POLYPHARMACY TOOLKIT  V1 2018

REGIONAL GERIATRIC PROGRAM OF TORONTO
<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>About this toolkit</td>
<td>3</td>
</tr>
<tr>
<td>Understanding polypharmacy</td>
<td>4</td>
</tr>
<tr>
<td>Risk Factors for adverse drug reactions (ADRs) in older adults</td>
<td>5</td>
</tr>
<tr>
<td>Medication reconciliation</td>
<td>6</td>
</tr>
<tr>
<td>Prescribing tips in older adults</td>
<td>7-8</td>
</tr>
<tr>
<td>Medication management for older adults + family</td>
<td>9</td>
</tr>
<tr>
<td>Polypharmacy in home and community care</td>
<td>10</td>
</tr>
<tr>
<td>Polypharmacy in primary care</td>
<td>11</td>
</tr>
<tr>
<td>Polypharmacy in hospital</td>
<td>12</td>
</tr>
<tr>
<td>Polypharmacy in long-term care</td>
<td>13</td>
</tr>
<tr>
<td>References</td>
<td>14</td>
</tr>
</tbody>
</table>
The SF7 Toolkit is a Senior Friendly Care (sfCare) resource that supports clinical best practices for healthcare providers across the sectors of care and includes self-management tools for older adults and their caregivers. Senior Friendly 7 focuses on seven clinical areas that support resilience, independence, and quality of life. The toolkit was created by the RGP of Toronto, and was informed by over 200 people, including clinical subject matter experts, older adults and their caregivers, and frontline healthcare providers who participated in co-creation events. The RGP gratefully acknowledges the clinical review of this toolkit by Lawrence Jackson, RPh, BScPhm, CTDP, Pharmacy Clinical Coordinator, Sunnybrook Health Sciences Centre, and Adjunct Professor, Leslie Dan Faculty of Pharmacy, University of Toronto.

The toolkit is available by individual topic, or bundled together. All SF7 toolkit options are available on our website: https://www.rgptoronto.ca/resources/

Use of this toolkit
The content for older adults and their family or caregivers is not intended to replace the advice of a physician or other qualified healthcare providers.

The toolkit provides a common practice framework that complements the unique skills and practices of the various care providers helping older adults. The content is provided for guidance, and is not intended to be exhaustive.

Reproduction of these materials is permitted in whole without restriction. If adapting this content, or using in part, RGP must be credited as the author with the following citation: “Source: RGP of Toronto. (2018). SF7 Toolkit. Retrieved from https://www.rgptoronto.ca/resources/”

Acknowledgments
The toolkit was created by the RGP of Toronto, and was informed by over 200 people, including clinical subject matter experts, older adults and their caregivers, and frontline healthcare providers who participated in co-creation events.

The RGP gratefully acknowledges the clinical review of this toolkit by Lawrence Jackson, RPh, BScPhm, CTDP, Pharmacy Clinical Coordinator, Sunnybrook Health Sciences Centre, and Adjunct Professor, Leslie Dan Faculty of Pharmacy, University of Toronto.
How many is too many?
Polypharmacy or multiple medications may be clinically appropriate, but it is important to identify when the medications used by older adults may be inappropriate and may place the person at increased risk of adverse events and poor health outcomes.\(^{[18]}\)

- >5 medications
- >12 doses a day
- or medications prescribed by multiple healthcare providers

Increased risk of adverse events

Polypharmacy prevalence

<table>
<thead>
<tr>
<th>Setting</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Care</td>
<td>27%</td>
</tr>
<tr>
<td>Community</td>
<td>36%</td>
</tr>
<tr>
<td>Hospital</td>
<td>42%</td>
</tr>
<tr>
<td>Long-Term Care Home</td>
<td>40%</td>
</tr>
</tbody>
</table>

(CIHI, 2016)\(^{[14]}\)

How many medications are older adults taking?
66% take 5+  
27% take 10+  
(CIHI, 2016)\(^{[14]}\)

45% of community-dwelling patients have 1+ medication discrepancies requiring the attention of a physician.

