Using Deprescribing Guidelines in Long-Term Care: The Ottawa Experience

Barbara Farrell, BScPhm, Pharm D, FCSHP
James Conklin, PhD
Bruyère Research Institute, Ottawa
Co-authors: Hannah Irving, Lalitha Raman-Wilms, Lisa McCarthy, Kevin Pottie, Carlos Rojas-Fernandez, Lise Bjerre
Acknowledgements / Disclaimers

Ontario Pharmacy Research Collaboration

• Government of Ontario
• School of Pharmacy, University of Waterloo
• Department of Family Medicine, McMaster University

The views expressed in this presentation are those of the presenter and do not necessarily reflect those of the funders.
Presenter Disclosures

• Faculty: Barbara Farrell, James Conklin

• Relationships with commercial interests:
  – Grants/research support – none
  – Speakers bureau/honoraria/consulting fees - none

• Disclosure of commercial support
  – No financial support for this presentation; in-kind support from Gov’t of Ontario, HSRF research staff
Outline

1. Describe the current context around appropriate prescribing and medication-related care of seniors in LTC
2. Outline an initiative to develop interdisciplinary evidence-based guidelines for deprescribing
3. Share findings from testing of guidelines within LTC setting (proton pump inhibitors, benzodiazepines and antipsychotics)
Scope and Impact of the Problem

- Nearly 2/3 of Canadian seniors take 5+ drugs
- More than 26% of Canadian seniors, and nearly 2/3 living in LTC, take 10+ drugs
- About 40% of Canadian seniors take a Beers list drug
- **Antidepressant use** among residents in LTC 3 times higher than community dwelling seniors
- **Antipsychotic use** is 9 times higher
- Polypharmacy and inappropriate medication use contributes to adverse drug reactions, falls, cognitive impairment, noncompliance, hospitalization and mortality
Example: Cognitive Impairment

Cognitive impairment

Anticholinergics

Benzodiazepines

Cardiac

Antihypertensives

Analgesics

Antipsychotics

Antidepressants

Anticonvulsants

H2 blockers
Impact on Cost and Utilization

- CIHI (2013) - $33 billion spent in 2012
- Up to 25% of all hospital admissions and ER visits are drug-related (CIHI 2013)
- Up to ¼ of those who visit ERs due to ADRs are admitted to hospital (CIHI 2013)
- ADR-related visits and hospitalizations cost the Ontario health care system an estimated $13.6 million/year (Wu, 2012)
- Those with adverse drug reactions incur more health services
Why are the Elderly at Risk?

• Age-related changes
  – Absorption: altered bioavailability (↓ transport, ↓ first pass)
  – Distribution: ↑ body fat, ↓ body water
  – Metabolism: ↓ oxidative metabolism
  – Excretion: ↓ renal function (increases half-life)

• Altered pharmacodynamics
  – Changes in receptor numbers, postreceptor alterations
  – Impaired homeostatic mechanisms

• Increasing comorbidity

• Very old and frail rarely included in drug trials
What about Deprescribing?

• Deprescribing is the planned and supervised process of dose reduction or stopping of medication that may be causing harm or no longer be providing benefit.

• The goal of deprescribing is to reduce medication burden and harm, while maintaining or improving quality of life.

• Deprescribing is feasible and safe but clinicians find it difficult to carry out.
Deprescribing Decisions are Hard

Slide in press
Could Deprescribing Guidelines Help?

• Leads
  – Dr. Barbara Farrell (Bruyere Continuing Care; Research Institute)
  – Dr. James Conklin (BRI; Concordia University)

• Co-investigators:
  – Dr. Carlos Rojas-Fernandez (University of Waterloo)
  – Dr. Kevin Pottie (Bruyere Continuing Care; BRI)
  – Dr. Lalitha Raman-Wilms (University of Toronto)
  – Dr. Lisa McCarthy (University of Toronto)
  – Dr. Lise Bjerre (BRI)
What we didn’t know 2 years ago

• What are the quality trials of deprescribing that could be used to create class-specific evidence-based guidelines?
• How should such guidelines be created?
• What needs to happen for the guidelines to have an effect?
Our Research Asked...

- What consensus, development and implementation processes can be effectively used to create and introduce deprescribing guidelines into primary care and long-term care contexts that positively influence the adoption and use of the practices described in the guideline?

- What is the uptake and effect, including projected savings, of deprescribing guidelines in primary care and long-term care contexts?

