THE BURDEN OF OVERACTIVE BLADDER IN CANADA: AN EXAMINATION OF PREVALENCE OVER TIME AND HEALTHCARE RESOURCE USE

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INTRODUCTION

- Among older adults, overactive bladder (OAB), characterized by urinary urgency, with or without urinary incontinence, nocturia, and urinary frequency, is an increasing common condition.1
- As populations age and prevalence of OAB increases, it is becoming a growing burden on healthcare systems.

OBJECTIVES

This study aimed to characterize the clinical and economic burden of OAB over time in Canada using provincial population-based administrative datasets from Québec.

METHODS

Data Source
- Data were identified from the Régie de l’assurance maladie du Québec (RAMQ) for the period 2006 to 2015.
- Outcomes were assessed among a cohort aged ≥18 years, and in a subset aged ≥65 years. Outpatient and medication data were available for a randomly–selected total of 125,000 individuals, including OAB– and non–OAB cohorts. Population denominators were available to allow for extrapolation.

Prevalence
- The OAB cohort, defined by two or more outpatient billing codes or prescription of an OAB–specific medication, was compared to a randomly sampled population selected to have similar age and sex distribution without OAB with a 24–month washout period to identify incident vs. prevalent cases of OAB (Figure 1).
- Prevalence was calculated based on the number of individuals meeting inclusion criteria for OAB, relative to the overall population.
- The index year in which OAB was identified was defined by the presence of either two diagnoses and/or an OAB specific prescription.

Healthcare resource use
- The healthcare resources examined in the study were outpatient visits (GPs [general practitioner] and specialists) and medication use among the cohort aged ≥18 years.
- Medication use was characterized in three ways: total number of prescriptions (including refills), number of American Hospital Formulary Service (AHFS) classes, and number of unique medications received.
- Healthcare resource use and costs were identified from any individual physician billing or pharmaceutical records among the OAB and comparison cohorts during the period.

RESULTS

Sample
- The identified sample included 56,941 OAB and 68,059 individuals in the non–OAB cohort comparison.
- Individuals ≥65 years accounted for 60.1% of the prevalent population (Figure 2).

Prevalence
- Over the study period, prevalence increased in both the ≥18 and ≥65 OAB cohorts, respectively (Table 1).
- In the ≥18 OAB cohort prevalence of OAB increased from 0.4–2.0; and
- In the ≥65 OAB cohort, prevalence of OAB increased from 1.4–6.1.

Healthcare resource use
- Healthcare resource use and costs were notably higher in the OAB cohort compared to the non–OAB cohort.
- In the index year, the OAB cohort had more outpatient visits than the non–OAB cohort, and a higher number of prescriptions filled (Figures 3 and 4).
- When resource use was examined over time, outpatient GP and specialist visits were notably higher among the OAB prevalent cohort when compared to the non–OAB cohort throughout the follow–up period (Figure 3).
- The percentage of visits to specialists was stable over the study period for the non–OAB cohort, ranging from 74.5% in year 1 to 75.8% in year 9. In the prevalent OAB cohort, the percentage of individuals seeing specialists declined over the course of the study from 94.3% in year 1 to 81.0% in year 9.
- Annual medication use (prescription, drug class, drugs) among the two cohorts followed a similar pattern (Figure 4).
- Cost of healthcare resource use was elevated for the OAB prevalent cohort in all categories (GP visits, specialist visits and medications) throughout the follow–up period (Figure 5).
- Mean (SD) total resource use costs ranged from $913.49 ($2,144.65) in year 1 to $187.81 ($1,403.28) in year 9 in the prevalent OAB cohort and $119.53 ($855.94) to $74.70 ($3.37) over the same period in the non–OAB cohort.

DISCUSSION

- Consistently higher resource use was observed among patients with OAB, across all categories considered individually, as well as overall combined costs. It should be noted that as costs and resource use reported are all–cause, other factors including comorbidities may also be linked to increases in cost and resource use among those with OAB.
- For specialist visits, the difference was most pronounced in the index year, likely due to visits being most frequent around the time of diagnosis / initiating treatment.
- While increasing prevalence of OAB diagnoses over time was noted, observed prevalence remains lower than findings in studies self–reported OAB. Reasons for this could include:
  - Patients only infrequently visiting their doctor for their OAB, resulting in several years passing prior to having a record of physician billing or pharmaceutical management even though they had been previously diagnosed with OAB.
  - Visits where OAB was a secondary complaint may not have been associated with an OAB code; and
  - Changes in coding practices over time.

CONCLUSIONS

- In Québec, Canada, the prevalence of diagnosed OAB and the burden on healthcare resources used to manage OAB are increasing over time.

Figure 1 Study design schematic, with members of the OAB and non–OAB comparisons cohorts presented according to calendar year to date at cohort entry.

Figure 2 Baseline age distribution of the individuals, measured at index date, in the OAB prevalent, OAB and non–OAB cohorts.

Table 1. Annual prevalence rates (18 years and older; 65 years and older)

<table>
<thead>
<tr>
<th>Year</th>
<th>Total RAMQ population (N)</th>
<th>Estimated OAB cohort (N)</th>
<th>OAB prevalence (percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>5,965,452</td>
<td>23,944 (0.4)</td>
<td>1,352,796 (23.9)</td>
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<tr>
<td>2007</td>
<td>5,925,165</td>
<td>24,475 (0.4)</td>
<td>1,352,071 (23.8)</td>
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<tr>
<td>2008</td>
<td>5,997,201</td>
<td>25,027 (0.4)</td>
<td>1,356,794 (23.9)</td>
</tr>
<tr>
<td>2009</td>
<td>6,002,699</td>
<td>25,669 (0.4)</td>
<td>1,360,299 (23.5)</td>
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<tr>
<td>2010</td>
<td>6,171,236</td>
<td>26,257 (0.4)</td>
<td>1,390,501 (24.1)</td>
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<tr>
<td>2011</td>
<td>6,250,150</td>
<td>60,980 (4.1)</td>
<td>1,352,549 (4.1)</td>
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<td>2012</td>
<td>6,395,802</td>
<td>100,870 (4.6)</td>
<td>1,359,516 (4.3)</td>
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<td>2013</td>
<td>6,384,097</td>
<td>114,973 (4.5)</td>
<td>1,383,156 (4.6)</td>
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<tr>
<td>2014</td>
<td>6,464,305</td>
<td>121,555 (5.1)</td>
<td>1,394,617 (5.0)</td>
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<tr>
<td>2015</td>
<td>6,463,381</td>
<td>126,521 (2.3)</td>
<td>1,396,506 (18.8)</td>
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