8.3 Percentage of older patients that are appropriately assessed for risk of medication-related impairment of cognitive and/or physical function.

Purpose

This indicator addresses the effectiveness of processes for identifying risk of and preventing medication-related impairment of cognitive and/or physical function in older hospitalised patients.

Background and evidence

Older people carry a high burden of illness for which medications are indicated, along with increased risk of adverse drug reactions. Prescribing for older people requires careful assessment of the potential benefits and harms of all the person's medications. Anticholinergic and sedative medications are commonly used in older adults and are associated with adverse clinical outcomes, including impairment of cognitive and/or physical function, such as delirium and impairment of mobility and balance.[1-5] Delirium, a clinical syndrome characterised by inattention, disorientation, memory loss and acute cognitive dysfunction, is common in hospitalised older people.[6] Delirium is a serious potentially preventable condition associated with increased mortality and significant morbidity that prolongs hospitalisation and may lead to long-term cognitive decline and premature residential care admission.[7] Delirium is poorly recognised during hospitalisation.[8,9]

The National Safety and Quality Health Service (NSQHS) 2nd edition, Comprehensive Care Standard, requires that relevant health service organisations have systems that incorporate best-practice strategies for early recognition, prevention, treatment and management of cognitive impairment.[10] Delirium episodes during hospitalisation are considered hospital-acquired complications (HAC) with funding ramifications for health service organisations.[7]

Studies have shown an association between polypharmacy and delirium; and, between increasing exposure to certain medication classes, particularly sedatives and anticholinergics, and impairment in physical and/or cognitive function in older people.[6,11-15] Some medications associated with delirium may not have anticholinergic or sedative properties, for example, corticosteroids.

Commonly used risk assessment tools recommended for assessing risk of harm in older people in hospital do not adequately assess medication-related risk or categorise risk of medicine-related cognitive and/or physical impairment.[16] A number of tools have been developed to identify older patients at risk of developing medication-related harm.[17] The Drug Burden Index (DBI) is a tool that measures the overall dose of exposure to medications with anticholinergic and sedative properties and has shown association with impairment of cognitive and/or physical function.[1-5,13] Identifying risk and then reviewing and reducing the use of anticholinergic drugs before people develop any cognitive problems may be an important way to prevent the risk of cognitive impairment, especially significant for people who have an elevated risk of developing Alzheimer's disease.[15] The Medication-Related Impairment of Cognitive and/or Physical Function Risk Assessment Tool (FUN-RAT) developed by the NSW Therapeutic Advisory Group (TAG) can be used to stratify the degree of risk of medication-related impairment of cognitive and/or physical function and recommended actions according to risk category in the event health service organisations do not have a locally-approved tool.

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.[18,19]

Appropriately assessed for risk of medication-related impairment of cognitive and/or physical function means that there is explicit documentation in the medical record (or in another designated place as determined by local policy), of the patient's risk of medication-related impairment of cognitive and/or physical function including the degree of risk of impairment (high, moderate or low risk) and the identified anticholinergic and/or sedative medications (see Table 1 for further information).

Table 1: Requirements for appropriate assessment for risk of medication-related impairment of cognitive and/or physical function

• Documentation of the risk category assigned to the patient after using a risk assessment tool for medication-related impairment of cognitive and/or physical function. Facilities may have the DBI calculator in use or may use a locally approved tool. Alternatively, an example of a risk assessment tool for medication-related impairment of cognitive and/or physical function can be found here.
AND • Documented rationale for risk category: ○ Documentation of the names of any identified likely contributory medications (including those that the patient has had temporarily withheld during hospital admission) OR ○ Documentation of an absence of any of these medications. All relevant information used for categorisation should be documented. (Note: a local risk assessment tool may use or include other reasons to determine medication-related risk categorisation).
AND • Completion by one or more health care professionals trained/credentialed (according to local policy) to identify anticholinergic and sedative medications
AND • Completion by the end of the next calendar day after admission.

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.

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, medication charts and medication management plans or reconciliation forms, drug burden index (DBI) tools, if available.

As lists of culprit medications may vary between and within health service organisations or change over time, it is recommended that prior to auditing, the auditor documents the medicines against which they will audit. The AMH Aged Care Companion has a section that discusses medicines that may decrease cognition and worsen confusion and contribute to the risk of delirium.[20] The NSW TAG FUN-RAT lists common anticholinergic, central nervous system (CNS) and sedative drugs that may impair cognitive and physical function in older patients.

The data collection tool (DCT) for NSW TAG QUM Indicator 8.3 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 that have a documented medication-related impairment of cognitive and/or physical function risk assessment identifying degree of risk.

Denominator = Number of older patients in sample.

Limitations and interpretation

This indicator only measures assessment at one point in time (within approximately 24 hours of hospital admission). However, preventable risk of inappropriate polypharmacy may continue or increase during hospitalisation and repeat assessment and intervention may be required.

There may be variation in the location of documented risk assessments. It is recommended that sites determine useful local data sources prior to auditing and consider collecting data about the location of documentation to inform quality improvement and future repeat auditing.

Electronic DBI tools may assess risk using currently prescribed medications only.

This indicator focuses only on the medication component of cognitive and/or physical impairment risk and other identified risk factors will still require addressing whether there are anticholinergic and sedative medications present or not.

This indicator does not measure the quality of the completed risk assessment e.g. documentation may not accurately identify relevant medications and measures only one component of the strategies designed to reduce cognitive and/or physical impairment in hospitalised patients. Results from this indicator should be interpreted in the context of the overall performance in reducing the risk of cognitive and/or physical impairment at the organisational level.

Collecting data regarding identified anticholinergic and sedative medications and/or 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.

See NSW TAG QUM Indicators 8.1 *Percentage of older patients that are appropriately assessed for risk of harm from inappropriate polypharmacy* and 8.2 *Percentage of older patients that are appropriately assessed for risk of medication-related falls* for further information regarding the management of older patients at high risk of other types of medication-related harms. Available here: https://www.nswtag.org.au/qum-indicators/

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