- What effect does the use of deprescribing guidelines have on prescriber self-efficacy in discontinuing medications and patient acceptance?
Developmental Evaluation

• Supports development of innovations (guidelines), and adoption (adaptation) in emergent and dynamic health environments
• Patterns of change emerge from rapid, real time interactions generating learning, evolution, and development

Our purpose
• Gather data to allow team members to learn and adapt as the project moves forward
• Help the team(s) improve processes and generate effective and feasible guidelines and an adaptable implementation process
• Use findings to inform work of the next team

(Patton 2010)
Form the team and develop approaches and materials

Identify priorities (Delphi)

Guideline Development Team (x3)

Develop Guideline (x3)

Implement Guideline (x3) in 3 FHTs and 3 LTC Homes

Observations Narrative Reports

Interviews Meeting Minutes

Observations Interviews

Observations Interviews

Rapid DE Analysis Methods

Rigorous Qualitative Analysis Methods
Rapid DE Analysis Method

- Analysis team members independently review data
- Each create ‘analytic memos’ documenting highlights, patterns and insights
- Team members then review all analytic memos, noting further patterns and highlights
- Team members meet to discuss and agree on key learning points evident in the data
- Results are presented to guideline, implementation, and investigator teams for discussion
Deprescribing Guideline 1 - PPI

Deprescribing Guideline 2 - EZRA

Deprescribing Guideline 3 - Antipsychotics

Investigator Team

Team Meeting (Discuss priorities for guidelines, development methods and implementation strategies)

Observations Narrative reports

Delphi survey to select choices

Guideline Development Team

Team Meeting

Expert Review

Teleconference

Observations Interviews

Site Implementation & Evaluation

3 x FHT
3 x LTC

Observations Interviews Surveys

Guideline Development Team

Team Meeting

Expert Review

Teleconference

Observations Interviews

Site Implementation & Evaluation

3 x FHT
3 x LTC

Observations Interviews Surveys

Guideline Development Team

Team Meeting

Expert Review

Teleconference

Observations Interviews

Site Implementation & Evaluation

3 x FHT
3 x LTC

Observations Interviews Surveys

Deprescribing Guidelines’ Project - High Level Overview of Research Activities (May 2015); contact deprescribing@bruyere.org for info
Priorities for Deprescribing Guidelines

- 65 Canadian geriatric experts surveyed; 47 persisted through 3 rounds
- Final five priorities:
  - Benzodiazepines
  - Atypical antipsychotics
  - Statins
  - Tricyclic antidepressants
  - Proton pump inhibitors
Guideline Development

• Systematic, evidence-based approach (AGREE II)
• Involving experts in geriatric medicine, geriatric pharmacotherapy and guideline development
• Systematic review of literature to identify existing evidence for continuing and discontinuing specific medications
• GRADE analysis to assess quality of evidence found
• Clinical recommendations for tapering and monitoring
# Guideline Development to Date

<table>
<thead>
<tr>
<th>Team</th>
<th>PPI Guideline</th>
<th>BZRA Guideline</th>
<th>AP Guideline</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Barb Farrell</td>
<td>Kevin Pottie</td>
<td>Lise Bjerre</td>
</tr>
<tr>
<td></td>
<td>Paul Moayeddi</td>
<td>Simon Davies</td>
<td>Barb Farrell</td>
</tr>
<tr>
<td></td>
<td>Kevin Pottie</td>
<td>Vivian Welch</td>
<td>Carlos Rojas-Fernandez</td>
</tr>
<tr>
<td></td>
<td>Carlos Rojas- Fernandes</td>
<td>Jean Grenier</td>
<td>Andrew Wiens</td>
</tr>
<tr>
<td></td>
<td>Kate Walsh</td>
<td>Cheryl Sadowski</td>
<td>Genevieve Lemay</td>
</tr>
<tr>
<td></td>
<td>(Shannon Gordon, Joy Rashid, Taline Boghassian, Vivian Welch, Lisa Pizzola)</td>
<td>Anne Holbrook</td>
<td>Lalitha Raman-Wilms</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cynthia Boyd</td>
<td>Lisa McCarthy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Robert Swenson</td>
<td>Lyla Graham</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Barbara Farrell</td>
<td>Samir Sinha</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Wade Thompson, Andy Ma, Elli Polemiti, Sonia Hussain, Olanrewaju Medu)</td>
<td>Vivian Welch (Matt Hogel, Cody Black, Wade Thompson, Jessica Tang)</td>
</tr>
</tbody>
</table>
Proton Pump Inhibitor (PPI) Deprescribing Algorithm

