MEDICINES AND OLDER PEOPLE

Implementing medicines related aspects of the NSF for Older People in Wales

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1: Introduction

The draft National Service Framework (NSF) for Older People in Wales defines standards for health and social services to ensure high quality care. This booklet describes how the use of medicines for and by older people can be improved. It is a revised version of the booklet that was issued alongside the NSF for Older People in England. It was produced for this particular NSF because the majority of older people are taking prescribed medicines, in conjunction with other remedies they buy themselves. However, its principles are relevant and transferable to other patients with chronic conditions covered by other NSFs. It accords with the principles of the Pharmacy Strategy¹, implementation of which will benefit older people as well as other patients.

2: Aims

This document sets out how health and social care partners aim to ensure that older people:

- gain the maximum benefit from medication to maintain or increase their quality and duration of life
- do not suffer unnecessarily from illness caused by excessive, inappropriate, or inadequate consumption of medicines
- are not denied access to medicines that would benefit them
3: NSF Standards

Use of medicines is a fundamental component of each of the NSF for Older People standards. There are common medicines elements for every standard, for example ensuring older people have ready access to the right medicine, at the right dose and in the right form, in line with NICE and All Wales Medicines Strategy Group (AWMSG) guidance and guidelines. Achieving greater partnership in medicine taking between patients and health professionals, improving choice and addressing the information needs of older people and their carers can help meet these standards.

4: Rationale

As people get older, their use of medicines tends to increase. Four in five people over 75 take at least one prescribed medicine, with 36% taking four or more medicines\(^2\). Alongside this are increasing challenges to ensure that medicines are prescribed and used effectively, taking into consideration how the ageing process affects the body’s capacity to handle medicines. Multiple diseases and complicated medication regimes may affect patients’ capacity and ability to manage their own treatment.

- **Under represented in clinical trials** - Older people are commonly under represented in clinical trials which contributes to uncertainty about the risks and benefits of medicines in older people, and may contribute to ageism and under treatment in clinical practice\(^3,4,5,6,7,8,9,10,11\).

- **Many adverse reactions to medicines could be prevented** – they are implicated in 5-17% of hospital admissions and while in hospital 6-17% of older in-patients experience adverse drug reactions\(^12,13,14\).
Some medicines are under-used in older people (as well as in others). For example, anti-thrombotic treatments to prevent stroke, preventive treatment for asthma, and antidepressants are not always prescribed for patients who would benefit.

Medicines not taken as intended - As many as 50% of older people may not be taking their medicines as intended; even residents in care homes may not receive medicines as prescribed. Older people and their carers need to be more involved in decisions about treatment and to receive more information than they currently do about the benefits and risks of treatment. Older people and carers may have problems with reading, hearing and seeing as well as not being able to understand information. If parallel imports are dispensed then the manufacturers’ patient information leaflets and packaging must be in English. All labelling should be clear.

Patients and carers need to be aware of the expected outcome of the medication (eg, reduction in swelling, improved mobility) as well as the side effects and adverse reactions. Preventive medications are often not taken especially if symptoms are absent. For example, anti-arthritis treatments not taken when pain is absent even though the patient may be experiencing swelling. Neither the patient nor carer may be aware that swelling is a sign of the disease.

Patients will often not inform the doctor of the non-concordance and continue to order and receive supplies. The medicines regime should, where possible, meet the needs of the patient and fit in with their lifestyle. If patients fully understand the effects of the medication they can use a more flexible approach to, for example, taking diuretics or anti-parkinsons drugs and be more honest about this with the prescriber.
- **Changes in medication after discharge from hospital** - following discharge changes to medication are frequently made by patients and GPs. These changes may be intentional but nonetheless unintentional changes are too frequent. The Royal Pharmaceutical Society of Great Britain is developing a toolkit to aid discharge planning. Electronic transfer of information would be of enormous value in preventing such problems.

- **Poor 2-way communication between hospitals and primary care** – full medication histories are not always provided to hospitals at admission. In secondary care communication needs to be improved to reduce the delay in transfer of medication recommendations to primary care; to ensure treatment that was only intended short-term, while the patient was in hospital, is discontinued on discharge; and to improve explanations for medication changes. In primary care, interpretation and prescribing of new medication on discharge is not always optimal.

- **Repeat prescribing systems need improvement** - most of the medicines taken by older people are obtained on repeat prescription. Careful consideration needs to be given to the processes for ordering, synchronising quantities, ensuring regular review of the need for each medicine, and monitoring that the medicine is being taken and the patient is benefiting from it.

Inequivalence in repeat prescription quantities
- means that patients have to order different items at separate times, and may unintentionally receive the same medicine on separate prescriptions.
- causes wastage: campaigns for people to return unwanted medicines to pharmacies confirm that large amounts of medicines, probably worth in excess of £100m, are never taken. It has been estimated to account for 6-10% of total prescribing cost.
• **Dosage instructions on the medicine label are sometimes inadequate** – such that neither patient nor carer has access to the correct dosage information, for example, “Take as directed” or “Take as required”. The Royal College of Physician’s (RCP) Sentinel Audit of Evidence Based Prescribing for Older People showed that up to 25% of medicines were prescribed ‘as required’ \(^{15}\). It is also recommended that an indication of what the medicine is for, e.g. pain relief, dizziness, should be stated on the prescription and label.

