Changing patterns of sedative use over time in older adults in Ontario

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Faculty/Presenter Disclosure

- **Faculty:** Andrea Iaboni

- **Relationships with commercial interests:**
  - **Grants/Research Support:** Alzheimer Association, Alzheimer Society of Canada, UHN Psychiatric Consultants
  - **Speakers Bureau/Honoraria:** None
  - **Consulting Fees:** None
  - **Other:** None

- **No conflicts of interest to report**
Introduction

- Benzodiazepine use in older adults in Canada has been decreasing since 1990s
- Cognitive impairment, psychomotor impairment, falls, fractures
- Potentially inappropriate
- No overall decline in psychotropic use
Introduction

• Cross-sectional evidence that low dose trazodone and quetiapine use prevalent
• Limited evidence for efficacy in older adults
• Likelihood that are being used in low doses as sedatives rather than primary indication
Aim

- To describe and compare trends in the use of sedative medication over time in older adults in the community and long term care (LTC).
- To examine association with age, sex, and dementia diagnosis
- To examine association with changes in psychotropic polypharmacy
Method

- Multiple linked healthcare databases at Institute for Clinical Evaluative Sciences (ICES)
- Population-based, serial cross-sectional study
- All ODB funded prescriptions for trazodone, quetiapine, benzodiazepines between January 2002- March 2013
Method

- **Study cohort in each quarter:**
  - All individuals 66+ who made a drug claim in current or previous quarter
- **History of dementia: diagnostic code or cholinesterase inhibitor**
- **Stratified by community vs. LTC**
- **Age and sex data from Registered Persons Database**
Method

- Quarterly prevalence of trazodone, quetiapine, or any benzodiazepine calculated (non-benzodiazepine receptor agonists not on formulary)
- Dose categorized as very low (<25% DDD), low (25-50% DDD), moderate (51-100% DDD), high (>100% DDD)
- Trazodone DDD=300mg, Quetiapine DDD=400mg
Method

- Polypharmacy = concurrent dispensing of second or more psychotropic medications to someone on sedative in given quarter
- Included all antidepressants, antipsychotics
## Results

<table>
<thead>
<tr>
<th></th>
<th>March 2013</th>
<th>Community</th>
<th>LTC</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>1,603,809</td>
<td>84,210</td>
<td></td>
</tr>
<tr>
<td>Female (%)</td>
<td>55.3</td>
<td>70.6</td>
<td></td>
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<tr>
<td>Aged 85+ (%)</td>
<td>13.1</td>
<td>58.1</td>
<td></td>
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<tr>
<td>Dementia (%)</td>
<td>10.5</td>
<td>86.8</td>
<td></td>
</tr>
</tbody>
</table>
Trend in sedative use in community

- Benzodiazepine
- Trazodone
- Quetiapine
- Benzo/Trazodone/Quetiapine

Prevalence per 100 older adults in the community

Time (years): 2002 to 2013
Trend in sedative use in LTC

Prevalence per 100 long-term care residents

- Benzodiazepine
- Trazodone
- Quetiapine
- Benzo/Trazodone/Quetiapine
Age, Sex, Dementia: Community

- Benzodiazepine use is **decreasing** most quickly with increasing age, in people with dementia, and women \((p<0.0001)\)
- Trazodone and quetiapine are **increasing** in the same populations: in older people, in dementia and women \((p<0.0001)\)
Age, Sex, Dementia: LTC

• Benzodiazepine use is **decreasing** most quickly in those of intermediate age (75-84) and in those without dementia (p<0.0001)

• Trazodone is **increasing** most in those >75 and people with dementia (p<0.0001)

• Quetiapine is **increasing** most in 66-74 year olds, men and people with dementia. (p<0.0001)
Dosing

- Trazodone users
- Quetiapine users
- Benzodiazepine users

Community LTC Community LTC Community LTC
Trazodone users Quetiapine users Benzodiazepine users

- High
- Moderate
- Low
- Very low
Polypharmacy: community
Polypharmacy: LTC

The chart shows the proportion of long-term care sedative users for Benzodiazepine Users, Trazadone Users, and Quetiapine Users. The colors represent different numbers of additional medications:
- Purple: 3 or more additional
- Green: 2 additional
- Red: 1 additional
- Blue: Only sedative
Limitations

- Lack of data on non-benzodiazepine receptor agonists
- Population-level data
- No analysis of incidence
- Over-the-counter sedatives, other medications used off-label for sedative properties
Summary

• Benzodiazepine use has decreased in parallel with increasing use of low dose trazodone and quetiapine
• Consistent with increasing off-label use as sedatives
• Associated with increased psychotropic and sedative polypharmacy
Conclusion

- Shift in prescribing away from benzodiazepines but no overall impact on psychotropic or sedative burden
- Need to clarify the effectiveness and risks of trazodone and quetiapine and drug combinations
Acknowledgments and funding

• Susan Bronskill
• Kate Reynolds
• Xuesong Wang

• Paula Rochon
• Nathan Herrmann
• Alastair Flint

Funded by a UHN Psychiatric Consultants Research Grant and CIHR Institute of Nutrition, Metabolism and Diabetes Team Grant (OTG-88591)