NHS
NPC
National Prescribing Centre

A Guide to Medication Review 2008

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NPC Plus

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Medicines Partnership Programme

About the organisations that produced this guide

The National Prescribing Centre

The National Prescribing Centre (NPC) is an NHS organisation supported by the Department of Health. It was established in 1996 and is based in Liverpool.

Its aim is to promote and support high quality and cost-effective prescribing and medicines management across the NHS, to help improve patient care and service delivery.

The NPC core audiences include frontline clinical professionals, support staff, commissioners and managers in organisations providing commissioning and managing services for NHS patients.

The Medicines Partnership Programme at NPC Plus

NPC Plus is a formal partnership between the National Prescribing Centre and Keele University. NPC Plus helps organisations to understand and implement medicines policy and practices, redesign services where appropriate and effect substantial change. It provides individuals with knowledge and skills to make good prescribing decisions involving patients. The Medicines Partnership Programme promotes the concept of concordance and shared decision-making as approaches to helping patients to get the most from their medicines.

About the authors

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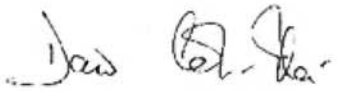
Foreword

Prescribed medicines are the main intervention for the prevention and treatment of ill-health provided by the National Health Service (NHS). We spend approximately £10 billion per year on medicines in the NHS, which is about 18% of total NHS expenditure. It is important that we prescribe medicines appropriately for patients and ensure that patients continue to get the most from medicines after they are prescribed. The review of medicines is a key part of this prescribing process.

Medication review has numerous potential benefits for patients. These include:

- Improving the current and future management of the patient's medical condition
- Opportunity to develop a shared understanding between the patient and practitioner about medicines and their role in the patient's treatment
- Improved health outcomes through optimal medicines use
- Reduction in adverse events related to medicines
- Opportunity to empower patient and carers to be actively involved in their care and treatment
- Reduction in unwanted or unused medicines

This document describes the importance of medication review for safe, effective, patient-centred care. It includes a new way of understanding the different types and purposes of medication review, describes some examples of good practice for medication review, and begins the process of understanding how medication review services can be commissioned within the NHS. I know it will be useful to you in developing and delivering medication review services with patients.



David Colin-Thomé
National Director for Primary Care

Section One: About this guide

Purpose

This guide provides advice for those providing and commissioning medication reviews in a wide range of care settings, with the needs of vulnerable groups such as the elderly and those with long-term conditions particularly in mind.

It provides:

1. A framework for medication review based on current practice and placing a strong emphasis on involvement of patients and their carers. The framework is a simplified and clarified version of the one that originally appeared in 'Room for Review'[1] and which has previously been used widely in the NHS, though mainly in primary care. The framework suggests how hospital reviews and medicines use reviews undertaken by community pharmacists can be included. Accompanying case studies illustrate how the framework can be applied in practice.
2. Practical advice on putting medication review into practice, which includes a consideration of wider public health issues and a section specifically aimed at commissioners of services.
3. Suggestions for monitoring and assessing the impact of both existing and new services.

Approach

This guide takes a pragmatic approach based on what stakeholders told us they needed and what practitioners and experts told us about how they provided and evaluated medication review services. The experience and feedback from teams taking part in all four of the National Prescribing Centre (NPC) medicines management collaborative programmes has also been an invaluable source of practical examples and of the sorts of issues that arise in commissioning and providing medication review services.

This document is intended to:

- guide rather than dictate
- advise rather than to mandate
- act as a stepping stone to further improvements.

We hope it will further encourage increasing patient involvement and accelerate the move towards concordance.

What needs to happen next with medication review?

There has been a steady increase in the number of medication reviews and there is greater consensus about how they should be conducted and documented. A framework (Levels 0-3) has been broadly accepted and has, for example, been integrated into the General Medical Services (GMS) Quality and Outcomes Framework (QOF) during 2006. However, challenges remain:

- Greater consistency is needed in the approach to medication reviews between care settings, e.g. primary care, secondary care, care homes, patient's own home

- Drug history-taking and medication review in hospitals are not consistently carried out
- There is a need to incorporate new practitioner roles, e.g. medicines management nurses, medicines management technicians, and non-medical prescribers into local policies on medication review
- Variation in the consultation skills of practitioners conducting medication review
- Where do medicines use reviews (MUR) and Dispensed Review of Use of Medicines (DRUM) fit?

It is heartening to realise that as well as general improvements in the volume and quality of medication reviews, there are many forward-thinking individuals and organisations that have tackled these challenges to meet local needs. However, we need to take active steps to learn from and begin to join up these "islands of excellence" so that they become the norm rather than the exception.

Why is this guide needed?

Although there have been many positive changes in the review of medicines, the greater involvement of patients and carers in shared decisions about medicines as part of medication review is more difficult to quantify. There is some evidence that less progress has been made on achieving a more patient-centred approach to medication reviews.[2]

There is also evidence of significant variation in the quality of reviews provided both within and between care providers and the approach to medication reviews undertaken in hospitals.[3] Initiatives such as non-medical prescribing and other extended practitioner roles, the implementation of the electronic patient record and service re-organisation (including Payment by Results (PbR) and Practice Based Commissioning (PBC) may all impact on the delivery of medication review within the NHS.

This guide seeks to take account of the needs of patients and their carers, health professionals and managers for continuing support around the medication review process. A particular focus of the guide is the need to overcome barriers to greater patient and carer involvement in medication review services.

This guide is written primarily for practitioners and managers who are involved in the commissioning, management or delivery of medication review services. In addition, it will be of interest to a range of organisations including PCTs, hospital and care Trusts and their partners in local authorities, voluntary sector organisations and other commissioners and providers of NHS services. It should also be helpful to patients' groups and individual patients, particularly those living with a long-term condition or whose care involves the use of medicines, who are interested to know how to get the most out of medication review.

Objectives of the guide

1. Provide a framework for medication review and provide additional advice on the conduct of medication reviews provided for a variety of purposes and in different settings.
2. Offer practical advice for service commissioners and service providers to increase further the positive impact of high quality medication review for patients.

3. Help organisations providing services directly to patients and carers to develop consistent and effective approaches to medication review and empower patients to play an active role in making the most of their medication.
4. Show how to achieve greater patient and carer involvement in both the design and delivery of medication review services as a route to partnership in decision-making about medicines.
5. Share examples of how medication review has been implemented and promote mechanisms for monitoring the impact of medication review on the health of individuals and populations.[4]

Section Two: The characteristics of medication review

What is a medication review?

Medication review has been defined as *'a structured, critical examination of a patient's medicines with the objective of reaching an agreement with the patient about treatment, optimising the impact of medicines, minimising the number of medication — related problems and reducing waste'*.[5] This definition has been widely used by primary care organisations in their local guidance on medication review. In this guide, we use the term 'medication review' to refer to all activities that involve the review of medicines, whichever setting the service is provided in (primary and secondary care, care homes domiciliary visits, community pharmacies) and across all the contractual frameworks that include the review of medicines (that is, the QOF, DRUM, and the Community Pharmacy Contractual Framework). The abundance of terms for medication review is confusing for health service staff and patients alike.

Four levels of medication review were described in 'Room for Review' in 2002:

Level 0 — Ad hoc: an unstructured opportunistic review

Level 1 — Prescription review: a technical review of a list of patient's medicines (paper-based)

Level 2 — Treatment review: a review of medicines with patient's full notes (not necessarily with the patient present)

Level 3 — Clinical medication review: face-to face review of medicines and condition with the patient

These levels of medication review have been used by many organisations to inform service development. Several developments since the levels were first designated in 2002 suggested the need to review them and ensure they are still relevant and appropriate to patient needs and service design in the NHS.

