DH Department of Health

Medicines and Older People

national service framework

Implementing medicines-related aspects of the NSF for Older People

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National Service Framework for

Older People

The eight National Service Framework standards are:

Standard One: Rooting out age discrimination
NHS services will be provided, regardless of age, on the basis of clinical need alone. Social Care services will not use age in their eligibility criteria or policies to restrict access to available services.

Standard Two: Person-centred care
NHS and social care services treat older people as individuals and enable them to make choices about their own care. This is achieved through the single assessment process, integrated commissioning arrangements and integrated provision of services, including community equipment and continence services

Standard Three: Intermediate care
Older people will have access to a new range of intermediate care services at home or in designated care settings to promote their independence by providing enhanced services from the NHS and councils to prevent unnecessary hospital admission and effective rehabilitation services to enable early discharge from hospital and to prevent premature or unnecessary admission to long-term residential care.

Standard Four: General hospital care
Older people's care in hospital is delivered through appropriate specialist care and by hospital staff who have the right set of skills to meet their needs.

Standard Five: Stroke
The NHS will take action to prevent strokes, working in partnership with other agencies where appropriate

People who are thought to have had a stroke have access to diagnostic services, are treated appropriately by a specialist stroke service, and subsequently, with their carers, participate in a multidisciplinary programme of secondary prevention and rehabilitation.

Standard Six: Falls
The NHS, working in partnership with councils, takes action to prevent falls and reduce resultant fractures or other injuries in their populations of older people.

Older people who have fallen receive effective treatment and rehabilitation and, with their carers, receive advice on prevention through a specialised falls service.

Standard Seven: Mental health in older people
Older people who have mental health problems have access to integrated mental health services, provided by the NHS and councils to ensure effective diagnosis, treatment and support, for them and for their carers.

Standard Eight: Promoting an active healthy life
The health and well-being of older people is promoted through a co-ordinated programme of action led by the NHS with support from councils.

1: Introduction

The National Service Framework for Older People defines standards for health and social services to ensure high quality care. This document describes how the use of medicines for and by older people can be improved. 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.

2: Aims

This document sets out how the NHS and social care aims to ensure that older people:

- gain the maximum benefit from their 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

3: Standards

Use of medicines is a fundamental component of each of the NSF 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. 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. A list of the standards is shown on the facing page.

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 [1] . Alongside this comes 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 medication regime.

- **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 [2] (B3) [3] (B3) [4] (B3)

- **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 [5] (B3) are not always prescribed for patients that would benefit

- **Medicines not taken**. As many as 50% of older people may not be taking their medicines as intended [6] (D). 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

- **Inequivalence in repeat prescription quantities 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. Inequivalence in quantities on repeat prescriptions means that patients have to order different items at separate times, and may unintentionally receive the same medicine on separate prescriptions. The wastage that results from this inequivalence has been estimated to account for 6-10% of total prescribing cost [7] (B3)

- **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 [8] (B1) [9] (B2)

- **Poor 2-way communication between hospitals and primary care** - 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 actioning of discharge medication information is not always optimal [9] (B2) and full medication histories are not always provided to hospitals at admission

- **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 [10] (P). General practice computer systems that target patients at higher risk of medication problems, and that link medicines added to prescription records at different times and identify duplication of medication would enable more effective reviews to be undertaken

- **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’ [5] (B3)

- **Access to the surgery or pharmacy can be a problem** - some older people may 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

- **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. Local operating procedures often prevent social services staff from providing support. Formal carers (eg home care workers) need training in medicines and their use. Home care workers regularly assist people with medicine taking, even though their job description discourages them from doing so [11] (B3). Informal carers (eg family members), together with those they care for, could be more involved in, and consulted about, treatment decisions. Their wealth of knowledge about the patient's health and any adverse changes is too often untapped. Carers want to know more about possible side effects of treatment, about which combinations of medicines should be avoided, and about reasons for changes in medication [12] (C) [13] (B3)

- **Detailed medication review minimises unnecessary costs** - medication review for older people usually results in a reduction in the number of prescribed medicines. Studies in general practices and nursing homes have shown that every £1 spent on employing pharmacists to review patients' medication resulted in £2 cost savings [14] (B1) [15] (B2)

- **Some long-term treatments can be successfully withdrawn -** diuretic treatment, for example, often needs to be continued long-term but can be stopped in about half of patients providing progress is monitored [16] (B1).

