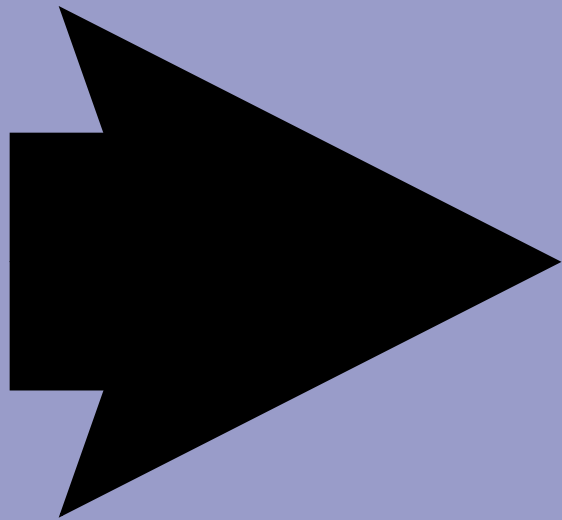


MOVING patients medicines safely



Guidance on Discharge and Transfer Planning



Royal
Pharmaceutical
Society
of Great Britain



Guild of Healthcare Pharmacists

amicus



Pharmaceutical
Services
Negotiating
Committee



Moving patients, Moving Medicines, Moving Safely

Guidance on Discharge and Transfer Planning

Prepared by

The Royal Pharmaceutical Society of Great Britain
The Guild of Hospital Pharmacists
The Pharmaceutical Services Negotiating Committee
The Primary Care Pharmacists' Association

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FOREWORD

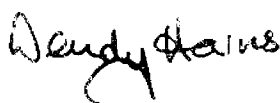
The risks inherent in discharge and the transfer of care, and particularly the failures due to poor communication throughout transfers and care hand-offs, have been described in detail on numerous occasions, and by a multitude of authors. I was therefore particularly pleased to be asked to contribute this foreword to such a comprehensive document that not only describes the failures, but that then identifies the risks and describes how these can be mitigated or prevented in pharmacy practice and more generally in healthcare provision.

Patient identification, medication and communication are recognised as the three quality indicators for patient safety. In describing a successful transfer of care or discharge, this document embraces all of these elements thereby delivering the right medication to the right patient with all responsible for the patient's care fully aware and able to participate in the collection and exchange of information, thus maintaining or supporting the safety of the patient.

It is right that this document has been produced by the pharmacy organisations; pharmacists are the true patient safety advocates and may provide the one barrier to failure in the discharge or transfer process. However, for this to be successful, pharmacists themselves need to communicate and share information, and this is clearly demonstrated by the examples of good practice contained within the document.

System design and new technologies can contribute to improving the patient experience of their discharge or transfer to another care location or care team, whilst medicines management services serve to reduce the risks to patients. Bringing these elements all together in a consistent high quality service must be one of the most important challenges for pharmacists today.

I congratulate the authors and encourage every pharmacist to use this guidance, and move patients and their medicines safely.



Wendy Harris
Head of Safety Solutions
National Patient Safety Agency

EXECUTIVE SUMMARY

This document aims to help multidisciplinary teams maximise good practice and minimise the risks for patients associated with their medicines, in the transfer and discharge process. It provides practical guidance in developing systems to tackle discharge and transfer problems between different settings and is based on experiences and evidence available, including examples and paperwork from existing schemes.

- The prescribing of a medicine is probably the most common intervention made by healthcare professionals. However, even when used correctly, medicines can be associated with the risk of an adverse event, side effect or interaction.
- This risk is heightened when patients transfer from one setting to another - from home to hospital, from one hospital ward to another, from hospital to intermediate care, a care home or to their own home.
- Section One, **Introduction and Background** provides an introduction to some of the issues relating to medication when patients transfer between settings. It also provides an overview of current NHS policy relevant to medicines use.
- When a patient is discharged from hospital and communication between hospital and primary care is delayed, it has been demonstrated that within a short period of discharge, patients' medication shows discrepancies from what was intended.
- Poor compliance or unintended changes to medication regimens can jeopardise treatment, and increase the risk of re-admission to hospital. Potential interventions which can help to decrease these risks and to improve the handling of medicines at transfer include drug history taking at admission, medication discharge summaries, pharmaceutical care plans, patient counselling and re-engineering of pharmacy systems.
- Section Two, **Research Evidence** highlights the principle research studies which have looked at communication about medicines between secondary and primary care when a patient is discharged, the consequences of poor communication, and research into the potential interventions to improve the situation. Each element includes a summary of the key messages. Fuller details are provided in Appendix 3.
- Section Three, **What To Do** concentrates on what a service designed to maximise effective admission, transfer and discharge should look like, and the steps an organisation can take to achieve a successful service. The section also includes templates for the self-assessment of readiness, and for the development of an action plan
- Further examples of good practice, provided by organisations across the UK, are contained in the **Appendices**, along with examples of documentation which can be adapted for local use.

The document has been developed by a group of national pharmacy organisations; the Royal Pharmaceutical Society of Great Britain (RPSGB), Pharmaceutical Services Negotiating Committee (PSNC), Primary Care Pharmacists' Association (PCPA) and Guild of Healthcare Pharmacists (GHP), informed by the outcome of a joint advisory meeting of key multidisciplinary stakeholders.

The policies highlighted in this document relate mainly to England, although in many cases equivalent documents exist in Scotland and Wales. However the principles are appropriate to practice in all areas of the UK.

*PCO will be used throughout this document to refer to Primary Care Trusts, Care Trusts, Community Health Partnerships and Local Health Boards.

AIMS OF THE GUIDANCE

It is recognised that when patients move from one setting to another there is considerable potential for things to go wrong in relation to their medicines.

The aim of this guidance is to maximise good practice and minimise the risks associated with medicines during the transfer and discharge process. It is intended that the principles will be applicable to transfers between many different settings, including wards within one building, from an acute ward to a care home or intermediate care centre, to a hospice, or when a patient is admitted to hospital or discharged to their own home.

The objectives of this guidance are:

- To raise awareness of patients' experiences with medicines and discharge
- To identify the principles of good practice and illustrate these principles with examples
- To develop strategies and identify standards based on best practice and the available evidence
- To make recommendations to reduce the risks of incidents with medicines for patients moving between different care settings, and in particular patients being discharged from acute hospitals.

A group of national pharmacy organisations; the Royal Pharmaceutical Society of Great Britain (RPSGB), Pharmaceutical Services Negotiating Committee (PSNC), Primary Care Pharmacists' Association (PCPA) and Guild of Healthcare Pharmacists (GHP) have come together to develop this guidance for pharmacists and others about how to minimise the risk of medicine incidents for patients transferring from one care setting to another.

Development of the guidance was informed by a joint advisory meeting of key multidisciplinary stakeholders held in October 2003, which involved representatives from patients' groups, other healthcare professionals and the Department of Health's Change Agent Team. A list of participants can be found in Appendix 1.

INTRODUCTION AND BACKGROUND

INTRODUCTION

Taking any medicine is an inherently risky business.