• **Access to the surgery or pharmacy can be a problem** - many older people have difficulty getting to the doctor’s surgery to collect their prescription, or to the pharmacy to have it dispensed. People who are housebound or who have limited mobility have particular difficulties in accessing advice and help with their medicines. Many pharmacies offer a collection and delivery service on request.

• **Carers’ potential contribution and needs are often not addressed** - carers are in a position to support older people in medicine taking but their potential contribution is under used.

• **Formal carers** (employed to provide care) and **Informal carers** (eg, family and friends) - Local operating procedures often prevent social services staff from providing support. National Minimum Standards\(^ {23,24}\) require formal carers to receive training in medicines and their use, if they are to be expected to help patients manage their medicines. Some home care workers regularly assist people with medicine taking, even though their job description may discourage them from doing so.\(^ {25}\)

Informal carers together with those they care for, could be more involved in, and consulted about, treatment decisions.\(^ {26}\) Their wealth of knowledge about the patient’s health and any adverse changes is too often untapped.
Formal and informal carers want to know more about possible side effects of treatment, which combinations of medicines should be avoided, and reasons for changes in medication\textsuperscript{27,28}. Some form of training for informal carers would be helpful to support them in their role.

- **Detailed medication review improves quality** - The primary aim of medication reviews must be to improve the quality of care. Studies in general practices and care homes have shown that in the case of reviews undertaken by pharmacists, a cost effectiveness benefit has also been demonstrated\textsuperscript{29,30}.

Medication review for older people usually results in a reduction in the number of prescribed medicines, although it may be appropriate to add to the regime. ‘Over the counter’ medicines and complimentary treatments should also be taken into account during a medication review.

Some long-term treatments can be successfully withdrawn eg, diuretic treatment often needs to be continued long-term but can be stopped in about half of patients providing progress is monitored\textsuperscript{31}

Appropriate medicines management systems should be in place so that the medication needs of older people are regularly reviewed and discussed with individuals and their carers. Information and other support should be provided to ensure older people get the most from their medicines and that avoidable adverse events are prevented\textsuperscript{21,32,33}

More than half of the NHS drugs bill in Wales is spent on medicines for people over 60\textsuperscript{34} with patients in care homes receiving more medicines than those in their own home\textsuperscript{35}. We need to ensure that this is spent in a clinical and cost effective manner, to maintain or improve the health of older people.
5: Risk assessment

In order to make best use of available resources, methods of prioritising input and assessing the potential risk of medicines-related problems (MRPs) need to be in place. Risk assessment should take place at two levels:

- First order – MRPs to be assessed as part of the Unified Assessment Process (UAP)

- Second order – where complex medicine related problems are identified as part of the contact or overview assessment of UAP, specialist assessment will be needed using a validated risk assessment tool. The Department of Health has accredited 6 assessment tools. These may be used off-the-shelf or to benchmark the development of other tools.

When assessing risk the whole of the supply system from prescribing to taking the medicine should be considered.

Medicines-related features known to be more likely to be associated with problems in older people are:

- a new medicine started in the last two weeks

- taking four or more medicines

- specific drugs, eg, warfarin, non-steroidal anti-inflammatory drugs (NSAIDs), diuretics, digoxin, lithium, steroids, psychotropics

- recent discharge from hospital

- unsupervised use of over-the-counter or complementary medicines
Social and personal factors that may predispose to medicines-related problems include:

- social support – level of support available at home
- physical condition – vision, hearing, mobility, nutritional state, dexterity, including ability to use memory aids eg, reminder charts, medicine wheels, cassette boxes
- mental state – confusion/disorientation, depression, ability to understand
- language – ability to speak, read and understand English
- poor health due to life-style e.g. obesity, smoking

6: Effective Interventions

Appropriate prescribing for older people, and monitoring of their condition, are key objectives. However, it is not only prescribing but how medicines are used by patients that is important. Patients and their carers need more support for medicine taking. There are six main types of intervention:

- Prescribing advice/support
- Treatment monitoring
- Review of repeat prescribing systems
- Medication review (with individual patients and their carers)
- Education and training
- Risk management to reduce medication errors and adverse events
6.1 Prescribing Advice/Support

Prescribing advice/support to individual prescribers and Local Health Boards (LHBs) can improve the quality and cost-effectiveness of prescribing by, for example, implementing clear policies relating to medicines in older people\(^\text{21}\). The British National Formulary (BNF) specifies that particular care is needed in relation to the prescribing of hypnotics, diuretics, non-steroidal anti-inflammatory drugs (NSAIDs), anti-parkinsonian medicines, antihypertensives, psychotropics, lithium and digoxin\(^\text{38}\) in older people. Computer systems can be programmed to prompt for this as well as for blood tests etc. Local protocols for risk assessment can build on existing work to target specific patient groups and individual patients.

Strategic prescribing advice to LHBs and NHS Trusts in Wales is provided by the All Wales Medicines Strategy Group. Locally, LHB and Trust Prescribing Advisory Teams provide advice and guidance to individual prescribers. General review of prescribing and monitoring of long-term continuous or intermittent medicines, and recommendations for action at both policy and individual level, have a place for patients of all ages.

Some advice would aim to reduce prescribing, for example, by targeting patients where medicines of doubtful therapeutic value are prescribed, or where medicines cause particular problems with side effects in older people, such as those with anticholinergic effects\(^\text{39}\). Other advice might increase prescribing, such as implementing NSFs and other clinical guidelines.

