Medicines Reconciliation:
A Guide To Implementation

Introduction:

Every time a patient is transferred from one healthcare setting to another it is essential that accurate and reliable information about the patient's medication is transferred at the same time. This enables healthcare professionals responsible for the care to be able to match-up the patient's previous medication list with their current medication list; thereby enabling timely, informed decisions about the next stage in the patient's medicines management journey. This process is called 'Medicines Reconciliation' and it should be one of the basic principles of good medicines management.

This guide will help you to understand the importance of obtaining accurate and timely information about patients' medicines, and the part that each of us has to play in ensuring that every patient receives a personalised service as far as their medicines are concerned.

It will be of particular interest to the following people:

- Clinical practitioners including all prescribers, nurses, pharmacists, doctors, pharmacy technicians
- Service providers including chief pharmacists, practice managers, service managers, directorate managers, clinical governance and risk reduction leads
- Service managers including prescribing advisers, practice-based commissioning teams, hospital chief pharmacists

However, anyone who has a responsibility for ensuring the continuity of care for a patient, when they are being transferred from one care setting to another should be familiar with the concept of medicines reconciliation.

This resource supplements the guidance "Technical patient safety solution for medicines reconciliation on admission of adults to hospital" published by the National Institute for Health and Clinical Excellence (NICE) in conjunction with the National Patient Safety Agency (NPSA) in December 2007[1].

Use this book and share it with your colleagues, it could make a real impact on the care of the next patient you see.

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Please note that further materials about medicines reconciliation are available on NPCi at **http://www.npci.org.uk/reception/reception.php**

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Basic Principles

The patient journey in any field of healthcare has areas of potential risk that must be assessed and managed. One such area in medicines management exists where a patient's care is transferred from one care setting to another. Examples include:

- when a patient is discharged following a hospital admission back into primary care
- when a patient is admitted to hospital, whether this is planned, or unplanned
- when a patient moves into a residential care home, whether permanently, or temporarily, or:
- when a patient is transferred from one hospital ward, or department to another.

The NPSA has reported the number of incidents of medication errors involving admission and discharge as 7,070 with two fatalities and 30 that caused severe harm (figures from November 2003 and March 2007).[2]

Medication errors are one of the leading causes of injury to hospital patients. They can result in harm to the patient and even fatalities and constitute an economic burden to health services. Over half of all hospital medication errors occur at interfaces of care and most commonly at admission[3]. Medicines reconciliation has the potential to reduce medication errors.

Therefore, every time a transfer of care takes place it is essential that accurate and reliable information about the patient's medication is transferred at the same time.

The purpose of medicines reconciliation is to:

- make sure the right patient gets the right drug, in the right dose and at the right time (i.e. continuity of treatment)
- reduce the risk of medication errors occurring when the care of a patient is passed from one care setting to another
- provide ongoing personalised medicines management care for each patient
- reduce confusion about patients' medication regimens (for both healthcare professionals as well as for patients)
- improve service efficiency and make the best use of staff skills and time

In addition, medicines reconciliation makes the process of monitoring ongoing treatment easier.

Medicines reconciliation is defined by the Institute for Healthcare Improvement (IHI)[4] as the process of obtaining an up-to-date and accurate medication list that has been compared to the most recently available information and has **documented** any:

- discrepancies
- changes
- deletions
- additions

resulting in: "a complete list of medications, accurately communicated".

NICE and the NPSA in their guidance, "Technical patient safety solutions for medicines reconciliation on admission of adults to hospital",[2] promote this approach by reinforcing the need for medicines prescribed on admission to correspond to those that the patient was taking before admission. The guidance goes on to say that pharmacists should be involved in the medicines reconciliation process as soon as possible after admission.

This document aims to support implementation of the NICE/NPSA guidance and, in addition, to extend the concept of medicines reconciliation to include other 'transfer of care' situations. It also aims to encourage the involvement of other healthcare professionals by outlining roles and responsibilities during the medicines reconciliation process.

