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Aged Care Quality and Safety Commission

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HEALTH OUTCOMES INTERNATIONAL

Better use of medications in aged care

Improving medication management for older adults in residential aged care continues to be a national priority. There is promising evidence that the introduction of well-designed interventions can support change in prescribing practices in these settings.

Purpose

This paper presents key findings of a rapid review into contemporary evidence regarding interventions intended to improve the use of medications for older adults in the residential aged care setting.

Reading time: 10 minutes

Inappropriate prescribing is associated with a range of negative health outcomes for older adults including increased risk of falls and hospital admissions, adverse drug events and mortality.[1-3] Psychotropic medications in particular have been associated with poorer health and wellbeing outcomes for older people living in residential care, including reduced quality of life.[4] Despite these associations, the high-level use of psychotropic medicines, including antipsychotics for the treatment of behavioural and psychological symptoms of dementia (BPSD), in residential aged care services continues. Current estimates of the prevalence of psychotropic medicines in these settings remain high within Australia and internationally.[5, 6] Further to this, such medication is often used outside of approved indications, for longer than recommended or at higher doses.[7, 8]

Medication management within the residential aged care setting can be particularly complex. Compared with community dwelling adults, long term care residents will often have different goals of care, greater susceptibility to adverse drug events and higher rates of multi-morbidity.[9] Consequently, there is a need to identify effective interventions to optimise appropriate prescribing, improve resident outcomes, reduce reliance on psychotropic management, and better promote non-pharmacological strategies in these settings.[5, 10, 11]

A rapid review of contemporary literature was undertaken to explore national and international evidence regarding specific interventions intended to improve the use of medication with older adults in long term care settings.

Inappropriate prescribing is associated with a range of negative health outcomes for older adults including increased risk of falls and hospital admissions, adverse drug events and mortality.

What is being done at present?

Quality Use of Medicines (QUM) refers to 'best-possible' medication use to maximise treatment benefits and minimise the risks of medication related harm.[12]

There has been considerable investment in QUM within Australia, through a broad range of interventions, policies and resources targeting health professionals, organisations and consumers.[13] Pharmacological interventions specific to aged care are designed to improve polypharmacy; reduce the number of inappropriately prescribed medications and omissions; modify prescribing behaviours; encourage regular review and monitoring of medication; promote alternatives to pharmacological responses to particular health conditions such as dementia or depression in older adults; and educate consumers and professionals regarding appropriate medication use and drug-drug interactions.[10]

Interventions encompass a range of strategies including educational or training workshops and materials, printed and electronic resources, policy and procedure revision, academic detailing, medication audit and feedback and the introduction of local clinician champions. Interventions may be delivered through single or multiple activities involving medication review, multidisciplinary team meetings, pharmacist assessment, case conferencing, education, and clinical decision support and management systems. Interventions may be provided for, or delivered by, a range of stakeholders including healthcare professionals, educators, policy makers, consumers and service planners.

Effective interventions to reduce reliance on psychotropic management, in conjunction with active promotion of non-pharmacological strategies are critical.

How are interventions having an impact?

National and international interventions designed to improve pharmacological practice demonstrate varying degrees of success. Assessments of intervention effectiveness are informed by cross-sectional, pre-post intervention, randomised case control, quasi-experimental and observational studies.

The outcomes of studies specific to older adults in residential aged care include reduced polypharmacy; lower benzodiazepines, antipsychotics and antibiotic prescription rates or dosage; increased monitoring of dose administration, appropriate prescribing and adverse incidents or alerts; and improvements in resident functioning and wellbeing, health related quality of life, communication, mobility, appetite, health service utilisation and sleep quality.[3, 14-31]

A 2014 Cochrane review of interventions to improve appropriate polypharmacy for older people suggested that the evidence was conflicting. Despite the potential to reduce inappropriate prescribing, it was unclear whether the interventions resulted in clinically significant improvements such as reduced hospital admissions or improved quality of life.[32]

A 2018 follow up Cochrane review concluded that although intervention effects were promising, and may help to improve polypharmacy appropriateness, the clinical impact of these changes remained undemonstrated.[8]

In 2016, a review was published exploring the effect of interventions to optimise overall prescribing for older people living in residential aged care settings. The authors found no overall evidence of benefit with respect to reducing adverse drug events (harmful effects caused by medicines) or death. However, they did note that studies had led to residents having fewer days in hospital, a slower decline in health-related quality of life and improved prescribing patterns.[10]

A 2011 systematic review of randomised controlled trials, exploring the impact of interventions to reduce potentially inappropriate use of drugs in residential aged care, indicated that interventions using educational outreach, on-site education given alone or as part of an intervention package and pharmacist medication review may under certain circumstances reduce inappropriate drug use.[33] More recent systematic reviews and meta-analysis have determined there to be insufficient evidence that interventions employed to date are effective at improving antibiotic use in aged care settings[34] or reducing adverse health outcomes associated with adverse drug events for older adults.[35]

There is promising evidence that interventions can change prescribing practices, reduce medication errors, and improve attitudes toward non-pharmacological approaches to care in aged care settings. Some studies have also demonstrated medication associated cost savings.

What supports intervention effectiveness?