Prescribing advisory teams at all levels may also provide information, advice and policy development on the other interventions described in this section.

Prescribing advice needs to be supported by scientific evidence that addresses the needs of older people. If older people are to benefit from technological developments and therapeutic advances, the risks, benefits and optimal doses of medicines need to be adequately investigated in older populations.
6.2 Monitoring of treatment

The goals of treatment monitoring are to ensure that the medicines are producing the intended effect, remain appropriate and to detect any medicines-related problems. Routine treatment monitoring should include a basic check that the patient is able to take the medicines and finding out if there are problems that indicate that changes in medication may be needed. Improved monitoring is needed for many older people and could be made more effective by better utilising contacts between health and social care professionals and patients. All health and social care staff who come into contact with older people can play a part in monitoring treatment. An assessment tool that identifies the possibility of medication-related problems, and a list of risk factors, would enable health and social care staff to identify when a patient needs to be referred for more a detailed medication review.

Supplementary prescribers will be required to monitor patients according to a clinical management plan that has been prepared by the patient's doctor and supplementary prescriber.

The UAP will contribute to the process of problem identification. Where an overview assessment of an individual indicates a potential or actual need for support with medication, a more specialist assessment may be required to inform the care plan.

A key opportunity for intervention is the point at which medicines are dispensed in primary care, where simple screening questions used by community pharmacists have been shown to detect adverse drug reactions and concordance issues. Opportunities exist for nurses and other professionals in primary care conducting health checks for older people to screen for medicines-related problems and refer them to the GP or pharmacist for a more indepth assessment.

Treatment monitoring is particularly important after a new treatment is started, as this will often mean adding a new medicine to several existing ones. Where enquiry reveals new symptoms or a change in health, or a patient or carer reports them, the possible role of any new medicine should be explored.
6.3 Review of repeat prescribing systems

Most general practice computer systems can target patients at higher risk of medication problems, and link medicines added to prescription records at different times to identify duplication of medication, enabling more effective reviews to be undertaken. There is a problem in care homes when changes to a patient's medication are not necessarily recorded at the general practice following a GP home visit. This also applies to changes made by GPs and other prescribers following domiciliary visits to patients in the community. The need to ensure that repeat prescribing systems are accurately maintained is essential; the advent of supplementary prescribers will reinforce this need.

Review of repeat prescribing systems can improve both quality and control of prescribing, as well as enhancing individual patient reviews. The effective management of repeat prescribing remains a substantial task and research has identified the areas where improvement is needed.

6.3.1 Systems for ordering and producing prescriptions

- mechanisms to ensure that requests for repeat medication result in accurate prescriptions;

- synchronisation of quantities and duration of treatments. Systems should recognise that some medicines are used ‘when needed’, eg, painkillers, and in some the quantity used is inexact eg, skin emollients. Patients may also drop or spill medication resulting in an earlier request for a repeat prescription; this could be an indication that the patient may be experiencing difficulties.

- mechanisms to flag up over- or under-ordering
6.3.2 Clinical management

- implementation of reviews and testing (e.g. urea and electrolytes, liver function tests, INR) at required times
- routine assessment of concordance

**Good practice in repeat prescribing systems**

- Written explanation of repeat prescribing process for the patient and carers
- Practice personnel with dedicated responsibility for ensuring that patient recall and regular medication review takes place
- Agreed written repeat prescribing policy
- Authorisation check made each time a repeat prescription is signed
- Training of practice staff on the elements of good practice and how to spot poor patient concordance
- Concordance check made on every repeat prescription
- Regular housekeeping changes made to keep records up to date

Repeat prescribing is an appropriate responsibility for a supplementary prescriber.

6.4 Medication Review

Research shows that the key problems with repeat medication are:

- Unnecessary therapy
- Ineffective therapy
- Poorly maintained records
- No, or inadequate routine monitoring
- Inappropriate choice of therapy/dosing schedule
- non-concordance

43, 44
Periodic routine prescribing review for patients on repeat medication should occur regularly. Prescribing reviews may be conducted by the GP, practice nurse, pharmacist or in an interdisciplinary manner with the individual patient.

6.4.1 Opportunities for a Medication Review

An in-depth evaluation of all of the patient’s medication (prescribed and non-prescribed) should be especially targeted at those older people known to be at higher risk of medicines-related problems:

- **Newly prescribed medicines**

- **Some specific groups of medicines** – certain groups of medicines are known to cause problems in older people eg, hypnotics, tricyclics, psychotropics, diuretics, non-steroidal anti-inflammatory drugs (NSAIDs). The amount of drug in the blood may need to be tested regularly for others eg, digoxin, lithium.

- **Being prescribed 4 or more regular medicines** (polypharmacy) – is a particular risk factor in older people for adverse drug reactions and for re-admissions of older patients discharged from hospital.\(^{45,46}\)

- **Post-discharge from hospital** – changes in medication after discharge may be intentional where the GP decides to modify the hospital’s suggested treatment. However, unintentional discrepancies in medication are found in half of patients after they have left hospital.\(^{19,20}\) These include patients or the GP practice restarting medicines that were stopped in hospital, and duplication of treatment (for example, a medicine being prescribed by both its generic and branded names). By simply sending a copy of the discharge prescription to the community pharmacist, as well as the GP practice, the number of such discrepancies can be halved.\(^{19}\)
Discrepancies are also reduced when a pharmacist processes discharge medication in general practices. Direct communication between the community and hospital pharmacies, and electronic transfer of information should improve the process.

