

Optimising medicines use in care homes

There are currently over 22 000 resident places in older adult care homes in Wales.¹ An ageing population that is more likely to have multiple long-term conditions, including those traditionally associated with ageing, such as dementia, means demands on care homes are likely to increase.² The 'average' resident in an older adult care home is 85 years old, has six diagnoses, and takes eight medicines per day.^{3,4}

Medicines management systems in care homes may be complex, with clinical interventions from multiple sources and medicines dispensed from multiple sites.² A number of reports and investigations have highlighted concerns regarding medicines use in care homes in Wales and across the UK, including excess and often inappropriate prescribing, lack of structured review, long medication rounds, and lack of resident involvement in decisions about medicines.^{2,5-8}

This bulletin discusses the problems associated with medicines use in care homes for older adults, including the problem of polypharmacy and interventions to consider when prescribing and reviewing residents' medication that can help to optimise care.

Problems with medicines use in care homes

Medication is by far the most common form of medical intervention in the NHS today.² Polypharmacy has been defined as the concurrent use of multiple medicines for one individual;² it has been estimated that almost a quarter of care home residents take more than 10 medicines per day.⁹

The Care Homes Use of Medicines Study (CHUMS) examined the experience of 256 residents from 55 care homes (residential, nursing, and mixed) in England.³ They found that 70% of residents experienced at least one error associated with their medicine. These errors included an unnecessary medicine being prescribed, the wrong dose or strength being prescribed, and not prescribing a medicine that should have been prescribed. Administration errors were also noted, where 57 residents were given the wrong medicine or dose, or were not given a medicine.³

Summary

- The 'average' resident in an older adult care home has six diagnoses and takes eight medicines daily.
- Older people are at greater risk of adverse drug reactions and interactions due to changing physiological characteristics.
- Suggested approaches for improving patient safety and quality of prescribing are multifaceted, including staff training, suitable protocols, regular medication reviews, and better use of technology.
- Residents should have the same opportunities to be involved in decisions about their treatment as people living in their own homes.
- Falls can be caused by medicines that have been given for a long time without appropriate review.
- For some patients, it is appropriate to change the focus when prescribing from "what's the matter?" to "what matters?"

Patient-related factors identified as contributing to medication errors include confusion and lack of awareness about medicines, particularly for those patients suffering from dementia; a patient's physical condition making it difficult to administer medicines properly, e.g swallowing difficulties; and finding mobile patients during a medication round.³

Organisation-related factors include difficulties accessing the clinical record, inability to find a medicine, inadequate staff experience or education, absence of adequate protocols, staff interruptions and distractions, and lack of coordinated management oversight. Inadequate communication between staff within the home, and also between GPs, pharmacists, and care homes mean that the medication administration record (MAR) chart can be inaccurate, making it difficult to know which medicines the resident should be receiving. Medication errors are also a common consequence of using multiple medications, or polypharmacy.¹⁰ These factors highlight areas to target to improve the quality of prescribing (see Box 1).

Box 1. Suggested approaches for improving patient safety and quality of prescribing in the care home setting.^{11,12}

Organisation of care

- A lead GP for each care home in the practice area. This could be organised at local or “cluster” level.
- A nominated clinical pharmacist having overall oversight for medicines use in the care home.
- Putting in place adequate staff training and suitable protocols.
- Involving the resident and their family in the medicine optimisation process, as much as possible.
- Assume that a resident can take and look after their medicines themselves (self-administer) unless a risk assessment has indicated otherwise.
- Remote access to the medical record, use of electronic administration systems, use of barcodes.
- A clear process for reporting medicines-related safeguarding incidents under local safeguarding processes, and to the appropriate regulator.
- Adherence aids such as monitored dosage boxes or ‘pill organisers’ are widely used in care homes. They may be inflexible in this setting and careful administration of medicines by trained staff (nurses in nursing homes) may be preferable.