Appropriate medicines management systems should be in place so that the medication needs of older people are regularly reviewed, discussed with older people and their carers, and information and other support provided to ensure older people get the most from their medicines and that avoidable adverse events are prevented [10] (P) [17] (B3) [18] (D).

Almost half of the NHS drugs bill is spent on medicines for older people [19]. We need to ensure that this is spent in a clinical and cost effective manner, to maintain or improve the health of older people and not to increase the effects of existing illness.

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 – medicine-related problems to be assessed as part of the joint social/healthcare assessment
- Second order – where complex medicine related problems are identified, specialist assessment will be needed using a validated risk assessment tool

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

- taking four or more medicines
- specific medicines, eg warfarin, non-steroidal anti-inflammatory drugs (NSAIDs), diuretics, digoxin
- recent discharge from hospital.

Social and personal factors that may predispose to medicines-related problems include:

- social support – Low level of home support available
- physical condition – Poor vision, hearing, dexterity
- mental state – Confusion/disorientation, depression.

Specialist risk assessment tools for MRPs have been developed and are in use in a number of areas[20] (P) [21] (P). While they have yet to be formally validated, experience of their use in practice has been positive. A set of risk indicators for preventable medicines-related morbidity from the US is also currently being validated in the UK [22] (B2).

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 five main types of intervention:

- Prescribing advice/support

- Active monitoring of treatment
- Review of repeat prescribing systems
- Medication review (with individual clients and their carers)
- Education and training

6.1 Prescribing Advice/Support

Prescribing advice/support to individual prescribers, Primary Care Groups (PCGs) and Primary Care Trusts (PCTs) can improve the quality and cost-effectiveness of prescribing by, for example, implementing clear policies relating to medicines in older people [10] (P). 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), antiparksinonian medicines, antihypertensives, psychotropics and digoxin [23] (D) in older people. Local protocols for risk assessment can build on existing work to target specific patient groups and individual patients.

Prescribing support is now purchased by many PCGs, GP practices and PCTs and provided by pharmacists. General review of prescribing 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[24] (D). Other advice might increase prescribing, for example, case finding in atrial fibrillation to ensure anti-thrombotics are being prescribed providing there are no contra-indications to their use, and in depression, ensuring that appropriate antidepressant therapy is being prescribed.

Prescribing advisers also provide information, advice and policy development on the other interventions described in this section.

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. A checklist that identifies the possibility of medication-related problems, and a list of risk factors, would enable staff to identify when a patient needs to be referred for more detailed medication review.

The proposed joint health and social care assessment for older people will contribute to the process of problem identification as only 50% of existing assessments include medicines issues [25] (B3). Another key opportunity 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 compliance issues [26] (B1). Nurses and other professionals in primary care conducting health checks for the over-75's could screen for medicines-related problems and refer them to the GP or pharmacist [17](B3) where appropriate.

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.

Questions to explore the role of new medication [27] (P)

- *Has any new medication been added to the prescription in the past few days?*
- *Has any new over-the-counter medicine been purchased in the past few days?*
- *Have any of the doses of medication been changed in the past few days?*

6.3 Review of repeat prescribing systems

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 [10] (P):

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 (recognising that some medicines are used 'when needed', e.g. painkillers, and in some the quantity used is inexact e.g. skin emollients)
- mechanisms to flag up over- or under-ordering of regular medication

Clinical management

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

Good practice in repeat prescribing systems [28] (B2)

- *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 practice policy on length of medication supply on repeat prescriptions*
- *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 compliance*
- *Compliance check made on every repeat prescription*
- *Regular housekeeping changes made to keep records up to date*

The Computerised Repeat Prescribing support system (Repeat Rx), developed by the Sowerby Centre for Health Informatics in Newcastle (SCHIN) with funding from the Department of Health, in conjunction with the two leading UK primary care software suppliers, will support the improvement of repeat prescribing systems. Repeat Rx, which will be made available to GPs in 2001, integrates the decision support and administrative components and manual process elements, thereby dove-tailing repeat prescribing and medication review. It will offer the GP medication management advice, patient condition specific information leaflets, as well as prescription generation.