In care homes – Sometimes admission to care home results in concordance not previously achieved. Patients’ response to their medication should, therefore, be monitored closely and records maintained following the admission. Pharmacist-conducted medication review of all medicines showed that modifications to treatment were needed for half of the medicines prescribed; the most frequent recommendation (47%) was to stop medication and in two-thirds of these cases there was no stated indication for the medicine being prescribed. Longer-term follow-up showed the number of medicines prescribed for older people can be reduced with no adverse impact on morbidity or mortality.

Where medicines-related problems have been identified through routine monitoring/assessment

Annual health assessments. Thorough review of medication should be part any annual health assessment and part of any assessment carried out by district nurses prior to care planning.

Following an adverse change in health such as dizzy spells or confusion, medicines should be reviewed to determine whether they may have caused or contributed to the problem.

Polypharmacy - develops over time and medicines may be added to counter the side effects caused by others, or simply not discontinued when no longer needed. There is evidence from randomised controlled trials of pharmacist-conducted medication review that these problems can be identified and resolved with the GP. Such reviews benefit from access to information on medical and medication history in the medical record. Community pharmacists do not have remote access to patients’ clinical notes and this limits their involvement in medication review services.
development of a single electronic patient-held medication record or electronic access to patient medication records would facilitate medication review in community pharmacy settings. Medication review schemes have been developed in a number of local areas as part of wider health gain strategies. Review tools may be simple or more detailed.

6.4.2 Format of detailed medication review

The invitation to the review of an individual patient's medication should include both the patient and the carer, as appropriate.

Research has shown that patients want:

- Specific time set aside for medication review.
- Someone to listen carefully to questions
- Clear explanations in simple language
- An open interaction where they could be honest about what they were actually taking, and the health professional would be honest about the consequences of taking (or not taking) the medicines.

Ask open questions to encourage the patient to provide more comprehensive response, for example,

- how do you take your medicine, when and how often?
- What is your daily routine for taking this medicine?
- If you have side effects from this medicine, what are they?
- What non-prescription medicines, including herbal and Chinese medicines, have you purchased, been given and / or taken?

The review should cover the following core areas:

- Explanation of the purpose of the review and the reason why periodic review is important. A patient guide to medication review is available from the Medicines Partnership.
- Compilation of a list of all medicines being taken or used: including prescribed medicines, over-the-counter medicines, herbal, homeopathic and Chinese remedies, and medicines swapped or shared between friends or partners

- Comparison of the list of medicines taken or used with the list of medicines prescribed

- The patient’s (and carer’s) own perception and understanding of the purpose of the medication, and any misconceptions

- The patient’s (and carer’s) understanding of, and concordance with, how much, how often, when and how medicines should be taken

- Application of ‘Prescribing appropriateness indicators’ \(^6\) eg, the indication for the drug is recorded and upheld by the British National Formulary

- Any side effects being experienced. Evidence suggests that older people’s accounts of perceived side effects correlate closely with health professionals’ assessments \(^6\). The review should include side effects which restrict people’s lifestyles eg, wakefulness at night or excessive diuresis affecting social life. Are some of the medicines being used to treat side effects of other medication?

- Review of any relevant monitoring tests, eg, INR for patients on anticoagulants, Hb1Ac for diabetic patients; blood tests for disease modifying antirheumatic drugs, thyroid hormone levels, lithium levels.

- Checking for risk factors e.g. cholesterol testing

- Review of practical aspects of medicines use:
  - Is the patient experiencing any problems in ordering and collecting repeat prescriptions?
Any problems removing medicines from containers? Older people may have particular difficulties with opening bottles, blister packaging and, to a lesser extent, with foil packaging.

Any problems swallowing tablets? Does the patient need soluble tablets or liquids? If soluble tablets are prescribed what is the salt content? If the patient needs liquids is there a sugar-free formulation which is better for oral health?

Ability to pour and measure liquid medicines

Difficulties in reading labels. Provision needs to be made to help eg, large print labels, dosage information cards. This might also highlight the need for an eye examination.

Forgetting to take medicines is common. ‘Memory aids’ can be helpful for some patients.

Some medication-related risk factors e.g medication hoarding, inappropriate medication storage, expired medication, therapeutic duplication and lack of medication administration routine are more readily identified and reviewed within the patient’s own home

Concordance:

How is the patient actually taking the medicines?

Do they have any concerns, questions or issues about their medication that they want to raise?

Does the patient understand and accept the reasons for their medicines and the health consequences of not taking them?

What support is needed / available, including information and aids to memory and compliance?
6.4.3 Possible actions following medication review

- Referral to a doctor, pharmacist or nurse for further information about medicines and reasons for prescribing

- Provision of medicines support items, for example, medicines reminder charts or memory aids according to an assessment protocol

- Review current diagnosis

- Further investigations/information – this may include biochemical investigations or additional monitoring – for example, creatinine levels, measure blood levels of individual drugs, such as lithium, digoxin

- Rationalisation of treatments according to clinical condition and current evidence based best practice.

- Referral to prescriber to consider if additional treatment or change of current medication is needed to help achieve clinical standards of care

- Patients' and carers' views must be engaged throughout the process.