Prescribing and reviewing medication

- Regular review of the use and accuracy of medication administration records (MAR charts), particularly when transferred between care settings, e.g. on discharge from hospital.
- Clear instructions on how and when the medicine should be used, particularly for ‘as required’ or variable dose medicines.
- Monitoring of omitted doses and ordering systems. Checking for waste.
- Timing of medication administration to prevent interruption, e.g. not at meal times.
- Regular, appropriate monitoring of patients on specific higher-risk medicines (such as ACE inhibitors and angiotensin II receptor blockers), including blood tests.
- All medication to be regularly reviewed by a pharmacist.

Problematic polypharmacy

Polypharmacy disproportionately increases the risk of drug interactions and adverse drug reactions (ADRs) in older people, due to changing pharmacodynamic and pharmacokinetic characteristics associated with disease and/or the ageing process. With each additional medicine comes an increased risk of errors in prescribing, monitoring, dispensing, ADRs, medicines-related admissions, impaired medicines adherence, and compromised quality of life.^{13,14}

In care home residents, and in older people in general, disease-specific clinical guideline recommendations may inadvertently promote problematic polypharmacy by not taking into account multi-morbidity. Additionally, as the body has a finite number of responses to noxious stimuli, an ADR can be misinterpreted as a new illness requiring more medicines (a ‘prescribing cascade’). Other drivers of polypharmacy include patient and carer expectations, prescriber sensitivity about perceived age discrimination, and a focus on treating acute disease while overlooking the reappraisal of existing medicines for chronic disease.

Conversely, in some circumstances polypharmacy can be appropriate and therapeutically beneficial, improving a patient’s quality of life and extending life expectancy. Under-prescribing in older people, whereby recommended medicines are not prescribed because of fears of causing problems, is a recognised concern. Care home residents are not a homogenous group and it is important to consider whether each medicine has been prescribed appropriately, both individually, and in the context of all the medicines that the patient takes, together with any co-morbidities.^{6,10,15}

A multidisciplinary team approach

It is recognised that current arrangements for medication review are inadequate for many care home residents due to inadequate resources, lack of dedicated time for GPs, and uncertainty as to who should undertake the reviews.¹¹ Several reports and studies have suggested that a structured multidisciplinary team approach including a GP, pharmacist, care home staff, and the resident or their family can improve quality of prescribing and reduce healthcare costs.^{11,16} The Royal Pharmaceutical Society has recommended pharmacists having overall responsibility for medicines in care homes and has suggested one community pharmacy and one GP surgery should be associated with each home to improve coordination and standards of care.¹⁴

Involving residents and carers in decisions

NICE guidance on managing medicines in care homes recommends that residents should have the same opportunities to be involved in decisions about their treatment as other people, and should be supported to help them to take a full part in making decisions.¹¹

Traditional thinking is that care home residents are too old and frail, or lack capacity to be involved in decision-making. However, a project undertaken by Northumbria Healthcare NHS Foundation Trust found that 17% of patients had the capacity to make decisions and up to 50% of families wanted to be involved.¹⁶ It is important to involve the resident and/or their family or carer in discussions regarding the benefits and risks of medicines, and of any plans to alter treatment. Scaling back treatment without discussion or explanation might be interpreted as ‘essential’ treatment being withdrawn, or the patient being abandoned or ‘written-off’, a perception that clearly should be avoided.

Reviewing medication for care home residents

NICE recommends that individual medication review should be carried out at a frequency determined on a case-by-case basis, but at least every year. More frequent review is appropriate for certain residents such as those: entering end-of-life phase; diagnosed with a new long-term condition; requiring frequent, complex monitoring; or who have recently been transferred to the care home, e.g. on hospital discharge.¹¹

Numerous checklists and tools have been developed to help identify inappropriate prescribing at medication review. Examples include the NO TEARS checklist,¹⁷ PINCER indicators,¹⁸ and the STOPP and START criteria.¹⁹ The Northumbria NHS project looking at multidisciplinary review of medication in care homes suggests asking four questions when reviewing each medicine (see Table 1).¹⁶