51% of home care clients have medication discrepancies following discharge from hospital.  
(Health Reports, 2014)\(^{[7]}\)
## Risk factors for adverse drug reactions (ADRs) in older adults

<table>
<thead>
<tr>
<th>Factor</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recent change in medications</td>
<td>Recent changes in medication leading to a functional decline (e.g. low blood pressure, falls because of the medication change).</td>
</tr>
<tr>
<td>Polypharmacy</td>
<td>Taking more than 5 medications, and/or more than 12 doses a day increases the risk of adverse events and poor health outcomes.</td>
</tr>
<tr>
<td>Age-related changes</td>
<td>Older adults experience physical changes that affect the way the body processes medications, such as a decrease in kidney and liver function, a decrease in total body water, and a higher proportion of body fat, leading to altered medication effects. Visual impairment can make it hard for older adults to read medication labels.</td>
</tr>
<tr>
<td>Ethnicity, gender</td>
<td>Certain drugs or combinations of drugs may cause adverse drug reactions depending on a person’s ethnicity or gender.</td>
</tr>
<tr>
<td>Health conditions</td>
<td>Older people are more likely to have multiple chronic conditions, requiring more medications to treat them. Asthma, COPD, stroke, hip fracture, kidney failure, incontinence, and cognitive impairment are associated with increased ADRs. Frailty or damage to the heart, lung or kidney caused by disease or conditions such as diabetes can increase the risk of ADRs. An acute change in health (e.g. acute illness, dehydration) can result in intolerance of exiting medication.</td>
</tr>
<tr>
<td>Social habits</td>
<td>Alcohol can add to the sedative effects of medications that cause sedation. Alcohol and smoking can affect the way the body processes medications.</td>
</tr>
</tbody>
</table>

Adapted from: “Adverse drug reactions in special populations - the elderly” by Davies, EA. and O’Mahony, MS. British Journal of Clinical Pharmacology. 2015;80(4):796-807.
Ensure that accurate and complete medication information is available. This is especially important when there is a transition in care such as being admitted to or discharged from hospital.

Medication reconciliation ("Med Rec") is a formal process in which healthcare providers work together with patients, families and care providers to ensure accurate and comprehensive medication information is communicated consistently across transitions of care.

A Best Possible Medication History (BPMH) is created as part of the "Med Rec" process to verify all of a patient’s medication use (prescription, over-the-counter, supplements, and herbal remedies). The history is created using 2 sources of information:
1. interviewing the person and/or family and
2. confirming with at least one other reliable source of information (such as medication containers, pharmacist, or primary care provider).

Adapted from The Institute for Safe Medication Practices Canada (ISMP)
The following 13 recommendations should be taken into consideration when prescribing for frail older adults.

1. **Use the least possible number of medications** and the simplest possible dosing regimen to improve adherence and avoid drug interactions.

2. **Avoid medications known to be potentially harmful** in older adults as per Beers Criteria (the American Geriatrics Society, 2015)
   - Especially medications with anticholinergic effects which can cause toxicity such as, central nervous system (CNS) confusion, urinary retention, constipation, dry mouth and eyes, and blurred vision.

3. **Use extra caution when prescribing high alert drugs**: digoxin, calcium channel blockers (CCB), opioids, warfarin, theophylline, oral hypoglycemics, lithium, selective serotonin reuptake inhibitors (SSRIs), monoamine oxidase inhibitors (MAOIs), anticonvulsants, antimicrobials (macrolides, quinolones, antivirals, antifungals).
   - Organ dysfunction or drug interactions can result in toxicity.

4. **Are the benefits worth the risks?** Is the problem self-limiting or only a minor inconvenience?

5. **Avoid overestimating renal function** based on serum creatinine that is in normal range.
   - Note that creatinine clearance declines by 10% per decade after age 40.
   - Calculate creatinine clearance (to account for age and weight) and adjust doses of renally cleared medication accordingly.

6. **Start at the lowest drug dose and titrate up slowly** (except for antibiotics) so as to avoid:
   - The occurrence of excessive pharmacologic effects or adverse drug reactions that result in harm or refusal to take the medication.

7. **Avoid the prescribing cascade** - adding a medication to combat the side effects of another one.
   - This may occur because of failure to attribute current signs and symptoms to drug effects. (In some circumstances a prescribing cascade may be appropriate.)
8. **Rule out medication side effects** as a cause of new symptoms such as confusion, falls, functional decline or memory loss.
   - Drug accumulation can occur after several weeks or months, or with declining renal function.
   - Drug adverse effects (especially falls, incontinence, confusion) may be incorrectly attributed to normal aging.
   - Older adults may not tolerate their usual medications when acutely ill, requiring dose reduction or temporary discontinuation.
   - Older adults with type 2 diabetes may need to hold medications on sick days (SADAMANS — Sulfonylureas, ACE-inhibitors, Diuretics, direct renin inhibitors, Metformin, Angiotensin Receptor Blockers, Non-Steroidal Anti-Inflammatory Drugs and SGLT2 inhibitors).