6.4 Medication Review

Periodic routine prescribing review for patients on repeat medication is usually conducted by the GP with the individual patient. The requirements for the Sustained Quality Allowance state that the practice should be able to demonstrate *"that each patient and their care has been reviewed at appropriate intervals and an up to date list of repeat or continuing medication and a record of current and recent drug treatments (including dosage regimes) kept within the patient record. The benchmark for achievement is 90%".*[29] (P)

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:

- **Being prescribed 4 or more medicines (Polypharmacy)** – is a particular risk factor in older people for adverse drug reactions and for re-admissions of older patients discharged from hospital [30] (B2) [31] (B3)

- **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 [8] (B1) [9] (B2). 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 [8] (B1). Discrepancies are also reduced when a pharmacist processes discharge medication in general practices [32] (B2)

- **In care homes** – a major study of 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 [33] (B1) [34] (B1). Longer-term follow-up showed the number of medicines prescribed for older people can be reduced with no adverse impact on morbidity or mortality [35] (B1)

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

- **Patients aged over 75** as part of their annual health check

- **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.

Research shows that the key problems with repeat medication are:

- Unnecessary therapy

- Ineffective therapy

- No, or inadequate routine monitoring

- Inappropriate choice of therapy/dosing schedule
- Admitted non-compliance [36] (B3) [37] (B2)

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 [38] (B3). There is evidence from randomised controlled trials of pharmacist-conducted medication review that these problems can be identified and resolved with the GP [39] (B1) [40] (D) [41] (B1). Such reviews, benefit from access to information on medical and medication history in the medical record. Medication review schemes have been developed in a number of local areas as part of wider health gain strategies [42](P).

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. The review should cover the following core areas:

- Explanation of the purpose of the review and the reason why periodic review is important
- Compilation of a list of all medicines being taken or used: including prescribed medicines, over-the-counter medicines, herbal and homeopathic 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 how much, how often and when medicines should be taken
- Application of 'Prescribing appropriateness indicators' [43] (B3) (see Section 7.7), e.g. the indication for the drug is recorded and upheld by the British National Formulary
- Are any side effects being experienced? Evidence suggests that older people's accounts of perceived side effects correlate closely with health professionals' assessments [44] (B3). The review should include social side-effects which restrict people's lifestyles, e.g. 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, e.g. INR for patients on anticoagulants, Hb1Ac for diabetic patients; blood tests for disease modifying antirheumatic drugs, thyroid hormone levels

- Review of practical aspects of medicines use:
  - Is the patient experiencing any problems in ordering and receiving repeat prescriptions?
  - Any problems removing medicines from containers? Patient packs of medicines are generally helpful but older people may have particular difficulties with blister packaging and, to a lesser extent, with foil packaging.
  - Any problems swallowing tablets? Does the patient need soluble tablets or liquids? If the patient needs liquids, is there a sugar-free formulation, which is better for oral health?
  - Difficulties in reading labels (large print labels can be used)
  - Forgetting to take medicines is common. Multi-compartment 'compliance aids' can be helpful for some patients but are often not needed. Other simpler measures such as Medicines Reminder Charts are more helpful for many patients. A protocol to assess whether a compliance aid is needed should be used [45] (B2).
- Concordance discussion:
  - How is the client actually taking the medicines?
  - Do they have any concerns, questions or issues about their medication that they want to raise?
  - Does the client understand and accept the reasons for their medicines and the health consequences of not taking them?
  - What support is needed (including information and aids to compliance)?

The sorts of questions the pharmacist might ask during a review Source: Adapted from Hilary Edmondson, Hull Medication Review Clinics for Age Concern [46] (B3)

- *How long have you been taking/using this medicine?*
- *Is the medicine in its original container?*
- *What is the purpose of this medicine?*
- *Do you know how to take the medicine, when and how often?*
- *Do you have a daily routine for taking this medicine?*
- *Do you have any side effects from this medicine?*
- *Do you have any medicine allergies?*
- *Do you buy (or has anyone else bought for you) any non-prescription medicines from the chemist or any other shop such as a supermarket?*
- *Has anyone (such as a friend or neighbour) given or 'lent' you any medicines, vitamins, herbal or homeopathic products to use?*
- *Do you use/take any other form of medication or home remedies or products prescribed by any other source of advice?*
- *Any other similar questions that may be important in individual cases*

Possible actions following medication review

- Access to a doctor, pharmacist or nurse for counselling about medicines
- Provision of medicines support items, for example, medicines reminder charts or multi-compartment compliance aids according to an assessment protocol
- Examine 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
- Rationalisation of treatments according to clinical condition

- Ensuring that the patient and/or their carer's views are engaged throughout the process and that their contribution is valued

6.5 Education and training

Education and training 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. 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.