Table 1. Four questions to aid medication review.¹⁶

Is the medication currently indicated?	Medicines may have been prescribed for a short course.
Is the medication still appropriate taking into account co-morbidities?	<ul style="list-style-type: none"> • Risk vs benefit • Consider ethical issues around prescribing medicines at the end of life • Consider possible interactions (with other medicines, food or concomitant disease), dose and formulation (e.g. swallowing problems)
What are the resident's (or family/carers') views?	<ul style="list-style-type: none"> • Check adherence • Ascertain reasons for non-adherence (intentional and unintentional) • Does the resident understand the risks and benefits of taking the medicine?
Are there medicines missing?	Are there medicines that the resident may benefit from that are not prescribed?

Medication review for an older, frailer patient can be complex, requiring clear understanding of the therapeutic aims and the potential and actual benefits and risks of the patient's medications. With increasing age and frailty, preventive treatments become less meaningful and clinicians must identify when it is appropriate to discuss scaling back or stopping such medicines, focusing instead on improving quality of life and physical and cognitive function where possible.¹⁰ Estimating life expectancy can be difficult in such circumstances. One approach is to ask the question "Would I be surprised if this person were to die in the next 12 months?" If the answer is "no", it should trigger a discussion with the patient and caregivers about beginning a review of goals of care, with consequent review of treatments and limits on investigations.^{10,15} Such patients may gain little value from medications that take more than a year

for benefits to manifest, such as bisphosphonates (to prevent osteoporotic fractures) or statins (to prevent cardiovascular events).²⁰

It may be helpful, when considering scaling back treatment or 'deprescribing', to group medicines into two categories; disease and/or symptom control medicines, and preventive medicines.

Disease and/or symptom control medicines are those that control active disease and symptoms and maintain quality of life, e.g. anti-anginals, medicines for heart failure, levothyroxine sodium. In many cases, if treatment with these medicines is withdrawn, patients may quickly become symptomatic or lose function from worsening disease. However, these medicines should still be reviewed and stopped if they are ineffective, or reduced in dose if disease manifestations are mild or intermittent. Furthermore, aggressive therapy of, e.g. hypertension or type 2 diabetes, may not be appropriate in older patients, particularly those who are frail or have limited life expectancy, as the immediate risks of hypotension or hypoglycaemia may outweigh the potential future benefits of reduced cardiovascular risk or microvascular complications.²¹

Preventive medicines are those that prevent future morbid events, e.g. statins, warfarin, bisphosphonates. Deciding to stop these medicines involves consideration of the absolute risks and benefits of treatment for an individual patient, the length of time for benefit to manifest, patient preference, and estimated life expectancy.²¹

Medication and falls

Fifty percent of people over the age of 80 fall at least once a year and, in Wales, 14827 people aged over 65 were admitted to hospital in 2015 because of a fall.² Older people living in care homes are three times more likely to fall than those living in their own homes.⁶ Although the causes of falls are multifactorial and should not be considered in isolation, certain medicines are known to contribute to the risk, as is polypharmacy. There are two groups of medicines that have the highest propensity to cause falls: those acting on the central nervous system and those acting on the cardiovascular system.²²

Taking a psychotropic medicine approximately doubles the risk of falling and there is evidence that stopping these medicines can reduce falls.²² Sedative medicines, such as benzodiazepines, 'z-drugs', antipsychotics, and antidepressants cause drowsiness and slow reaction times. Some antidepressants and antipsychotics also cause orthostatic hypotension.²² Any medicine that reduces the blood pressure or slows the heart can cause falls (or a feeling of faintness or of 'legs giving way', or loss of consciousness).²²

Box 2. Medicines associated with increased falls risk.^{22,23}

- Any long-acting or long-term hypnotic or anxiolytic
- Antihypertensives, beta-blockers
- Diuretics
- Antidepressants, antipsychotics, anti-epileptic drugs (especially if used for pain)
- First generation (sedating) antihistamines
- Medicines used for Parkinson's disease (review in conjunction with a specialist)
- Anticholinergic medication used for bladder spasm or other medicines with anticholinergic side effects.

