

A Retrospective Population-Based Analysis of Wait Times for Cataract Surgery in Ontario



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Introduction

- Cataract surgery is one the most commonly performed surgeries in Canada
- An examination of surgical wait time (WT) metrics is necessary to inform public policy
- Two separate WTs are typically reported: the time from initial referral to the first appointment with an ophthalmologist (i.e., wait time 1 [WT1]), and the time from the diagnosis of a visually significant cataract to cataract surgery (i.e., wait time 2 [WT2])
- Most cataract patients in Ontario have a target wait time of 182 days for WT1 and WT2
- Long WTs have been associated with substantial visual loss and impact on quality of life
- Currently published WTs are self-reported by surgeons
- We hypothesize that WTs are overestimated or underestimated relative to true WTs depending on the surgeon or institution
- An independent and data-driven process of reporting cataract surgery WTs in Ontario is needed
- This population-based study aims to evaluate the feasibility and potential issues of WT estimation via provider billing codes
- We aim to report the WTs with the application of this method, as well as the proportion of patients reaching WT targets set by the provincial government

Methods

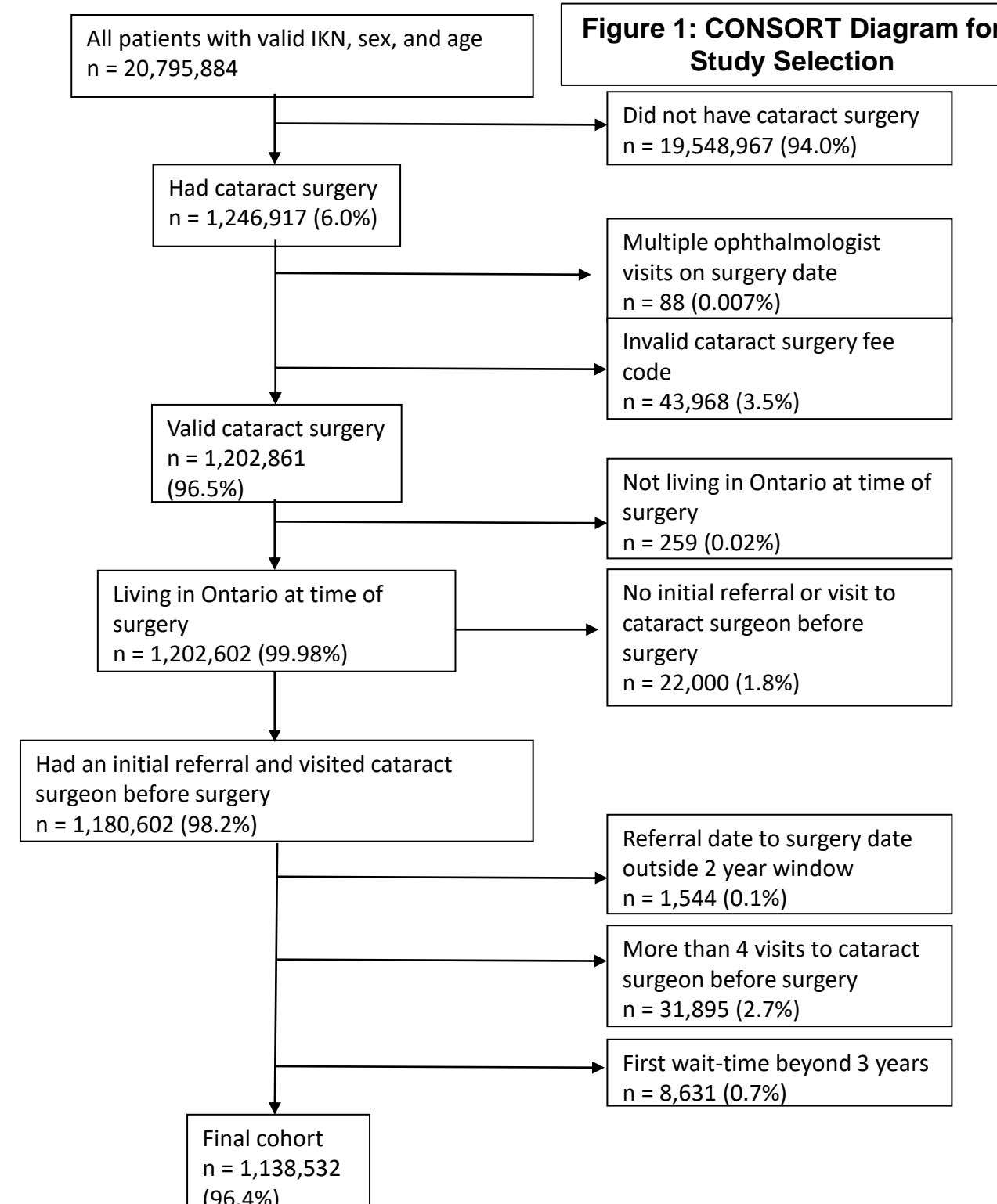
- Design:** Retrospective, population-based study
- Subjects:** Using the OHIP database, all individuals who had cataract surgery between January 1st, 2005, and December 31st, 2019 that were aged 18 and older were considered for enrollment
- Wait time definition:**
 - OHIP records were examined up to a maximum of 2 years prior to surgery date, and the second last visit to the cataract surgeon was defined as the date the decision for surgery was made. The second last visit to the surgeon was chosen as the start of WT2
 - If there was only one visit with the cataract surgeon within the 2-year lookback window, then that visit was used
 - The number of days between the second last visit or only visit and the surgery date was defined as WT2
 - The number of days from referral to the first visit to the cataract surgeon after their referral, up to a maximum of 3 years, was defined as WT1

