8.5 Percentage of older patients at high risk of medication-related harms with a recommendation for a post-discharge medication review, when hospital-based medication review is not performed.

Purpose

This indicator addresses the effectiveness of processes intended to ensure older patients who were identified as having a high risk of medication-related harms and who did not receive a hospital-based medication review, have potential medication-related harm addressed following hospital discharge.

Background and evidence

Older people are at greater risk of medication harm due to the numbers of medicines they are taking for complex and often multiple medical conditions, and the reduced ability of the ageing body to metabolise and excrete medicines.[1] Hospitalised older adults living with frailty often present with acute diseases, which may increase their susceptibility to medication-related harms and intensify the severity of drug-related illnesses.[2] It is estimated that in Australia during 2016 – 2017, 250,000 hospital admissions annually were a result of medication-related problems costing approximately $1.4 billion, and an additional 400,000 presentations to emergency departments were due to medication-related problems with 50% of this harm being preventable.[3]

Inappropriate medicines (where the risk of harm outweighs the likely benefit for the individual patient) are a major burden to older adults and the health system and are low value health care.[4] Supervised withdrawal of inappropriate medicines (deprescribing) is safe and may improve quality- of-life in older people.[5]

Medications commonly implicated in medication-related harm in older patients include:

- Those designated as high risk medicines (HRMs) by local and jurisdictional policies.[6,7] HRMs commonly include anti-infectives (especially aminoglycoside antibiotics), electrolytes, all insulins, opioids, chemotherapeutic agents, anticoagulants and antipsychotic medications.[6]
- Fall-risk-increasing-drugs (FRIDs)[*8,9]
- Those which may decrease cognition and worsen confusion and/or impair physical function[†10,11]

Various interventions to reduce potentially inappropriate prescribing in older patients have been studied including medication reviews and the intervention of geriatric services.[1] Results of these studies suggest these interventions are most effective when delivered using a multidisciplinary team framework and conducted in partnership with the patient, carer or family member. The National Safety and Quality Health Service (NSQHS) Standards 2nd edition, Medication Safety Standard, requires health service organisations to have processes to perform medication reviews, enable prioritisation of medication reviews based on clinical need and minimising the risk of medication-related problems, and support documentation of medication reviews and subsequent actions.[12]

While a hospital-based medication review is considered best practice in older hospitalised patients at high risk of medication-related harm, this may not always be possible e.g. due to staffing and/or time constraints.[1] In the event that a hospital-based medication review cannot be undertaken, it is recommended that a comprehensive post-discharge medication review is conducted. In some circumstances, both hospital-based and post-discharge medication reviews may be appropriate.

[*] Examples of FRIDs include antipsychotics, antidepressants, anxiolytics/sedatives, dopamine D2 agonists, opioids, anticholinergic drugs, antihistamines, anti-vertigo drugs, hypoglycaemics, beta-blocker eye drops, anti-hypertensives, anti-arrhythmics, digoxin, nitrates and other vasodilators. The AMH Aged Care Companion medicines that may contribute to risk of falls. A table in the relevant NSW TAG tool MFRAT lists common fall-risk-increasing drugs.

[†] The AMH Aged Care Companion has a section that discusses medicines that may decrease cognition and worsen confusion. A table in the relevant NSW TAG tool FUN-RAT lists common medicines associated with impairment of cognitive and/or physical function in older persons.

Key definitions

Older patients refers to all patients aged 65 years and over.
Note: Other age definitions may be appropriate for some high risk patient groups e.g. 50 years and older for Aboriginal and Torres Strait Islander people, residents of aged care facilities or patients with low literacy skills.[13,14]

At high risk of medication-related harms means that, due to the medications that they are on or that have been temporarily withheld, the patient has been assessed as being at high risk of adverse effects such as adverse drug reactions, falls, and impairment of cognitive and/or physical function. NSW Therapeutic Advisory Group's (TAG's) tool, *Criteria to Identify Patients at High Risk of Medication-Related Harm,* can be used to assist identification of sample patients for auditing of in the event that health service organisations do not have locally-approved tool(s) for risk categorisation of medication-related harm.

Post-discharge medication review (PDMR) refers to a review undertaken by an accredited pharmacist involving the patient's general practitioner and according to relevant business rules.

An accredited pharmacist can be accessed through:

- Home Medicines Review (HMR) – for community-based patients; OR
- Residential Medication Management Review (RMMR) – for residents of aged care facilities; OR
- A hospital outreach service (this may include telehealth services).

The PDMR recommendation, referral or initiated arrangements must be explicitly documented in the discharge summary or letter or another designated place as determined by local policy which ensures continuity of medicines management information.

Best practice recommends including the rationale for the PDMR recommendation/arrangement in the discharge documentation.