Even when medicines are used correctly, there is the chance of an adverse event, side effect or drug interaction occurring. When, for whatever reason, medicines are used incorrectly, the risk to patients may be increased. Patients are particularly vulnerable to things going wrong with their medication when they are being transferred from one setting to another, especially when leaving hospital following an episode of in-patient care.

There are many ways in which pharmacists, and other healthcare professionals, can use examples of good medicines management practice to improve patients' experience and to minimise the risk to patients following transfer or discharge from one sector to another. Effective systems for medicines management and planning transfers, in hospitals and between other settings, can reduce delays at discharge, minimise risks with medicines, and increase patients' knowledge of their treatments. These measures facilitate better medicines management of patients at home, and reduce the number of patients being readmitted to hospital due to medicines related problems.

The need for consistent high quality practice around discharge and medicines usage is acknowledged by many. Engaging pharmacists and others with experience of medicines and discharge is essential when developing strategies to improve patient experience and reduce risks with medicines and discharge arrangements. Practitioners and experts have been engaged throughout the development of this guidance, to ensure the recommendations are mindful of current best practice and take a pragmatic approach.

MEDICINES ASPECTS OF THE PATIENTS JOURNEY

Medicines are involved at almost all stages of the patient journey. Examples of a patient journey include:

- home to hospital
- home to care home or hospice
- home to day centre
- hospital to home
- hospital to care home or hospice
- ward to ward in hospital
- hospital to hospital
- care home to home
- care home to care home

The principles of good medicine practice on transfer or discharge will apply to all these situations. However, on admission to, and discharge from, hospital there are potentially more factors which can lead to difficulties.

Figure 1 - Common Medicines Related Problems during the Patient Journey

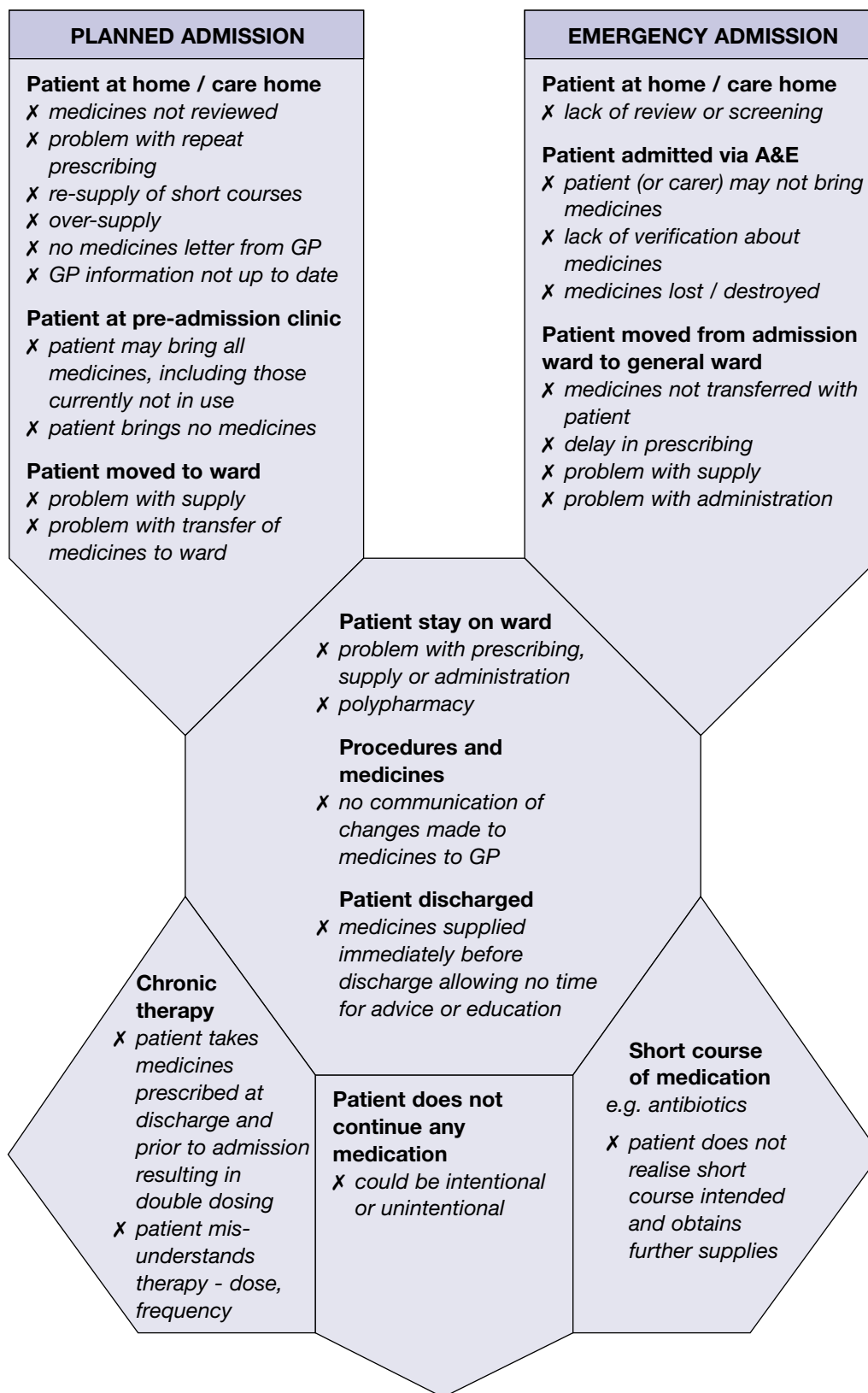


Figure 1 summarises the two main routes to hospital admission, hospital stay and hospital discharge together with the well known problems that occur during the journey. These have led to practical examples of good practice designed to overcome these problems. The Hospital Pharmacy Group has issued guidance on good practice during discharge¹ (see Appendix 2).

Medicines that patients take home at discharge fall into the following broad groups:

- regular medicines started before the hospital admission
- replacement regular medicines - resulting from changes to routine prescription whilst in hospital
- additional regular medicines - those that have been added during the hospital stay and will be required as on-going treatment
- short term medicines directly related to their hospital stay e.g. post-operative pain relief or antibiotics to treat or prevent infection

The medicines that a patient is given to take home with them may be a different brand or in a different manufacturer's packaging from the ones that they are used to. In hospital, medicines tend to be prescribed and labelled generically (by the chemical name) rather than by brand name. Conversely, the brand name is still used for approximately one quarter of prescriptions written in primary care.² The patient's medicines may also be changed. Many patients will still leave hospital with only 7 days supply of medicines even though research has shown that discharge letters can take up to three weeks to get from the hospital to the patient's GP.^{3,4} The outcome can be inappropriate changes to medication in the weeks post-discharge which may contribute to ongoing morbidity and lack of health gain for patients.^{5,6}

Table 1 - Examples of Problems during Transfer

X	Patient transferred from psychiatric unit to care home. Consultant letter has been written so far in advance that medication has since changed
X	Patient discharged from hospital to a care home which is out of the area of the patient's GP and patient lists of local GP practices are full. Registration with a GP practice has to be arranged by the PCT and this takes some time. Hospital staff are not aware of this so an insufficient supply of medicines is given to last until a further supply can be obtained.
X	Emergency admission of patient to care home occurs under intermediate care arrangements. No medicines or prescription are received with the patient.
X	Patient who lives alone is discharged home from hospital but needs assistance to take medicines to avoid potential readmission from medicine related problems. However none is available
X	Patient is transferred from a specialist hospital to the local hospital. No medicines are sent with the patient as staff assume the receiving hospital will be able to supply them. Patient arrives at the hospital late afternoon but the medicine chart is not written up until after the pharmacy is closed. The ward does not have all the medicines. The pharmacy does not have one of the specialist medicines.
X	Patient is transferred from one ward to another in the same hospital. No medicines are sent with the patient but the receiving ward does not stock all the medicines and nothing is done until the next pharmacist visit.