Patients and carers

Self-management training programmes for patients have been shown to improve health outcomes. The recommendations of the NHS Expert Patients Taskforce will be important in this respect, and there is room for a module to be developed and tested on the use of medicines. Training could take place in leisure, voluntary, church/temple settings or other community venues.

Programmes for carers on supporting medicines use have been provided in some parts of the country and should be replicated elsewhere [47] (C/P).

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 and NHS Direct On-Line. Sometimes the information needs to be interpreted. Local community pharmacists, and the NHS Direct helpline, can provide this support. While there are, as yet, few data on enquiries about medication to NHS Direct, there is experience from other countries. Analysis of calls to a telephone medication information line for older people in Canada, for example, showed that the commonest enquiries related to adverse drug reactions, drug interactions and therapeutic use of medicines [48] (B3).

On-going research to further develop the computerised decision support system, PRODIGY, aims to improve the functionality of the existing system, particularly in respect of chronic disease management. The system will be more sensitive to a wide range of information in the Electronic Patient Record and, thus, will facilitate the provision of very specific advice. This will be particularly advantageous where the patient is taking multiple medicines.

Education and training programmes should consider the need to provide information in different formats, such as audio-tapes, 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.

Research indicates that pharmacist conducted medication review is well received by patients [49] (B2) and that patients need a clear explanation of this role supported by their doctor. People are currently used to their doctor being the main source of information and decisions about medicines. A gradual culture change needs to occur for some older people to more readily accept advice from pharmacists and nurses. The role of patient and carer organisations will be important in supporting this change.

Social care staff

Many social 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.

Residential homes

Care staff need basic training on medicines and how to handle them. They need to be aware of the potential for medication problems and what action to take. The Centre for Pharmacy Postgraduate Education (CPPE) has produced a training pack, 'Take Good Care with Medicines', for use with staff in residential homes [50] (P), and other resources have been developed in some areas.

Health care 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 the lids of household jars, this could be transferred to their capacity to open medicines containers.

6.6 Special considerations

6.6.1 Stroke

The NSF standard on stroke highlights two effective interventions in stroke prevention - the need to maintain blood pressure within specified limits, and to ensure that people with atrial fibrillation receive anti-thrombotic treatment (eg warfarin or aspirin). It is not enough to simply prescribe antihypertensive or anti-thrombotic 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 [51] (B1). Anti-thrombotic treatments are known to be under used in atrial fibrillation [5] (B3). In addition to these treatments, information and treatment to support smoking cessation also play a part.

6.6.2 Falls

The NSF standard on falls points out that polypharmacy is a risk factor for falls. Hypotension caused by medication is a key contributor. 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 [52] (B1). Over-the-counter sleep aids containing sedative antihistamines may also contribute although as yet these have not been the subject of formal studies. Dehydration in patients taking diuretic or laxative medicines can also contribute to falls.

In patients taking medicines known to contribute to falls, medication review can play an important part in falls prevention [53] (D) [54] (A2). Where a patient has fallen, medication review and subsequent prescribing changes have been shown to reduce further falls [53] (D)[54] (A2).

Interventions to reduce the incidence of falls in nursing homes have mainly focused on reviewing the appropriateness of psychotropic medicines use (antipsychotics, tricyclic antidepressants and benzodiazepines). Changes in the prescribing of these medicines in these settings were found to present a particular challenge [55] (B1) [56] (B1) [57] (B1) [58] (D).

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. Current RCP Guidelines state that patients taking more than 7.5mg of prednisolone daily for longer than six months should be referred for a Bone Density Measurement as the basis for decisions about prophylaxis and treatment [59] (A1/P). The RCP Guidelines also point out that there is uncertainty about the value of serial bone density measurements and that a forthcoming Health Technology Assessment report will address this aspect. Studies in 1996 and 1998 indicate that only 14% [60] (B3) and 33% [61] (B3) of patients being prescribed oral corticosteroids were also being prescribed treatment to prevent osteoporosis.

6.6.3 Mental Health

The National Service Framework on Mental Health recommends that tricyclic antidepressants should not be prescribed in depression in patients over 70. 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[62] (B3) [63] (B3). In a prescribing analysis study using appropriate doses for primary care, only 43% of those over 65 received an adequate dose where a tricylic was prescribed [62] (B3).