6.5 Education and training

- Education and training about the usage, handling and storage of medicines is important for patients and their carers, for health and social care professionals and for local policy managers. This should be on-going and include up-dates for research evidence and learning the lessons from audit or complaints and suicide risks associated with medication.
6.5.1 Patients and carers

- A key theme of the Review of Health and Social Care in Wales is empowering patients to take an active role in managing their own care. Patients are not passive recipients of prescribing decisions. They have their own beliefs about medicines, how they work and how they are best used. Moreover, medicines taking has to fit within their normal daily lives.

- The Royal Pharmaceutical Society's Concordance Co-ordinating Group has brought together leaders from the professions, patients and the pharmaceutical industry, and has done a huge amount to define and promote the concept of ‘concordance’. This is the idea that prescribing and medicine taking needs to be based on informed agreement between the patient, their doctor and other health professionals.

- Self-management training programmes for patients have also been shown to improve health outcomes. The Expert Patient Programme provides opportunities for people who live with long-term chronic conditions to develop new skills to manage their symptoms on a day-to-day basis.

- Carers have stated that they do not have enough information about:
  - The medicines of the person they care for
  - The side effect of these medicines
  - Medical procedures e.g. injections, catheters
  - The diagnosis or prognosis of the illness or disability

Programmes for carers on supporting medicines use have been provided in some parts of the UK, and should be considered in Wales. Patients and their carers want more information about medicines. There are a number of possible sources, such as Patient Information Leaflets (PILs), which accompany the medicine and on-line in the Electronic Medicines Compendium, PRODIGY patient leaflets, NHS Direct On-Line and Ask About Medicines Week. Sometimes the information needs to be interpreted. Local community pharmacists, and the NHS Direct helpline, can provide this support.
Research conducted by Sheffield University has highlighted that 4.9% of all NHS Direct callers ask for advice about medicines and 2.3% are calling about poisoning. In addition, nurses give 40% of all callers advice about medicines 68.

Analysis of the medicine related calls in Wales indicate that common enquiries about medicines are related to adverse drug reactions, drug interactions, administration and dosage and complementary medicines.

Information should be provided in different formats, such as audiotapes, videos, leaflets etc, and in different languages where appropriate. It is important to check that the information transmitted is understood. Practitioners may need to check understanding has occurred, especially early recognition of side effects.

People are currently used to their doctor being the main source of information and decisions about medicines. However, patients are often reluctant to share all the relevant information about their compliance or concordance with their doctor, this is particularly so with older people. Research indicates that pharmacist conducted medication review is well received by patients 69 and that patients need a clear explanation of this role supported by their doctor. A gradual culture change needs to occur for some older people to more readily accept advice from pharmacists and nurses. This will become more important as repeat prescribing becomes the responsibility of the nurse or pharmacist supplementary prescriber. The role of patient and carer organisations will be important in supporting this change.
6.5.2 All care staff working for health, social, private and voluntary organisations

Ongoing education and training is essential especially for all care staff.

Many care staff contribute to the daily living activities of older people living in their own homes. Depending on local policies, considerable support in medicines taking can be provided by these staff and training is essential for success.

Care staff with daily contact with older people should be monitoring and evaluating the capabilities of older people in their care and should be aware of the links between patient assessments and medicine taking. They should be aware of the action to be taken if they have any concerns about the older person in their care.

The Cardiff Medication Administration Scheme CARMAS, has community pharmacists and home care managers developing care plans for the administration of medicines to vulnerable people. ‘Compliance aids’ such as Monitored Dosage Systems, multi compartment cassettes, can be helpful for some patients but should be preceded by rationalisation of medicines, patient education and proper assessment before they are initiated and their use must be regularly reviewed. Other simpler measures, such as memory aids are more helpful for many patients.

The Welsh Centre for Postgraduate Pharmaceutical Education (WCPPE) has developed training materials for pharmacists to use when training care staff. Other resources have been developed in other areas.
6.5.3 Healthcare Professionals

All health care professionals need training to develop consultation styles that are likely to meet the needs and preferences of older people and their carers. Staff also need to be aware of the links between their own patient assessments and medicine taking. For example, when Occupational Therapists assess whether a patient is able to unscrew lids and open packaging, this could be transferred to their capacity to open medicines containers and blister packs.

6.6 Risk management to reduce medication errors

Medication errors are preventable events relating to medication that could potentially harm a patient and can occur at three levels: prescribing\(^72\), dispensing\(^73\) and medication administration\(^74\).

Avoiding prescribing errors is particularly important in older people, given drug choice and doses often need to be adjusted because of altered renal or hepatic function; co-morbidities; polypharmacy and potential drug interactions\(^75,76\). Some prescribing errors occur because of transcription or calculation errors. Again older people are particularly vulnerable to these types of errors because of the high volume of prescribing, frequency of multiple prescribers and prescribing across primary and secondary care sectors. Dispensing errors are less common but administration errors especially non-administration occur relatively frequently both in hospital and care settings.

A target reduction of 40% in serious medication errors by 2005 has been set\(^77\). There is obviously a major role for education (particularly prescriber education and training) in improving prescribing and reducing drug errors\(^78\). In addition a whole systems approach to the complex task of medicines management in older people is needed\(^79\). Strategies to improve prescribing communication across care sectors and improve interdisciplinary management and support of prescribing need to be evaluated in older people. Several interventions involving information technologies have the potential to reduce medication errors\(^80\). Meanwhile, improved prescribing decision support and clinical pharmacy services need to be delivered consistently for all older people.
6.7 Special considerations

6.7.1 Stroke

The NSF standard on stroke highlights three effective interventions in stroke prevention – the need to maintain blood pressure and cholesterol within specified limits, and to ensure that people with atrial fibrillation receive anti-thrombotic treatment. It is not enough to simply prescribe antihypertensive, anti-thrombotic treatment or antiplatelet aggregation treatment. In hypertension, for example, audits consistently show that blood pressure is controlled, at best, in half those treated. This can be due to variability in response to medication, lifestyle and level of adherence to medication. While health professionals clearly understand the potential benefits of treatment, the same cannot automatically be assumed for patients and their carers.