The case for medicines reconciliation:

The medicines that a patient is actually taking are not necessarily the same ones recorded in their last updated record. This could be for a variety of reasons; for example a patient may stop taking a prescribed medicine because they have experienced some unwanted side effects, or because they no longer feel that there is a need for them to take it. Additionally, a patient may have purchased over-the-counter medication that their prescriber is unaware of. Whatever the reason, any recorded list will only be as accurate as the day it was last updated and even then it may not present a complete picture of what the patient is actually taking.

Although many patients believe that there is a central medication record that is shared by all care providers, in fact this is not currently the case. In reality, records are kept in a variety of formats in different healthcare settings and these cannot easily be shared.

The interpretation of these 'medication record lists' by different healthcare professionals can potentially result in medication errors. Examples of 'medication record lists' in common use include:

- GP surgery patient records
- Repeat prescription 'slips'
- Hospital case notes
- Community pharmacy patient medication records (PMR)
- Care home or social care medicines administration record (MAR) charts

The introduction of a systematic approach to medicines reconciliation would enable these records to be updated with new information about a patient's medicines each time an intervention is made, and whenever there is a handover of patient care. Healthcare professionals would have access to more reliable information to allow them to continue caring for that patient, confident that they were working from the most current information available to them.

The benefits of medicines reconciliation

There are many benefits to medicines reconciliation. These include:

- A reduction in risk of medication errors and adverse drug events — achieved through an increase in the availability and timeliness of accurate information about a patient's medicines
- Better communication between healthcare professionals and others involved in the transfer of patient care, and patients and their carers, from all health and social care sectors
- Greater patient involvement in their own care — thereby helping patients to develop a better understanding of their medicines and an ability to communicate that information to healthcare professionals
- A potential reduction in waste — including the waste of time and resources that can occur when healthcare staff have to chase up information, and medicines that can be wasted when unnecessary, or duplicated prescriptions are dispensed
- A reduction in duplication of effort that can occur if different healthcare professionals have to track the same piece of information — achieved when medicines are effectively reconciled, each time a patient's care is transferred
- Improved record keeping — with the minimum dataset of medicines information being documented appropriately
- An increase in the timely availability of accurate medicines information — essential for prompt and appropriate treatment
- The potential avoidance of medicines-related admission to hospital or care homes — which can occur when un-reconciled medicines lead to prescribing or medicines administration errors, or monitoring of treatment has not taken place
- Improved multidisciplinary team-working
- An increase in the potential for integrating services such as social services, with healthcare services (for example by including care homes in communication channels)
- The development of local standards and procedures for managing the transfer of patient care and medicines information

So who really benefits from medicines reconciliation? The short answer is everyone with an interest in the care of a patient. Let's look at the beneficiaries in more detail — considering not only who benefits but in what ways.

The Patient:

The end user in the medicines management process, the patient needs to be confident that they are receiving the right medicine, in the right dose, in the right formulation, at the right time. Concordant approaches to decision-making in medicines management are becoming more common. Patients are also becoming more active participants in their care. For example, hospital self-administration schemes help patients to become more knowledgeable about the medicines that they take. This and similar approaches mean that patients are a more reliable source of information about their medicines thereby enabling them to contribute actively to the medicines reconciliation process.

The benefits of medicines reconciliation to patients include:

- A reduced risk of medication error
- Increased trust in healthcare professionals and greater confidence in the healthcare system
- A reduction in delays in receiving appropriate medication
- The potential for much greater involvement in their own care
- A reduction in the risk of re-admission due to problems with compliance
- The potential for a shorter stay in hospital because appropriate medication treatment will start earlier

The General Practitioner:

In the past, GPs have received poorly communicated and untimely medicines information when one of their patients has been discharged from hospital. The document "Moving patients, moving medicines, moving safely"[5] reported that 84% of GPs only "occasionally" or "never" received information about why medicines had been altered in hospital. The failure to transfer appropriate information effectively can lead to misinformation, confusion, and the potential for prescribing errors. Medicines reconciliation can help to ensure that GPs and their staff receive accurate, timely discharge information about patients'

medicines that enables them to continue with their care as the hospital prescriber intended.