In primary care medication review is an integral part of the Quality and Outcomes Framework (QOF) for General Medical Services (GMS). The 2006 QOF guidance[6] included the statement that *'it is expected that at least a level 2 medication review will occur as described in the Briefing Paper (Room for Review)'* in relation to medicines indicators 11 and 12. That is, QOF advises that a review with the patient's notes, but not necessarily with the patient, is the minimum standard expected of medication reviews for the General Medical Services (GMS) Contract.

Medicines Use Review (MUR) by accredited community pharmacists is described as *'a structured concordance centred review with patients receiving medicines for long-term conditions, to establish a picture of their use of the medicines — both prescribed and non-prescribed. The review will help patients understand their therapy and it will identify any problems they are experiencing along with possible solutions'*.[7] This service does not fit within the previously defined levels of medication review as MUR is a concordance review conducted with the patient (like Level 3) but without access to the patient's full notes (as stipulated at Level 2). MUR is a significant development in medication review services and is a real opportunity for patients to discuss their medicines; their beliefs about them, the patient's perception of their efficacy, and any difficulties they may have with taking them, and needs to be captured within any definition and description of medication review.

The Dispensing Review of Use of Medicines (DRUM) forms part of the Dispensing Services Quality Scheme for GP surgeries. It is similar to, but distinct from, a Medicines Use Review conducted by a community pharmacist. Its main purpose is to help patients understand their treatment and to identify potential medicines-related problems. This includes helping patients with:

- knowing how to take their medicines (with water and/or food)
- identifying medicines they do not want or do not take any more (so that a decision can be made on whether to remove from their medication list)
- discussing how they open containers, including the need for compliance aids where appropriate
- using devices such as inhalers
- talking about side-effects
- identifying what to do if two medicines have been prescribed for the same purpose.

Medication review in the hospital setting is less clearly defined. Recent definitions include *'a comprehensive medication review…is an activity distinct from the more routine review of drug charts that pharmacists make on each ward visit…it can take place at any point during a patient's stay and will generally be undertaken when there is a concern about potential interaction of medicines or the patient has not been responding to their medication as expected'.*[8]

Types of medication review

Different types of medication review are required to meet the needs of patients for particular purposes. The classification described below focuses on the **purpose** of medication review and how medication review fits with other aspects of care and treatment offered to patients. The classification replaces the previous system of levels of medication review which was often taken to infer a hierarchy of medication review. Instead, we emphasise the importance of matching the type of medication review to the purpose of the review.

Types of medication review	
Type 1	Prescription review
Type 2	Concordance and compliance review
Type 3	Clinical medication review

Characteristics of types of medication review
— remember, the different types of review are not hierarchical but each has a distinct purpose

	Purpose of the review	Requires patient to be present	Access to patient's notes	Includes all prescription medicines	Includes prescription, complementary and over-the-counter medicines	Review of medicines and/or condition	Mapping to professional activities
Type 1 Prescription review	Address technical issues relating to the prescription eg. anomalies, changed items, cost effectiveness	No (any resulting changes to prescribed medicines must involve the patient/carer)	Possibly (medicines use review by community pharmacist may not include access to patient's clinical notes)	Possibly (a prescription review may relate to one therapeutic area only rather than all prescribed medicines)	No	Medicines	■ QOF ■ MUR (prescription intervention) ■ Basic medicines reconciliation in hospitals
Type 2 Concordance and compliance review	Address issues relating to the patient's medicine-taking behaviour	Usually (any resulting changes to prescribed medicines must involve the patient/carer)	Possibly (medicines use review by community pharmacist may not include access to patient's clinical notes)	Yes	Yes	Medicines use	■ QOF ■ MUR ■ DRUM ■ Single assessment process ■ Basic medicines reconciliation in hospitals
Type 3 Clinical medication review	Address issues relating to the patient's use of medicines in the context of their clinical condition	Yes	Yes	Yes	Yes	Medicines and condition	■ QOF ■ Enhanced service in community pharmacies

Key to abbreviations used:

QOF — Quality and Outcomes Framework GMS contract
MUR — Medicines Use Review, community pharmacy contractual framework
DRUM — Dispensing Review of Use of Medicines, part of the dispensing services quality scheme for GP surgeries providing a dispensing service

Good practice and medication review with patients

1. Changes to medicines, should only be made **after** the patient and/or carer has been informed of the change and with the patient's consent.
2. Medication review conducted with the patient should include prescribed medicines, OTC, and complementary medicines.
3. Before a medication review, where possible, patients should be provided with written information about the purpose of the review, what it will involve, how long it is likely to last, and what they can do to prepare for the review. Examples of patient information resources for medication review can be found at: http://www.keele.ac.uk/schools/pharm/npcplus/medicinespartner/medicationreview.html
4. Medication review with patients should aim to achieve concordance about medicines-taking. The Medicines Partnership Programme at NPC Plus has produced *A competency framework for shared decision-making with patients: achieving concordance for taking medicines*[9] which can be used to inform the clinician's approach to medication reviews conducted with patients. A summary of the competencies is given below. A full description of these competencies can be found at http://www.keele.ac.uk/schools/pharm/npcplus/medicinespartner/compframwork_decisionmaking.htm
5. If the patient is unable to positively contribute to the review process, the involvement of an advocate may be appropriate, following the Code of Practice for the Mental Capacity Act.

Competency framework for shared decision making with patients: summary[9]

Competency area

Competency

Overarching statement

Building a Partnership

1	2
Listening Listening actively to the patient	**Communicating** Helps the patient to interpret information in a way that is meaningful to them

Managing a Shared Consultation

3	4
Context With the patient defines and agrees the purpose of the consultation	**Knowledge** Has up-to-date knowledge of area of practice and wider health services

Sharing a Decision

5	6	7	8
Understanding Recognises that the patient is an individual	**Exploring** Discusses illness and treatment options, including no treatment	**Deciding** Decides with the patient the best management strategy	**Monitoring** Agrees with the patient what happens next

Type 1: Prescription review

What it is:

The primary purpose of this type of review is to address practical medicines management issues that can improve the clinical and cost-effectiveness of medicines and patient safety. This type of review is usually conducted with one specific purpose in mind. It may comprise a periodic review of medicines prescribed for a specific indication to compare against productivity metrics and NICE guidance; a review and history taking of medicines when a patient is transferred from one care setting to another; or changes to the process of prescribing and dispensing of medicines to provide a smoother, more convenient service to patients (such as repeat prescribing or prescription synchronisation). A Type 1 prescription review can make a real difference to patient safety and the cost of medicines for a health economy, for example, by allowing the identification of contraindicated medicines when more than one medicine is prescribed.

A Type 1 prescription review can take place without the patient present. However, any changes to the patient's medicines which may be made resulting from a review should be made with the patient's involvement and consent. It may also be appropriate to involve the patient or carer, when this is possible, to confirm that a written record of current prescribed medicines is accurate and up-to-date.

What it does:

A Type 1 prescription review can serve the following purposes:

- Improve patient safety through case finding, for example, whether required blood tests have been done and results considered for patients taking a specific medicine; identifying the prescription of medicines where safety data have changed; the occurrence of dosing errors
- Improve the cost-effectiveness of medicines by identifying where switches to cost-effective medicines could be made or when dose optimisation is appropriate
- Identify prescription anomalies, for example, items still being prescribed that were intended for short-term use only
- Identify unmet and under met therapeutic need which could potentially improve patient outcomes
- Prescription synchronisation to allow a patient to order and collect a number of different medicines at the same time
- Identify whether intended changes in medication on discharge from hospital have been implemented
- Identify if the patient requires a face to face medication review or referral to a long term conditions clinic for review
- In the future, identify medicines which are prescribed but not dispensed

When to do it:

A Type 1 prescription review may be appropriate:

- When a patient is admitted to hospital or transferred between care settings
- In primary care when a discharge summary is received from an in-patient service
- When reviewing prescribing practice for a class of medicines
- In an emergency care situation

Information about patients' medicines on transfer between care settings

NHS patients should experience seamless care when they transfer between one care setting and another. Continuity of care is particularly important in this context to reduce the risk of medication errors due to inaccurate medicines records.