Pharmacists and nurses have an important role to play in providing information and in answering questions about treatment, and there is evidence that such interventions can improve blood pressure control. Anti-thrombotic treatments are known to be under used in atrial fibrillation. In addition to these treatments, information and treatment to support smoking cessation also play a part. Opportunistic case finding and specific clinics to identify patients who need additional care/medicines should be considered.

6.7.2 Falls

The NSF Falls standard has already highlighted that intrinsic risk factors include taking four or more medications, in particular sedating or blood pressure lowering medications. Interventions suggested include discontinuing inappropriate or excessive medication or changes in medication.
NICE guidelines recommend that older people who present for medical attention because of a fall or who report recurrent falls in the past year should be offered a multifactorial risk assessment that includes a medication review.

A lot of medicines increase the risk of falling or may aggravate problems for patients who are already fallers. Problems that medicines can cause include drowsiness, dizziness, poor judgement, weakened grip, cognitive dysfunction, visual disturbances, hypotension and cardiovascular syncope.

Patients taking hypnotics are more liable to fall during the night and this has been shown to be the case for short-acting as well as long-acting benzodiazepines and Z-drugs. The NICE guidance recommends that older people on psychotropic medication should have their medication reviewed with specialist input if appropriate and discontinued if possible. Dehydration in patients taking diuretic or laxative medicines can contribute to falls. Taking medication at inappropriate time may also increase the risk of falling e.g. taking diuretics late in the day may mean getting up at night to go to toilet. Over-the-counter sleep aids containing sedative antihistamines may also contribute although these preparations have not been the subject of formal studies.

In patients taking medicines known to contribute to falls, medication review can play an important part in falls prevention. Where a patient has fallen, medication review and subsequent prescribing changes have been shown to reduce further falls.

Interventions to reduce the incidence of falls in care homes have mainly focused on reviewing the appropriateness of psychotropic medicines use (antipsychotics, tricyclic antidepressants and hypnotics). Changes in the prescribing of these medicines in these settings were found to present a particular challenge.
Older people taking oral corticosteroids (for example, for rheumatoid arthritis, polymyalgia rheumatica, or asthma) are at increased risk of developing osteoporosis; giving preventive treatment at the same time reduces the risk increase. NICE guidance\textsuperscript{91} for the prevention and treatment of osteoporosis has been published.

### 6.7.3 Mental Health

The need for medicine management systems and a smooth transition from secondary care to community pharmacy for working age people with mental illnesses has already been recognised\textsuperscript{92}. The principle should also apply to the discharge arrangements of older people with mental illnesses.

Older people are particularly susceptible to the adverse effects of the older tricyclic antidepressants (TCAs). Analysis of prescribing shows that older people are more likely to be prescribed an older tricyclic and less likely to be prescribed a selective serotonin reuptake inhibitor (SSRI) than younger patients\textsuperscript{93, 94}. In a prescribing analysis study using appropriate doses for primary care, only 43\% of those over 65 received an adequate dose where a tricyclic was prescribed\textsuperscript{93}.

The prescribing of antipsychotic medicines for patients in nursing and residential homes has been the subject of concern in many countries and led to legislation in the US\textsuperscript{91, 95}. A 1996 study in Glasgow found that 24\% of residents were prescribed regular neuroleptics and only 12\% of residents could be deemed to be receiving them appropriately according to the US guidelines\textsuperscript{96}. More recent UK research indicates that inappropriate neuroleptic prescribing in nursing homes continues to be an issue\textsuperscript{51, 97}. Such medicines used to treat behavioural complications of dementia may hasten cognitive decline\textsuperscript{98}. More recently the Committee for the Safety of Medicine issued a warning about atypical antipsychotic drugs and stroke in patients with dementia. Prescribing should therefore be according to the most recent available evidence based published guidance\textsuperscript{99, 100}.
Guidance on the prescribing of certain anti dementia drugs for people with mild to moderate Alzheimer's Disease was issued in 2001\textsuperscript{101}. Since then, an Audit Commission Report found that the prescribing of these drugs varied throughout Wales\textsuperscript{102}.

### 6.7.4 Pain Control

Many older people have chronic pain from arthritic and rheumatic conditions. They are prescribed a range of medicines and may also purchase over-the-counter treatments and use them in addition to or instead of their prescribed medicines. It is important for prescribers to explore patients' beliefs about painkillers, as taking too little, or not using a medicine sufficiently frequently can reduce its effects and lead to the erroneous conclusion that a more potent medicine is needed.