The Hospital Doctor:

An accurate, current list of medication is essential to enable the basic reconciliation process to be completed. This, in turn, provides the necessary information for a fuller reconciliation to take place subsequently, so that hospital doctors can be confident that the information that is available to them is more reliable, accurate and up-to-date — thereby leading to more appropriate prescribing and faster treatment times. Medicines reconciliation should help reduce the potential for harm to the patient and hence the possibility of claims of negligent care.

Non-medical Prescribers:

Increasingly, medicines are prescribed by non-medical practitioners. This includes nurses, pharmacists and some allied healthcare professionals. These prescribers may not have access to the same information about patients' medicines as medical colleagues. For example, some non-medical prescribers work in non-traditional settings. Community practitioner nurse prescribers who prescribe during visits to housebound patients, or independent pharmacist prescribers prescribing for a range of acute conditions for care home patients may not have access to the full care record. A recently reconciled medicines list would help them to prescribe more appropriately, safely and with greater confidence. Reconciliation may also save valuable time for non-medical prescribers, because checking such a list should be more efficient than creating an entirely new one.

The ward-based Clinical Pharmacist & Technician:

In some hospitals (e.g. Calderdale & Huddersfield NHS Foundation Trust), it is ward-based clinical pharmacists and technicians that carry out the medicines reconciliation process. NICE/NPSA guidance recommends that pharmacists should be involved in the process as soon as possible after admission.[6] Clinical ward pharmacists will advise doctors on the prescribing of medicines for each patient and may be prescribers in their own right. In addition to this, where patients' own medicines are not available, it is the hospital pharmacy service that will initiate and continue the supply of medicines for each patient during

their stay in hospital. In order to be able to carry out these tasks effectively and efficiently, all hospital pharmacy staff potentially benefit from patients' medicines being reconciled within 24 hours of admission.

The Community Pharmacist:

All community pharmacists now offer advanced services including Medicines Usage Reviews (MURs), and some provide enhanced services such as medication review for patients in care homes. Community Pharmacists offering these services would benefit from accurately reconciled medication lists which they could rely upon to enable them to update their own patient medication records (PMRs). Having up-to-date information would also enable community pharmacists to contribute to basic reconciliation and medication history taking if required.

Nurses and other care-providers:

For those responsible for medicines administration, knowing that a patient's medicines have been reconciled will enable nurses and carers to administer medicines with greater confidence (including self-administration), and could reduce the frequency of missed or delayed doses.

Other beneficiaries of the medicines reconciliation process:

- Trust clinical governance teams — medicines reconciliation has the potential to reduce the likelihood of medication errors.
- NHS Trusts — damage limitation from potential litigation cases arising from medication errors[7] and savings from errors prevented, enhancement to the quality of services, potential to reduce length of stay in hospital
- PCTs — medicines reconciliation has the potential to reduce medicines-related admissions and re-admissions to hospital
- The NHS in general — the introduction of medicines reconciliation processes has the potential to enable better use of resources, both financially and in terms of the most appropriate and effective use of staff time and skills

Approaches to medicines reconciliation:

Medicines reconciliation can be considered in two discreet stages.

Basic reconciliation (stage 1):

Basic medicines reconciliation involves the collection and accurate identification of a patient's current list of medicines. An example of basic medicines reconciliation would include medication history-taking in secondary care, where a complete and accurate list of a patient's current medication regimen would be documented within 24 hours of admission.

Full reconciliation (stage 2):

Full medicines reconciliation builds on stage 1 of the process and involves taking the basic reconciliation information, comparing it to the list of medicines that was most recently available for that patient. In addition, it involves identifying any discrepancies between the two lists and then acting on that information accordingly. In other words, interpreting the outcome of the basic reconciliation in light of a patient's ongoing care plan; resolving any discrepancies and accurately recording the outcome.

The medicines reconciliation process in detail:

A useful way of remembering the steps in the reconciliation process is to adopt the "3Cs" approach.

