

Contents: Prescribing for the older person

## Prescribing for the older person

**One fifth of the population in England is over 60 years of age.<sup>1</sup> This group receives 52% of all prescriptions,<sup>2</sup> the majority of which are repeats.<sup>3</sup> Older people often take a variety of drugs for several conditions. Of those aged over 75, 36% are taking four or more drugs (polypharmacy).<sup>1</sup> This increases the risk of adverse effects and drug interactions.**

The *National Service Framework for Older People (NSF)* has recently been published.<sup>1</sup> This sets health and social care standards for older people, and focuses heavily on the use of medicines by this group.<sup>3</sup> This *Bulletin* discusses some of the practical ways to optimise prescribing, and help older people gain maximum benefit from their medicines.

### How does clinical pharmacology change in older people?

#### Changes in pharmacokinetics

Pharmacokinetics can be defined as 'how the body handles a drug'. Age-related changes in drug handling make older people more susceptible to drug effects. The most important and predictable change is a reduction in renal drug clearance. This is a problem for drugs that are mainly excreted unchanged by the kidney and have a narrow therapeutic index (e.g. digoxin or lithium). Disease states such as diabetes and heart failure can worsen renal function, as can an acute illness such as a chest infection that leads to dehydration.<sup>4,5</sup>

Hepatic metabolism reduces with age, potentially increasing

### SUMMARY

- \* The *National Service Framework for Older People (NSF)* focuses heavily on the use of medicines by this group.
- \* Older people often take a variety of drugs for several conditions. Age-related body changes make them more susceptible to drug effects, and polypharmacy increases the risk of adverse effects and drug interactions.
- \* Before prescribing for older people it is particularly important to diagnose accurately and set therapeutic objectives. These should be monitored regularly to ensure drug treatment remains appropriate.
- \* Drug regimens should be kept as simple as possible. Older people often have problems with the practical aspects of medicine use and consideration should be given to reminder charts, compliance aids and specially written instructions that may be helpful.
- \* Effective communication between everyone involved in the care of older people, in hospitals, care homes or general practice, is essential to ensure they gain the maximum benefit from their medication.
- \* Most prescriptions issued for older people are repeats. This process is essential to manage prescribing. However, regular review is essential.
- \* Full and regular medication reviews provide an important opportunity to rationalise drug therapy, identify medicine-related problems and discuss patient partnership in medicine taking.
- \* The *NSF* recommends that by 2002, medication reviews should be conducted annually for people over 75 years, and every six months for those taking four or more drugs.

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plasma concentrations of some drugs with extensive first pass metabolism (e.g. propranolol, metoclopramide and many opioids). Hepatic clearance of drugs from the systemic circulation also decreases slightly. However, for most older people, apart from the very frail, this is not a problem. In the frail elderly, all drugs should be used with particular caution. Initial doses should be low, and titrated up only as necessary.<sup>4</sup>

### Changes in pharmacodynamics

Pharmacodynamics may be defined as 'what a drug does to the patient'. This can be significantly altered with increasing age because of changes in the responsiveness of target organs. In general, older people have an **increased sensitivity to drugs**, particularly those acting on the central nervous system.

The use of psychotropic drugs (antipsychotics, tricyclic antidepressants and benzodiazepines) in the elderly is a particular concern, due to increased postural sway and the incidence of confusion and falls. Older people are also more sensitive to the effects of benzodiazepines. The need for psychotropic drugs should be regularly reviewed and referral to a specialist considered for those older people who require frequent or continued use of such medication.<sup>6</sup>

Older people are particularly susceptible to the anticholinergic effects of drugs such as tricyclic antidepressants. These include blurred vision, constipation, confusion and urinary retention. Normal homeostatic mechanisms may also be impaired, so that postural hypotension becomes more common in response to antihypertensives. Warfarin requirements are also usually about 25% less than in younger people.<sup>4,5</sup>

### Adverse drug reactions

Polypharmacy and age-related changes in clinical pharmacology put older people at particular risk of adverse drug reactions

- Therapeutic enthusiasm, an excessive desire to respond to symptoms and problems with drug treatment.
- Failure to recognise an adverse drug reaction, which, in turn, may lead to incremental prescribing e.g. a non-steroidal anti-inflammatory drug (NSAID) may cause hypertension for which an antihypertensive is prescribed.
- The patients' or their relatives' demands for, or refusal of, drugs.
- An inappropriate response to non-medical problems.
- Unrealistic expectations by the prescriber, patient or both.
- A failure to individualise treatment for older patients, and to consider their overall needs.
- Inadequate review leading to failure to increase or decrease doses or to discontinue unnecessary drugs.

