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Cumulative Medicines

Medicines Advice Initiative Australia

CATAG Council of Australian Therapeutic Advisory Groups

Addressing the hidden risk of cumulative medicines

CATAG Practice Tool

Key Points

The use of multiple medicines carries a potential hidden risk of cumulative toxicity and increased risk of adverse effects. These risks may not always be identified without formal assessment, especially during short-term acute care scenarios.

Hospital practice and discharge communications significantly impacts the long-term management of people's health.

Cumulative medicines risk should be assessed at transitions of care, including admission, transfer, and discharge, and with any significant change in a person's circumstances.

Medicines and Therapeutics Advisory Committees should promote polypharmacy stewardship programs within hospitals.

Medicines and Therapeutics Advisory Committees should encourage medicines review and appropriate deprescribing as an active constituent of hospital care, particularly at transitions of care or with any significant change in individual circumstances.

Background

Medicines can provide many benefits to treat and prevent health problems, but they come with risks.[1] Medicines that were once helpful when first prescribed may no longer be helpful or become unsafe.[2]

One-quarter of people on multiple medicines (polypharmacy) have adverse effects directly attributable to the additive effects of one or more medicines.[3]

Certain medicines are common culprits for higher cumulative risk e.g. anticholinergics, antipsychotics, diuretics, antidepressants, and analgesics such as opioids, and non-steroidal anti-inflammatory drugs (NSAIDS).[4] Assessing cumulative medicines risk should be considered a key and ongoing component of hospital care.

The greatest predictor of medicine adverse effects occurring is the number of medicines taken

Purpose

CATAG has developed this practice tool to share tools for identifying people at "hidden risk" of cumulative medicines toxicity, implementing local medicines stewardship programs, and promoting safe and appropriate deprescribing with Medicines and Therapeutics Advisory Committees*. It is recommended that these or similar tools be included in local policy by Medicines and Therapeutics Advisory Committees, to promote clinical assessment, referral, review and communication for people at risk of increased harm from cumulative medicines toxicity.

Implementation of this advice, including evidence demonstrating routine application of cumulative risk assessment and de-prescribing, may be used as evidence towards achievement of NSQHS Standard 1 Clinical Governance, Standard 2 Partnering with Consumers, Standard 4 Medication Safety, Standard 5 Comprehensive Care and Standard 6 Communicating for Safety.

Polypharmacy stewardship

The CATAG Guiding Principles for Medicines Stewardship Programs and toolkit provide a robust framework upon which to base the implementation of medicines stewardship programs within hospitals. This framework recommends a suite of coordinated strategies and interventions for health service organisations to implement to ensure the safe and quality use of medicines and minimise harm to individuals and society.

'Polypharmacy' refers to the use of multiple medicines, usually defined as five or more regular medicines. Although taking multiple medicines may be appropriate for some people, the risk of harm is increased due to increased exposure to the various individual medicines as well as from cumulative toxicity.[5] Factors contributing to inappropriate polypharmacy include:

- Medicines being added to treat temporary symptoms, which may not be reassessed by a clinician.[6]
- Multi-morbidity, which increases the chance of multiple prescribers for people.[7,8]
- Fear of symptom rebound and uncertainty in how to reduce dosage.[8]
- Clinician-perceived lack of advice about deprescribing including availability of specific guidelines.[9]
- Clinicians feeling they haven't got enough time, or finding dealing with a large number of medicines overwhelming ('therapeutic inertia').[7,9]

CATAG recommends that hospitals implement a polypharmacy stewardship program that includes screening for polypharmacy and risk of cumulative medicines toxicity, at transitions of care including admission, transfer, and discharge, and with any significant change in an individual's circumstances.

Important aspects of medicines stewardship programs are the implementation of practical tools in the busy hospital environment and ongoing monitoring and auditing; a suite of indicators and resources are available at: Polypharmacy QUM Indicators and Resources. These indicators are tools designed to evaluate processes identifying medicines-related harm in older hospitalised people and the management of inappropriate polypharmacy in hospitals following identification to inform stewardship activities.The indicators target common areas of medicines-related harm in older people: inappropriate polypharmacy, falls, and impairment of cognitive and physical function, and can be used at the unit, department or facility level. The resources available at Polypharmacy QUM Indicators and Resources include risk assessment tools, Patient Reported Experience Measures (PREMs) and posters.

*Examples of Medicines and Therapeutics Advisory Committees include drug and therapeutics committees, medicines advisory committees or equivalent, medication safety committees.

Guiding Principles for Medicines Stewardship Programs

Medicines Stewardship Toolkit

Polypharmacy QUM Indicators and Resources

Some hospitals have embedded medicines harm assessment tools into electronic medicines management systems, such as the Drug Burden Index (DBI) calculator. The DBI is a measure of the cumulative exposure to anticholinergic and sedative medicines; these medicines impair physical and cognitive function in older adults.[10]

The Cumulative Risk Calculator is an online calculator used to visualise potential cumulative risk of adverse effects from a person's medicines. This tool has been developed and adapted from the Scottish polypharmacy guidelines 2018 and can be used to visualise how adjustments to their medicines might reduce the risk of cumulative adverse effects.[4] The tool focuses on commonly used medicines, commonly preventable adverse drug reactions (ADRs) and interactions between medicines classes rather than individual medicines e.g. antithrombotics are counted only once. The tool is not meant to replace more detailed medicines information sources or comprehensive medicines review.