- Collecting
- Checking
- Communicating

Collecting (basic reconciliation):

The 'Collecting' step involves taking a medication history and collecting other relevant information about the patient's medicines.
The information may come from a range of different sources (some potentially more reliable than others, see section 7).
For example:

- A computer print-out from a GP clinical records system
- The tear-off side of a patient's repeat prescription request
- Verbal information from the patient, their family, or a carer
- Medical notes from a patient's previous admission to hospital
- Medicines containers or repeat prescription supplies available at the time of the reconciliation

The medication history should be collected from the most recent and reliable source. Where possible, information should be cross-checked and verified. The person recording the information should always record the date that the information was obtained and the source of the information. Where there appears to be a discrepancy between what the patient is currently prescribed, and what the patient is actually taking, this should be recorded too, and, where they can be established, the reasons for any variation.

Checking:

The ‘Checking’ step involves ensuring that the medicines and doses that are now prescribed for the patient are correct. Obviously, this does not mean that they will be identical to those documented during the basic reconciliation process. For example, a doctor now responsible for the patient may make some intentional changes to their medicines — but any discrepancies will need to be resolved in the final step of the process.

Communicating (full medicines reconciliation):

‘Communicating’ is the final step in the process, where any changes that have been made to the patient’s prescription are documented and dated, ready to be communicated to the next person responsible for the medicines management care of that patient. Examples might include:

- When a medicine has been stopped, and for what reason (including topical preparations)
- When a medicine has been started, and for what reason
- The intended duration of treatment (e.g. for antibiotics or hypnotics)
- When a dose has been changed, and for what reason
- When the route of the medicine has been changed, and for what reason (this is particularly important when, for example, a patient is being transferred from a high dependency unit to a medical ward and the route or administration has changed from parenteral, often intravenous, to oral)
- When the frequency of the dose has changed, and for what reason

Minimum Dataset

In order to complete the reconciliation process effectively, a common minimum dataset of information about the medicines prescribed for a patient is essential.

Suggested minimum dataset required in primary care:

To be able to reconcile medicines in a primary care setting, for example, following patient discharge from hospital (or transfer into a care home, return from respite care etc.), it is suggested that the minimum dataset of information available to GPs should include:

- Complete and accurate patient details i.e. full name, date of birth, weight if under 16 years, NHS/unit number, consultant, ward, date of admission, date of discharge
- The diagnosis of the presenting condition plus co-morbidities
- Procedures carried out
- A list of all the medicines prescribed for the patient on discharge from hospital (and not just those dispensed at the time of discharge)
- Dose, frequency, formulation and route of all the medicines listed
- Medicines stopped and started, with reasons
- Length of courses where appropriate (e.g. antibiotics)
- Details of variable dosage regimens (e.g. oral corticosteroids, warfarin, etc.)
- Known allergies, hypersensitivities and previous drug interactions
- Any additional patient information provided such as corticosteroid record cards, anticoagulant books, etc.

This information should be clear, unambiguous and legible and should be available to the GP (or other primary care prescriber) as soon as possible. Ideally, this should be within 2 working days of the patient's discharge from hospital.

Suggested minimum dataset required in secondary care:

When patients are admitted to hospital they are often at their most vulnerable, and are not always able to contribute accurately to a medication history-taking discussion. It is suggested that the minimum dataset of information available on admission to hospital should include:

- Complete patient details i.e. full name, date of birth, weight if under 16 years, NHS/unit number, GP, date of admission
- The presenting condition plus co-morbidities
- A list of all the medicines currently prescribed for the patient, including those bought over-the-counter (where this is known)
- Dose, frequency, formulation and route of all the medicines listed
- An indication of any medicines that are not intended to be continued
- Known allergies and previous drug interactions

This information should be clear and legible and should be available to the hospital when the patient is admitted for planned admissions, and within 24 hours of admission for unplanned admissions.

In addition to the suggestions made here, local agreements or policies may require further information to be provided.

Sources of information for medicines reconciliation:

There are many potential sources of information about patients' medicines although no source is reliable unless it is up-to-date. In every case, the source of information should be documented, dated and, where practicable, verified.