**Table 1.** Some reasons for inappropriate prescribing in older people.<sup>4</sup>

(ADRs). There is a threefold greater incidence of ADRs in patients over 60 years of age, compared with those under 30.<sup>7</sup> ADRs can be very serious in this age group, and are implicated in 5-17% of hospital admissions.<sup>3</sup>

Many ADRs in older people are preventable by good prescribing practice. The majority are dose-dependent and therefore predictable. Many occur because of unnecessary or inappropriate drug treatment. ADRs often go undiagnosed, presenting in a non-specific way e.g. as confusion, constipation or unsteadiness. It is important to consider the possibility of an ADR in any older patient whose general condition has deteriorated, especially if their medication has recently changed.<sup>4,5</sup>

Drugs which should, where possible, be avoided in older people include longer-acting oral hypoglycaemic agents, antimuscarinics for Parkinson's disease, and benzodiazepines (especially those with long half-lives).<sup>7</sup> Where an ADR is thought to have occurred, the prescriber or pharmacist should complete a Committee on Safety of Medicines (CSM) 'Yellow Card'. This is particularly important with older people, as adverse reaction data from trials is often limited in this group.

### Drug Interactions

The incidence of drug interactions in older people increases with age, the number of drugs being taken and the number of prescribers involved in their care.<sup>8</sup> The possibility of drug interactions should be considered if patients present

with new problems. Computer decision-support systems are a useful prescribing aid. However, such systems will not identify the use of over-the-counter (OTC) medicines, which are not without hazards.<sup>9</sup> Patients should be asked about OTC products and also any medicines they may have 'borrowed' from family or friends.

### How can we achieve optimal prescribing for older people?

Inappropriate prescribing includes both overuse and underuse of drugs.<sup>10</sup> **Table 1** gives various reasons why this may occur.<sup>4</sup> Failure to prescribe an effective drug or prescribing an inappropriate dose may lead to suboptimal disease management. However, finding the balance between undertreatment and excessive therapy is often difficult.

Before prescribing, every reasonable effort should be made to establish an accurate diagnosis.<sup>6</sup> Manifestations of ageing may be confused with disease, leading to inappropriate prescribing e.g. prochlorperazine for postural unsteadiness. However, the difficulties in making an adequate diagnosis in primary care should not be underestimated. A definite diagnosis may not be clear when the patient presents in the early stages of an illness.<sup>4</sup>

When prescribing for older people it is particularly important to set therapeutic objectives, monitor progress to check these are being met and ensure that drug treatment continues to be appropriate.<sup>6</sup> Nonpharmacological treatments

may be an alternative for certain conditions (see **table 2**).<sup>5</sup>

**Prescribers should consider that new signs and symptoms can be a result of current medication.** ADRs may be attributed to old age when in reality they are due to a drug e.g. NSAID induced hypertension. If a new drug is then prescribed, a 'prescribing cascade' begins, which exacerbates the problems of polypharmacy. Problems may also arise if drugs are prescribed to treat the symptom rather than the underlying cause of an illness e.g. benzodiazepines for depression-induced insomnia.

**Drugs should only be prescribed for older people if they are essential.** The dose should also be titrated appropriately, as elderly patients often require lower doses. A checklist of prescribing points, which are particularly important for older people, is given in **table 3**.<sup>5</sup> An audit to evaluate the quality of prescribing in older people has been carried out by the Royal College of Physicians.<sup>11</sup> Results will be published later this year.

#### Communication between secondary and primary care

Ascertaining exactly which drugs are being taken by outpatients or patients admitted to hospital is not easy unless they take all their medication with them. The *NSF* recommends hospitals put in place systems for medication review on admission, and consider self-administration schemes.<sup>3</sup> Across the primary/secondary care interface, several doctors may be prescribing for various indications. It is, therefore, essential that one doctor, usually the patient's GP or a hospital specialist, takes overall responsibility for drug therapy.<sup>6</sup>

Following hospital discharge, changes to medication are frequently made by patients and GPs. These may be intentional, but unintentional discrepancies also occur. Reasons include delayed communication from secondary care and inaccurate updating of patient records in primary care.<sup>3,12</sup> Pharmacist involvement, either in the

community or in the practice, has been shown to reduce such unintentional changes.<sup>13,14</sup>

Methods to improve care include:<sup>4</sup>

- better communication between health professionals;
- maintaining accurate and up to date patient records;
- ensuring discharge information indicates the reason for drug therapy, the duration of treatment and any monitoring required;
- counselling patients on their drugs before discharge;
- written instructions and self-medication programmes to improve patient knowledge and adherence.

#### How can older people get the most benefit from their medicines?

The relationship between the patient, their carer and health professionals is important in the use of medicines. The *NSF* focuses on ensuring older people gain the maximum benefit from their medication.<sup>3</sup> Good medicines management is not only beneficial to the patient but can be cost-effective by avoiding hospital admissions and reducing the wastage of drugs not taken properly. As many as 50% of older people may not be taking their medicines as intended.<sup>3</sup>

#### Medication review

A full medication review is an important opportunity to rationalise drug therapy, identify

- Physiotherapy for osteoarthritis.
- Support services for depression/isolation.
- Speech therapy for dysphagia.
- Dietary advice to address constipation.
- Lifestyle advice to address insomnia.
- Good nursing care to treat pressure sores.