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 [58] (D) [64] (P). 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 [65] (B3). More recent UK research indicates that inappropriate neuroleptic prescribing in nursing homes continues to be an issue [35] (B1) [66](B3). Such medicines used to treat behavioural complications of dementia may hasten cognitive decline.[67](B3) Prescribing should be according to available published guidance [68](P) [69]

6.6.4 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 to start treatment with paracetamol are key, and many older patients taking NSAIDs can be offered the opportunity to try simple painkillers instead. However, some older patients will need to take NSAIDs and here 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 advice on the appropriate use of Cox II selective NSAIDs is expected shortly.

Pain control in palliative care has long been recognised to be sub-optimal for many patients [70] (U). 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.

7: Service Models

7.1 Networks

At HA and LA level common policies and standards should be developed 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.

Health and social care professionals need to build local links to tackle problems in training, use and information about medicines to ensure that all services employ controls assurance 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.

7.2 Health Authorities

Health Authorities should:

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

- Encourage PCGs and PCTs to implement medicines management strategies, so that people get more help from pharmacists in using their medicines (see box below on Medicines Management Action Team) [71] (P)

MEDICINES MANAGEMENT ACTION TEAM

'Pharmacy in the Future', the Government's programme for pharmacy in the NHS, said that the Department of Health will be establishing an Action Team, linked to the new NHS Modernisation Agency, specifically to promote medicines management services.

The team will identify a number of health authorities and primary care trusts with the capacity to develop good ideas and offer them extra support to do so. This in turn will create a cadre of people with expertise in setting up medicines management services, who will then pass that expertise on to others.

Pharmacy in the Future: Implementing the National Plan - a programme for pharmacy in the NHS (Department of Health, September 2000)

- Consider ways in which medicines related problems in older people can be identified opportunistically through services such as NHS Direct and NHS Walk-In Centres

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

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

- Explore commissioning of community pharmacist monitoring of repeat medication. Repeat dispensing is one means of achieving this and its benefits to patients and GP practices have been demonstrated [72] (B1). The NHS Plan contains a target that repeat dispensing schemes will be in place nationally by 2004

A Personal Medical Services site in Salford East is planning for repeat prescriptions to be ordered and controlled through community pharmacies. The pharmacists will conduct chronic disease monitoring, medication reviews and will issue compliance aids where appropriate.

- Encourage local Trusts and PCGs, in liaison with social care, to develop shared policies on the use of multi-compartment compliance aids (MCAs), particularly for people living at home. These should include implementing a protocol to assess individual patients' need for compliance aids and targeting their use, and appropriate arrangements for funding the devices and associated dispensing and filling

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

- Explore Local Pharmaceutical Services contracts and their use to improve prescribing and use of medicines by older people in due course (see box below on Local Pharmaceutical Services).

LOCAL PHARMACEUTICAL SERVICES

'Pharmacy in the Future', the Government's programme for pharmacy in the NHS, said that the when parliamentary time allows, the Government will introduce legislation to allow a new form of agreement between the NHS, pharmacists and pharmacy owners. Local Pharmaceutical Services will be similar to Personal Medical Services and Personal Dental Services. They will allow pharmaceutical services to be provided under locally tailored arrangements, free from the restrictions of the rigid national remuneration system and terms of service.

Once the legal framework is in place, the Government will invite proposals from health authorities for pilot schemes to test out innovative new ways of contracting for pharmacy services. These schemes will not be limited to dispensing. They will be able to cover other services, including medicines management, health promotion and disease prevention, all within a single agreement. Contracts will focus on the outcomes they want to achieve for the local population and on the quality of the services provided.

Patients will see the benefits not just in a wider range of services, but in services which have been designed with their needs in mind. And pharmacies will be rewarded according to how well they meet those needs, not just for doing what every other pharmacy has to do.

Pharmacy in the Future: Implementing the National Plan - a programme for pharmacy in the NHS (Department of Health, September 2000)

7.3 Primary Care Groups & Primary Care Trusts

Primary Care Groups and Primary Care Trusts should:

- Implement medicines management strategies, so that people get more help from pharmacists in using their medicines (see box above on the Medicines Management Action Team) [71] (P)

- Review repeat prescribing systems and promote the relevant requirements of the Sustained Quality Allowance, ie patient review at appropriate intervals, an up to date list of repeat or continuing medication and a record of current and recent drug treatments

- Implement protocols for risk assessment of medicines related problems to enable targeting of interventions

- Ensure arrangements are in place for targeted medication review for older people in vulnerable groups, including as part of the over-75s health check

GPs in Bolton and Wigan commissioned 'Brown Bag Medication Reviews' [73] (B2) *where the community pharmacist, together with the patient, reviewed all prescribed and over the counter medicines. Any problems found were assessed, and patients were referred to their doctor where needed.*

The Goyt Valley Medical Practice in Whaley Bridge, Derbyshire, employs a full-time pharmacist who is responsible for repeat prescribing systems and for conducting medication reviews.