More reliable sources:

- A recent print-out from a GP computer system: although this should be verified with the patient where possible to ensure that the patient is in fact taking all of the medicines listed and that they are not taking any over-the-counter, herbal, or non-prescribed medicines or remedies otherwise acquired. N.B. there is a risk that medicines that are not prescribed by the GP may not be included in their clinical record system. This might include those medicines issued from hospital-based clinics, such as anticoagulants, unlicensed medicines, and clinical trial medication, or from other prescribers. Medicines included in shared care arrangements, e.g. methotrexate or, anti-TNFs [anti-tumour necrosis factor drugs] may not be included in a GP computer print-out.

- Repeat prescription tear-off slips: the date of printing should be checked and the list verified by the patient (or carer) where possible. Remember that seasonal products (e.g. hay-fever medication) and one-off prescription items (eg antibiotics) may not appear on the list of current medicines

- Patient's own drugs (PODs): often brought in by patients at the request of the hospital and in-line with locally agreed policy for the re-use of patient's own medicines. Information gathered in this way may not be complete, for example, patients may not bring oral contraceptives, topical, or inhaled preparations in with them. Patients often do not class these items as 'medicines'. Remember also that patients may not remember to bring in fridge items or bulky medicines.

- Patients and/or their carers: as patients become better informed about their condition, their knowledge of the medicines that they take will also tend to increase. However, even though patients may be considered a more reliable source of information about the medicines that they are actually taking, pronunciation of medicine names and medical terms may not always be accurate and could lead to confusion
- Take-home prescription summaries/hospital notes: if a patient has had a recent admission to hospital then the take-home summary, discharge prescription or, hospital notes should be reliable. However, if the date of discharge is more than four weeks ago, then the patient's GP will need to be contacted in case any amendments have been made subsequently. (Out-patient medication records may be less comprehensive). Discharge summaries often omit medicines not initiated during the hospital admission.
- 'Green bags' (containing a patient's own drugs): Trusts that have issued specially designed green bags to encourage patients to bring their medicines into hospital with them (e.g. Walsall Hospitals NHS Trust), have found them invaluable in supporting the basic stage of medicines reconciliation.

Less reliable sources (usually need additional verification)

- MAR (Medication Administration Records) from social and care home settings. Although these are official documents, they may not have been reconciled with GP patient medication records
- Community Pharmacy Patient Medication Records (PMR), repeat dispensing records and Medicines Use Review (MUR) records. Community pharmacists do not routinely have access to GP patient medication records so PMR and MUR records may be incomplete. Repeat dispensing records may not include recently prescribed acute or 'when required' medicines
- Specialist nurse care plans and clinical management plans — specialist care plans may not contain all of the medicines that a patient is prescribed
- Care home managers — who may be able to provide medicines information out-of-hours
- Single Assessment Process documentation (SAPs)

- ‘Message in a bottle’ — a voluntary scheme co-ordinated by the Lions Club of Great Britain and supported by various NHS organisations. A plastic canister containing a variety of essential information is kept in a patient’s fridge and can be readily accessed by emergency service teams, should the patient need to be admitted to hospital in an emergency. The information held in these canisters may include information on medicines, but this may be out-of-date, and may not include all of the medicines that a patient is taking:
- Monitored Dosage Systems (MDS) and other compliance aids: although these systems are usually issued with some sort of written record of the medicines they contain, that information can easily become detached from the container and it would be impossible to reliably identify every tablet in the system. In addition, many tablets and capsules, and of course topical and liquid preparations, are unsuitable for inclusion in the MDS container
- Clinical trial/unlicensed medicines — may not be labelled with the name of the medicine — the issuing hospital pharmacy and/or the investigator would need to be contacted for further information.

Sources that would require further investigation:

- Social work teams
- Drugs team/alcohol detox units
- Prison service – probation officers
- Department of Work & Pensions
- Schools
- Homecare providers
- Anticoagulant clinics
- Walk-in centres
- Family and friends
- Private healthcare providers
- Private healthcare insurers

Although occasionally these sources may need to be contacted, this should be as a last resort because they would rarely include all of the medication that a patient is taking and are unlikely to be up-to-date.

