post-surgery for each list.
- To further analyze how to best optimize waitlist order, we will incorporate pre-operative visual acuity and model various weighting schemes for the questionnaire responses.

RESULTS

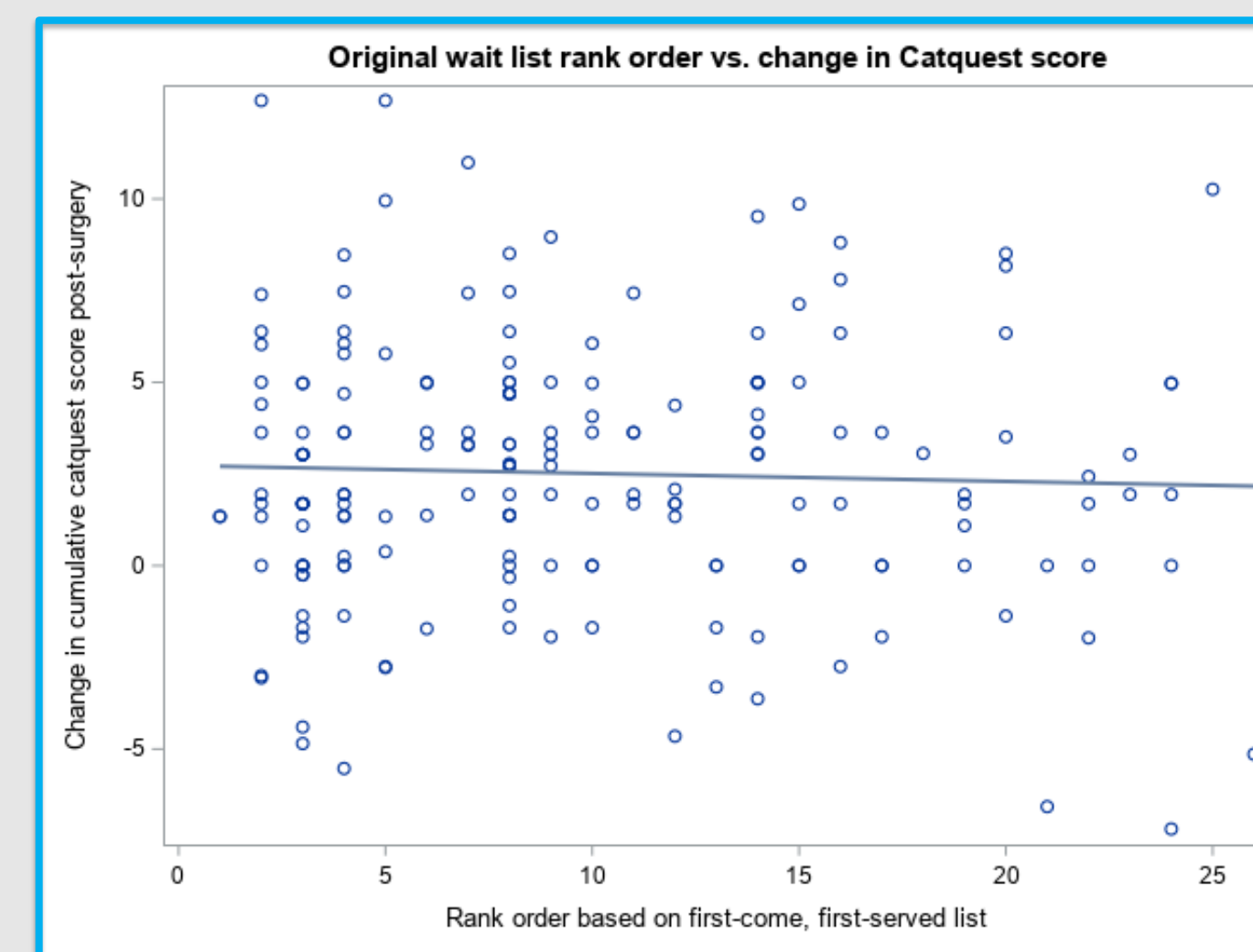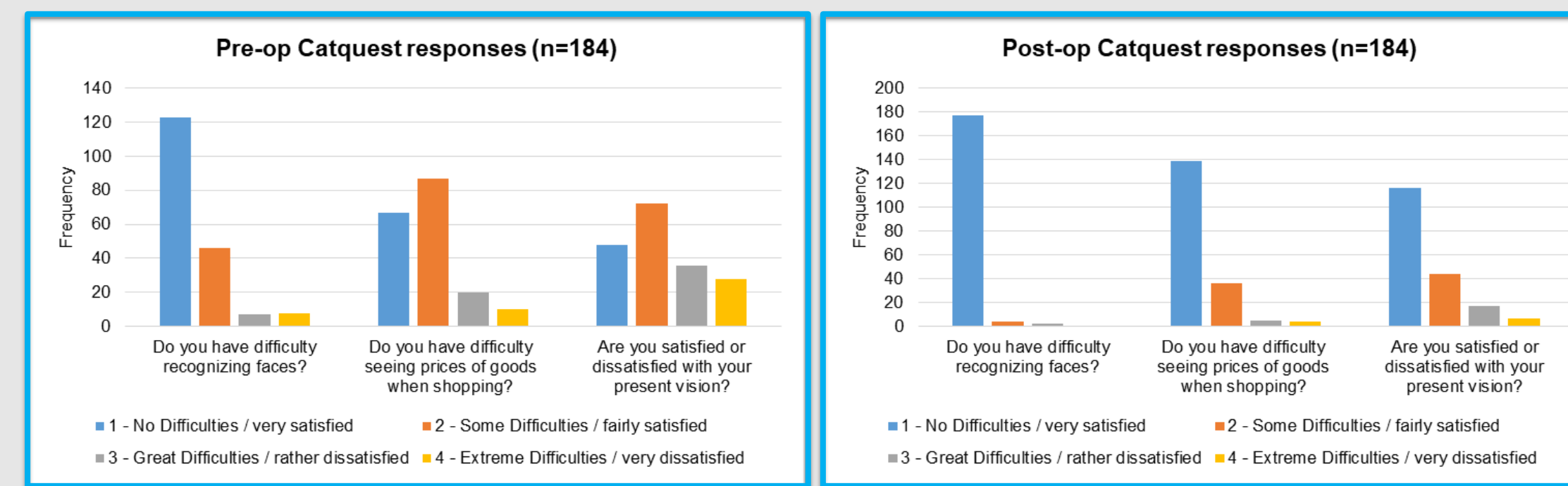**Figures 1 and 2:** Pre- and post-operative responses to 3-item abridged Catquest-9SF.