**Table 2.** Examples of nonpharmacological treatments that may benefit older people.<sup>5</sup>

medicine-related problems and discuss medicine taking. Initially, reviews should be targeted at older people who are more likely to experience problems i.e. those recently discharged from hospital, those in care homes, or those where polypharmacy is a problem.<sup>3</sup> Suitably trained health professionals e.g. pharmacists can carry out these reviews, either in clinics, pharmacies or the patient's home.

The *NSF* recommends that, by 2002, all people over 75 years should have their medicines reviewed annually. For those taking four or more medicines, this should be every six months. By 2004, every primary care group/trust should also have schemes in place so older people get more help from pharmacists in using their medicines.<sup>1,3</sup>

'Brown bag' medication reviews by community pharmacists, where patients take all their drugs to the pharmacy for review, were recently investigated in a study of 205 patients (mean age 64 years). In 12% of reviews,

**Table 3.** Points to remember when prescribing for older people.<sup>5</sup>

- Make every reasonable effort to ensure an accurate diagnosis.
- Question necessity for the drug. Avoid inappropriate and over enthusiastic treatment. Consider the patient as a whole, not a collection of symptoms.
- Can nonpharmacological alternatives be used instead?
- Has the most suitable drug been chosen for the patient?
- Be familiar with the drugs you prescribe.
- Is the dose correct? Start low and titrate carefully.
- Consider risk of drug interactions.
- Ensure a thorough drug history is taken, including OTC medication.
- Does the patient suffer from another disease for which the drug in question is contraindicated?
- Is the treatment regimen as simple as possible?
- Has the patient and any carer been counselled about the treatment and do they understand how to take the drugs? Would a compliance aid be useful?
- How long will the medication be continued for? Determine the criteria for stopping treatment.
- Ensure repeat prescriptions are reviewed regularly.
- Is any drug monitoring required?

problems were identified that could potentially result in hospital admission. Problems were particularly found in patients taking psychoactive drugs, NSAIDs and  $\beta$ -blockers.<sup>15</sup>

Often, older people have problems with the practicalities of medicines use. People who are confused, depressed or have poor memories may have difficulty in taking medicines. Drug regimens should be kept as simple as possible. Multi-compartment compliance aids or medicines reminder charts may be useful.<sup>3</sup> However, people with cognitive impairment often require help from carers or relatives.

Drug containers that are difficult to open, such as blister packs or child-resistant containers, can be problematic. Older people may also find eye-drop bottles and inhalers difficult to use, and eye dropper aids, spacers, etc. should be considered. The National Pharmaceutical Association has produced an information leaflet which includes a list of available compliance aids.<sup>16</sup> Many older people are unable to read leaflets and labels due to failing eyesight, and may need specially written instructions. Some patients also have difficulty swallowing tablets, and may benefit from soluble tablets or liquids.

When any review of patient medication is undertaken it is important that *all* the patient's drugs are considered. OTC products or old drugs hoarded by patients can add further complexity or confusion to regimens. Increased drug use under patient group directions, and prescribing by health professionals other than doctors, will also need careful consideration in older people. Good record keeping will be essential to minimise polypharmacy and its inherent problems.

### Repeat prescribing

Most prescriptions issued for older people are repeats.<sup>3,6</sup> Repeat prescribing is essential in this group to reduce health professional workload and patient inconvenience. However,

it also reduces contact between doctors and patients, potentially contributing to clinical problems. Patients taking long-term medication need to be reviewed regularly to identify medicine-related problems and to stop drugs that are no longer needed.<sup>6</sup>

Two large studies, mainly in elderly patients, have shown the beneficial role pharmacists can have in reviewing repeat prescribing.<sup>17,18</sup> Often, patients do not require all the drugs prescribed on a repeat prescription. In one study, following pharmacist intervention, 66% of patients did not require all their prescribed drugs to be dispensed.<sup>17</sup> Some of the most common problems identified by pharmacists in these studies were: compliance issues; drugs being prescribed that were no longer required; inappropriate quantities being ordered; and unsatisfactory directions (e.g. take as required).<sup>17,18</sup>

### Care homes

People living in nursing and residential homes are at particular risk of polypharmacy and inappropriate prescribing. Nursing home residents in the UK take an average of six to seven drugs.<sup>19</sup> Recently, national minimum standards for care homes have been published.<sup>20</sup> These include requirements for policies around medicine use, and training of care staff in basic medicines knowledge.

Good communication between GPs, nursing or senior care staff and local pharmacists is essential. Agreed management policies should be established for common clinical conditions and the use of medicines, particularly psychotropic drugs. Where several doctors visit one home, consideration should be given to one of them taking 'lead' responsibility for general issues.<sup>6</sup>

Systems to improve the quality of prescribing, such as the standardisation of medication records and medication review, should be implemented.<sup>6</sup> One randomised controlled trial investigated medication review

by pharmacists in 330 nursing home residents. This trial showed the number of drugs prescribed for these people could be reduced without detriment to health.<sup>19</sup>

### Conclusion

When prescribing for older people, careful consideration should be given to minimising and simplifying drug regimens. Regular medication reviews are particularly important to rationalise drug therapy, identify medicine-related problems and discuss medicine taking.

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Date of preparation: April 2001