Unfortunately these messages are not new – there has been published research for more than 10 years outlining the problems and highlighting the good practice that can minimise them.

In order to improve the patient journey, it is necessary to understand where breakdowns and problems occur. In addition to the particular medicines prescribed, both the care setting, and specific patient groups, will have associated risks. Combinations of medication (poly-pharmacy) and illnesses (co-morbidities) add to the complexity of the case and potential severity of any resulting problems.

Pharmacists are experts in managing the risks of medicines and helping patients to get the best from their treatment. It is hoped that all practitioners will use this resource to enable local service providers and commissioners to improve the quality of care for patients being transferred between different settings. It is designed to support pharmacists and other members of the healthcare team in developing best practice in the medicines aspects of discharge planning and to reduce the risks associated with medicine use.

THE POLICY CONTEXT

In recent years, numerous reports and documents, published both by the NHS and other organisations, have highlighted the need for improvements to the discharge arrangements for patients. Improvements to discharge systems would bring significant benefits for patients and their carers.

The UK Health Departments' NHS Plans

*The NHS Plan*⁷ launched in July 2000, set out an ambitious modernisation agenda for health and social care, and was followed in June 2004 by *The NHS Improvement Plan*⁸ which set out the key commitments for the four years to 2008. A number of references within the document relate to discharge and medicines use, including the development of intermediate care schemes, timely discharge to appropriate settings, the need to plan the patient's pathway from start to finish, and extended prescribing, supply and administration roles including patient group directions (PGDs), electronic prescribing and medicines management. Equivalent documents were also published in Scotland⁹ and Wales¹⁰ containing similar messages.

Various policy documents have used the available research to identify existing problems and possible solutions. These have highlighted medication issues in the context of broader policy areas. *The NHS Plan* underpins all policy documents issued since, which include documents relating specifically to discharge from hospital, and pharmacy and medicines use.

The Pharmacy Strategies

The generic policy commitments of the NHS plans were followed by documents setting out pharmacy's contribution to delivering the modernisation agenda in England (*Pharmacy in the Future*¹¹ and *A Vision for Pharmacy*¹²), Scotland (*The Right Medicine*¹³), and Wales (*Remedies for Success*¹⁴).

These documents share common themes in relation to four main areas of medicines management; better access to services; helping patients get the best from their medicines; re-designing services around the patient and getting the most from staff. Many challenges are clearly described in these documents including multi-disciplinary working, repeat prescription review and medication review to improve the use of medicines. They also describe methods for empowering patients, giving them more information about their medicines with the aim of supporting concordance and ensuring patients get the maximum benefit from their medicines.

The plans for developing and re-engineering services for patients highlight the patient benefits of developing pharmacy systems in hospital:

- encouraging greater use of patients' own drugs (PODs†)
- “dispensing for discharge” - dispensing original packs for use in hospital, and at discharge - to ensure smooth discharge planning

†also referred to as patients' own medicines (POMs)

- self-administration schemes for patients as a means of identifying problems with medicine taking
- strengthened communication between hospitals, community pharmacists and GPs about patients' medicines
- better medicines management including use of patient packs and greater patient information.
- greater involvement of pharmacists in clinical care rather than dispensing tasks

Such developments improve the transfer process and increase patient involvement with their medicines whilst in hospital, thus helping to minimise risks with medicines for patients once discharged from hospital.

Contractual Framework for Community Pharmacy

In April 2005 a new contractual framework for community pharmacy (nPhS) was introduced. It supports an extended role for pharmacies, providing a wider range of convenient, accessible services which improve choice for patients and help take pressure off other healthcare areas. It will enable community pharmacies to contribute to NHS service provision for patients in four major areas; self-care, management of long-term conditions, public health and improving access to services.^{15,16} It will also allow pharmacies to build on their existing relationships with patients and customers.

The framework includes three categories of services:

- **essential services** - which must normally be provided by all community pharmacists and includes: dispensing and repeat dispensing, disposal of medication, promotion of health lifestyles, support for self care, signposting to other healthcare services and clinical governance
- **advanced services** - which require accreditation of the pharmacist providing the service and specific premises requirements. At present there is only one advanced service: medicines use review and prescription intervention service
- **enhanced services** - which will be commissioned locally by PCOs. Examples include minor ailment schemes, stop smoking services and supplementary prescribing

Prescription intervention services may become necessary where a community pharmacist identifies significant changes to medication following a hospital discharge.

Community pharmacy involvement in the discharge or admission process could be commissioned locally where it has been identified as a local need in the PCOs Pharmaceutical Needs Assessment.

The New General Medical Services Contract

The new General Medical Services (nGMS) contract, introduced in April 2004, has widened the range of services available through GP surgeries, including some that would previously have involved a visit to hospital, such as diagnosis and treatment. It has also extended services for managing some conditions, such as coronary heart disease and diabetes.¹⁷

The new GMS contract is a practice-based contract between the practice and the primary care organisation thus giving the whole primary care team greater freedom to decide how to design their services to best meet local needs. In order to help GPs manage their workload more effectively practices are able to transfer some services, including out of hours care, to their primary care organisation.

The contract has a similar structure to the new pharmacy framework with:

- **essential services** - which must be provided by all practices and include: management of patients who are ill or believe themselves to be ill; management of the terminally ill, management of chronic disease
- **additional services** - which may be provided by a practice. These cover: cervical screening, contraceptive services, vaccinations and immunisations, child health surveillance, maternity services and minor surgery
- **enhanced services** - commissioned by PCOs, these are essential or additional services provided to a higher specified standard, or services not provided through essential and additional services. Categories of enhanced services include directed, local and national enhanced services (see Glossary)

Services specifically relating to care of people following discharge from hospital could be commissioned as a local enhanced service by a PCO.

A voluntary Quality and Outcomes Framework (QOF) links financial awards to how well the practice cares for its patients. Elements of the Organisational Indicators within the QOF relate to medicines.

National Service Frameworks

A rolling programme of National Service Frameworks (NSFs) was announced in April 1998, as one of a range of measures to raise quality and decrease variation in services across the NHS. The NHS Plan re-emphasised the role of NSFs in delivering the modernisation agenda for the NHS.