Responsibility for the medicines reconciliation process:

Establishing responsibility for a medicines reconciliation process involves a number of considerations. Firstly, there is the personal responsibility of each person involved in the process. This includes:

- the professional responsible for the transfer of that patient's care (including the prescriber)
- the person receiving the patient into their care;
- the patients and/or carer involved (especially if they are self-referring)
- other people involved in medicines management for that patient, such as community nurses, matrons and pharmacists, case managers, care home staff, ward clerks, practice managers, etc

Secondly, there is the professional responsibility of the healthcare professionals involved in carrying out the medicines reconciliation process.

Thirdly, there is the corporate responsibility of each institution or organisation involved, where ownership by senior managers will give authority to those managing the service to ensure that medicines reconciliation is carried out.

It is important that the medicines reconciliation process is supported by local and organisational policies and procedures to embed the process into the culture of the organisation.

Key skills for medicines reconciliation:

Medicines reconciliation is a new concept for many people and implementing a systematic approach to medicines reconciliation may involve people working in different ways, acquiring new skills or, demonstrating new competencies. Anyone undertaking medicines reconciliation should be competent in all three of the following areas.

Effective communication skills:

Communication is a key aspect of all jobs in the NHS[8], this is particularly important for those people involved in medicines reconciliation, which relies on the accurate transfer of information about a patient's medicines. All aspects of communication should be considered including verbal, non-verbal and written skills, active listening and questioning techniques, and giving and receiving feedback as an essential tool for effective two-way communication.

Technical knowledge of relevant medicines management processes:

Medicines reconciliation requires an effective infrastructure to enable the service to be delivered effectively. Individuals will need a thorough understanding of the relevant policies and procedures in their own area of work. This might include local medicines documentation policies (e.g. discharge prescriptions, case note entries, allergy status recording, etc); the local procedures for patients bringing their own medicines into hospital with them; how repeat prescription sheets work; GP computer systems; monitored dosage systems (MDS); and other forms of documenting medicines use.

Therapeutic knowledge:

Although some steps in the reconciliation process might not require detailed therapeutic and clinical knowledge, the full medicines reconciliation process will require a basic level of understanding of therapeutics and clinical practice. This includes:

- An up-to-date knowledge of brand and generic names of commonly used medicines; the form in which they are available; their licensed indications and common dosage directions
- An ability to correctly interpret a prescription, including dosage directions

- Knowledge of the legal requirements for the prescribing, recording, administration and storage of medicines (including controlled drugs)
- A basic understanding of what the medicine is intended to do and how it works

This level of therapeutic knowledge would normally be achieved by pharmacists, doctors, or suitably experienced pharmacy technicians or nurses. (Although an in-depth knowledge of therapeutics alone is unlikely to be adequate to carry out the reconciliation process effectively and safely).

Overcoming barriers to medicines reconciliation:

As with any change in ways of working, there are likely to be barriers to the introduction of medicines reconciliation if it is not already established within the organisation. If potential barriers are left unaddressed they could jeopardise successful implementation. The barriers to medicines reconciliation will generally be related to one or more of the following issues: systems, skills, people, organisation, and resources.

Systems:

There are lots of different systems and people involved in the medicines reconciliation process, and the complexity of these systems can impact on successful implementation.