Two recent reports[10,11] from the Healthcare Commission highlight the potential for medication errors to occur as a result of this transition in care.[12] In 98% of Acute Trusts and 81% of Mental Health Trusts, less than half of audited patients had a complete medicines history from their GP on admission to hospital. Only 30% of PCTs reported that GPs thought they had adequate information about patients' medicines on discharge from acute hospitals. The situation was somewhat better in Mental Health Trusts, with 58% of GPs 'sometimes' and 12% 'always' receiving discharge notes before seeing a discharged patient.

This indicates the need for both close co-operation between primary care, secondary care and social care providers, for example care homes, on admission and discharge from hospital to address this problem and the need to confirm the accuracy of a medication history with the patient or carer, when this is possible. Accuracy of medicines information can be improved by implementing a medication review policy. A Type 1 prescription review on admission to hospital, and in the community after discharge, could improve patient safety and reduce the risk of medication errors occurring.

Involving patients in statin switching

Increasing low cost statin prescribing (prescription items for simvastatin and pravastatin as a percentage of the total number of prescriptions for all statins) is one of the "Better Care, Better Value" indicators of efficiency published by the NHS Institute. A Type 1 prescription review could identify patients for whom switching could be considered.

Involving patients in switching decisions will:

- increase the likelihood of continuity in medicines-taking
- reduce the likelihood of a medicines-related adverse event
- increase the likelihood that the patient understands the reason for any medication change
- give the patient an opportunity to contact their health care professional and update their medication record
- improve self-management of their condition by the patient

Type 2: Concordance and compliance review

What it is:

This type of review takes place in partnership with the patient, and/or the patient's carer or advocate, and enables patients and practitioners to explore the patient's medicines-taking, including the patient's actual pattern of medicine-taking and the patient's beliefs about medicines. Patients should be able to ask questions about medicines and any difficulties with medicine-taking that they may have can be identified and addressed. A Type 2 concordance and compliance review should ideally address both practical barriers to medicine-taking and beliefs about medicines that may influence medicine-taking.[13] Respect for the patient's beliefs about medicines is central to a medication review conducted with a patient.

What it does:

It can serve the following purposes:

- Opportunity to establish what medicines the patient is currently taking, including the patient's dose and pattern of medicine-taking, and occasions when they vary this pattern
- Opportunity for the patient to ask questions about their medicines
- Offer and share information about medicines with the patient
- Establish whether the health professional and the patient have similar or different views about medicine(s)
- Check the patient's readiness, ability, and intent to take medicines
- Ensure the patient knows what to do if symptoms change or a problem persists
- Support the patient to self manage
- Discuss when treatment will next be reviewed

When to do it:

A Type 2 concordance and compliance medication review may be appropriate:

- When a patient is discharged from hospital
- At an appropriate interval after a patient has commenced a new medicine
- At agreed intervals for patients with a long-term condition(s) prescribed multiple medications
- At the patient's request
- When a clinician identifies a medication related issue
- As part of the MUR service

Case Study 1: Pharmacy technician-led Medication Review Service

What is the service and who delivers it?

The PCT Medication Review policy in North Eastern Derbyshire funded two pharmacy technicians to support GP practices with the compliance aspects of medication reviews for older people. This aimed to standardise medication reviews, produce a tool that could be used across many settings, and to involve patients in decision-making.

What impact does it have on local/national objectives?

The service aims to enable practices to review medication more effectively, meet the strategic aims of the NSF for Older People as well as the local target of trying to reduce admissions to the acute hospital due to people not coping with their prescribed medicines.

What are its key benefits?

Since it began, approximately 3,500 medication reviews have been carried out in 14 practices. 46% of all patients reviewed had at least one problem identified, the most common being not taking their medicines as prescribed, incorrect repeat prescription lists, side-effects or confusion over their medication. The service is highly valued by practices and patients.

How is it integrated into local health care?

This scheme was introduced following extensive consultation with relevant agencies, including Social Services, GPs, local acute and community hospitals and the PCT. Part of the original funding came from a Local Service Partnership award. The pharmacy technician role is being developed further to promote an in-reach service to the community hospitals within the PCT, undertake medication reviews shortly after admission and pre-discharge counselling.

What tips can you offer other organisations who are considering developing such a service?

1. Involve all stakeholders at the outset.
2. Provide training for staff in new roles:
   This is a new role for pharmacy technicians nationally and the technicians were recruited specifically to initiate this service. Appropriate training was undertaken prior to the technicians commencing the service. The technicians have been involved in the PCT's diversity training to ensure that they are equipped to have a more broad approach to their client group.
3. Review your service:
   After the initial 12 months of the project, a comprehensive satisfaction survey was undertaken. Questionnaires were also sent to patients and to GP practices. From the first review of the service, it was found that 45% of all patients reviewed had at least one problem identified and 46% required at least one intervention. Patients and carers have benefited from the time spent specifically focussing on medication issues.

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Type 3: Clinical medication review

What it is:

This holistic review takes place with the patient and with access to the patient's medical notes and relevant laboratory test results. A clinical medication review[14] will take place in the context of recent indicators of the patient's underlying condition and with the patient's self-report of their current symptom experience, or a report made by a health or social care professional. A Type 3 clinical medication review will often be conducted by a prescriber (medical or non-medical prescriber) or by a specialist practitioner (e.g. specialist diabetes nurse, pharmacist with a special interest, community pharmacist accredited to provide Clinical medication review as an enhanced service) who is not a prescriber. In this case the review may have a focus on the treatment of a specific condition.

What it does:

It can serve the following purposes:

- A periodic review of the patient's medical condition and treatment to ensure that medical conditions are managed optimally
- Obtain feedback from the patient and/or carer on response to treatment for symptomatic conditions
- Discuss adjustments to medicines in light of clinical indicators and reported symptoms in partnership with the patient
- Review medical and self management of long-term conditions
- Provide full and accurate information about the pros and cons of treatment options including side-effects
- Support the patient to self manage
- Negotiate with the patient about treatment decisions
- Discuss prognosis and likely health outcomes and how these relate to medicines

When to do it:

A Type 3 clinical medication review may be appropriate:

- At agreed intervals for patients with a long-term condition(s)
- When a patient has recently been diagnosed with a long-term condition(s)
- When a patient has experienced an adverse event associated with medicine-taking
- When a patient/carer requests a review or reports that they have stopped taking a prescribed medicine

Case Study 2: Pharmacist-led domiciliary medication review

What is the service and who delivers it?

The PCT found that, for some patients, admission into residential care resulted solely because they were unable to manage their medicines. A medicines support service was developed so that health/social care professionals could refer into the scheme any patient whom they perceived as having problems managing their medicines, so that independent living could be maintained for as many patients as possible. 70% of patients receiving the service are over 65 years of age, the majority of whom (92%) are taking four or more medications.

Patients deemed to require a clinical medication review are assessed by a trained pharmacist or technician who visits the patient in their own home, having previously accessed the patient's GP notes to confirm current diagnosis, regular medication and current test results. During the review any other over-the-counter, 'homely', herbal or alternative remedies that may be being taken are discussed and in addition the patient's attitude towards taking medicines is explored. Clinical issues are discussed with the patient's GP and support issues with the patient's community pharmacist. Where possible the regular pharmacy is used. A peer-reviewed report is completed, recommending the patient receive an appropriate level of support under the scheme.

What impact does it have on local/national objectives?

The service is designed to:

- Minimise side-effects and adverse reactions.
- Enable patients to take their medication to best effect.
- Minimise waste.
- Encourage adherence with therapy.
- Evaluate the use of Monitored Dosage Systems (MDS) or other aids with the support of the community pharmacist as an aid to compliance.

What are its key benefits?

To date 381 patients have been referred to the scheme of which 270 (70%) have been assessed. Just over half (53%) have required the highest level of support from the service: weekly support with medicine-taking. In a user satisfaction survey, 83% of respondents felt that the review had increased knowledge of, and confidence with, handling medications and half the patients reported finding handling their medicines easier. There was a feeling that the scheme allows the patient informed control of their medication needs.