Eight NSFs have been published:

- Mental Health¹⁸ (September 1999)
- Coronary Heart Disease¹⁹ (March 2000)
- Cancer²⁰ (September 2000)
- Older People²¹ (March 2001)

- Diabetes^{22,23} (December 2001, November 2002)
- Children, Young People and Maternity Services²⁴ (September 2004)
- Renal Services^{25,26} (January 2004, February 2005)
- Long Term Conditions²⁷ (March 2005)

Although there are few specific mentions of medication at discharge in the National Service Framework for **Mental Health**²⁸ the themes of discharge planning and the need for effective medicines management are recurrent through the report and the specific risks associated with discharge of mental health service users are described. Similar principles apply to the National Service Frameworks for **CHD** and **Diabetes**.^{19,29,30}

A significant element within the National Service Framework for **Older People**²¹ concerns the relationship between older people and their medication, and the intention of the NSF is to ensure that all older people are able to gain maximum benefit from their medication, and do not suffer unnecessarily due to excessive, inappropriate or inadequate consumption of medicines. The main NSF document is accompanied by *Medicines and Older People*,³¹ which describes how the use of medicines for and by older people can be improved. The document highlights a number of issues that are of particular relevance to discharge planning.

The document also highlights the need for intermediate care providers to access and meet the medicines-related needs of older people in rehabilitation services. In 2002 the RPSGB published a report highlighting the contribution that pharmacy can make to the effectiveness of intermediate care services.³²

Recognising the importance of medicines as part of a comprehensive management package, the National Service Framework for Children, **Young People and Maternity Services** includes a standard on the use of medicines in children.³³ This highlights the following issues that are relevant to discharge planning particularly the specific challenges associated with the use of sophisticated treatments in the home, the problems associated with medicines needing to be administered in different settings such as schools or nurseries, and the need to involve children, parents and carers in decisions about medicines to increase the chance of medicines being taken as prescribed.

The National Service Framework for **Renal Services**^{25,26} is accompanied by a separate document which offers a resource on the specific medicines management issues relating to the treatment of people with renal disease.³⁴ This highlights that despite the serious potential consequences of not taking medicines as prescribed, non-compliance in people with established renal failure is high. Self medication schemes are seen as providing an opportunity to assess the individual's ability to take medicines before discharge, encourage compliance and improve patient and kidney graft survival.

The National Service Framework for **Long-term Conditions**²⁷ focuses on people with neurological conditions, although the principles it contains can be applied to anyone

living with a long-term condition, for example arthritis and diabetes. This NSF, along with the Renal and Diabetes NSFs are supported by a resource document³⁵ which focuses on the wider aspects of medicines management and includes areas for improvement, tools to achieve improvement and a framework for action. This includes a chapter on joined-up care, emphasising the importance of effective communication and information-sharing.

Key Messages:

- patient's own medicines should be used wherever possible ^(11,21,35-38)
- patient medication should be dispensed for use in hospital using original packs which can then be taken home ("one stop dispensing" or "dispensing for discharge") ^(11,12,35,39-41)
- patients should be encouraged to self-administer medication whilst in hospital ^(11,12,34,35,42-44)

"Discharge from Hospital" Workbook

In 2003 the Health and Social Care Change Agent Team launched a workbook to provide guidance and practical tools to improve the process of discharge planning.⁴⁵ The workbook highlights that the key principles underpinning effective discharge and transfer of care are:

- discharge is a process which needs to be planned from the earliest opportunity
- the process needs to be co-ordinated by a named person
- staff need to work within a framework of integrated multi-disciplinary and multi-agency team working to manage all aspects of the process.

The workbook highlights medicines management as one of the factors supporting good discharge arrangements, which need to start at admission. An appendix focuses on medicine management and summarises many of the common problems at patient discharge, such as patients inappropriately reverting to pre-admission medication and discrepancies in prescribing post-discharge. The report highlights common problems with medication which are shown in Table 1.

Table 2 - Common medication problems following discharge

- patients view their hospital medication and home medication as different and may take both, thus taking double doses of some medicines
- when home, patients inappropriately revert to their pre-admission medication
- repeat GP computer prescriptions following discharge are not always up to date with the revised hospital medication plan
- GP discharge letter arrives at practice after repeat prescription has been issued
- lack of communication between hospital and patient's community pharmacist

An action plan for medicines management recommends a review of communication between secondary and primary care, including the community pharmacist, and gives suggestions for service redesign. Practical examples of what has been successful are described, including the introduction of pharmacists writing both discharge prescriptions and discharge letters about the patient's medication giving a full medication profile and details of changes made to medication during the patient's hospital stay.

“Achieving Timely Simple Discharge” Toolkit

In 2004 the Department of Health launched a toolkit⁴⁶ aimed at the multi-disciplinary team which focuses on the practical steps health and social care professionals can take to improve discharge. It includes practical advice, factsheets and case studies aimed at the 80% of patients discharged to their own home with simple on-going health needs.

The toolkit highlights that discharge should be a process which happens evenly across all days of the week, rather than in large numbers on Fridays, and that in many hospitals it needs to occur earlier in the day before the peak demand for admissions. These recommendations will have implications for the way in which pharmacy services are organised. The toolkit also includes a factsheet about medicines management and the role of the clinical pharmacist.

National Audit Office Report on Discharge

In February 2003 the National Audit Office published a report into the problem of delays in the discharge of older people from acute hospitals.⁴⁷ The report noted that although hundreds of thousands of older people are successfully discharged from hospital each year, on any given day more than 4,000 people over the age of 75 remain there despite being declared fit to leave.

The report highlights a range of causes, including poor procedures within hospitals around handling discharge effectively, inadequate co-operation between the health and social care sectors, and a lack of capacity in appropriate post-hospital care.

Key findings included

- delays in starting discharge planning until during the patient's stay in hospital, even for planned admissions
- delays in making medicines available for patients to take away
- hospital pharmacists often receive little warning of discharge
(in only 44% of cases was a pharmacist involved in the decision about the date of discharge)

Audit Commission Report - “A Spoonful of Sugar”

In 2001 the Audit Commission published a report into medicines management arrangements in hospitals,⁴⁸ which highlighted that improved medicines management

is needed to underpin many of the specific objectives set out in the *NHS Plan* and its Welsh equivalent, *Improving Health in Wales*.¹⁰

The report acknowledged that medicines are a central component of healthcare, but found that their use is not always optimised, leading to poorer quality care for patients and higher costs. It noted that the inappropriate use of medicines have many adverse effects, including that medication errors happen too often and their effect on patients and on NHS costs can be profound; that many patients do not take their medicines as recommended when they leave hospital; and that a large proportion of the £90 million worth of medicines that are taken each year into hospital by patients are thrown away. The report also highlighted the requirements of European Community Directive 92/27,⁴⁹ one of the key drivers behind the introduction of original pack dispensing, that medicines supplied to patients should include a patient information leaflet and be labelled with the product's batch number and expiry date.

The report considered the risks associated with medication usage, process redesign and information technology solutions available to reduce errors, the strategic challenges that need to be overcome and made recommendations for a way forward. It recommended redesigning services around patients' needs, ensuring the optimal use of increasingly powerful medicines.

These recommendations included:

- taking patients' medication histories on admission
- the use of patients' own medication in hospital
- using original packs to dispense medication only once
- encouraging patients to self-administer while in hospital
- development of a whole-systems approach to managing medicines results in improved quality and reduced costs.

A Spoonful of Sugar highlights the contribution that the use of patients' own drugs, self administration schemes, and medication review at admission can make to reducing the number of errors with medicines.