Figure 3: Rank order of first-come, first-served list vs. change in cumulative questionnaire score post-surgery (Spearman r=0.03, P=0.76; blue line depicts trend line).
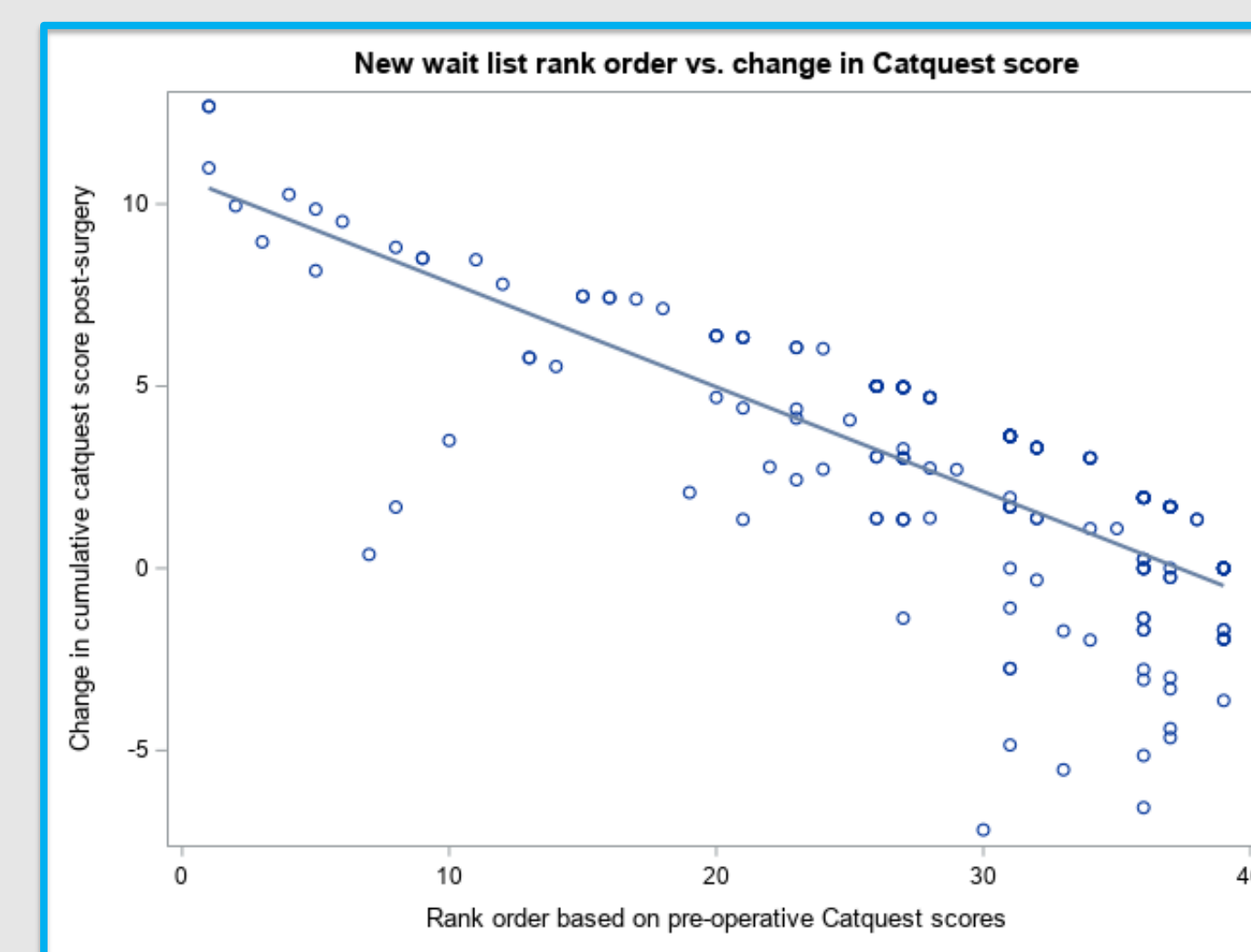

Figure 4: Rank order of the new prioritized list vs. change in cumulative questionnaire score post-surgery (Spearman r=-0.78, P<0.00001; blue line depicts trend line).

MAIN FINDINGS

- The incorporation of quality of life metrics into waitlist development significantly changed the rank order of patients from the current standard (p<0.0001).
- There was a strong correlation (r=-0.78,p<0.0001) between rank order and improvement in visual function for the new list and a weak correlation (r=-0.03,p=0.76) with the standard first-come, first-served list. Patients who ranked higher on our new list showed a greater improvement in their cumulative questionnaire score post-surgery than those who ranked lower on the list.

CONCLUSION & NEXT STEPS

- In contrast to the status quo, our rapid virtual questionnaire effectively prioritizes patients who would benefit most from cataract surgery.
- By prioritizing the needs of those patients whose quality of life is most threatened by their ophthalmologic condition, our proposed method can help ensure timely and equitable access to care. With only 3 items, this questionnaire is quite efficient and easy to implement in practice, to quickly triage patients from surgical backlogs post-COVID-19.
- Next steps for this project will involve utilizing pre-operative visual acuity to model various weighting strategies for the questionnaire responses using both patient-reported and clinical measures.

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