- 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

- Encourage GP practices to provide full medication information to the hospital when a patient is admitted

- Ensure medication review forms part of the joint social/healthcare assessment for considering whether to admit an older person to a residential or nursing home

- 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 [74] (B1) [75] (B2)

Bradford Health Authority established a scheme whereby community pharmacists carried out domiciliary visits to older people. The most common problems raised by patients were: unrelieved symptoms (36%); difficulty in remembering the dose of medication (35%); and side effects (27%). The pharmacists made recommendations to the patients' GPs about changes needed. [75] (B2)

In partnership with practice nursing and social services staff, Manchester community pharmacists are carrying out domiciliary medicines reviews for the over-75s and, at the same time, conducting the over-75 health check. The programme, facilitated by a Primary Care Trust, is also developing a shared needs assessment with social services.

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

Age Concern in Hull worked with local pharmacists to provide 'Know Your Medicines', a service at drop-in centres. The service had two main aims – to make information about medicines more easily available to the public, carers, volunteers and health care providers, and to undertake medication reviews for older people in a convenient and comfortable setting[46](B3).

In Canada, Capital Health and the University of Alberta run a scheme to provide Structured Medication Reviews to older people in the community, called 'Take Control of Your Medications'. The team has developed a Self Screening Test for patients to help them to assess whether they should ask for a medication review and a Tool Kit for health professionals. Both are available on the internet at http://www.healthymeds.com

- 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 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 (see box below on partnership in medicines taking)

PARTNERSHIP IN MEDICINES TAKING

A key theme of the NHS Plan 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.

Under the Chairmanship of Professor Marshall Marinker, 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. In other words, partnership in medicines taking.

'Pharmacy in the Future', the Government's programme for pharmacy in the NHS, said that this needs to be pursued rigorously. It will therefore be inviting the professions, the pharmaceutical industry and patient groups to join it in a national strategy for integrating partnership in medicines taking into the way that the NHS works at all levels. The strategy will ensure that partnership in medicines is built into key policy initiatives, like the implementation of National Service Frameworks for the key clinical priorities and the training in communication skills, which will form part of the core curriculum for NHS professional staff from 2002.

Pharmacy in the Future: Implementing the National Plan - a programme for pharmacy in the NHS (Department of Health, September 2000)

- Obtain appropriate prescribing advice relating to older people

7.4 Hospital care including admission and discharge

Hospitals should:

- 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 (e.g. 28-day '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 can reduce the number of unintended changes to medication once the patient goes home - see box below)

RE-ENGINEERING HOSPITAL PHARMACY SERVICES

'Pharmacy in the Future', the Government's programme for pharmacy in the NHS, said that there is more that can be done to make the most of medicines in hospitals, both today and as the service delivery model for hospital care changes. Hospitals will need to review their systems to make them more efficient, timely and safe, and more patient focused.

In some hospitals, pharmacists work on admission wards to help make sure a patient's medicines are right early in their stay. Sufficient medicines are supplied at the outset, so that when patients are well enough to go home, their medicines are ready to go too. Where appropriate, the medicines patients bring into hospital are being used, rather than wasted. And self-administration schemes are being introduced, allowing patients to continue to take their medicines as they would at home. Nurses and pharmacists can then check if patients are having problems taking their medicines. Add on better communication between hospitals, GPs and community pharmacists, which can lessen all too frequent unintended changes in medication after discharge, and the result is a much better way to use medicines.

To see that changes are made, NHS Executive Regional Offices will be rolling-out a medicines management performance management framework specifically for hospitals, and the Department of Health will be establishing a Collaborative Programme in order to spread and share best practice.

Pharmacy in the Future: Implementing the National Plan - a programme for pharmacy in the NHS (Department of Health, September 2000)

The Oxford Radcliffe Hospital employs an 'Admissions and Discharge Pharmacist' whose role includes taking medication histories and identifying patients with potential difficulties with medicines on admission; writing prescriptions for take home medicines; counselling patients on discharge and help to prevent patient readmission by resolving medication issues.