The issue of medicines management within acute trusts was also highlighted by the second edition of the self-assessment framework for *Medicines Management in NHS Hospitals*⁵⁰ which NHS Trusts were required to complete in 2003. The Healthcare Commission is reviewing medicines management as part of its acute hospital portfolio during 2005/06. This includes aspects relating to medicines at discharge and service redesign. Further information can be found on the Healthcare Commission website (see Useful Websites).

“Reducing Burdens in Hospitals”

In July 2002 a joint Department of Health and Cabinet Office report⁵¹ identified forty practical outcomes to free up time for front-line staff to concentrate on delivering care.

The report reinforced the need for sharing and spreading best practice in medicines management and in particular re-engineering services around patients through self administration, use of patient's own drugs and dispensing for discharge.

Key Messages:

- significant quality improvements for patients and reduced costs can be achieved if medicines are managed across the whole health economy⁽⁵²⁾
- pharmacy should be routinely involved in the decisions about discharge and medicines should be made readily available for patients to take home with them^(45,47)
- assessment and planning for discharge should start before a patient's stay in hospital if possible^(45,47)
- carers should be consulted prior to discharge and receive a copy of the discharge plan^(33,45,47)
- re-admissions should be used as an indicator of problems with hospital discharge procedures, or poor quality services⁽⁴⁷⁾

“Building a Safer NHS for Patients”

The Government set out its plans for promoting patient safety in *Building a Safer NHS for Patients*⁵³ following the publication of the report *An Organisation with a Memory*⁵⁴ and commitments in the *NHS Plan*.

Four specific risk areas were targeted for action, including:

- by 2005, reduce by 40% the number of serious errors in the use of prescribed medicines

The report identified that various forms of medication error comprise a large category of events which pose a threat to patient safety, and that patients can be seriously harmed as a result. It also concluded that most serious incidents occur as a result of mistaken administration of the wrong drug.

The Chief Pharmaceutical Officer published a report looking specifically at medication safety in January 2004.⁵⁵ The report highlighted the risk of medication errors arising at “handover points” within the healthcare system and stressed the critical importance of communication when patients are moving from one care setting to another.

The National Patient Safety Agency (NPSA) was created in July 2001 to co-ordinate the reporting of, and learning from, mistakes and problems that affect patient safety within England and Wales. It is involved in collecting and analysing information about patient safety incidents, feeding back lessons which can be learnt from them, and ensuring that where risks are identified work is undertaken to produce solutions to prevent harm. Elements of their work have related to medicines usage including the issue of oral methotrexate where the risk of errors can be particularly high at the time of transfer between secondary and primary care.⁵⁶

The new contractual framework for community pharmacy requires pharmacies to maintain logs of patient safety incidents, including all stages of the medication process, i.e. not just dispensing errors. Incidents will be reported anonymously via the

National Reporting and Learning System (NRLS) to the NPSA. It is anticipated that the majority of community pharmacies will report through their PCOs local reporting or risk management system or via the eForm available on the NPSA website. A quick reference guide is available.⁵⁷

“Creating a Patient-led NHS”

*The NHS Improvement Plan*⁸ set out the way in which the NHS in England and Wales would become truly patient-led. Published in March 2005, *Creating a Patient-led NHS*⁵⁸ offered a description of some of the major changes underway and how they will be carried forward to transform the NHS. Key themes are covered below.

Patient Choice

*Building on the Best - Choice, responsiveness and equity in the NHS*⁵⁹ builds on foundations set out in the NHS Plan in creating a patient centred service. It addresses how to make choice a part of the overall patient and user experience, making the NHS more responsive to patients and users, in all areas of care. The key themes are:

- giving people a bigger say in how they are treated
- access to a wider range of services in primary care
- increased choice of where, when and how to get medicines
- enabling people to book appointments at a time that suits them, from a choice of hospitals.
- widening choice of treatment and care, starting with greater choice in maternity services and over care at the end of life.
- ensuring people have the right information, at the right time, with the support they need to use it

“Choose and Book”

From 2006, patients needing elective treatment will be offered a choice of four or five hospitals once their GP has decided that a referral is required. These could be NHS Trusts, treatment centres, or practitioners with a special interest operating within primary care, and may not be local to where they live. By 2008, private organisations which can deliver services to NHS standards at the NHS tariff will be able to apply to be included in the list of options offered to patients.⁵⁸

As well as choosing where they go, patients will be able to choose when, via a national electronic booking programme. In the meantime, by August 2004, all patients waiting longer than six months for an operation will be offered a choice of an alternative place of treatment.

Health Outside Hospitals

A White Paper on health outside hospitals is expected to be published towards the end of 2005. This will build on the results of a public engagement exercise which will

seek the views about the future of all NHS services provided outside hospitals including GP surgeries, walk-in centres and social and community care.

Changes to the organisation of the NHS to support these principles were announced in *Commissioning a Patient-led NHS*⁶⁰ which heralds a reduction in the number of PCOs and SHAs. PCOs will become purely commissioning organisations with their current provider functions moving to other bodies, and there will be faster implementation of practice-based commissioning. The range and geographical distribution of organisations involved in a patient's care are likely to increase over the next few years as a result of these changes.

Practice Based Commissioning

The concept of individual practices holding an indicative budget was first raised in the 1997 white paper, *The New NHS*.⁶¹ *The NHS Improvement Plan* indicated that from April 2005 GP practices who wish to do so will be given indicative commissioning budgets. This is seen as a first step towards the development of a range of ways in which practices can become involved in commissioning.^{62,63} Full implementation of practice-based commissioning is expected by the end of 2006.⁶⁰

Coupled with Patient Choice, better management of Long Term Conditions and Payment by Results, Practice Based Commissioning (PBC) is seen as an important tool towards achieving:

- a greater variety of services, from a greater number of providers in settings that are closer to home and more convenient to patients (plurality)
- increased support of clinician-to-clinician dialogue about improving and developing care processes.
- early and continuing involvement of practitioners in service development
- an additional set of levers to aid demand management.

Patients exerting choice over where they want to be treated, and the development of new and innovative models of provision will lead to patients receiving treatment in settings both geographically further from their homes and outside the NHS. This will have implications for communication about medicines, including between hospitals and primary care professionals in different areas, and between the NHS and private sector providers.

Long-Term Conditions

The increased incidence of long-term conditions such as diabetes, asthma, arthritis, heart failure, chronic obstructive pulmonary disease and dementia, presents a huge challenge to the NHS. Improving care and service for people with such conditions will have not only an impact for the individual, but also a beneficial impact on secondary and emergency care, and positive implications for social care.⁶⁴ Half of all bed-days are accounted for by less than 3% of medical conditions, most of which are chronic diseases, and 5% of inpatients account for 42% of overall inpatient days.⁶⁵

The NHS is committed to improving services for patients with long-term conditions (also referred to as chronic disease management). Support for people with long-term conditions falls into three categories:

- **Level 3: Case management** - the most vulnerable people, with highly complex multiple long term conditions, requiring active and specialist care from a key worker (often a nurse)
- **Level 2: Disease-specific care management** - people who have a complex single need requiring specialist services using multi-disciplinary teams and disease-specific protocols and pathways, such as the National Service Frameworks and the Quality and Outcomes Framework.
- **Level 1: Supported self care** - individuals and their carers who require help to develop the knowledge, skills and confidence to care for themselves and their condition effectively.