- In primary care, responsibility for the process is sometimes handed over to an untrained person, a receptionist, for example, who may not have the competencies that are required to carry out the process effectively. If this happens then it is essential that the medication lists are first reviewed by the GP, the practice nurse, or the practice pharmacist, and that the untrained person only takes responsibility for the administrative side of the process
- Poor quality of documentation can lead to problems during medicines reconciliation. For example, the third carbon copy of discharge prescriptions, or handwritten documents received by GPs, are often illegible. It is the responsibility of the people communicating information to others to ensure that these can be read — especially when the information is being communicated across an interface
- Ideally, medicines for every patient should be reconciled every time their care is transferred. Pragmatically, it may be necessary to prioritise medicines reconciliation to certain patient groups, for example those with long-term conditions, those aged 65 years and over, those on four or more medicines or on complex dosing regimens

- The full implementation of electronic transfer of patient information between healthcare settings will make the reconciliation process much simpler. Until such times, developing robust procedures for medicines reconciliation and establishing them within the culture and everyday work patterns of healthcare professionals and organisations will be important. Such procedures need to take full account of the implications of transferring confidential patient information between care providers
- Local medicines management policies should be reviewed routinely to ensure that the information required by people carrying out medicines reconciliation is included

Skills:

- There needs to be enough competent people available to undertake medicines reconciliation at all times. Restricting the responsibility for medicines reconciliation to one professional group could make it difficult for some organisations to provide a reliable service. Particular consideration needs to be given to "out-of-hours" provision
- Some people may consider reconciliation as something that is just 'too hard to do'. However, there are many individual healthcare professionals who have been carrying out a system of medicines reconciliation for several years, and who see it as part of their professional responsibility. Appropriate training and support may help overcome any anxieties or shortfall in skills
- Levels of staff competency should be agreed, and the responsibility for carrying out medicines reconciliation should ideally be included in job descriptions and personal development plans

People:

The human dimensions of change and development are complex; and, as with any initiative, commitment from the people involved in the process is essential to make medicines reconciliation work. Some of the key considerations that need to be addressed include the following:

- Healthcare professionals, staff and patients all need to be aware of the need for and potential benefits of medicines reconciliation. This can be addressed by explaining the new service to the various groups so that they can see why medicines reconciliation is important (see section 3). Identifying local 'champions' or 'opinion

leaders' to talk to both staff and patients can help to embed new ways of working

- Professional boundaries and established hierarchies may result in disagreements about where the responsibility for medicines reconciliation lies. If the focus remains on reducing the risk for patients and increasing the availability of timely, accurate information, then any potential professional or hierarchical differences should be put aside to enable appropriately trained and competent healthcare professionals, from whichever professional background, to take the lead
- Competing demands and the common response that 'the problem is too big — we don't know where to start' can be overwhelming for staff. This can lead to delays in getting medicines reconciliation off the ground. People need to be supported by managers to enable them to prioritise their workload; and simple structures should be put in place so that medicines reconciliation becomes part of the organisation's everyday work. Support and direction from senior management is also extremely helpful
- The problems resulting from un-reconciled medicines are not the responsibility of a single organisation or professional group — and it is in everyone's interest, but especially those of the patient to adopt a co-ordinated, multidisciplinary approach
- The value of involving patients and/or their carers in the medicines reconciliation process should not be underestimated. Patients are a valuable source of information about the medicines they take and, with support, they can be encouraged and enabled to take a fuller and more active part in the process

Organisational issues:

- The profile of medicines reconciliation needs to be raised in all healthcare organisations. Risk managers, prescribing leads and clinical governance teams should be involved in the process of awareness-raising and communicating the benefits of medicines reconciliation.
- The Chief Executive, senior management lead and board members of an organisation, can help by promoting the uptake of medicines reconciliation

- Organisational leads can help by making links to other national and local NHS initiatives for example the Department of Health's, "Standards for better health"[9]
- Human resource and training departments should be involved in ensuring that personal development plans, and knowledge & skills frameworks, are used to deliver competent and appropriately trained staff
- Commissioning groups should include medicines reconciliation in care pathways, contracts and service-level agreements
- Organisations should link medicines reconciliation activities to their delivery plans and other organisational priorities

Resources:

- Initially medicines reconciliation may appear time-consuming and resource intensive, however when carried out correctly, it has the potential to improve efficiency and safety in the longer term by reducing medication errors, near-misses, and delays to treatment or discharge
- According to the NICE/NPSA guidance[7] the implementation of their technical patient safety solution for medicines reconciliation on admission of adults to hospital will "result in savings to the NHS from prevented errors"

Monitoring implementation — impact assessment and process measures

As with any potential change in practice, indicators need to be used to identify whether the changes that are being made to the service are indeed an improvement. Indicators therefore need to be more than the collection of process data, but also an assessment of the impact that the improved service is making for patients. Not only will this give the providers of the service the information they need to support their ongoing efforts to improve — it will also give commissioners the information they need to make informed decisions about the safety, quality and value of the services they commission.