How is it integrated into local health care?

The service is based on a multi-disciplinary approach. This promotes the development of a partnership between pharmacist and doctor leading to a patient-oriented approach, geared around health improvement.

What tips can you offer other organisations who are considering developing such a service?

1. Ensure that a variety of services/professionals can refer to the service.
2. Provide a number of levels of service to ensure the service is matched to patient need.
3. Ensure patients can access your service — this service was most effective by providing the service in the patient's own home.

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Medication review and mental health care

Extent of medicines use in mental health services

Most patients receiving treatment for mental health problems are treated with medicines. The Healthcare Commission's report[15] on providers of mental health services and medicines states that 98-100% of inpatients were prescribed medicines and 92% of mental health service users had taken medicines in the previous 12 months. Given the extent of medicines use, appropriate review of medicines use should be a key part of any mental health service provided to patients.

Patient perceptions and involvement in medication review

46% of mental health service inpatients having medication reviews were identified as having 'adherence issues' compared with 12% of patients in Acute Trusts. Research with patients in the community[16] suggests that the two main reasons patients cite for stopping taking their medicine were the experience of side-effects and worries about taking medicines long-term. 38% of patients stopped taking their medicines either against the advice of their doctor or without informing their doctor. Despite the identification of adherence as a concern by clinicians, medication reviews in inpatient settings are often conducted without the involvement of the patient (only 18% of reviews involved the patient[12]), missing an opportunity to address patients concerns about medicines which led to poor adherence.

Clinicians' reasons for conducting a medication review

'Comprehensive medication reviews' in inpatient settings in Mental Health Trusts were undertaken due to clinicians' concerns about drug interactions, complexity of the medication regimen, a lack of change in symptom experience or at the request of the patient. Medication reviews for mental health service inpatients were more likely to result in medication changes than for patients in Acute Trusts. Unlike Acute Trusts however, medication changes were not found to be linked to the number of medications that patients were taking.[12]

There is clearly scope and a need for the level of patient involvement in medication review in mental health services to increase, to reach a shared understanding between patients and clinicians about the purpose, duration and experience of medicines to treat mental health problems. Involving the patient in their medication review, outlining any medication changes, or reiterating why a medication is important, may encourage the patient to self-manage and take responsibility for their health care.

Case Study 3: Nurse prescriber medication review in mental health

What is the service and who delivers it?

A clinic is provided by a community psychiatric nurse who is a nurse prescriber. Patients can be referred to the clinic by members of the community mental health team. Patients attend the clinic for periods of six to twelve months, though this can be extended if appropriate. Attendance at the clinic is in addition to the care and treatment specified in the patients' care plan. Patients attend the clinic for 20-30 minute appointments at agreed intervals.

What impact does it have on local/national objectives?

The service aims to reduce the risk of relapse in patients, benefiting the patient and their family, and optimising the use of NHS services.

What are its key benefits?

The service provides patients, who often have adherence issues, with the opportunity to discuss their medicines in detail with a member of the team. The clinic has an educational role, providing information to patients about their condition and the role that medication plays in treating it. A patient-centred approach is used to elicit patients' perceptions of their medication; how it affects them, their understanding of the medication regimen and plans for future medicine-taking. The clinic also provides an opportunity to monitor side-effects, make dosage adjustments as necessary, and change medication if appropriate and with the agreement of the patient.

How is it integrated into local health care?

The service is provided for existing service users of the Mental Health Trust. Anyone in the community mental health team can refer patients to the service.

What tips can you offer other organisations who are considering developing such a service?

1. Ensure that colleagues understand and support the aims and objectives of the service.
2. Ensure a good fit with other services provided by the team.

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Case study 4: Medication review in care homes

What is the service and who delivers it?

Medication support for Care Homes. Being developed from current service 'Advice to Care Homes'. Provided by community pharmacists. Aims to maintain and improve the quality of clinical care for residents by providing clinical advice and support relating to use of medicines to ensure maximum benefit and minimisation of harm for residents, relatives and staff. Quality indictors include annual and quarterly clinical audit.

What impact does it have on local/national objectives (including projected or actual data on effects; expected cost savings)?

- Managing over-prescribing costs can save up to £500 per average patient.
- Potential costs for excessive inexpensive dressings = £1,500 per resident per year.
- Appropriate use can reduce sip feed costs by 25% and catheter costs by 75%.
- Less use of potentially inappropriate medication may avoid hospital admissions.
- Supply of right medication to the right resident at the right time in the right way will also contribute to admission avoidance. The pharmacist should be aware of a potential conflict of interest when providing this service.
- Inclusion of minor ailments provision will result in reduced workload for GPs.

What are its key benefits?

- Improved quality of service.
- Good standards of medicines (dressings and appliances) management in terms of appropriate clinical use safe storage, procurement, stock control, disposal, documentation and written procedures around medicines.
- Drug cost savings.
- Avoidance of emergency admissions.
- Supporting achievement of targets e.g. quality and outcomes framework, NSF, adherence to NICE.
- Advising on hazards (waste medicines/alerts etc.).
- Supporting CSCI inspections.
- Advising on homely remedies.

How is it integrated into local health care?

Involves community pharmacist, GP practices, prescribers, primary care medicines management teams, PBC cluster management teams, hospitals.

What tips can you offer other organisations who are considering developing such a service?

1. Talk to each other. Make dedicated time to discuss what is needed. Pharmacists may need to invest in a locum – consider this as an investment in the future.
2. Calculate the benefits of making one or two changes to your current service and use these as examples of what the service would offer. Build these into a proposal.
3. Do some CPD, especially wound management, understanding of PBC, prescribing budgets, PCT Formulary, NICE guidance, NSFs and unbiased evidence-based practice.

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Case study 5: Medication review in the community pharmacy

What is the service and who delivers it?

The Olde Pharmacy, in Wandsworth, South London, has been delivering a medication review patient monitoring service, provided to elderly patients referred by local general practitioners and registered at the pharmacy. Patients who receive only medication review services can have their prescriptions dispensed wherever they want, but patients whose treatment is monitored at the pharmacy can only have their prescriptions dispensed there. The service is currently run under a Local Pharmaceutical Services contract.

What impact does it have on local/national objectives?

- During the months of June and July 2006 over 2000 items were reviewed.
- Of these 70% of patients had 2 items stopped (465 items), 20% had 3 items stopped (198), and 10% of patients' medication remained unchanged.
- The average cost of each item based taken from the Prescription Pricing Division schedules is £13.50.

Therefore 663 items (465 + 198) x £13.50 = **£8950.50**

What are its key benefits?

- Prescribing savings.
- Improved patient access to medication review with a community pharmacist.
- Improved patient care as a result of understanding of medication.

How is it integrated into local health care?

- Exploring linking this service to PBC.
- Linking the service with the local Prescribing Adviser.
- Promoting service to PBC groups.

What tips can you offer other organsiations who are considering developing such a service?

1. Integrate Community Pharmacy Contract as part of PCT pharmacy and medicines management strategy. *Community Pharmacists are part of the PCT Pharmacy team.*
2. Supportive Prescribing Advisors working with GPs and community pharmacists — identifying patients for medication review, MUR and repeat dispensing.
3. Leverage as much as possible from the Community Pharmacy contractual framework in terms of prescribing and medicines management. Integrate into PCT care pathways.
4. Use baseline assessments to identify which community pharmacists are keen to move forward in prescribing and medicines management.
5. Develop your Community Pharmacy resource and assets — ensure all community pharmacists are made aware of key prescribing updates.
6. Identify where there are good proactive working relationships between GP practices and community pharmacists. This is the foundation for success.

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Case study 6: Medication review on the ward

What is the service and who delivers it?

This is a ward-based medication management pharmacy service which operates on four Care of Older People wards (including stroke) run by Harrow Primary Care Trust at Northwick Park Hospital, Middlesex.

