

# Target old people with medication risks

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Already 17 per cent of the UK population are aged over 65 years and this figure is predicted to rise to 25 per cent by 2015. With an increasing population of the frail elderly and those over 85, older people make up a high percentage of users of NHS and social care resources in all care settings.

## Older people take more medicines

Older people take more medicines than any other age group and account for about 50 per cent of the NHS drug bill mainly via repeat prescriptions (80 per cent). Of the over 75s, 36 per cent take four or more different medicines regularly (polypharmacy). Changes associated with ageing have significant effects on how medicines are handled in older people, making them more generally sensitive and prone to adverse drug reactions (ADRs), particularly falls, confusion, delirium, gastrointestinal bleeds and haematological reactions. The over 65s are three times more likely to be admitted to hospital because of an ADR than the under 30s. The National Service Framework for Older People (2001) suggests that approximately two thirds of hospital patients are over 65. Evidence shows that 5–17 per cent of admissions are due to ADRs, of which 80 per cent are predictable and preventable.

However, not all older people are at the same risk of ADRs and other medicines problems, and it is helpful to consider members of higher risk categories. These risks are related to a number of factors, including drug (number, type or formulation), patient (multiple co-morbidities, physical, mental health or socio-economic status) and environmental factors (institutionalised, housebound and access to care). Older people in higher risk categories should be actively targeted and managed by pharmacists to ensure they gain maximum benefits from and minimise the risks of medicines they take.

In order of risk, polypharmacy is the single most important factor when predicting the risk of ADRs in older people. Many studies show a direct relationship between the number of drugs taken and the increase in ADRs and correlate this to poor health outcomes.

Specific drugs and classes of drugs have also been implicated in ADRs. Non-steroidal anti-inflammatory drugs are associated with a high risk of gastrointestinal and cardiovascular effects, ACE inhibitors with renal effects, anticoagulants with haematological effects and psychotropic drugs with a higher risk of falls and confusion. A recent US study identified insulin, warfarin and digoxin as accounting for 33 per cent of visits to emergency departments.

Other wider determinants of health have an impact on how older people use their medicines and hence the expected therapeutic outcomes. Impaired physical, sensory and

cognitive function are more common in older people, with half of all disabled people being over 65 and 90 per cent having a visual impairment. Behavioural factors associated with patients' values and perceptions, as well as social economic factors such as poverty, isolation and lack of social support, contribute to increasing medicines-related problems. Older people in care homes have been shown, from a body of UK and international research evidence, to be exposed to a high level of polypharmacy and inappropriate prescribing.

Finally the lack of a high-quality evidence base around the use of drugs in the over 85s, and good practice guidelines to address prescribing in older people with multiple co-morbidities, can lead to under- and over prescribing.

Pharmacist-led medication review trials have not demonstrated benefits of the broad-brush approach to medication review. Research has shown that a highly trained clinical pharmacist based in a GP surgery could decrease cost and optimise prescribing, although one study demonstrated that medication review of the housebound elderly by community pharmacists was of no demonstrable benefit.

Other studies or service models have proactively targeted and identified those at a higher risk of medicine-related problems and focused the time and resources of a pharmacist for these patients. Pharmacists undertaking work with these patients had demonstrated competencies and had completed the accredited formal training to undertake this type of clinical review in older people.

This model of care is in line with the NSF for long-term conditions (LTCs), which recommends that populations should be stratified according to levels of risk, and then targeted for the delivery of care by the practitioner with the appropriate skills and expertise. Pharmacists with specialist older people skills are a scarce resource and it is known that not all older people need this high level of pharmaceutical input or monitoring. It is vital that those with a higher risk are targeted, and matched to the older people pharmacist, and so enable more generalist pharmacists and other practitioners to manage those at medium to lower risk. This model mirrors the approach of community nursing with the introduction of community matrons to support vulnerable populations.

However, in the UK, older people at high risk from using medicines are not always easily identified. Where matrons can use patients at risk of readmission (PARRs) data to target their population, there is no equivalent for medication risk. In addition there is no robust formal process of referral for pharmaceutical care. The NSF for LTC recommends case

finding using validated tools as an established method to identify older people at risk of functional decline and this principle can be adapted to assess older people with medication-related risks.

Many studies, care models and guidelines have attempted to identify and target older people in a variety of settings with a higher risk of medication related problems. One identified 24 specific drugs that increase the risks of ADRs. However other models identified increasing number of drugs/doses, patient factors and other drug-related factors. In the UK, the NSF for Older People also takes this approach and identifies older people who are more at risk from taking medicines as being in the following categories: social isolation; multiple drug therapy; multiple diseases; those taking certain drugs (eg, warfarin); those recently released from hospital; and those with sensory or physical impairment, confusion or depression.

This approach of identification and subsequent management (carrying out further assessments and interventions) can help promote independence, prevent deterioration and reduce demand for services.

Similarly those at a lower risk can be identified with the help of simple tools that can be used by a range of carers, health and non-health practitioners. For example, the Single Assessment Process medicines trigger questions are intended to identify older people who have needs in the areas of access, compliance, day-to-day management and clinical aspects. The COUNT tool (see [www.npc.co.uk/mms/awards.htm](http://www.npc.co.uk/mms/awards.htm)) identified five patient factors that may indicate that patients may be at risk from not taking their medicines.

## Implementation

Although there is still no evidence-based tool that allows pharmacists to identify patients at the highest risk from their medicines, the risk factors are well known. The Clinical Pharmacy Network (within East and South East England specialist pharmacy services) has recently been exploring ways to tackle this. Pharmacists need to work with community matrons, social services, community pharmacists, GP practices and district nurses to refine a list in their local area. Similarly, hospital pharmacy practitioners working with medical, nursing, social service and therapy colleagues in acute assessment units as well as on medical and surgical wards can produce a list of key indicators for patients on admission and at discharge. A cross-sector referral system is critical to the success of these developments. Primary and secondary health and social care must work together to share local knowledge, creating bespoke indicators in order to maximise use of the pharmacy resources available in their area.