Despite some criticism directed toward the enduring impact of interventions, strength of effects or variability in program design and outcome measures, there are promising characteristics of intervention strategies that appear to support effectiveness. These include:

- Multifaceted interventions combining education or training strategies and involving multiple stakeholders (including older adults and their families)
- A multidisciplinary approach involving, or having access to, nurses, physicians, pharmacists and aged care staff. The inclusion of specialised pharmacists working in multidisciplinary teams appears to improve outcomes
- Regulatory policies in place to guide the intervention aim, design and adoption
- Standardised guides, policy and decision aids (referral forms, triggers or other mechanisms)
- Integration of speciality services and systemic approaches within and across aged care settings underpinned by stakeholder collaboration
- Web-supported medication reviews and data management systems
- Appropriate education and training for multidisciplinary staff at all levels
- Leadership endorsement and involvement
- Project or change 'champions'
- Tailored or flexible interventions that consider the broader context in which they are implemented, including challenges related to staffing, organisational culture, location and older adult cohort
- Alignment of intervention aims with service or organisational initiatives, quality improvement priorities and existing policy practices. [13, 19, 21, 23, 24, 28, 34-43]

Multi-component and multidisciplinary interventions that target several levels of organisational structures simultaneously appear to be most effective at reducing inappropriate psychotropic use in long-term care.

There is some evidence that medication reviews may assist to optimise medication use by decreasing anticholinergic and/or sedative medication burden and inappropriate prescribing.[44] However, the impact on clinical and resident-centred outcomes remains unclear. Current evidence also suggests that medication reviews conducted by pharmacists, either working independently or with other health care professionals, may improve the quality of medication use amongst aged care residents (under certain circumstances). Although the evidence derived from randomised controlled trials tends to be of low quality, it is supported by findings from observational studies.[45]

Where to from here?

Effectiveness of pharmacological interventions may be measured through examination of adverse drug reactions, polypharmacy and interactions, medication appropriateness, number of falls, quality of life, cognitive and physical function, hospitalisations, mortality and attitudes toward non-pharmacological care practice.

Robust conclusions from the available evidence are not able to be drawn due to variability in design, interventions, outcomes and results. Further randomised controlled trials and other high-quality studies and evaluations are necessary to better identify those specific strategies that optimise intervention outcomes. Research demonstrating the cost-effectiveness of such interventions will help to establish a business case for policy-makers and providers.[38]

It is also recommended that greater focus be placed on measuring the effect of interventions on non-clinical outcomes for older adults in residential aged care, such as quality of life.

Summary

Despite significant effort directed towards improving appropriate prescribing of medication use with older adults, particularly in the aged care services setting, the use of psychotropics in particular remains high. The likelihood of older adults receiving benzodiazepines or antipsychotics increases with age or comorbidity. Indeed, it has been suggested that those people at greatest risk of harm from these prescribing practices are often the most likely to receive them. [46]

During 2018-19, over 300,000 older people accessed residential aged care (including 64,117 adults in receipt of respite care). [47] Adults entering aged care are increasingly older and frailer; many will be taking multiple medications regularly. A combination of these factors results in higher risk of adverse drug events and greater complexity of prescribing, supply and administration of medications in these settings. [13] Issues with cognitive capacity for many residents prescribed psychotropic medications in long term care further complicates the ability of individuals to participate in decision making about medication change or deprescribing. [38]

Recent Australian interventions have demonstrated some improvement in appropriate medication use in residential aged care facilities. Ongoing evidence of effective interventions is required to reduce systemic reliance on psychotropic agents, including greater focus on their review and reduction, and the enhanced promotion of non-pharmacological care strategies for older adults in these settings. [3]

Approaches to improve medication use with older adults across the community and long-term care settings must be underpinned by good-quality evidence, encompass different interdisciplinary strategies, and involve those stakeholders most affected; that is older adults, families, and care teams. More high-quality experimental clinical research is needed to determine which interventions reliably lead to successful, meaningful and long term improvements in medication appropriateness and desired outcomes. [40]

Key Messages

Psychotropic medications have been associated with many adverse outcomes for older people living in residential care and an increased number of psychotropic medications has been linked to poorer quality of life.

The high prevalence of psychotropic and other medications in long term aged care settings demonstrates a gap between guidelines and recommendations, and clinical practice.

Prescribing behaviours are a result of complex interactions between the on-site and visiting staff. Patterns and dosage are also influenced by a range of organisational, service delivery, staffing and individual resident characteristics.

National and international interventions to improve pharmacological practice demonstrate varying degrees of success. However, there is promising evidence that such interventions can change prescribing practices, reduce medication errors, and improve attitudes toward non-pharmacological approaches to care in aged care settings.

Multi-component and multidisciplinary interventions that target several levels of organisational structure simultaneously appear to be most effective at reducing inappropriate psychotropic use in long-term care. More successful interventions are initiated, driven and sustained by organisational commitment and tangible support to implement learnings and change.

Robust conclusions from the available evidence are not able to be drawn due to variability in design, interventions, outcomes and results. Further randomised controlled trials and other high-quality studies and evaluations are necessary to better identify those specific strategies that optimise intervention outcomes.

Research demonstrating the cost-effectiveness of such interventions will also help to establish a business case for policymakers and service providers.

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Health Outcomes International (HOI) is a health and community services consulting firm. The HOI team has extensive experience in consulting and management in the acute, subacute, primary and community-based services, mental health, disability services and Aboriginal community-controlled sectors.

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