The service is provided by a pharmacy team, comprising of three pharmacists (junior, senior and consultant pharmacist). All patients receive a drug history on admission, liaising with patient and primary care as appropriate. The pharmacist supports medication review with multidisciplinary team during weekly/twice weekly ward rounds and during daily ward visits. Patients are consulted and counselled regarding changes during hospital stay and around discharge. The pharmacist ensures appropriate liaison and information exchange with primary care and home care support and the patient around discharge. This includes medication support outside hospital, through links with community pharmacists and practice support pharmacists. Primary/secondary care formulary choices are supported by pharmacists in hospital, and relevant information passed to practice support pharmacist for GP records.

What impact does it have on local/national objectives?

Pilot project from 2001/02 documented the benefits in terms of cost, clinical effectiveness and communication with primary care to allow establishment of the permanent service. Regular audit ensures maintenance of key indicators.

The service complies with the Healthcare Commission acute hospital portfolio recommendation in terms of drug history taking and full medication review. A recent pilot to assess self medication using bespoke protocols for older people showed benefits limited in acute setting due to turnover. This is being established in the intermediate care facility at present.

What are its key benefits?

- Higher quality of service (clinical).
- More efficient use of resources (hospital and primary care professional time).
- Savings demonstrated through hospital based medication review to optimise treatment including stopping drugs no longer needed.
- Achievement of drug history and medication review targets (HCC).

How is it integrated into local health care?

Ward pharmacists liaise with community and practice support pharmacists, GP surgeries, district nurses, community matrons, nursing and residential homes, social care professionals and home care support to optimise medication use after discharge.

What tips can you offer other organisations who are considering developing such a service?

1. Start with a team of hospital and primary care professionals who know your work and support your endeavours.
2. In the first instance, focus on well documented, evidence-based areas for medication review e.g. PPIs, statins.
3. Establish your credibility: research thoroughly before making any suggestions for review.

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Case study 7: An integrated service by community matrons and primary care pharmacists

What is the service and who delivers it?

New patients entering case management have a compliance/concordance review and a clinical medication review. The initial reviews are conducted by the community matron who then meets with the practice pharmacist to discuss the findings and any changes needed to the medication.

What impact does it have on local/national objectives?

Identifies and resolves medicines related problems in patients at high risk of recurrent hospital admission. Increases likelihood that the patient can continue to live independently at home.

What are its key benefits?

- Patients have a safe understanding of medicines being taken.
- Patients have the ability to acquire and administer medicines safely.
- Evidence of compliance in taking and not stockpiling any medicines.
- Minimise medication related problems.

How is it integrated into local health care?

Community matrons work closely with practice based pharmacists as well as local hospitals.

What tips can you offer other organisations who are considering developing such a service?

1. Communication: It is imperative that there is clear and open communication between community matrons, practice pharmacists and GPs as this multi-disciplinary approach will ensure the patient receives the best possible benefit from their medication.
2. Education/training: Community matrons should have access to, or be trained on, up-to-date resources and tools to effectively conduct medication reviews e.g. local formularies, local and national guidance, prescribing tools.
3. Feedback: To ensure effective delivery of this service it is recommended that community matrons regularly feedback to practice pharmacists what aspects of the service work well and what areas need to be adapted to suit their caseload.

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Section Three: Engaging patients in medication review

Patients' experience of medication review

An evaluation study of patients who had participated in medication reviews found that patients had varied experience of the review and varied perception of its benefits. These are summarised below.

Patients' perceptions of medication review before the review took place:

+ it would be helpful to have a chance to talk things through
– it was expected of them to attend
– the review was principally to check up on whether the patient was taking their medicines
– the review was primarily about cutting costs

Patients' perceptions about participating in a medication review included:

+ the review was valuable when it wasn't rushed
– concerns about hidden agendas: some patients participating in brief reviews felt that the review had really been about trying to save money
+/– less concern about the profession of the practitioner, more concerned that good communication should occur

Patients' perceptions of actions following the medication review included:

+ appreciated reassurance about their medicine-taking
– when changes were made to their medicines, patients were not always happy or clear why the change was being made
– few patients reported being given written information after the review

The clear themes that emerged were that people found a review helpful when they had a chance to contribute to it, understood its remit and felt it was something being done **with** them rather than **to** them. That is, people gained from the review when they perceived it and experienced it as for their own benefit.

Developing a shared understanding about the purpose and outcomes of medication review

Below we suggest a number of steps to assist clinicians and patients to develop a shared understanding about medication review. The clinician could:

- provide information before the review to ensure that people understand the purpose, context and possible outcomes of the review
- reiterate the purpose of the review at the start of the consultation
- state clearly how much time is available for the review and agree the content of the review (what will be discussed)
- encourage the patient to bring a list of prescribed and non-prescribed medicines to the review, or bring their medicines with them
- consider addressing any concerns about cost-cutting directly rather than leaving concerns about hidden agendas unsaid

- be proactive in encouraging the patient to participate in the review and invite them to ask questions, especially around any concerns or anxiety they have with any of their medications
- form a medication action plan with the agreement of the patient
- explain the process by which any medication changes will be made (especially if the reviewer is not the prescriber)
- initiate a clear discussion about what will happen after the review, what actions will be taken and by whom and when the next review will take place
- pursue CPD in communication and consultation skills, if appropriate

Preparing for a medication review: the clinician

The agenda and specific issues to cover in a medication review need to be agreed between the patient and clinician. Clinicians may find it helpful[18] to keep the following issues in mind when planning the content of a review with a patient:

Practical matters – ease of medicine-taking

- Access to a regular supply of medicine(s) from the pharmacy (e.g. ordering of medicines; ordering of multiple medicines; collection from the pharmacy; sufficient supplies for trips away from home)
- Remembering to take medicines (e.g. having a medicine taking routine; difficulties due to memory loss or confusion)
- Ability to take medicines (e.g. physical difficulties with opening medicine containers; difficulty distinguishing medicines due to sight problems; difficulties swallowing medicines)
- Storage of medicines and disposal of unused medicines (e.g. safe disposal and storage; returning unused medicines to community pharmacy)

Knowledge, beliefs and behaviour – understanding and using medicines

- Understanding the reasons why medicines have been prescribed (e.g. indication; wanted effects of medicines; prognosis; duration of treatment)
- Understanding medicine regimen (e.g. doses; preparing and taking medicines; dealing with missed doses; taking multiple medicines; prn medicines; prescribed, OTC and complementary medicines)
- Medicines-taking beliefs (e.g. beliefs about necessity and concerns regarding medicines)
- Medicine-taking behaviour (e.g. taking medicines as prescribed; medicine 'holidays'; stopping taking medicines)
- Medicine safety (e.g. coping with side-effects; contraindications; taking extra doses; impact on other daily activities)
- Wider impact of medicines on the patient (e.g. any impact of medicine–taking on employment, travel, driving, insurance)

Preparing for a medication review: the patient

Patients can prepare for a medication review in the following ways:

- Write down all the medicines that they are currently taking (people might either write this down in a way that suits them or complete a medicine-taking chart that has been designed for this purpose). In addition, patients could be encouraged to bring with them all the medicines they are currently taking, particularly if a written record is problematic for them. The medicine administration record chart may also be needed for reference if the patient is resident in a care home
- Think through any questions, concerns or worries about taking medicines
- Consider bringing a carer or friend/family member to the medication review if they should wish to

Ask About Medicines (http://www.askaboutmedicines.org/) recommends that people might want to ask the following questions about their medicines:

- WHAT does this medicine do?
- WHY is it important that I take this medicine? Are there any other treatment options?
- WHEN and how should I take it?
- HOW long should I take it for?
- WHAT should I be aware of when taking this medicine? (e.g. possible risks, side-effects, taking medicines with certain foods/drinks/activities, what to do if I don't feel well while I am taking it, how to store it safely, etc.)
- WHERE can I go for more information?