9. **Avoid making simultaneous changes** in medications.

10. **The moment of prescribing is an opportunity to review** the current medication list.
   - Is each drug indicated? — Stop unnecessary, outdated or duplicate medications
     STOPP-START Criteria for Potentially Inappropriate Prescribing in Older People (NHS Cumbria Clinical Commissioning Group, 2016).
   - Is a drug required? — START guideline-recommended therapy as appropriate
   - Do current prescription label instructions match the person’s drug taking practice?
   - Forced compliance of outdated instructions can cause problems.
   - Consider potential interactions with caffeine, cigarette smoking, OTCs, or herbals.

11. Write a **time-limited prescription**.

12. **Encourage older adults to understand** the importance of each of their medications and to have a **system to remember doses**.
   - Dose organizers (blister pack, dosette box), reminders, education.

13. **Encourage older adults to use one pharmacy** so that drug interactions can be identified quickly, medication-taking problems can be addressed, and periodic medication reviews can be conducted.
   - Older adults over 65 years of age should obtain a **MedsCheck** (a program of The Ministry of Health and Long-Term Care) at their pharmacy and bring their medication list to appointments with their primary care provider.

   **Lawrence Jackson BScPhm, CTDP, RGP’s Geriatric Emergency Management (GEM) Network Conference (Sept 2016)**
5 QUESTIONS TO ASK ABOUT YOUR MEDICATIONS when you see your doctor, nurse, or pharmacist.

1. CHANGES?
Have any medications been added, stopped or changed, and why?

2. CONTINUE?
What medications do I need to keep taking, and why?

3. PROPER USE?
How do I take my medications, and for how long?

4. MONITOR?
How will I know if my medication is working, and what side effects do I watch for?

5. FOLLOW-UP?
Do I need any tests and when do I book my next visit?

Visit safemedicationuse.ca for more information.

This tool is reproduced with permission by ISMP. Click here to download a printable copy of this poster.

Ask your pharmacist to do a MedsCheck covered by Ontario health benefits.
Polypharmacy in home and community care

- Ensure that accurate and complete medication information is available by conducting medication reconciliation ("Med Rec"), especially when there has been a transition in care. The "Med Rec" process in home and community care comprises 4 steps:
  1. Collect – the Best Possible Medication History (BPMH)
  2. Compare – identify discrepancies
  3. Correct – resolve discrepancies
  4. Communicate – the reconciled medication list

Consider the following tools (Canadian Safety Patient Institute & ISMP Canada, 2015) to assist in the "Med Rec" process:
- Medication Reconciliation in Home Care Getting Started Kit
- BPMH Interview Guide

- Help older adults to be aware of signs and symptoms of adverse drug reactions (ADRs).
- Offer to identify out-of-date medications and dispose of them.
- If requested to do so, assist with taking medications by reminding when they are due, reviewing instructions, and opening bottles and blister packs and pouring liquid medications in appropriate dosages.
- Assess whether the older adult can easily open the medication packaging. If not, explore options with the pharmacist.

- Contact the primary care provider if discrepancies are found during the "Med Rec" process, and communicate the reconciled medication list within the circle of care (healthcare team).
- Communicate any issues related to medication adherence or skipped doses and suspected ADRs with the primary care provider and others in the circle of care (including family if permitted by the older adult).
- Encourage use of the Ministry of Health and Long-Term Care’s MedsCheck program (medication review at a pharmacy or in home).
Polypharmacy in primary care

- Ensure that accurate and complete medication information is available by conducting medication reconciliation (“Med Rec”), especially when there has been a transition in care. The “Med Rec” process in primary care comprises 4 steps:
  1. Collect – the Best Possible Medication History (BPMH)
  2. Compare – identify discrepancies
  3. Correct – resolve discrepancies
  4. Communicate – ensure continuity of medication information

Consider the following tools (Canadian Safety Patient Institute & ISMP Canada, 2015) to assist in the “Med Rec” process:
- [Ontario Primary Care Medication Reconciliation Guide](#)
- [BPMH Interview Guide](#)
- Assess the appropriateness of medications guided by [Beers Criteria](#) or [STOPP-START Criteria for Potentially Inappropriate Prescribing in Older People](#).

- Review prescribing tips in older adults (see pages 8-9).
- Identify opportunities for de-prescribing using guidelines, pamphlets, and resources from:
  - [Deprescribing.org](#) or [All Wales Therapeutics & Toxicology Centre](#) (resources specific to frail older adults)
- Involve older adults in prescribing decisions to ensure that the plan of care meets their needs and preferences. Confirm patient understanding of their medications. Clarify patient preference for family involvement in medication discussions.