Why is patient taking a PPI?
If unsure, find out if history of endoscopy, if ever hospitalized for bleeding ulcer or if taking because of chronic NSAID use in past, if ever had heartburn or dyspepsia

- Mild to moderate esophagitis or GERD treated x 4-8 weeks (esophagitis healed, symptoms controlled)
- Peptic Ulcer Disease treated x 2-12 weeks (from NSAID; H. pylori)
- Upper GI symptoms without endoscopy; asymptomatic for 3 consecutive days
- ICU stress ulcer prophylaxis treated beyond ICU admission
- Uncomplicated H. pylori treated x 2 weeks and asymptomatic
- Barrett’s esophagus
- Chronic NSAID users with bleeding risk
- Severe esophagitis
- Documented history of bleeding GI ulcer

Recommend Deprescribing

Strong Recommendation (from Systematic Review and GRADE approach)
- (evidence suggests no increased risk in return of symptoms compared to continuing higher dose), or
- (daily until symptoms stop) (1/10 patients may have return of symptoms)

Decrease to lower dose
Stop and use on-demand

Monitor at 4 and 12 weeks
If verbal:
- Heartburn
- Dyspepsia
- Regurgitation
- Epigastric pain
If non-verbal:
- Loss of appetite
- Weight loss
- Agitation

Use non-drug approaches
- Avoid meals 2-3 hours before bedtime; elevate head of bed; address if need for weight loss and avoid dietary triggers

Manage occasional symptoms
- Over-the-counter antacid, H2RA, PPI, alginate pm (ie. Tums®, Rolaid®, Zantac®, Olex®, Gaviscon®)
- H2RA daily (weak recommendation – GRADE; 1/5 patients may have symptoms return)

If symptoms relapse:
If symptoms persist x 3 – 7 days and interfere with normal activity:
1) Test and treat for H. pylori
2) Consider return to previous dose

© Use freely, with credit to the authors. Not for commercial use. Do not modify or translate without permission. This work is licensed under a Creative Commons Attribution NonCommercial ShareAlike 4.0 International License. Contact deprescribing@bruyere.org or visit deprescribing.org for more information.

PPI Availability

<table>
<thead>
<tr>
<th>PPI</th>
<th>Standard dose (healing) (once daily)*</th>
<th>Low dose (maintenance) (once daily)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Omeprazole (Losec®) - Capsule</td>
<td>20 mg*</td>
<td>10 mg*</td>
</tr>
<tr>
<td>Esomeprazole (Nexium®) - Tablet</td>
<td>20° or 40° mg</td>
<td>20 mg</td>
</tr>
<tr>
<td>Lansoprazole (Prevacid®) - Capsule</td>
<td>30 mg*</td>
<td>15 mg*</td>
</tr>
<tr>
<td>Dexlansoprazole (Dexilant®) - Tablet</td>
<td>30° or 60° mg</td>
<td>30 mg</td>
</tr>
<tr>
<td>Pantoprazole (Tecta®, Pantoloc®) - Tablet</td>
<td>40 mg</td>
<td>20 mg</td>
</tr>
<tr>
<td>Rabeprozole (Panet®) - Tablet</td>
<td>20 mg</td>
<td>10 mg</td>
</tr>
</tbody>
</table>

Legend

- a Non-erosive reflux disease
- b Reflux esophagitis
- c Symptomatic non-erosive gastroesophageal reflux disease
- d Healing of erosive esophagitis
- + Can be sprinkled on food

* Standard dose PPI taken BID only indicated in treatment of peptic ulcer caused by H. pylori; PPI should generally be stopped once eradication therapy is complete unless risk factors warrant continuing PPI (see guideline for details)

Key

- GERD = gastroesophageal reflux disease
- NSAID = nonsteroidal anti-inflammatory drugs
- H2RA = H2 receptor antagonist
- SR = systematic review
- GRADE = Grading of Recommendations Assessment, Development and Evaluation

Engaging patients and caregivers

Patients and/or caregivers may be more likely to engage if they understand the rationale for deprescribing (risks of continued PPI use; long-term therapy may not be necessary), and the deprescribing process.

