
Eye Care Utilization Trends in Ontario's Public Healthcare System: A 20-Year, Retrospective, Population-based Analysis

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Introduction: Eye-care utilization trends reflect a population's eye-care seeking behaviours, which is influenced by disease occurrence, health-insurance coverage, vision health-policy shifts, demographic changes, and other potential barriers. We investigated eye-care utilization trends among Ontarians to assess potential influencing factors.

Methods: Ontario population-based physician billing data from 1997-2019 were analyzed. Utilizing eye-related diagnostic codes, the annual number of eye-related visits (including revisits) and distinct eye patients (excluding revisits) per 100 population were determined. Stratified analyses were performed based on urban/rural residency, patient age, physician specialty, and visit-type (emergency/non-emergency, which was classified by if the visit occurred in an emergency-room).

Results: Between 1997-2019, the annual number of eye-related visits made per 100 Ontarians increased 29% (59.4 to 76.9) for non-emergency visits but decreased 21% (1.17 to 0.93) for emergency visits. The average annual number of visits per patient increased 63% (1.9 to 3.1) for non-emergency cases and remained unchanged (1.2) for emergency cases.

Excluding revisits, the annual number of individuals with an eye diagnosis per 100 population decreased 22% (from 32.0 to 25.1) for non-emergency cases and 20% (from 0.99 to 0.79) for emergency cases.

From 1997-2019, rural residents had lower non-emergency visit rates than urban residents (average 90.6 vs 94.9 per 100 population, respectively). However, emergency visit-rates were more than double for rural (2.3) compared to urban residents (1.0) in all study years, excluding 1997.

Both urban and rural residents in the 20-39 and 40-64 age-groups showed a large decline in non-emergency public-funded visits to optometrists after 2004 (60.3% in 2003 to 25.1% in 2019 in urban residents aged 20-39), but a substantial increase in public-funded visits to ophthalmologists (17.9% in 2003 to 44.9% in 2019 in urban residents aged 20-39), likely due to delisting of routine eye-exams in 2004. Trends in other age-groups for ophthalmology and optometry visits remained stable or slightly increased.

From 1997-2019, yearly top diagnoses varied by age-groups, but remained consistent overall for non-emergency visits (myopia, glaucoma, cataract) and emergency visits (corneal foreign body, conjunctivitis).

Conclusions: Between 1997-2019, there was a 29% rise in non-emergency eye visits but a 21% drop in emergency eye visits per 100 population in Ontario. The annual number of eye-related patients per 100 people decreased for both non-emergency and emergency visits. Per patient, yearly repeat non-emergency eye-visits increased 63% over 22 years, likely contributing to the overall 29% increase in non-emergency visits. Urban residents had more frequent non-emergency visits, but fewer emergency visits than rural residents.