- Share concerns arising from the “Med Rec” process within the circle of care (healthcare team).
- Communicate up-to-date medication lists and actual or potential adverse drug reactions (ADRs) for monitoring by providers within the circle of care.
- Provide older adults with clearly written medication summaries and instructions, including how to monitor for ADRs (use a min. font size of 12).
- Provide older adults with information on self-management of their conditions and encourage them to take an active role in medication safety.
- Encourage use of the Ministry of Health and Long-Term Care’s [MedsCheck](#) program (medication review at a pharmacy or in home).
Polypharmacy in hospital

- Ensure that accurate and complete medication information is available from admission through discharge. Consider the following tools (Canadian Safety Patient Institute & ISMP Canada, 2017) to assist in the “Med Rec” process:
  - Medication Reconciliation in Acute Care Getting Started Kit
  - Medication Reconciliation in Acute Care Poster
  - BPMH Interview Guide
- Assess the appropriateness of medications guided by Beers Criteria (the American Geriatrics Society, 2015) or STOPP-START Criteria for Potentially Inappropriate Prescribing in Older People (NHS Cumbria Clinical Commissioning Group, 2016).

- Review prescribing tips in older adults (see pages 8-9).
- Identify opportunities for de-prescribing using guidelines, pamphlets, and resources from:
  - Deprescribing.org or
  - All Wales Therapeutics & Toxicology Centre (resources specific to frail older adults)
- Identify if medications could be the cause of hospital admission.
- Involve older adults in prescribing decisions to ensure that the plan of care meets their needs and preferences. Confirm patient understanding of their medications. Clarify patient preference for family involvement in medication discussions.

- Share concerns arising from the “Med Rec” process within the circle of care (healthcare team).
- Discuss anticipated changes to long-standing medication regimens with primary care providers.
- Communicate up-to-date medication lists and actual or potential adverse drug reactions (ADRs) for monitoring by providers within the circle of care.
- Provide older adults with clearly written medication summaries and instructions, including how to monitor for ADRs (use a min. font size of 12).
- Provide older adults with information on self-management of their conditions and encourage them to take an active role in medication safety.
- Encourage use of the Ministry of Health and Long-Term Care’s MedsCheck program (medication review at a pharmacy or in home).
Polypharmacy in long-term care

- Ensure that accurate and complete medication information is available by conducting medication reconciliation (“Med Rec”), especially when there has been a transition in care. Consider the following tools (Canadian Safety Patient Institute & ISMP Canada, 2017) to assist in the “Med Rec” process:
  - Medication Reconciliation in Long Term Care Getting Started Kit
  - Medication Reconciliation in Long Term Care Poster
  - BPMH Interview Guide
- Assess the appropriateness of medications guided by Beers Criteria (the American Geriatrics Society, 2015) or STOPP-START Criteria for Potentially Inappropriate Prescribing in Older People (NHS Cumbria Clinical Commissioning Group, 2016).

- Review prescribing tips in older adults (see pages 8-9).
- Conduct periodic medication reviews to determine the appropriateness of each medication. Consider using a framework such as DEBRIDE (Dose + frequency, Effects, Benefit, Risk, Indication, Drug monitoring, Expectations) (College of Physicians and Surgeons of Alberta).
- Identify opportunities for de-prescribing using guidelines, pamphlets, and resources from:
  - Deprescribing.org or
  - All Wales Therapeutics & Toxicology Centre (resources specific to frail older adults)
- Involve older adults or their substitute decision makers in prescribing decisions to ensure that the plan of care meets their needs and preferences. Confirm understanding of their medications. Clarify preference for family involvement in medication discussions.
- Share concerns arising from the “Med Rec” process within the circle of care (healthcare team).
- Communicate up-to-date medication lists and actual or potential adverse drug reactions (ADRs) for monitoring by providers within the circle of care.
- Provide staff and older adults or substitute decision makers with clearly written medication summaries and instructions, including how to monitor for ADRs (use a min. font size of 12).
- Provide medication information to staff and older adults or their substitute decision makers to encourage them to take an active role in medication safety.
References


Driving system change to advance the quality of care for older adults living with frailty. Innovating bold solutions to complex care problems.

REGIONAL GERIATRIC PROGRAM OF TORONTO
Better health outcomes for frail older adults

www.rgptoronto.ca