PPI side effects

- When an ongoing indication is unclear, the risk of side effects may outweigh the benefit.
- PPIs are associated with higher risk of fractures, C. difficile infections and diarrhea, community-acquired pneumonia, vitamin B12 deficiency and hypomagnesemia.
- Common side effects include headache, nausea, diarrhea and rash.

Tapering doses

- No evidence that one tapering approach is better than another.
- Lowering the PPI dose (for example, from twice daily to once daily, or halving the dose, or taking every second day) OR stopping the PPI and using it on-demand are equally recommended strong options.
- Choose what is most convenient and acceptable to the patient.

On-demand definition

Daily intake of a PPI for a period sufficient to achieve resolution of the individual’s reflux-related symptoms; following symptom resolution, the medication is discontinued until the individual’s symptoms recur, at which point, medication is again taken daily until the symptoms resolve.
BENZODIAZEPINE AND Z-DRUGS - DEPRESCRIBING ALGORITHM

Indication still UNKNOWN?

WHY is patient taking a BZRA? (If unsure, find out if history of anxiety, past psychiatrist consult, whether may have been started in hospital for sleep, or for grief reaction)

- Insomnia disorder treated > 1 month (using BZRA daily or almost daily)
- Insomnia where underlying comorbidities are managed
- Managed anxiety or depression where BZRA being used only for sleep
- Other sleeping disorders
  - Unmanaged anxiety, depression or physical or mental condition that may be causing or aggravating insomnia
  - BZD effective specifically for anxiety
  - Alcohol withdrawal

Engage patients (discuss potential risks, benefits, withdrawal plan, symptoms and duration)

RECOMMEND OFFERING DEPRESCRIBING

Taper BZRA (taper slowly in collaboration with patient, for example ~25% every two weeks, 12.5% reductions near end with planned drug-free days)
- For those ≥ 65y/o (strong recommendation, low quality evidence)
- For those 18-65y/o (weak recommendation, low quality evidence)
- Offer behavioural advice, consider CBT if available

Monitor (every 1-2 weeks for the duration of tapering)

Expected benefits:
- May improve alertness, cognitive tests, daytime sedation and reduce falls
Withdrawal symptoms:
- Common: insomnia, anxiety, restlessness, mood changes
- Uncommon: sweating, seizures (risk factors: epilepsy, seizure threshold lowering drugs)
- Can appear in 3 days and last days to weeks

Manage insomnia

Use non-drug behavioral approaches
- (see reverse)

If symptom relapse

Consider
- Maintaining current BZRA dose or increasing slightly for 1-2 weeks, then continue to taper at slower rate

Alternate drugs
- There is little evidence assessing efficacy of low dose Trazodone or Mirtazapine in improving sleep quality, safety of these agents in insomnia is not well-established

V1.3 DRAFT, DO NOT COPY OR DISTRIBUTE WITHOUT PERMISSION OF “Developing, implementing and evaluating deprescribing guidelines for the elderly project”. Contact deprescribing@bruyere.org
If BPSD relapses

Consider:
- Non-drug approaches (e.g. music therapy, behavioural management strategies)

Restart AP drug:
- Restart AP at lowest dose possible if resurgence of BPSD with re-trial of deprescribing in 3 months
- At least 2 attempts to stop should be made

Alternate drugs:
- Consider change to risperidone, olanzapine, or aripiprazole.

If insomnia relapses

Consider:
- Minimize use of substances that worsen insomnia (e.g. caffeine, alcohol)
- Non-drug behavioural approaches (see reverse)

Alternate drugs:
- Doxepin, trazodone*, or mirtazapine*

* Minimal evidence of efficacy in improving sleep quality. The safety of these agents in insomnia is not well-established

Monitor every 1-2 weeks for duration of tapering

Expected benefits:
- May improve alertness, gait, reduce falls, or extrapyramidal symptoms

Adverse drug withdrawal events* (closer monitoring for those with more severe baseline symptoms):
- Psychosis, aggression, agitation, delusions, hallucinations

RECOMMEND DEPRESCRIBING

Strong Recommendation (from Systematic Review and GRADE approach)
Taper and stop AP (slowly in collaboration with patient and/or caregiver; e.g. 25%-50% dose reduction every 1-2 weeks)

Stop AP
Strong recommendaton, very low quality evidence (good practice)

Continue AP
or consult psychiatrist if considering deprescribing

WHY is patient taking an AP?