Research has shown that a targeted approach and more effective management in the community can prevent inappropriate admissions, cut length of stay in hospital and other care settings and improve patient experience and outcomes. A flexible model for supporting people with long-term conditions has been produced for use by the NHS and social care.⁶⁶ Pilot work into the case management approach has shown reductions in hospital admissions of between 10% and 20% and reductions in the length of stay of between 20% and 30%. More than 3000 community matrons are being appointed to use case management techniques to care for the most vulnerable group of patients.

Pro-active disease management can make a real difference to patients with a single condition. Implementation of the NSFs is already demonstrating that this approach can have a radical impact on outcomes for patients, producing better health outcomes, slower disease progression, reducing disability, ensuring better management of the sudden deteriorations often associated with long term conditions and reducing the need for admission to hospital.

Self-management programmes are designed to reduce the severity of symptoms and improve confidence, resourcefulness and self-sufficiency. The Expert Patient Programme (EPP) has been central in spreading good self care and self management skills to a wider range of people with long term conditions.⁶⁷ The programme provides group-based, generic training and is delivered by a network of trainers and volunteer tutors all living with long term conditions themselves. The EPP will be made available through all PCOs by 2008.⁶⁸

Local Delivery Plans

In July 2004 the Department of Health published National Standards, Local Action⁶⁹ setting out the planning framework for the financial years 2005/06 to 2007/08. This builds on Standards for Better Health⁷⁰ the new performance framework for the NHS, which sets out the quality all organisations providing NHS care will be expected to meet or aspire to. This planning framework contained fewer national targets than the

previous three-year planning cycle⁷¹ to create the opportunity for PCOs to set local targets in response to local needs and priorities.

Health services are expected to plan over a three year period knowing the resources that will be available to them during that time.^{72,73} Locally PCOs are required to develop a Local Delivery Plan (LDP), in partnership with other NHS bodies and local authorities. This should set out annual trajectories to ensure delivery of national targets, as well as outline their plans for local targets.

The delivery of effective discharge planning is fundamental to the achievement of a number of LDP targets.

Table 3 - Relevant LDP Targets

Target	Comment
<i>Patient / User Experience</i>	
Reduce to four hours the maximum wait in A&E from arrival to admission, transfer or discharge	
Achieve a maximum wait of 6 months for inpatients by December 2005	Minimising the time taken to obtain discharge medication will contribute to beds being available when required
Delayed transfers of care to reduce to a minimal level by 2006	
<i>Access to Services</i>	
To ensure that by 2008 no-one waits more than 18 weeks from GP referral to hospital treatment	
<i>Supporting People with Long-Term Conditions</i>	
Reduce emergency bed days by 5% by 2008	Effective communication between secondary and primary care can reduce the risk of re-admission

Payment by Results

Alongside the introduction of the new performance framework a new system for financial flows in the NHS was introduced in April 2005.^{73,74} The aim of the new financial system is to provide a transparent, rules-based system for paying NHS Trusts. It rewards efficiency, supports patient choice and diversity, and encourages activity for sustainable waiting time reductions. Payment is linked to activity and adjusted for casemix.

Payment by Results (PbR) will be phased over a number of years with 90% of hospital care covered by the system by 2008/09. For 2005/06 only elective care is included, with non-elective, outpatient and A&E referrals deferred to 2006/07.^{73,75}

Many of the tariff prices within PbR do not include medication, particularly low-volume high-cost medicines. There is an increased risk of fragmentation of care, while commissioners identify who should be paying for medication costs.

Medicines Management Programmes

The continuous improvement of prescribing and the use of medicines is a crucial element of healthcare, aiming to achieve optimal health gain for patients and value for money for the NHS. *Pharmacy in the Future* sets out the requirement for additional structured professional support to optimise prescribing and provide extra help to those who need it to get the best from their medicines.

To take this forward the Collaborative National Medicines Management Services (MMS) Programme was established, hosted by the National Prescribing Centre (NPC). Four waves of PCOs have now become involved with the MMS Programme, and the initiative was extended to hospital pharmacy with the launch of the Hospital Medicines Management Collaborative (HMMC) in 2004.

Three waves of HMMC sites have now become involved in the collaborative and the work includes outcome measures relevant to medicines use at the interface between care settings:

- The number of patients whose discharge is delayed as a result of problems with medicines (a reduction is an improvement)
- The number of acute medical admissions where a documented medication history review has not been undertaken within 24 hours of admission (reduction is an improvement)
- The number of wards not operating approved policies for:
 - a) the use of patients' own medicines
 - b) patients to self-medicate, where appropriate
 - c) dispensing for discharge (a reduction is an improvement)

Junior Doctors' Hours

The European Working Time Directive, which already applied to most UK employees, now also applies to doctors in training. They are now subject to an average maximum working week of 58 hours, reducing further to 48 hours by August 2009. Department of Health guidance⁷⁶ on how this requirement can be met includes the recommendation to make greater use of non-medical healthcare practitioners in extended roles, in order to reduce junior doctors' workload. Initiatives re-engineering hospital pharmacy services can support this requirement.

NHS Information Technology Agenda

The National Programme for Information Technology (NPfIT), being delivered by the new Department of Health Agency, Connecting for Health, started in October 2002 and focuses on changes to IT in the NHS that will improve patient experience. The programme has four main goals:

- electronic appointment booking
- NHS care records service (NCRS)

- electronic transfer of prescriptions
- fast, reliable underlying IT infrastructure / network

The creation of a live, interactive patient record that all health professionals can access from whatever setting is seen as the key component to ensure that all patients receive “the right care in the right place, at the right time.”

In terms of planning for transfer between different care settings this will ensure that changes made to medication are known to the GP as soon as they happen, and that healthcare staff will have direct access to up-to-date information about the medication prescribed to a patient in primary care.

RESEARCH EVIDENCE

The aim of this section is to highlight some of the research that has been undertaken in this area, to provide insight into the patient journey and medicines' risks, and the problems that can occur.

This includes an overview of the evidence quantifying the scale of the problems with medication at transfer from one setting to another; consequences and implications, and potential interventions to try and improve the situation. Further information on the studies cited can be found in Appendix 3

COMMUNICATION

A number of studies, spanning nearly twenty years, have looked at the problem of delayed communication between hospital and community when a patient is discharged from hospital.

As long ago as the mid 1980s studies showed that after discharge from hospital a significant proportion of patients contacted their GP before discharge information was received.^{3,77} Similar results were still to be found in 2001 and 2003.^{4,78}

Studies looking at the information needs of GPs have found that information about why medicines are altered in hospital was one of their biggest needs⁷⁹⁻⁸¹ and that community pharmacists often do not know that a patient has recently been in hospital.⁸²

Key Messages:

- discharge information often arrives at the GP surgery after the patient has requested continuation of treatment^(3,4,77)
- 84% of GPs “occasionally” or “never” received information about why medicines had been altered in hospital^(79,80)
- communication between secondary and primary care pharmacy should be routine practice; however only 4-5% of respondents to surveys reported that they do so^(83,84)

CONSEQUENCES OF POOR COMMUNICATION

Many authors have explored practitioners' perspectives of communication across the health care interface. In 1992, one of the first research teams to recognise the importance of poor communication at the time of discharge found that in 90% of the patients studied there was a lack of continuity between the medicines at discharge and those being taken post-discharge.⁵

A study in 1996 developed this area further by classifying discrepancies in prescribing post-discharge into those that were “intentional” and those that were “unintentional”.⁶ Unintentional discrepancies were dependent on either different labelling or supply systems or breakdown in communication between secondary and primary care.