Partnership between Rivers Healthcare Trust and Social Services in Essex has resulted in a scheme where the post-discharge medication support needs of older people are assessed in hospital and a local community pharmacist follows up with a domiciliary visit where needed. The scheme's focus is on the first four weeks post-discharge, known to be a critical time for medication problems [21] (P).

- Review arrangements for prescribing at discharge, including consideration of whether or not medicines need to be continued once the patient returns home

At the Countess of Chester Trust, it was agreed that pharmacists would produce discharge prescriptions as part of a programme to reduce junior doctors' hours. Benefits have included fewer errors and queries (which can delay discharge), and greater use of patients' own medicines (which avoids possible duplication and saves money.) [76] (C1)

- Provide full information to GPs and patients 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 (see box above on partnership in medicine taking)

- Implement hospital medicines-related Controls Assurance and the Medicines Management Framework and participate in the Collaborative Programme to disseminate good practice, introduced through the Pharmacy Programme of the NHS Plan [71] (P) (see box above on re-engineering hospital pharmacy services)

7.5 Intermediate Care

Intermediate care providers should:

- Assess and meet medicines-related needs of older people in rehabilitation services

In Parkside Health, the Community Rehabilitation Team (Brent) includes a pharmacist to ensure the safe, effective and appropriate use of medicines in the client's home. Information from medication review visits by the pharmacist is shared with the other members of this multidisciplinary team as part of patient centred goal planning [77] (P).

7.6 Social Care

- Social care staff to work with the NHS to include medicines within the joint social/healthcare assessment 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

Derbyshire County Council, supported by the Health Authorities, has implemented a policy on Administration of Medicines in Domiciliary Services. Assistance with medication is provided as part of an overall care package and staff receive training on medicines use and administration. [78] (P)

A GP practice in Lambeth, Southwark and Lewisham seconded their nurse practitioner (NP) to work for two sessions a week at a residential home with 65 patients. The nurse practitioner's input replaced a weekly session from a GP. Her main focus was needs assessment and she rapidly identified a range of issues around medicines administration, use and control, and new policies were implemented. A computer was installed in the home and the NP reviewed each patient's medicines, with a resulting decrease in the number of prescribed items [79] (C2).

- Care homes, private hospitals and domiciliary care agencies to meet the performance standards and milestones, on medicines management, set by the National Care Standards Commission (NCSC)

- Care homes to seek advice from pharmacists about medicines, in line with the National Minimum Standards for care homes for older people

- 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

Social Services home helps and home care aides receive training from community pharmacists in a scheme sponsored by Southern and North Derbyshire Health Authorities . The training is organised by Social Services Domiciliary Service Organisers and aims to support the local Social Services Policy on the Administration of Medicines to patients receiving home care services [78] (P) [80] (P).

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. Prescribing Analysis and Costs (PACT) data is a useful starting point for comparators and indicators in primary care. It 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. Also, it is not 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. Those practices that employ pharmacists are already involving them in prescribing audit. Other practices have sessional support provided by primary care organisations. Practice staff can run complete searches to identify appropriate patients for review.

Work is on-going to develop indicators on GP computer systems, which link clinical patient data with prescribing information. The technology required to make these links is currently under development, but is limited by the extent and quality of input of the relevant data. For example, the Prescribing Support Unit has recently led a multi-disciplinary expert group in the development of quality-based prescribing indicators based on GP computer data. The National Primary Care Research and Development Centre is developing quality indicator sets, which are intended to provide data on which to base quality improvement.

In hospitals, linking data items such as diagnosis, age and medicines administered will become readily achievable when hospitals have electronic prescribing systems. 35% of acute NHS Trusts should have Electronic Patient Records (EPRs), supported by electronic prescribing systems, by April 2002, and 100% of acute NHS Trust by April 2005.

Audit of areas related to the National Service Frameworks on Coronary Heart Disease and Mental Health 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 [81] (B3) [82] (B3). 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 [5] (B3). Some of the indicators are also included in suggested general prescribing indicators to be applied to all age groups – see, for example, McColl et al 2000 [83] (B3).

Information for patients

- *Percentage of prescriptions without specific dosage instructions (RCP)*

Coronary heart and cerebrovascular disease

- *Appropriate prescribing of anti-thrombotic agents in atrial fibrillation (RCP) / % of population with a diagnosis of non-valvular atrial fibrillation who have a prescription for anticoagulants or aspirin (McColl)*
- *Appropriate prescribing of aspirin for patients with angina (RCP) / % of population with a diagnosis of IHD who take aspirin (McColl)*
- *% of those with a diagnosis of heart failure who have a prescription for ACE inhibitors (McColl)*
- *% of population with a diagnosis of stroke or TIAs who take aspirin (McColl)*
- *% of those with a diagnosis of IHD with a raised cholesterol who are prescribed lipid lowering drugs (McColl)*

Mental health

- *Appropriate prescribing of benzodiazepines and antipsycotics (RCP)*
- *% of the over-70's prescribed a tricyclic antidepressant (Mental Health NSF)*

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; for example, 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 aspirin (for cardioprophylaxis) over the counter.

