Addressing the hidden risk of cumulative medicines

CATAG Teaching Tool

Introduction

The use of multiple medicines carries a hidden risk of cumulative medicines toxicity and increased risk of adverse effects. This risk of harm can be addressed by implementing a polypharmacy stewardship program. This program could include screening strategies for identifying people with inappropriate polypharmacy and at risk of cumulative medicines toxicity. These should be implemented at transitions of care and with any significant change in an individual's circumstances.

This case scenario should be used as a teaching tool by clinical educators in teaching sessions for medical officers, nurses, pharmacists, and students. It provides a clinical example of assessing potential cumulative medicines risk in the hospital. It can be used by educators to demonstrate the use of different tools to facilitate risk assessment and encourage deprescribing in hospitals. Medicines and Therapeutics Advisory Committees should share this teaching tool along with the Practice tool with clinical educators.

Scenario for multiple medicines review

Mr Jones is a 78 year-old male with a history of ischaemic heart disease (IHD) (coronary artery stenting some years ago), hypertension, atrial fibrillation (AF), gastro-oesophageal reflux disease (GORD), chronic low back and neck pain, and depression.

He presented to hospital with dizziness, nausea, and ankle swelling.

Mrs Jones, his wife, reported seeing more bruising on his forearms, and felt he had worsening cognitive decline, was becoming more unsteady on his feet, and said she felt less safe in the car when he drove.

A best possible medication history was obtained (see below).

Medicines on admission

diclofenac 50 mg twice a day as needed (patient reports using once or twice a week)

apixaban 5 mg twice a day

aspirin 100 mg daily

rosuvastatin 10 mg daily

pantoprazole 40 mg daily

citalopram 20 mg daily

oxazepam 15 mg before bed as needed (Mr Jones states he takes regularly)

atenolol 25 mg twice a day

amlodipine 5 mg daily

irbesartan 150 mg with **hydrochlorothiazide 12.5 mg** daily

glyceryl trinitrate (GTN) spray as needed for chest pain (no recent episodes of chest pain, not used "for years")

fish oil 1 g daily (not prescribed, Mr Jones states self-started six months ago as he heard it's "good for joint pain, as well as heart health and memory").

On admission, his Mini Mental State Examination (MMSE) score was 23/30; and blood pressure measures were suggestive of a postural drop; 123/79 sitting and 112/70 standing. UECs showed some renal impairment and full blood count (FBC) was unremarkable.

During the admission; he is diagnosed with heart failure with left ventricular systolic dysfunction (LVEF = 35%).

Diclofenac, aspirin, amlodipine, hydrochlorothiazide, and glyceryl trinitrate were ceased by the prescriber, and atenolol was changed to bisoprolol. Fish oil was not continued during the admission based on the recommendation of the pharmacist who did the admission medicines reconciliation and documented the rationale, including the theoretical increased bleeding risk, questionable benefit, and that the Mr Jones wished to discontinue due to financial strain.

The rationale for cessation or change of medicines should be communicated and discussed with Mr Jones, his wife, his general practitioner and any other community clinicians to ensure safe ongoing management and care. While these medicines adjustments address his acute clinical changes; this is not the end of his medicines journey and there exists an opportunity for hospital clinicians to highlight ongoing cumulative medicines risks, make suggestions regarding ongoing management, and empower primary care providers to address these.