Methods

- Analyses:** In the primary analysis, a ranking method prioritized referrals from optometrists and then ophthalmologists over family physician referrals
- Two sensitivity analyses were conducted to evaluate WTs: 1. choosing the earliest (i.e. furthest from surgery date), and 2. the latest (i.e. closest to surgery date) potential referral from any source
- Descriptive statistics were used to report results

Results

- The study cohort consisted of 1,138,532 individuals. Most patients were female (57.4%) and aged 65 and older (79.0%)



Results

1) Wait Time 1

In the primary analysis, the median WT1 was 67 days (interquartile range [IQR] = 118). A total of 54.1%, 78.5% and 91.7% of patients waited less than 3, 6 and 12 months for WT1, respectively

2) Wait Time 2

There was a median WT2 of 77 days (IQR = 118). For WT2, 49.5%, 77.1% and 93.3% of patients waited less than 3, 6 and 12 months

3) Relation to Provincial Targets

19.3% of patients did not meet the provincial target time for WT1
20.5% did not meet the target for WT2

4) Figures 2 and 3

WT1 and WT2 for the main and sensitivity analyses

Figure 2: Wait Time 1 in the Primary Analysis

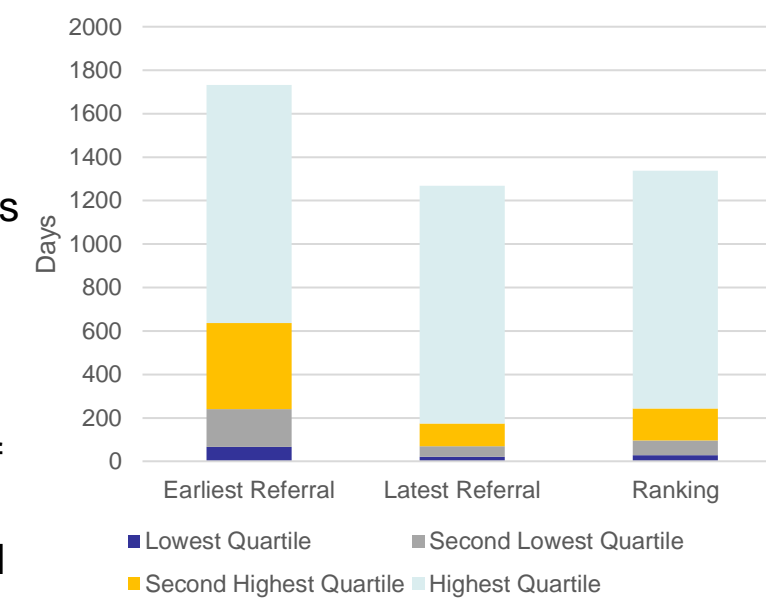
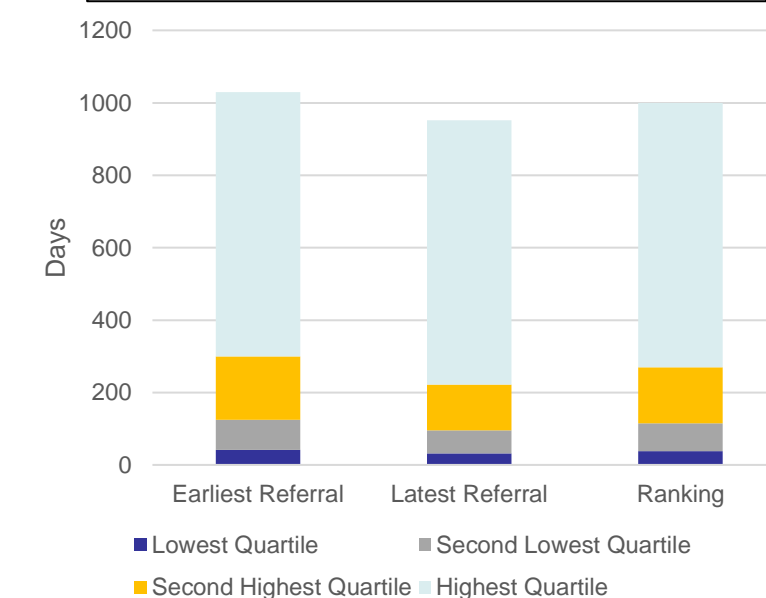


Figure 3: Wait Time 2 in the Primary Analysis



Conclusions

- The use of administrative health data to systematically calculate cataract surgery WTs represents a promising modality
- In our analysis, 35.0% of cataract surgery patients in 2005-2019 did not receive initial ophthalmic consultation or surgery within the WT target of 182 days when considering the ranking method
- The method provided allows for regions to be identified and prioritized for further government funding for cataract surgery based on high WTs
- These methods can be easily incorporated in the evaluation of WTs of other ambulatory surgeries