Guidelines on appropriate prescribing for pain in arthritic conditions are being implemented in primary care, but further improvements could be made. There is consensus that in arthritic conditions paracetamol, taken regularly, should be tried first and evidence shows that this controls pain in substantial numbers of patients. Non-steroidal anti-inflammatory drugs (NSAIDs) are commonly prescribed for older people and are a risk factor for gastrointestinal bleeding, which may result in hospital admission, and in some cases, death. Prescribing policies outlining best practice to start treatment with paracetamol are key, and many older patients taking NSAIDs can be offered the opportunity to try simple painkillers instead. Many over the counter painkillers and cold remedies contain paracetamol. This may lead to more than the recommended daily dose being taken.
Where older patients need to take NSAIDs there is a need to consider the adverse event profile of specific medicines as a factor in selecting the most appropriate. Gastro-protective treatment should be given where appropriate. NICE has provided guidance\textsuperscript{103} on the appropriate use of Cox II selective NSAIDs in the treatment of osteoarthritis and rheumatoid arthritis.

Pain control in palliative care has long been recognised to be sub-optimal for many patients\textsuperscript{104}. AUS study of pain control in patients with cancer identified age over 70 years as the top risk factor for inadequate pain management\textsuperscript{105}. Specialist palliative care nurses are in a good position to assess patients’ needs and working towards prescribing by these practitioners for pain and symptom control could enhance patients’ quality of life.

Pain is difficult to assess and therefore treat adequately in those with cognitive impairment and/or communication difficulties\textsuperscript{106}.

7: Service Models

7.1 Networks

Local health and social care partners should agree common policies and standards around medication systems to ensure that wherever patients are cared for they receive appropriate information, are treated as individuals, and their health beliefs on medicines taking are heard and valued. Private and voluntary organisations should be included in local networks.

Health and social care partners need to build local links to tackle problems in training, use and information about medicines, to ensure that all services employ risk management systems for medicines handling. Patients and their carers need to receive the appropriate information and assistance they need to help them obtain the maximum benefit and minimum harm from medicine taking.
Specific responsibilities of different service providers and commissioners are as follows:

7.2 Local Health Boards

- Encourage older people and their carers to request a review of their medicines if they think it is needed

- Ensure that people over 75 years are aware that their medicines will be reviewed regularly

- Encourage older people to participate in public health initiatives, eg, Immunisation, smoking cessation

- Encourage practices to make arrangements for targeted medication review for older people in vulnerable groups, e.g. housebound patients who are less likely to attend the surgery or patients on medication requiring blood monitoring. This may be undertaken by supplementary prescribers within the GP practice.

- Support the implementation of protocols for risk assessment of medicines related problems to enable targeting of interventions

- Implement medicines management strategies, so that people get more help from pharmacists in using their medicines.

- Consider ways in which medicines related problems in older people can be identified opportunistically through services such as NHS Direct and community pharmacies.

- Use prescribing incentive schemes to promote medication review for targeted patient groups, eg, care home residents

- Provide appropriate prescribing advice relating to older people
• Support practices to review repeat prescribing systems and promote medicines management. Implement protocols for risk assessment of medicines related problems to enable targeting of interventions

• Consider repeat dispensing as one means of monitoring repeat medication as its benefits to patients and GP practices have been demonstrated\(^{107}\).

• Consider supplementary prescribing by a nurse or a pharmacist for patients on repeat medication who require monitoring.

• Encourage GP practices, to work with community pharmacists, to ensure no older person is in receipt of medicines labelled ‘as directed’, with the exception of some complex dosing regimes when other written instructions should be provided in addition to a full oral explanation. For example community pharmacists could undertake audits of the percentage of prescription items without full dosage instructions and feed back findings to practices and LHBS.

• Encourage the establishment of improved two-way communication systems between hospitals and primary care relating to medication at admission and discharge

  ▪ Encourage GP practices to provide full medication information to the hospital in advance when a patient is admitted for elective treatment and as soon as possible after acute or emergency admissions

  ▪ Secure pharmaceutical advice, where necessary for care homes, which covers medicines management, as well as safe and secure handling and storage of medicines

  ▪ Make arrangements, through a jointly agreed process between health and social care, for housebound patients with medicines-related problems to receive support in taking and managing their medicines\(^{108,109}\).
• Ensure medication review forms part of the UAP for considering whether to admit an older person to a care home

• Encourage the development of shared policies on the use of compliance aids, particularly for people living at home. The UAP should include accredited tools to assess individual patients’ need for compliance aids thereby targeting their use. Appropriate arrangements for funding should be secured.

• Aim to reduce the prescribing of hypnotics for older people by asking older people if they would like to try to ‘come off’ long-term benzodiazepines and Z drugs, and providing support for them to do so

• Promote concordance in medicines use as an approach to patient care among all staff, through written policies and, where appropriate, inclusion in personal development plans

• Consider the implementation of models of good practice such as the 'Message in a bottle' scheme launched by the North Wales Lions in June 2004. The scheme alerts the emergency services of a person's medical condition and regular medication in an emergency.
'Message in a Bottle' Scheme

In June 2004 North Wales Lions launched an inventive new scheme to alert the Emergency Services of a person’s medical condition in an emergency.

The scheme works on the basis that a person stores their medical details in a plastic bottle kept in their fridge to alert the Emergency Services of any medical conditions or allergies in the event of an emergency. Anyone can use the scheme but it is particularly vital for those in a vulnerable position who may not be able to communicate their medical details to the Emergency Services. The bottles sport a prominent green cross on the side.

As well as the medical form, the bottles come with two green stickers – one to stick on the outside of the fridge and the other to the inside of a back door – to signal to Emergency Services that a bottle is being kept in that household. The objective of the scheme is to help make people feel more secure in their homes and to give relatives, who might live some distance away, peace of mind.