Medicines on discharge

paracetamol SR 650mg 2 three times daily

apixaban 5 mg twice a day

rosuvastatin 10 mg daily

pantoprazole 40 mg daily

citalopram 20 mg daily

oxazepam 15 mg before bed as needed

bisoprolol 1.25mg daily

irbesartan 150 mg daily

furosemide 20mg mane

A ‘patient centred’ stepwise approach to deprescribing

1. **Patient engagement & information gathering.**
2. **Document indications, benefits and potential harms.**
3. **Determine if medicine(s) can be ceased. Prioritise. Agree and share a plan.**
4. **Monitor, support and document.**

1 Patient engagement and information gathering.

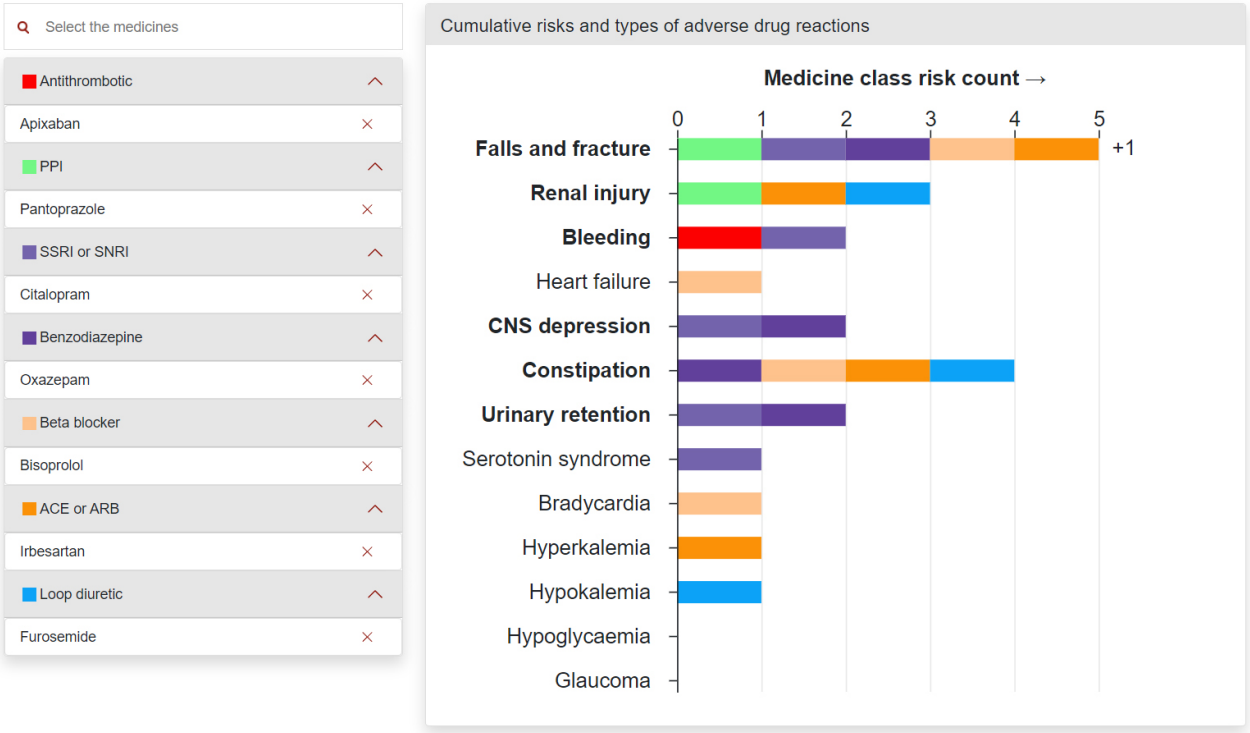
I'm sick of taking tablets.

Mr Jones

I'm having trouble keeping track of his medicines, he is getting more forgetful and has had a couple of minor slips and falls.

Mrs Jones

Assessment of his cumulative medicines risk at discharge using the Cumulative risk calculator shows the following:



2 Document indications, benefits and potential harms.

There are many potential harms including ones that may result in significant morbidity. Based on the cumulative risk tool, you can visualise that Mr Jones remains at risk of falls and fractures, constipation, renal injury, bleeding, CNS depression, and urinary retention.

3 Determine if medicine(s) can be ceased. Prioritise. Agree and share a plan.

There are multiple medicines that could be considered for deprescribing after discharge.