In addition the 'focus on your medicines' booklet (available in PDF form from (http://www.keele.ac.uk/schools/pharm/npcplus/medicinespartner/medicationreview.html) suggests that people might find it useful to ask the following questions about their medicines during a medication review:

- How do I know it is helping?
- How can I be sure it's safe for me to take?
- What side-effects are most likely from this medicine?
- What should I do if I get these effects?
- Could another medicine do a better job, with less risk?
- What if I stopped taking it, or took a lower dose?
- How does this mix with other things I take, or with food and drink?
- How long will I need to use this medicine?
- Do I really need to take all these medicines?
- Is there anything that can help to remind me to take my medicines?
- Can I have easier to open containers?
- Can I self-adjust the dose?
- What do I do when the medication runs out?

When a medication review takes place at a pre-determined date and time, patients might like to be provided with a leaflet or a list of questions to think about in advance. When a medication review is opportunistic, as may sometimes occur with a Medicines Use Review for example, the clinician should still ensure that the patient has the opportunity to ask any questions they may have about their medicines. This might mean making sure that the patient has a few minutes to prepare for the review (whilst the pharmacist gets the relevant paperwork ready); providing time during the medication review to address any questions they have; or ensuring the patient is able to get in touch after the medication review if they should subsequently have any questions that did not occur to them earlier.

The patient may have questions that are beyond the scope of the medication review. For example, during a type 2 concordance and compliance review, the patient may have questions and concerns about disease progression, or questions that require knowledge of the patient's history and diagnosis that the practitioner does not have. Clinicians need to be clear with patients about the scope of the consultation and ensure that the patient is informed about how to address any questions that are beyond the remit of the review.

Involving members of the social network

Many patients will find it useful to bring a member of their social network or a carer to their review. A friend, family member or carer can make a useful contribution to the medication review in the following ways:

- Provide a collateral report of the patient's experience of medicine-taking (that is, act as an additional source of information about the patients actual medicine-taking and any difficulties/concerns they have with medicine-taking)
- Assist the patient if they have communication or language support needs
- Act as an advocate for the patient, for example, by prompting the patient with reminders of questions they wanted to ask but may have forgotten
- Provide emotional support to the patient
- Assist the patient with recall of the consultation, particularly if the patient was distressed or has memory difficulties
- They may have a key role to play in assisting the patient with medicine-taking and so have information needs as a carer that may also be met via a medication review

Patients' information needs and medication review

For patients to make an informed decision about taking a medicine, and about continuing to take a medicine, they need access to good quality, relevant, objective medicines information. Patients can read the medicines information leaflet provided with every prescribed medicine. However, patients also need access to information before prescription in order to make an informed decision about their treatment. Medication review is an ideal opportunity to assess the patients' information needs. Information prescription schemes[19] could be one way of meeting identified information needs.

Section Four: Commissioning a medication review service

All PCTs have at least some existing medication review services, in addition to those reviews conducted by GPs in primary care. There is likely to be considerable variability in the extent and targeting of medication review services across a locality. Working towards World Class Commissioning[20] there is a real opportunity to develop new and innovative services for medication review through the opportunities created by effective commissioning in line with identified needs and priorities.

Services for the review of medicines need to be considered as part of the broader commissioning process within the Joint Strategic Needs Assessment, taking into account both health and social care aspects.

This section will provide a framework covering:

- Local needs assessment
- Reviewing existing services against identified needs
- What are the gaps?
- How might the gaps be addressed?
- Monitoring process and outcomes

What are the local needs for medication review?

Commissioners need a systematic method for assessing local needs for medication review. Possible data sources include:

- Data from Joint Strategic Needs Assessment
- Single Assessment Process (SAP) medicines questions
- Case management data (e.g. using Combined Predictive or PARR model)
- Care home resident numbers
- Hospital Episode Data on numbers and types of unplanned hospital admissions

In addition PCTs will also need to take into account national and local health priorities. Needs assessment for medication review should adopt a rigorous approach based on reliable data, and should also involve patients and the public as well as health professionals.

Patients identified as being at high risk for hospital admission are a group for whom regular medicines review is likely to be particularly valuable. The Combined Predictive model, for example, states that 30% of patients identified as being at high risk for hospital admission are prescribed five or more medicines. The model proposed *"the use of pharmacy experts to look at polypharmacy issues and how to manage those for improved outcomes and lower cost"*. [21]

In addition the analysis showed that patients at 'moderate' risk also have particular needs for medicines review. In the Combined Predictive Model, *"compared with population averages, patients in the moderate risk segment are more than twice as likely to have polypharmacy utilisation of between five and nine different drugs in a single month. In addition, there is relatively high prevalence of impactable long-term conditions in this segment which, if*

unmanaged, may lead to patients progressing up the pyramid, ie. needing more intensive and costly care. For example, hypertension prevalence in this group is 18% compared with 9% in the overall population".
GP practices and PBC groups have been developing methods to identify patients at moderate and high risk and thus practice level data may be available to inform medication review services and prioritisation.

Reviewing existing services against identified needs

All PCTs already have some medicines review services through the GMS and community pharmacy contracts, and many have also introduced additional medication review services. In this section we summarise the medicines review components in national primary care contracts, and suggest questions that commissioners may wish to ask about existing services.

The contracts for general practice and community pharmacy each include a component of medicines review.

Extract from The GMS quality and outcomes framework 2006[22]

Medicines Indicator 11

A medication review is recorded in the notes in the preceding 15 months for all patients being prescribed four or more repeat medicines. Standard 80%

Medicines 11.1 Practice guidance

Medication is by far the most common form of medical intervention. Four out of five people over 75 take a prescription medicine and 36% are taking four or more (Medicines and Older People – Supplement to the National Service Framework for Older People, 2001). However, we also know that up to 50% of drugs are not taken as prescribed, many drugs in common use can cause problems and that adverse reactions to medicines are implicated in 5-17% of hospital admissions.

Involving patients in prescribing decisions and supporting them in taking their medicines is a key part of improving patient safety, health outcomes and satisfaction with care. Medication review is increasingly recognised as a cornerstone of medicines management. It is expected that at least a Type 2 medication review will occur, as described in "Room for Review."

The underlying principles of any medication review, whether using the patient's full notes or face to face are:

- All patients should have the chance to raise questions and highlight problems about their medicines.
- Medication review seeks to improve or optimise impact of treatment for an individual patient.
- The review is undertaken in a systematic way by a competent person.
- Any changes resulting from the review are agreed with the patient.
- The review is documented in the patient's notes.
- The impact of any change is monitored.

Medicines 12 - 8 points

A medication review is recorded in the notes in the preceding 15 months for all patients being prescribed repeat medicines. Standard 80%

Questions commissioners might like to ask are:

- How is the practice identifying patients for a review?
- How good is the fit with the needs identified locally from the JSNA and other sources?
- How are reviews conducted, and by whom?
- Which patients have not received a review?
- Is there any linkage between practice reviews and Medicines Use Reviews in local pharmacies?

The Medicines Use Review service in the community pharmacy contract is centrally negotiated and target patient groups may be agreed by the PCT together with the Local Pharmaceutical Committee. In some areas pharmacists are being encouraged by their PCT to agree target patient groups with their local practice/s and to set up local referral routes into the service. The box below provides a summary of the service.

Extract from the NHS Community Pharmacy Contractual Framework
Advanced Service – Medicines Use Review & Prescription Intervention Service

Service Description

This service includes Medicines Use Reviews (MURs) undertaken periodically, as well as those arising in response to the need to make a significant prescription intervention during the dispensing process. Medicines Use Review is about helping patients use their medicines more effectively. Recommendations made to prescribers may also relate to the clinical or cost effectiveness of treatment.

Aims of Service

To improve patient knowledge, concordance and use of medicines by:

- establishing the patient's actual use, understanding and experience of taking their medicines;
- identifying, discussing and resolving poor or ineffective use of their medicines;
- identifying side-effects and drug interactions that may affect patient compliance;
- improving the clinical and cost-effectiveness of prescribed medicines and reducing medicine wastage.