The scheme is supported by the Welsh Ambulance Services NHS Trust, North Wales Police, Denbighshire Local Health Board, Denbighshire Social Services and the Naylor Leyland Centre, Ruthin.

7.4 Hospital care including admission and discharge

• Put in place systems for medication review on admission to identify medicines related problems, such as adverse drug reactions or admission due to a fall which is medicines-related
• Consider systems to enhance older peoples use of medicines while in hospital and following discharge eg, one stop dispensing/dispensing for discharge schemes, self-administration schemes with provision of medicines labelled with full instructions, and copying the discharge prescription to the community pharmacist to reduce the number of unintended changes to medication once the patient goes home. Self-administration in hospital allows patients to be as independent as possible, participate in their own care and make decisions about their treatment in partnership with their clinical staff 79

• Review arrangements for prescribing at discharge, including consideration of whether or not medicines need to be continued once the patient returns home eg, hypnotics prescribed for short term insomnia due to anxiety or disturbed sleep patterns arising from the ward environment.

• Ensure that where medication initiated in hospital is recommended to be discontinued at a future date, that this information is communicated to the GP

• Provide full information to GPs and patients or carers on medication at discharge, including explanation of why any changes have been made

• Promote concordance in medicines use as an approach to patient care among all staff, through written policies and, where appropriate, inclusion in personal development plans

• Implement the medicines management section of the Welsh Risk Pool Standards and to disseminate good practice
7.5 Intermediate Care providers

- Assess and meet medicines-related needs of older people in rehabilitation services
- Include pharmacists as part of the multi disciplinary team\textsuperscript{110,90}

7.6 Social Care

- Social care staff to work with the NHS to include medicines within UAP and establish referral paths for specialist medicines advice and support
- Care providers to review local policies on medicines administration and support by social care staff working with patients in their own homes as well as in care homes
- Care homes, private hospitals and domiciliary care agencies to meet the performance standards and milestones, on medicines management, set by the Care Standards Inspectorate for Wales (CSIW).
- Care homes to seek advice from pharmacists about medicines, in line with the National Minimum Standards\textsuperscript{23} for care homes for older people
- CSIW Inspection team visits to care homes will include a focus on medicines systems
- All staff involved in medicines handling, administration and support to receive appropriate training, including identifying and referring medicines-related problems in line with the National Minimum Standards\textsuperscript{23,24}.
7.7 Audit

The development of enhanced information technology to enable linkage between diagnosis, age and prescribing, and between prescribing and dispensing/supply will facilitate audit of prescribing and use of medicines for older people. The Prescribing Services Unit of Health Solutions Wales produces Prescribing Audit Reports and Prescription Cost Analysis and is a useful starting point for comparators and indicators in primary care. The Information is available down to practice level, and is accurate and complete. Although age related weighting can be applied, the data cannot be analysed by age, diagnosis or outcomes; nor is it possible to differentiate repeat or emergency prescriptions from others.

More specific audit of prescribing requires links with data from patients’ medical records. This is a resource-intensive process and hence requires specific targeting to identify at-risk patients. Practice nurses conducting clinics can also identify patients for review. Some practices that employ pharmacists are already involving them in prescribing audit. Other practices have sessional support provided by LHBs. Practice staff can run complete searches to identify appropriate patients for review.

The GMS contract identifies clinical indicators in the quality and outcomes framework designed to encourage more structured care of patients with chronic diseases, which link clinical patient data with prescribing information.

In hospitals, linking data items such as diagnosis, age and medicines administered will become readily achievable when hospitals have electronic prescribing systems.

Audit of areas related to the National Service Frameworks provide a useful starting point and would provide linkages between the Older People NSF and the others. It may be possible for a set of audit standards for prescribing common to primary and secondary care to
be developed 111, 112. Key work on audit of medicines prescribing for older people has been undertaken by the Royal College of Physicians, whose report on their Sentinel Audit was published in 2000 15.

Where the medical history suggests that a medicine is indicated but is not being prescribed, the record should indicate why the patient is not receiving it eg, a specified contra-indication. Further work will be needed to tighten the definitions, including ‘receiving a prescription’ and to incorporate data relating to patients who purchase medicines such as aspirin (for cardioprophylaxis) over the counter.

Identifying whether medication review has taken place is generally only possible from patients’ medical records. Although the Quality and Outcome Framework indicators113 of the GMS contract provide an indication of whether a medication review has been performed, they may not reflect the level of review undertaken. The development of more specific codes that would identify the level of medication review performed would be welcomed. With progress in the development and use of electronic prescribing and recording systems, the audit of medication review periods will be facilitated.

Audit of medicines use is less developed. Some work has investigated whether medicines prescribed are dispensed, to give an indication of whether patients have sufficient quantities of medicines to be able to take them as intended 114, 115.

Audit of the contribution of medicines related problems to hospital admissions is currently very difficult. Although under the existing diagnostic coding scheme (ICD-10) used in secondary care, it is possible to code both the adverse event and the drug responsible for the event, this is not always completed. Better record-keeping in the short term and EPRs in the long-term will enable progress in reducing admissions related to adverse drug reactions and medicine-related falls to be measured.
This booklet is also available in Welsh. Further copies of this booklet, the full consultation draft National Service Framework and Executive Summary are available on the NSF website www.wales.nhs.uk/nsf or from:

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