- **Oxazepam** increases falls risk and confusion. Cessation of benzodiazepines requires a slow taper to prevent withdrawal effects (see below).
- **Pantoprazole** long-term use is rarely indicated and may increase risk of fractures and pneumonia. In the absence of an indication for ongoing treatment, deprescribing should be considered. NSAIDs, aspirin, calcium channel blockers, nitrates, and benzodiazepines can worsen GORD or cause peptic ulcer disease; pantoprazole may have been initiated as part of a prescribing cascade.
- **Citalopram** is a selective serotonin reuptake inhibitor (SSRI). This medicine class is accepted as first line in the treatment of depression in older people but can cause hyponatremia and may increase fracture risk. If Mr Jones has no current indication for SSRI (i.e. no depression during past six months) deprescribing could be considered. Cessation requires a slow taper to prevent withdrawal effects (see below).

Oxazepam is identified as the highest priority for deprescribing. This is discussed with Mr and Mrs Jones and they are agreeable to this.

For some medicines, a tapering schedule may be indicated. In planning a tapering schedule consider the length of time the person has been on the medicine, and the risk of withdrawal symptoms, including the severity of any withdrawal symptoms.

For hospitalised patients also consider the possible length of stay and how the taper may be safely continued upon or after discharge. NSW Therapeutic Advisory Group has published Deprescribing Guides including tapering advice for several medicines see Benzodiazepines and Z drugs.

4 Monitor, support and document.

- Communicate clearly to the patient's GP and other healthcare providers through the discharge summary the medicines plan, particularly for tapering and cessation.
- Provide medicines lists to the patient and carers on discharge, with thorough counselling so they understand the medicines plan.
- If patients or carers indicate it would help, suggest a dose administration aid.
- Consider recommending a comprehensive medicines review.

Mr Jones' discharge summary includes the following communication (see below).

Cessation of oxazepam requires a slow dose reduction of 25-50% of the daily dose each week to month; see 1.1-Deprescribing-Guide-for-Benzodiazepines-and-Z-Drugs.pdf (nswtag.org.au) for further information.

Mr Jones received counselling on bowel care to reduce risk of constipation.

Preferred Language (Adapt for each patient and medicine as appropriate)

Mr Jones (Patient name) **is currently taking** *oxazepam* (active ingredient e.g. temazepam 10 mg daily)

for *insomnia* (indication e.g. insomnia), **and is currently experiencing/at risk of** *falls and fractures* (patient issue e.g. adverse effects).

The *risk* (risk/benefit + rationale) **outweighs the** *benefit* (risk/benefit + rationale) **for continued use of** *oxazepam* (active ingredient e.g. temazepam).

Discussed with *Mr Jones and his wife* (patient/carer name) **and** *he agreed to the* (agreed/willing to trial/considering/declined) **deprescribing recommendation.**

Adapted from Deprescribing tools - NSW Therapeutic Advisory Group with permission. www.nswtag.org.au/deprescribing-tools/

Produced by:

The Council of Australian Therapeutic Advisory Groups for Medicines Advice Initiative Australia (MAIA).

MAIA is provided to you by University of South Australia | Quality Use of Medicines and Pharmacy Research Centre in association with:

Australian Medicines Handbook (AMH)

Drug and Therapeutics Information Service (DATIS)

Discipline of General Practice, The University of Adelaide

National Aboriginal Community Controlled Health Organisation (NACCHO)

Pharmaceutical Society of Australia (PSA)

Council of Australian Therapeutic Advisory Groups (CATAG)

Acknowledgement

MAIA is funded by the Australian Government through the Quality Use of Diagnostics, Therapeutics and Pathology Program.

Version 1: March 2024

Australian Government
Department of Veterans' Affairs

Medicines Advice Initiative Australia

CATAG
Council of Australian Therapeutic Advisory Groups

CATAG.org.au

Supporting quality use of medicines.

MedicinesAdvice.net.au