Key Messages:

- many changes that occur to prescribed medicines after discharge are unintentional and result from different labelling and supply systems, or a breakdown in communication between secondary and primary care^(5,6)
- a small proportion of GPs and community pharmacists have positive experiences of seamless care initiatives, but pharmacists on both sides of the interface are enthusiastic to improve communication and in favour of inter-pharmacist discharge communication^(85,86)

IMPLICATIONS FOR PATIENTS

Poor compliance with medication can jeopardise treatment, and increase the risk of admission, or re-admission, to hospital. A number of studies have implicated the occurrence of adverse drug reactions with admission to hospital, particularly in elderly patients. These have shown that between 5% and 17% of admissions are felt to be drug-related.⁸⁷⁻⁹²

Recent studies have completed the “circle” between admission and discharge, identifying that between 19% and 23% of patients discharged experience an adverse event after discharge.^{93,94} It is thought that almost 60% of unplanned readmissions could be avoided by more effective action at the time of discharge.⁹⁵

Key Messages:

- potentially preventable drug-related morbidity is associated with 5 - 17% of admissions⁽⁸⁷⁻⁹³⁾
- in the region 20% of patients will experience an adverse event after discharge^(93,94)
- Ineffective discharge can lead to unplanned re-admissions⁽⁹⁵⁾

POTENTIAL INTERVENTIONS

In 1993 the Royal Pharmaceutical Society responded to findings about medication discrepancies post-discharge, and problems in communication across the health care interface, by introducing two communication forms: one to be used on admission and the other at discharge.^{96,97} However, these appear to have been little used.⁸³ Several Trusts have tried to test their own method of communicating drug-related information across the interface with variable success.⁹⁸⁻¹⁰²

Admission Drug Histories

For the majority of patients, the starting point for prescribing inpatient drug therapy is the drug history taken on admission; a task which has traditionally been undertaken by junior doctors. A complete and accurate drug history is the foundation on which discharge medication is based, supplemented by any changes to therapy in hospital.

Several studies have found intentional and unintentional discrepancies between information from a patient's GP or community pharmacist and the medication prescribed on admission, with missing or incorrect doses, omission of medicines, or medicines no longer being taken recorded on the drug history.^{103,104} In one study 39%

of discrepancies had the potential to cause moderate to severe discomfort or clinical deterioration.¹⁰⁵

A number of studies have looked at the impact of pharmacist medication histories on admission. It has been found that an admission drug history taken by a pharmacist had significantly fewer errors compared with accuracy of junior doctors.¹⁰⁶⁻¹¹³ This is likely to be because of pharmacists' broad knowledge of medicinal products, understanding of the subtle differences between different formulations and presentations, and their awareness of over-the-counter products.

Key Messages:

- Studies have found unintentional omissions and errors in 60-70% of drug histories taken on admission⁽¹⁰³⁻¹⁰⁵⁾
- Pharmacists take more accurate and complete admission drug histories^(106,107,110,113)

Discharge Summaries

Several studies have looked at providing GPs and/or community pharmacists with either a simple discharge information form, or a copy of the discharge prescription.

Both of the studies which had investigated discrepancies in post-discharge medication recommended providing community pharmacists with a copy of the discharge prescription.^{5,6} The authors of one of these studies later tested the effect of providing community pharmacists with copies of information regarding medicines prescribed at discharge.¹¹⁴

Discharge summaries hand-delivery by the patient, or their carer, have been shown to accelerate communication between hospitals and general practitioners.^{115,116} The impact of various formats of discharge summary have been investigated and generally shown to reduce the number of medication related issues that arose.^{84,117,118}

Key Messages:

- providing community pharmacists with information regarding discharge medication prevents adverse effects and pharmaceutical issues^(89,114,118,119)
- a discharge medication summary given to the patient, their GP and nominated community pharmacist reduced re-admissions^(103,120)

The Scottish Intercollegiate Guidelines Network has developed a minimum dataset for inclusion in discharge documents intended to be supplied at the time of patient discharge.¹²¹ It is not intended to replace a detailed care plan necessary to inform carers and professionals for many patients, but represents the data items seen as important at discharge.

Pharmaceutical Care Plans

A number of studies have investigated the effect of providing a pharmaceutical care service, and the use of a pharmaceutical care plan as a means of communication

between hospital and community sectors.^{86,99,122-129} Results suggest that such intervention may reduce readmissions, although some measures have not found a difference between study and control groups.

The title used for documentation needs to be carefully considered. “Pharmaceutical care plan” evokes a strong pharmacy focus that may not appeal to general practitioners. In contrast, “pharmacy discharge sheet” clearly differentiates it from the discharge medication summary and letter, giving it a clear pharmacy focus without claiming to be completely comprehensive. It is important to standardise not only the content but also the title so that everyone knows what works and what to expect.

Key Messages:

- 45% of recommendations made on care plans were acted on by the GP or community pharmacist⁽¹²³⁾
- providing pharmaceutical care plans for GPs and community pharmacists post-discharge had no effect on quality of life, satisfaction, knowledge and adherence, and re-admission to hospital within six months⁽¹²⁴⁾
- the design of the paperwork is important and should be integrated into the electronic communication process^(117,130)
- researchers have found that completion of 10 care plans per week equates to 1.1 whole time equivalent posts⁽⁸⁶⁾

Patient Counselling and Aids to Compliance

Patient’s knowledge and understanding of their medication is important in empowering patients to self-care. Various studies have considered what patients know about their medication when discharged from hospital, and demonstrated that few are aware of side effects, needed lifestyle changes, and correct medication schedules.¹³¹ Few adult patients feel that they have received a full explanation of the possible side effects of their medicines.¹³²

A number of studies have looked at the value of inpatient counselling, mainly for elderly patients, prior to discharge. Compliance has been shown to be better in the study group, who also showed lower rates of unplanned GP visits and re-admission to hospital.¹³³ Verbal counselling in combination with written information has been shown to be more affective at increasing the patient’s awareness of their medication than verbal counselling or written information alone.¹³⁴

Although large numbers of UK hospitals use reminder charts, reusable multi-compartment compliance aids, and sealed blister packs few report having any formal methods for targeting which patients should receive a compliance aid.¹³⁵ This outcome needs to be considered in the light of the suggested criteria for the provision of such aids by community pharmacists (See Appendix 4).^{136,137}

Key Messages:

- patients are often unaware of the side effects and correct scheduling of their medication⁽¹³⁸⁾
- counselling prior to discharge accompanied by written information or reminder charts were effective at improving compliance^(133,134,139,140)
- few hospitals have formal methods for targeting which patient should receive a compliance aid⁽¹³⁵⁾

Systems Re-engineering

Pharmacy involvement in the discharge process has gradually increased since pharmacists started routinely visiting wards in the 1970s, initially with pharmacists clinically screening discharge prescriptions. According to a survey of NHS Trusts undertaken in 1999, clinical screening of discharge prescriptions routinely takes place in almost three-quarters (72.2%) of hospitals.¹⁴¹ This is often supported by pharmacist discharge counselling and, in some cases, pharmacist written discharge prescriptions. At various NHS Trusts pharmacists and/or technicians start to take comprehensive drug histories at admission to ensure that the prescribed medication is appropriate from the outset. The pharmacists follow this through the admission to ensure appropriate prescribing at discharge. As the role of pharmacy technicians evolves more will become involved in these activities.