Commissioners will want to make the most effective use of the MUR service and possible questions to ask include:

- Which target patient groups have been agreed locally?
- How good is the fit with the needs identified locally from the JSNA and other sources?
- Have pharmacists and GPs been encouraged to agree which patients will be targeted for MUR?
- Is MUR being effectively promoted by GP practices?
- Is the MUR service being used as a referral route for a Clinical Medication Review, where needed?

Dispensing practices provide a Dispensed Review of the Use of Medicines (DRUM) as part of the Dispensing Services Quality Scheme. The specification for DRUM is shown below.

Dispensed Review of the Use of Medicines

These reviews aim to find out patients compliance with, and agreement (concordance) with, the medicines they have been prescribed, and to help identify any problems that they may be having[23].

- The primary purpose of these reviews is to help patients understand their therapy and to identify any problems they are experiencing and, where appropriate, suggest possible solutions.
- The review should seek to optimise the impact of treatment for an individual patient and any changes resulting from the review should be agreed with the patient.
- The review should normally be carried out by trained dispensing staff or by a registered health professional with appropriate competencies in review of medicines.
- A face-to-face review with patients (and, where appropriate, their carers) of compliance and concordance should be carried out and recorded in the patient's record (Recommended Read Code 8B3x until national guidance issued).
- The practice should agree with the PCT the types of patient that should be targeted for the review.
- The review will be completed at least once every 12 months for at least 10% of the contractor's dispensing patients.

Questions commissioners might like to ask are:

- How is the practice targeting DRUMs?
- Which patient groups have been agreed between the PCT and the practice?
- How good is the fit with the needs identified locally from the JSNA and other sources?
- Are DRUMs being used as a referral route for Clinical Medication Review, where needed?

In addition, there may be additional services already delivered through a local pharmacy enhanced service or practice-based developments including pharmacist and nurse-led medication review. Medication review may also be provided as an outreach service from the local hospital.

Questions commissioners might like to ask about these services include:

- What criteria are used to select patients to receive a medication review?
- How do you indentify the scope of a medication review for each patient?
- How good is the fit with the needs identified locally from the JSNA and other sources?
- Which patients have received a medication review?

What are the gaps?

The table below[24] provides a framework for considering potential gaps identified by the needs assessment process for medication review.

Identifying gaps in service provision

Source	Indicator	Intervention	Geography	Resources
What is the source that has provided evidence of an unmet need?	Describe the unmet need.	What potential service or intervention is needed to meet the need identified?	What is the extent of the need? Is it limited or constrained by demographics or geography? Are there any PBC priorities that are specific to localities?	What existing local delivery plan resources are available to address this need? (Does it fit within any existing programme or priority?) Should this need be "flagged" within the 2008/09 LDP? Is there a "risk" to the PCT in 2008/09?

A starting point might be to chart the services currently provided by general practices, community pharmacies and by other providers against the needs that have been identified.

Mapping current provision to need

Identified need	Current service provided by General Practices	Current service provided by community pharmacies	Services provided by others that address need	Gap between need and current provision

Prioritisation framework	
Incidence / prevalence	How common is the problem/need?
Capacity to benefit	Will the proposed service benefit few or many patients?
Inequalities	How does the proposed service address health inequalities?
NHS priorities	Which NHS priorities does the service address, and how?
Time to benefit	Will the proposed service provide a 'quick win' or is there an associated lag time?
Fit with wider PCT work programme	How does the proposed service fit with overall priorities within the PCT?
Effectiveness; cost-effectiveness; VFM	What is the evidence to support service provision by different providers?
Risk assessment	What is the risk to the PCT associated with not proceeding with the service?

How might the gaps be addressed?

Targeting medication review: Which review for which patient?

Medication review is an NHS standard for certain groups of people. The National Service Framework for Older People sets out requirements for medication reviews in those aged 65 and over. Other people also need medication review and the service can be targeted to have the greatest impact in terms of improving health or avoiding the need for a more complicated intervention (e.g. hospital admission).

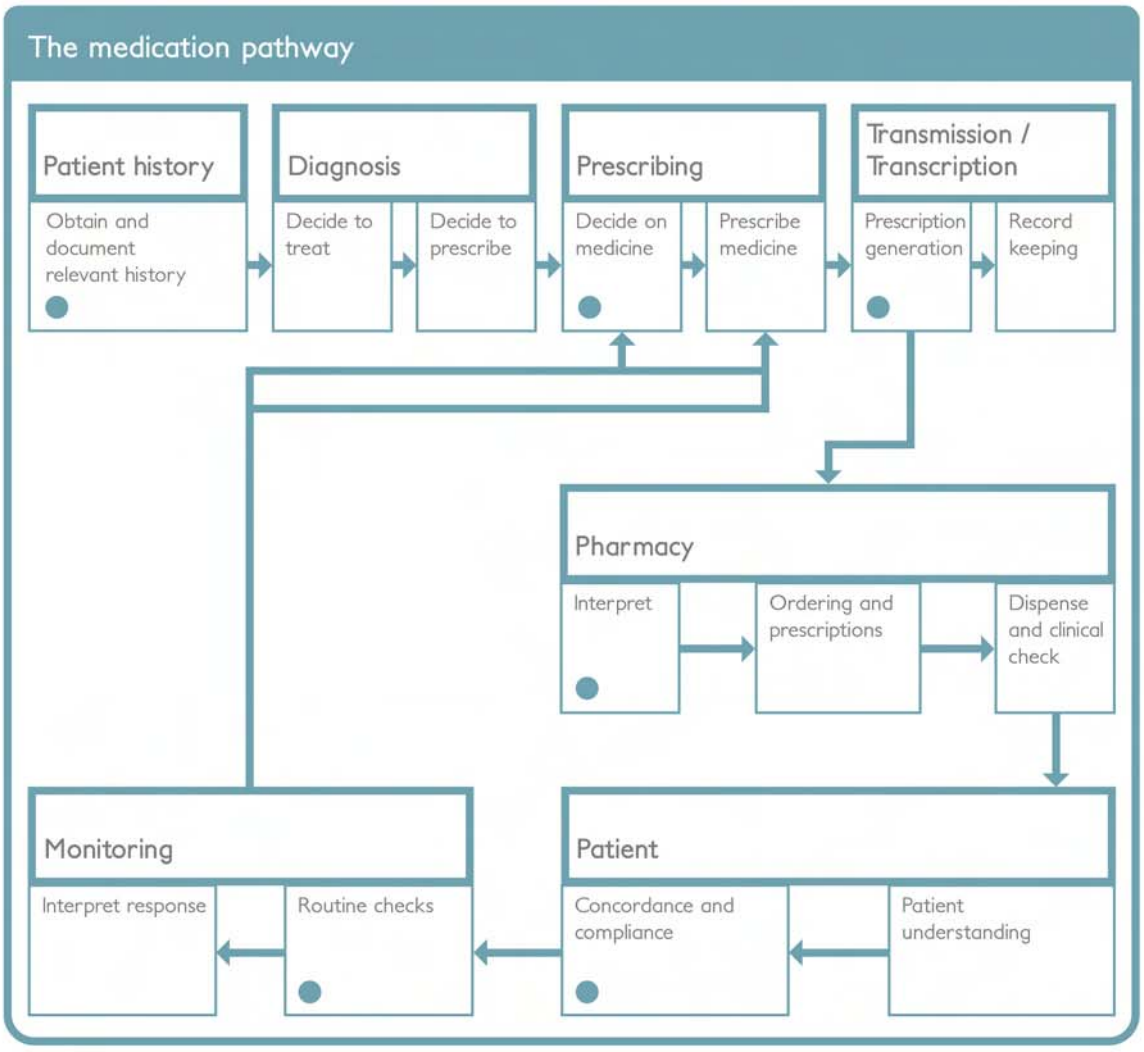
The table on the following page comprises a framework to help identify those people or circumstances where medication review is likely to have the most significant impact. It includes triggers for undertaking a review, to ensure that medication review services are planned and are available for those patients who could benefit most from a review of their medicines.