The Department of Health Medication Management Reviews business rules for HMR and RMMR services may apply for PDMRs.[15]

Hospital-based medication review (HBMR) is a multidisciplinary responsibility and refers to the following person-centred process:

- a comprehensive and systematic review of all a patient's regular, when necessary, complementary and over the counter medications, including those that are temporarily withheld during hospital admission;
- contains findings and recommendations to optimise the patient's medicines and outcomes of therapy (i.e. optimising effectiveness and minimising harms) and includes implementation of strategies to mitigate risk of medication-related harm such as changes in doses or dosage regimens, adherence education, initiation of deprescribing plans and/or commencement of medicines for unmet clinical needs and takes into account a patient's values and preferences;
    - documentation must include supporting evidence or rationale for any strategies recommended or implemented;
- is undertaken by an *appropriate health care professional or team.* (See definition specified in NSW TAG QUM Indicator 8.4); AND
- should be conducted during hospitalisation and documented no later than by the end of the third calendar day after hospital admission. If delayed past three days, the HBMR should be conducted at least one calendar day prior to planned hospital discharge.[12,16]

Further information regarding HBMR is documented in NSW TAG QUM *Indicator 8.4 Percentage of older patients at high risk of medication-related harms that receive a hospital-based medication review and, if applicable, a deprescribing plan. Available here:* *https://www.nswtag.org.au/qum-indicators/*

Data collection for local use

Please refer to the section *Using the National Quality Use of Medicines Indicators for Australian Hospitals* for guidance on sample selection, sample size, measurement frequency and other considerations.

Inclusion criteria: Patients aged 65 years and over, or other ages for high risk groups as appropriate, admitted to hospital for greater than 24 hours who are at high risk of medication-related harm and who do not receive a hospital-based medication review.

Exclusion criteria: Patients with length of stay less than 24 hours from the time of hospital admission, patients cared for in the emergency department.

Recommended data sources: Medical records (including but not limited to specific referral forms or correspondence letters) and discharge documentation such as the discharge summary.

The data collection tool (DCT) for NSW TAG QUM Indicator 8.5 assists data collection and provides automatic indicator calculation.

Data collection for inter-hospital comparison

This indicator may be suitable for inter-hospital comparison. In this case, definitions, sampling methods and guidelines for audit and reporting need to be agreed in advance in consultation with the coordinating agency.

Indicator calculation

$$\frac{\text{Numerator}}{\text{Denominator}} \times 100\%$$

Numerator = Number of older patients at HIGH risk of medication-related harms, who do not receive a hospital-based medication review, that have a documented recommendation or referral for a post-discharge medication review.

Denominator = Number of older patients at HIGH risk of medication-related harms, who do not receive a hospital-based medication review, in sample.

Limitations and interpretation

In some circumstances, both hospital-based and community-based medication reviews may be appropriate. Health service organisations may wish to also measure the extent and appropriateness of patients who receive a HBMR and a recommendation for PDMR.

It is acknowledged that there may be various referral systems in place that facilitate PDMR. However, for best practice continuity of medicines management, a recommendation, referral or initiated arrangements for a PDMR should be included in communications to the ongoing primary care provider, such as the discharge summary. A recommendation or referral for a PDMR does not guarantee that such a review will occur. Although this is likely to be outside the influence of the health service organisation, national/jurisdictional policy and programs and/or modified business rules for HMR and RMMR may facilitate referral and follow up pathways.[17]

There may be patients not categorised as high risk of medication-related harm (e.g. at moderate risk of medication-related harm or those with social or other risk factors) who may still benefit from a PDMR. Health service organisations may also wish to measure recommendations for PDMR in these patients. Other interventions for individual patients apart from medication review may be implemented to reduce medication-related harm such as dose administration aids.

Health service organisations may also wish to measure these interventions in addition to medication review provision.

Collecting data for different patient groups (e.g. patients admitted to specific wards such as geriatric wards, orthopaedic wards; or patients admitted under a specific team/specialty; or those admitted due to medication-related harm) may inform post-audit interventions (this may be documented in the 'Comments' column of the DCT).

Some performance monitoring and/or quality improvement projects may wish to include additional risk criteria or limit the patient sample e.g. patients with specific conditions, prescribed certain medication classes, or under the care of a specific specialty.

It is recommended that this indicator be read and measured in conjunction with *NSW TAG QUM Indicator 8.4 Percentage of older patients at high risk of medication-related harms that receive a hospital-based medication review and, if applicable, a deprescribing plan*. Furthermore, it may be desirable for health service organisations to consider measurement of indicators 8.1, 8.2 and 8.3 at the same time as indicators 8.4 and 8.5 to demonstrate the systematic process of optimal medicines management of older patients.

See NSW TAG QUM Indicators 8.1 to 8.3 (*Assessing risk of medication-related harms*) and 8.6 and 8 .7 (*Discharge procedures/actions for patients at high risk of medication-related harms*) for further information regarding the management of older patients at high risk of medication-related harms.
Indicators available here:
https://www.nswtag.org.au/qum-indicators/

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