Where inappropriate polypharmacy or cumulative medicines toxicity is identified, deprescribing may be used to reduce the risk of harm.

Deprescribing

Deprescribing is a person-centred and systematic process to taper, reduce or stop the use of potentially inappropriate medicines.[11] Deprescribing requires close, consistent monitoring of the person to ensure that the tapering of the medicine, or discontinuation, is both safe and effective.

Deprescribing can reduce both the risk of adverse effects and financial cost to the individual, and is also beneficial to the broader community through decreased financial and environmental burdens[12].

The Deprescribing tools - NSW Therapeutic Advisory Group provide deprescribing information that can be applied to written or verbal communication between clinicians, patients or carers.

Triggers for deprescribing include:[13]

- Inappropriate indication
- No current indication
- Presence or risk of adverse events
- Drug interaction
- Drug-disease interaction
- Identified cumulative medicine risk or high drug burden index
- Lack of adequate response
- Need for escalating dose without adequate response
- Poor adherence
- Aberrant behaviours developed by the individual
- Individual preference

A 'person-centred' stepwise approach to deprescribing should be used. For further information access the Pharmacist Quick Reference Guide: Cumulative Medicines.

Drug Burden Index

Cumulative risk calculator

Deprescribing tools - NSW Therapeutic Advisory Group

Communicating effectively at discharge

It is important to communicate and discuss the rationale for deprescribing of medicines with the individual, their carers, general practitioner and other community clinicians to ensure safe ongoing management and care.

It is important to document the deprescribing discussion in the medical records and discharge summary and include in this documentation whether the person or carer agrees or declines the deprescribing recommendation. An evidence-based template for communicating deprescribing information and shared decision-making discussion is shown below:

If deprescribing is commenced in hospital and tapering needs to continue after discharge, the tapering plan must be clearly communicated to the person and carer, where appropriate, and documented in the discharge summary.

If inappropriate polypharmacy is suspected or cumulative medicines risk identified but a comprehensive medicines review cannot be undertaken during the hospital admission, a recommendation for a post-discharge comprehensive medicines review should be included in the discharge summary.

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

_____ is currently taking _____
(Patient name) (active ingredient e.g. temazepam 10 mg daily)

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

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

Discussed with _____ and _____ deprescribing recommendation.
(patient/carer name) (agreed/willing to trial/considering/declined)

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

Next steps

For Medicines Governance Committees

Consider review of relevant policies to encourage polypharmacy stewardship and best practice processes for appropriate deprescribing.

Consider using the National QUM Indicators for Australian Hospitals to monitor processes for reducing inappropriate polypharmacy and improving deprescribing activities.

Consider promotion of a polypharmacy stewardship program.

Promote appropriate deprescribing as an active component of hospital care.

Adopt a promotional period for deprescribing within the hospital, such as MedsAware: Deprescribing Action Week led by the Society of Hospital Pharmacists of Australia annually.

Circulate this bulletin to clinicians and clinician educators.

For Clinicians

Assess cumulative medicines toxicity risk at transitions of care, including admission, transfer, and discharge, or with any significant change in an individual's circumstances.

Look for opportunities to deprescribe, particularly at transitions of care and with any significant change in an individual's circumstances.

Ensure medicines management plans are communicated to the person and carer, where appropriate, as well as documented in the medical records including the discharge summary. Consider also verbal communication with the GP and the community pharmacist, particularly when a deprescribing plan has been implemented.

Resources

Tools and further information for implementation:

- CATAG Guiding Principles for Medicines Stewardship Programs
- Guideline for Deprescribing Opioid Analgesics [University of Sydney]
- Polypharmacy QUM Indicators and Resources - NSW Therapeutic Advisory Group
- Clinical Practice Guideline for Deprescribing Cholinesterase Inhibitors and Memantine [University of Sydney]
- G-MEDSS (registration required)
- List of Australian potentially inappropriate medicines
- Cumulative Risk Calculator
- Australian Deprescribing Network
- Deprescribing tools [NSW Therapeutic Advisory Group]
- Medication management- Deprescribing [Primary Health Tasmania]

Indicators for surveillance and monitoring:

- National Quality Use of Medicines Indicators for Australian Hospitals

Appendix 1: How this was developed

CATAG has developed this practice tool as part of the Medicines Advice Initiative Australia (MAIA); Supporting quality use of medicines consortium. This practice tool aims to assist good governance and decision-making for health service organisations, medicines governance committees and health professionals.

This guidance was developed in consultation with the CATAG member organisations listed below:

ACT Health

Clinical Excellence Commission, NSW Health

NSW Therapeutic Advisory Group (NSW TAG)

Northern Territory Drug and Therapeutics Committee

Queensland Health Medicines Advisory Committee (QHMAC)

South Australian Medicines Advisory Committee (SAMAC)

Tasmanian Medicines Access and Advisory Committee (TMAAC)

Victorian Therapeutics Advisory Group (Vic TAG)

Western Australian Therapeutics Advisory Group (WATAG)

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National Aboriginal Community Controlled Health Organisation (NACCHO)

Pharmaceutical Society of Australia (PSA)

Council of Australian Therapeutic Advisory Groups (CATAG)

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