Some medicines do not necessarily increase the risk of falls, but do increase the risk of serious consequences of a fall:

- those causing osteoporosis or reduced bone mineral density, e.g. long-term steroids, increase the risk of fracture.
- those that increase bleeding risk, e.g. anticoagulants, increase the risk of a cerebral haemorrhage.

Falls can be due to recent changes in medication, but it is important to bear in mind that they can also be caused by medicines that have been given for a long time without appropriate review. In patients taking medicines known to contribute to falls, medication review can play an important part in falls prevention. If modification or withdrawal of the medicine is not possible, close monitoring is required.²²

Antipsychotic medicines

It has been estimated that 80% of residents of care homes for the elderly will have a form of dementia or cognitive impairment,⁶ and that 25% are prescribed antipsychotics. There is concern that around two-thirds of antipsychotic prescribing for patients with dementia is inappropriate, with the risks of treatment likely outweighing the benefits.²⁴

The development of behavioural and psychological symptoms is a cardinal component of dementia and the assessment and management of these behaviours can be complicated.¹³ However, there is consistent evidence that antipsychotic medicines have a relatively limited therapeutic effect in relation to agitation and challenging behaviour in such cases. Furthermore, their use is associated with a higher risk of mortality when compared to non-use. The rate of stroke and transient ischaemic attack is also thought to be increased, especially in older patients.¹³ Antipsychotic use is associated with other adverse effects such as sedation, parkinsonism, gait disturbance, dehydration, falls, chest infections, and cognitive decline.²⁵

In most cases, first-line treatment should be non-pharmacological, after establishing any factors that may worsen or improve behavioural and psychological symptoms or signs.¹³ Antipsychotic medicines should only be used for non-cognitive symptoms or

challenging behaviour of dementia where the person is severely distressed or there is an immediate risk of harm to themselves or others, or where there is a lack of response to other interventions.²⁶

Where medication is deemed necessary, risperidone is the only agent licensed for the management of persistent aggression in patients with moderate to severe Alzheimer's dementia (maximum six weeks' use), although other agents are used off-label.¹³ Medication should start at a low dose, be time-limited, aimed at specific, recorded, and quantified target symptoms, and be reduced as soon as possible. Although discontinuation of antipsychotic medication needs to be gradual (in consultation with the specialist mental health team where applicable),²⁷ particularly after long-term use, 70% of people have no worsening of symptoms when antipsychotics are discontinued.²⁵

Box 3. Stopping medication in older patients²³

Reduce or stop one medicine at a time

If problems develop it is then easier to identify the likely cause.

Taper medicines when appropriate

Some medicines should not be stopped abruptly following long-term use, or may require specialist advice before stopping. Important examples include:

Opioids, antidepressants, anti-epileptic drugs, antipsychotics, corticosteroids, hypnotics, centrally-acting antihypertensives, tranquilisers.

If in doubt, taper as it is safer

Tapering should be done in a stepwise manner to establish if the patient's symptoms, conditions, or risks can be managed with a lower dose or whether the medicine can be stopped.

Check for benefit or harm after each medicine has been stopped

Has the patient had any problems since the medicine has been stopped?

Beneficial effects should be noted to reinforce that the decision to reduce or stop the medicine was correct.

If symptoms of the initial condition return and are troublesome, despite gradual tapering, then it may be that the medicine cannot be stopped completely. However, a reduced dose may be appropriate and beneficial.

Conclusion

Polypharmacy, changes in physiology, co-morbidities, and complex medicines management systems can make frail, older adults resident in care homes particularly vulnerable to ADRs and medication errors. As part of regular medication review, asking whether a medicine is still needed is just as important as prescribing a new medicine. Seemingly small reductions in medication load can result in large differences to a patient's quality of life. It is important to work within a multidisciplinary team, also involving residents and their families if appropriate. A change in focus is sometimes needed; from 'what's the matter?' to 'what matters?'.

Summaries of Product Characteristics (SPCs) should be consulted for full prescribing information. References available at www.wemerec.org

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