A set of indicators for prescribing appropriateness has been developed and validated and can be used to audit repeat prescribing for a sample of patients [43] (B3). Work is currently underway to develop GP computer software to undertake such an audit.

Reliable indicators of prescribing appropriateness – based on Cantrill et al 1998 [43] (B3)

1. *The indication for the drug is recorded and upheld in the BNF*
2. *The reason for prescribing a drug of limited value is recorded and valid*
3. *Compared with alternative treatments in the same therapeutic class, which are just as safe and effective, the drug prescribed is either one of the cheapest or a valid reason is giving for using an alternative*
4. *A generic product is prescribed if one is available (unless the BNF recommends otherwise)*
5. *If a potentially hazardous drug-drug combination is prescribed, the prescriber shows knowledge of the hazard*
6. *If the total daily dose is outside the range stated in the BNF, the prescriber gives a valid reason*
7. *If the dosing frequency is outside the range stated in the BNF, the prescriber gives a valid reason*
8. *If the duration of the treatment is outside the ranges in the BNF, the prescriber gives a valid reason*
9. *Prescribing for hypertension adheres to the evidence-based guidelines in the BNF*

Identifying whether medication review has taken place is generally only possible from patients' medical records. 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 [84] (B3) [85] (B3). To date in the UK this is only routinely feasible for one area (Tayside) in Scotland where the Medicines Monitoring Unit has computer linkage of prescribing and dispensing data with hospital admissions and discharge data. The NHS Plan's announcements about electronic prescribing, the electronic transfer of prescriptions and links to community pharmacy computer systems will help here. In the meantime, community pharmacists could undertake audits of, for example, the percentage of prescription items without full dosage instructions and feed back findings to practices, PCGs and PCTs.

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.

8: Milestones

By 2002: All people over 75 years should normally have their medicines reviewed at least annually and those taking four or more medicines should have a review 6-monthly

All hospitals should have 'one stop dispensing/dispensing for discharge' schemes and, where appropriate, self administration schemes for medicines for older people

By 2004: Every PCG or PCT will have schemes in place so that older people get more help from pharmacists in using their medicines

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Glossary

Adverse drug event (ADE) –	adverse events related to medicines including those due to reactions to medicines, errors in prescribing or administration, and accidents with medicines
Adverse drug reaction (ADR) –	where the patient experiences, directly as a result of taking or using a medicine, an adverse effect on health
Anticholinergic –	effects of certain medicines on the body which are more pronounced in older people and include undesirable effects
Compliance –	the extent to which a patient takes or uses a medicine as intended by the prescriber
Concordance –	a partnership between patient and health professional in which an agreement is reached about whether and how medicines are to be taken/used
Drug –	the terms 'drug' and 'medicine' are used interchangeably
Formal carer –	for example, social services home helps or home care aides
Informal carer –	for example, partner, family member, friend or neighbour
Medication review –	structured review of the efficacy and continuing appropriateness of a patient's medication
Medicine –	the terms 'medicine' and 'drug' are used interchangeably
Medicines management –	aims to prevent, detect and address medicines-related problems and to achieve optimum use of medicines. The range of tasks and activities involved in medicines management includes advice on prescribing, medication monitoring, medication review, management of repeat prescribing systems, and education and training on the prescribing and use of medicines
Medicines related problem (MRP) –	problems relating to the use of medicines including adverse drug reactions, drug interactions, compliance issues, inadequate information/understanding, difficulties in taking medicines. MRPs may be identified during monitoring or review of medication

Monitoring of treatment – basic assessment of whether the patient is receiving benefit from their medication and whether they are experiencing any problems that need referring to their doctor or pharmacist

Over-the-Counter (OTC) – non-prescription medicines purchased from pharmacies and other outlets.

Polypharmacy – where a patient is prescribed four or more drugs. Prescribing of four or more drugs is not necessarily bad, and indeed may be necessary. However polypharmacy is a risk factor for potential harm from medication.

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