- Psychosis, aggression, agitation (behavioural and psychological symptoms of dementia - BPSD) treated for 1-3 months (symptoms stabilized, or no response).
- Primary insomnia treated for any duration or secondary insomnia where underlying comorbidities are managed
- Schizophrenia
- Bipolar disorder
- Major depressive disorder requiring AP as adjunct therapy

ANTIPSYCHOTIC (AP) DEPRESCRIBING ALGORITHM

Disclaimer: Draft version (August 2015) subject to modification based on ongoing evaluation. Provided for confidential and limited use by the Centre for Effective Practice and Health Quality Ontario “Appropriate Prescribing Demonstration Project”. Do not copy or distribute without permission of “Developing, implementing and evaluating deprescribing guidelines for the elderly project”. Contact deprescribing@bruyere.org.
Lessons Learned – Guideline Development

• Develop a team with expertise, access to networks and resources; provide staff and librarian support
• Define clear roles and responsibilities
• Use a structured and coordinated process, beginning with end in mind (algorithm) with regular, concise communication (agendas with decision & action items, timelines; Dropbox; weekly emails)
• Hone the algorithm with feedback from implementation sites
Lessons Learned – Guideline Implementation (all sites)

• Once credibility established, clinicians less concerned about evidence, more focused on practical steps to deprescribe
• Having a summary algorithm added legitimacy, facilitated decision-making, bolstered confidence in deprescribing, and enabled behaviour change
• Deprescribing hampered by unknown indication for drug
• Non-pharmacological strategies tailored to LTC and FHT sites were helpful
• An interprofessional team working in collaboration facilitated deprescribing
• Handouts for patients/families to support decision-making facilitated deprescribing
Lessons Learned – Guideline Implementation (LTC homes)

- LTC sites indicated *successful uptake and effect*
- Implementation appeared easy with pharmacists championing incorporation of deprescribing into routine medication reviews or targeting specific patients and physicians
- Implementation required buy-in from and education for patients and their families, as well as monitoring support from front-line staff
- Regular medication reviews (mandated in LTC) facilitated deprescribing
- Communication about patients tapering, and accessing progress notes efficiently was a challenge
Lessons Learned – Guideline Implementation (FHTs)

• Sites indicated *limited uptake and effect* though some individual successes were reported
• Sites focussed on implementing using project approach often with 1-2 clinicians
• Pharmacists identified patients through EMR search but were challenged by lack of documented indication
• Implementation was more difficult due to a combination of competing projects and priorities, little time during appointments and EMR limitations
Lessons Learned – Overall

• The same implementation steps may not be effective across social contexts; adaptation is necessary
• Practice site priorities and processes shape ability to incorporate recommendations
• Aligning guidelines with existing processes (i.e. regular pharmacist-guided medication reviews) was critical to implementation success in LTC sites
• Regular reappearance of the deprescribing algorithms at medication reviews ensured that deprescribing was integrated into physicians’ thought processes
• Involving knowledge users in the creation of implementation tools (e.g. algorithm) was important for implementation
Implications for Policy and Planning

• Policy can play a role in promoting a culture of deprescribing in health care
  – Develop a provincial strategy for reducing polypharmacy in the elderly that includes deprescribing approaches
  – Make reducing polypharmacy in the elderly a quality indicator in primary and long-term care
  – Create a regulatory requirement and/or funding mechanism to facilitate provider/patient discussions on goals of medication use, screening for PIM, deprescribing (including monitoring) (e.g. mandatory medication reviews, expansion of MedsChecks, delisting, billing code)
Key Messages

• Polypharmacy puts older people at risk
• Deprescribing (reducing doses, or stopping medications) is feasible and safe
• Prescribers and patients need support in decision-making and steps for safe deprescribing
• Evidence-based guidelines for deprescribing can help but more needs to be done
Next Steps

• Explore community-engagement as an approach to scaling up use of deprescribing initiatives across continuum of care
• Evaluate deprescribing guidelines in LTC using REAIM framework
• Synthesize evidence to support additional deprescribing guidelines
• Launch deprescribing.org to house deprescribing tools and resources
More Information

deprescribing@bruyere.org to join our newsletter list

@Deprescribing & @open_pharmacy

www.open-pharmacy-research.ca

Coming soon: www.deprescribing.org
Selected References

Selected References

• Hardy JE, Hilmer SN. Deprescribing in the last year of life. J Pharm Pract Res 2011;41;146-151.
• Reeve E, To E, Hendrix I et al. Patient barriers to and enablers of deprescribing: a systematic review. Drugs Aging 2013