Targeting medication reviews

Target group	Specific issues
Patient-related triggers	
Older people (>75 years)	■ Complex medication regimen ■ Multiple drugs (polypharmacy) ■ Multiple diseases (co-morbidity) ■ Compliance issues ■ Physical problems (swallowing, arthritis) ■ Resident in care home ■ Mental state (confusion, anxiety, depression, forgetfulness) ■ Living alone or poor carer support ■ Frequent hospital admissions
Condition-related triggers	
Long-term or complex conditions	■ Newly diagnosed long-term condition ■ Polypharmacy ■ Co-morbidity ■ Drugs that need special monitoring ■ Adverse effects and/or drug interactions ■ Care plan is not up-to-date
Complex conditions	■ Co-existing physical and mental ill health problems ■ Care plan not up-to-date
Medication-related triggers	
Medication regimens	■ Four or more medicines ■ More than 12 doses in a day ■ More than 4 changes in medication in the past 12 months ■ Recent changes to medication regimen ■ Medicines from more than one prescriber
"Specialist" drugs	■ Narrow therapeutic index e.g. warfarin, amiodarone, lithium ■ Drugs not commonly used in primary care ■ Drugs that need special monitoring
Medication-related event	■ Recent falls ■ Adverse drug reaction ■ Unexpected or exaggerated reaction to one or more medicines ■ High incidence of self-medication with non-prescription medicines or alternative remedies
Environmental triggers	
Change in care provider	■ Newly registered patient ■ Recent discharge from hospital ■ Transfer to a care home
Care homes	■ Polypharmacy ■ Enteral feeding ■ Inappropriate use of homely remedies ■ Longstanding prescription of psychotropic medication e.g. antipsychotics/hypnotics

Redesigning services

Medicines are used at different places and in different ways in different care pathways and in different care settings. The figure below demonstrates how a medication pathway could be used as a basis for designing medication review services. It identifies key processes in a generic medicines management system and the steps at which medication review should be considered. This pathway could also be integrated into other care pathways as they are developed to ensure that medicines issues are considered at the appropriate places. The circles denote those steps at which a review of medication is likely to be most valuable.



Monitoring process and outcomes in medicines review services

Commissioners will build in quality measures as part of the service specification and contract monitoring processes. Questions commissioners might like to include in local monitoring frameworks for medicines review are:

- What are the specified objectives of the medicines review service?
- What outcome measures are included to measure the achievement of the objectives?
- How is the quality of medicines review assured?
- In what ways does the medicines review process increase patient safety?

Examples

Case study 8: PCT medication review policy development

Devon County Council's Medicines Support Policy was developed with the six local PCTs and the Local Pharmaceutical Committee and includes medication review. The Single Assessment Process and medication review are triggers for a Medicines Concordance Assessment. The policy ensures that consistent processes are used when commissioning assistance with medication management as part of a package of care.
http://www.devon.gov.uk/contrast/index/socialcare/older_people/support_at_home/medicines-support/medication_support_service_policy.htm

Case study 9: District nurse medication review referral project - roll out, needs assessment and service evaluation

Locality prescribing support pharmacists and the district nurses with older persons practitioner based at one health centre developed a method whereby the nurses identified those patients at highest risk of medication related problems and referred them for medication review by the pharmacists.

Referrals of housebound patients were made for non-urgent medication related issues only and included referral for assessment of indication, continuing need of, or appropriate dose for each medicine, and compliance problems among other problems with medication.

After a pilot period the service was evaluated and was extended to include all district nursing teams within the locality.

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1. Room for Review was produced by the Task Force on Medicines Partnership and the National Collaborative Medicines Management Services Programme at the National Prescribing Centre in 2002. It is available at http://www.keele.ac.uk/schools/pharm/npcplus/medicinespartner/roomforreview.htm This document 'A Guide to Medication Review' updates and replaces 'Room for Review'.

2. Richard N, Coulter A (2007). *Is the NHS becoming more patient-centred? Trends from the national surveys of NHS patients in England 2002-07*. Picker Institute. http://www.pickereurope.org/filestore/publications/trends_2007_final.pdf

3. Healthcare Commission (2007). *The best medicine: The management of medicines in acute and specialist trusts.*

4. Medication review is often conducted in general practice as part of the routine care and treatment of patients. The case studies included in this Guide give examples of specific medication review services, in order to describe the characteristics and benefits to patients of medication review. The guidance given on medication review in this Guide is relevant to medication review in general practice as well as other contexts.

5. Task Force on Medicines Partnership and the National Collaborative Medicines Management Services Programme (2002). *Room for Review. A guide to medication review: the agenda for patients, practitioners and managers* http://www.keele.ac.uk/schools/pharm/npcplus/medicinespartner/roomforreview.htm

6. http://www.bma.org.uk/ap.nsf/attachmentsbytitle/pdfqof2006/$file/quality+and+outcomes+framework+guidance+-+Feb+2006.pdf

7. http://www.psnc.org.uk/index.php?type=page&pid=107&k=2

8. Healthcare Commission (2007). *The best medicine: The management of medicines in acute and specialist trusts*

9. Clyne W, Granby T, Picton C (2007). *A competency framework for shared decision-making with patients: achieving concordance for taking medicines* http://www.keele.ac.uk/schools/pharm/npcplus/medicinespartner/compframwork_decisionmaking.htm

10. Healthcare Commission (2007). *The best medicine: The management of medicines in acute and specialist trusts*

11. Healthcare Commission (2007). *Talking about medicines: The management of medicines in trusts providing mental health services*

12. See also NICE and NPSA (2007). *Technical patient safety solutions for medicines reconciliation on admission of adults to hospital.* http://www.nice.org.uk/nicemedia/pdf/psg001guidanceword.doc and RPSGB, GHP, PSNC and PCPA (2005). *Moving patient medicines safely: Guidance on discharge and transfer planning* http://www.psnc.org.uk/resources

13. Horne R, Weinman J, Barber N, et al (2005). *Concordance, adherence and compliance in medicine taking.* Report for the National Co-ordinating Centre for NHS Service Delivery and Organisation R & D (NCCSDO)

14. See Lowe CJ, Petty D, Raynor DK, Zermansky A. *Development of a method for clinical medication review by a pharmacist in general practice.* Pharmacy World and Science 2000;22:1216 for a full description of clinical medication review

15. Healthcare Commission (2007). *Talking about medicines: The management of medicines in trusts providing mental health services*

16. Reed J (2005). *Coping with coming off.* MIND publications

17. Levenson R, Celino G, Dhalla M (2005). *Evaluation of Room for Review. Part 2: The patient view* http://www.keele.ac.uk/schools/pharm/npcplus/medicinespartner/documents/rfr_eval2.pdf

18. See also Lewis T. *Using the NO TEARS tool for medication review.* BMJ 2004;329:434.

19. For more information about information prescriptions see http://www.informationprescription.info/index.html

20. Department of Health (2007). World Class Commissioning http://www.dh.gov.uk/en/publicationsandstatistics/publications/publicationspolicyandguidance/dh_080956

21. Health Dialog & King's Fund (2006). Combined Predictive Model: Final Report http://www.networks.nhs.uk/uploads/06/12/combined_predictive_model_final_report.pdf

22. Please note that the medicines indicators in the GMS contract may be reviewed for 2008/09

23. See http://www.bma.org.uk/ap.nsf/content/dispensescheme010806#reviewwithpatientsofcompl

24. From Celino G, Blenkinsopp A, Dhalla M (2007). *Pharmaceutical needs assessment toolkit, Primary Care Contracting* http://www.primarycarecontracting.nhs.uk/uploads/pharmacy/pcc%20(formerly%20natpact)%20pna%20toolkit%20complete.pdf