Potential indicators for measuring the improvements that accurate medicines reconciliation can contribute to include:

- reducing prescribing errors
- reducing re-admissions due to harm from medicines
- reducing the number of missed doses; and
- improving the quality and timeliness of information available to clinicians, thereby leading to improved therapeutic outcomes

Examples of measures that could be used to demonstrate improvement in these criteria include:

Procedural measures:

The healthcare organisation has written policies and procedures endorsed by a multidisciplinary committee and senior management group for:

- Medicines reconciliation on admission to hospital. (Copy of procedure and date approved)
- Medicines reconciliation on discharge from hospital. (Copy of procedure and date approved)
- Copies of the medicines reconciliation policies and procedures are available in all clinical areas and are known to front line clinical staff. (Sample junior medical, nursing and pharmacy staff. What percentage of staff know about reconciliation policy and procedure, what percentage of staff can produce a copy of said policy and procedure when requested?)

Process measures:

In secondary care:

- The percentage of patients that have had their medicines reconciled within 24 hours of admission by medical or nursing staff (increase)
- The percentage of patients that have had their medicines reconciled by a pharmacist or pharmacy technicians within 24 hours of admission (increase)
- The percentage of patients that required one or more change to their medication following medicines reconciliation by a pharmacist or pharmacy technician (decrease)
- The percentage of hospital admissions that are accompanied by a minimum dataset of information from the patient's GP (increase)

In primary care:

- The percentage of discharge medication information forms that meet an agreed minimum data set of information (increase)
- The percentage of patient medication records that are reconciled within 24 hours of receipt of discharge medication information from hospital (increase)

Impact measures:

In secondary care:

- The number of medication discrepancies in patients whose medicines have been reconciled within 24 hours of admission compared to the number of medication discrepancies due to medicines not being reconciled within 24 hours of admission
- The number of medication discrepancies in patients whose medicines have been reconciled within 24 hours of admission by a pharmacist or pharmacy technician compared to the number of missed doses when they have not been involved in medicines reconciliation

In primary care:

- The number of medication discrepancies arising from un-reconciled prescription changes made during an admission to hospital compared to the number of medication errors/adverse events

arising from reconciled prescription changes made during an admission to hospital

In both primary and secondary care:

- The number, type and clinical outcome of reported medication incidents that could have been prevented by effective medicines reconciliation processes on patient admission (and discharge) from hospital.

Please note that:
Procedural and process measures are often used to indicate improvement through increased activity measured against policy and procedure. However, it is the impact measures that will indicate real improvement in patient care. When deciding on measures to use locally, be careful to include impact measures in your medicines reconciliation implementation plan.

Action planning – getting medicines reconciliation into practice:

No matter how big your organisation is, whether you belong to a large teaching hospital, a GP surgery, or a care home, developing an operational action plan for medicines reconciliation will help you to identify all of the tasks you need to carry out to achieve your objective. Within your action plan you should highlight: the people to be involved, a planned date of achievement, and a follow-up process. In addition to an operational action plan, the following points indicate the essential things you need to put in place in order to carry out medicines reconciliation:

- Agree an organisational policy for medicines reconciliation
- Define the responsibility of pharmacists and other staff in the medicines reconciliation process
- Incorporate a strategy to obtain information about medications for people with communication difficulties

Remember to incorporate impact assessment and process measures into your plan (see section 11), and give feedback on progress to everyone involved in the medicines reconciliation process.

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Please note that any examples of good practice that have been included in this document, along with additional examples and resources, can be found on the NPC's e-learning website, NPCi, at **www.npci.org.uk**

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