Waiting for discharge prescriptions to be written, and medication dispensed, takes time, and can delay patients being discharged from hospital. As a result various initiatives have been piloted, and implemented in full, to re-engineer hospital pharmacy services. Such schemes, often referred to as “one-stop dispensing”, usually involve the use of patients’ own drugs (PODs), so that following assessment by pharmacy or nursing staff, these can be used during the inpatient stay and at discharge. If all medicines are either available as a POD or dispensed with administration instructions, patients should not have to wait for a separate supply of medicines to be dispensed at discharge.¹⁴²

Table 4 - The Five Elements of One-Stop Dispensing

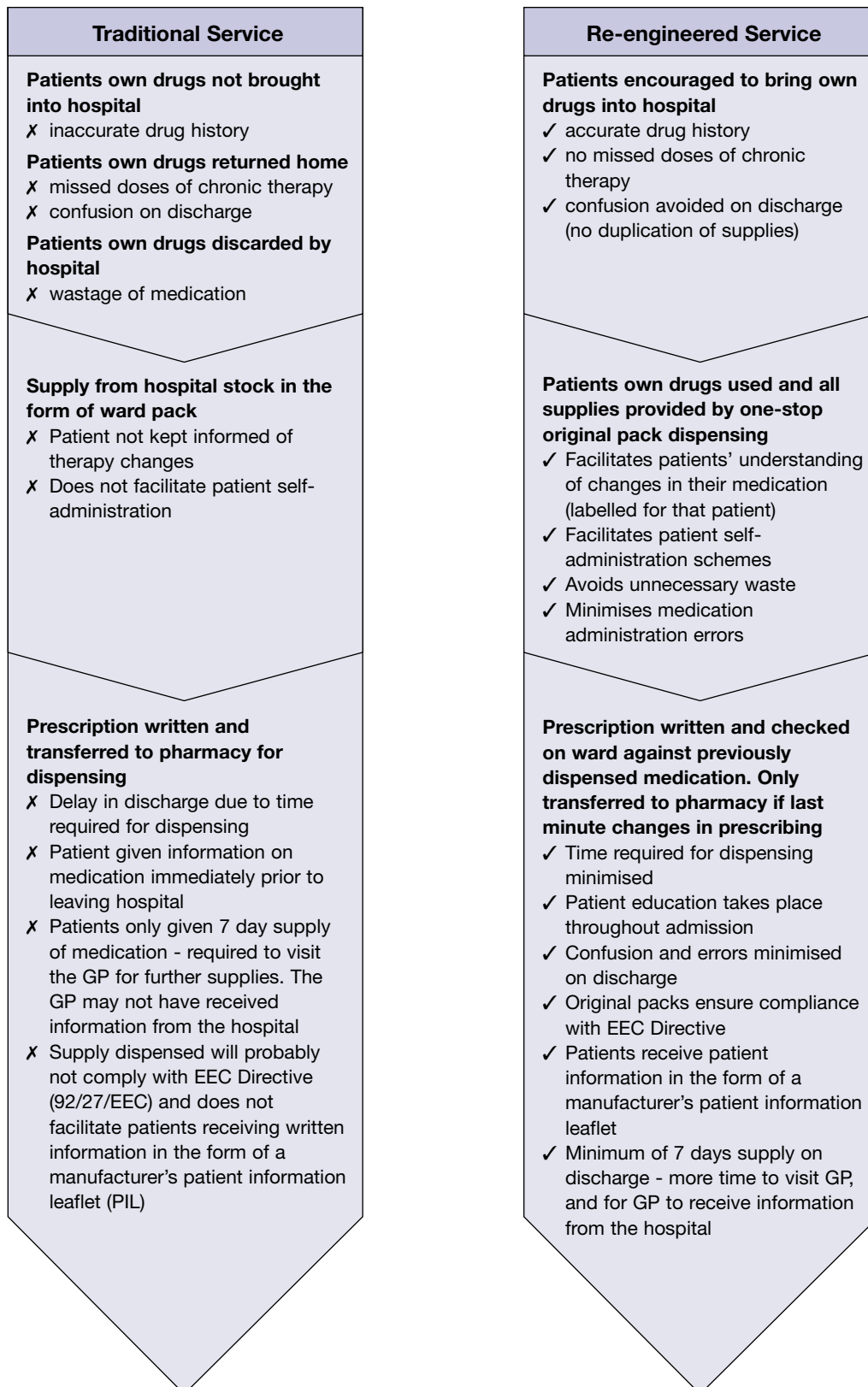
One-Stop Dispensing				
<i>Medication history taking</i>	<i>Use of Patients’ own drugs</i>	<i>Use of lockable bedside medicines cabinets</i>	<i>Dispensing inpatient medication with administration instructions</i>	<i>Counselling patients at discharge</i>

(Taken from¹⁴²)

Guidance on implementing one-stop dispensing, patients’ own drugs, and self-administration schemes has been issued by the Hospital Pharmacists Group¹⁴³ (see Appendix 5) and the potential benefits are shown diagrammatically in Figure 1.

Figure 2 - Re-engineered Patient Journey

(Source: Association of Scottish Trust Chief Pharmacists)¹⁴⁴



Patients' Own Drugs / Dispensing for Discharge

A number of hospitals have reported the introduction of dispensing a 28-day supply of medicines to inpatients, providing them with the medicines which will be used during their hospital admission, and a supply to take home. These are labelled with full instructions. Where the medicines that the patient brings into hospital with them are suitable, these patients' own drugs (PODs) will be used, rather than dispensing new supplies.^{142,145-150}

For one-stop dispensing and use of patients' own drugs to work efficiently, lockable bedside medicines cabinets are needed. Where patients are not self-administering their medicines, the key to the locker is held by a nurse who administers medicines from the locker.¹⁴³ However medicines cabinets located by the bedside may not be appropriate on wards where patients are encouraged to be in day-rooms and communal ward areas.¹⁴²

Self-Administration Schemes

In situations where appropriately labelled patient packs of medication are being used in a ward setting, self-administration schemes allow staff to confirm a patients' ability to take their medication correctly before discharge.¹⁵¹ Self-administration schemes place greater emphasis on patient education about their therapy, as medicating becomes something that the patient is actively involved in, rather than a passive process which happens to them, undertaken by a nurse.

A self-medication programme in Leeds was found to be an effective aid for improving compliance with, and knowledge of, elderly patients' medicines after discharge.¹⁵² However work in Canada has demonstrated that although self-medication improved compliance it did not improve the patient's medication knowledge more than pharmacy counselling alone.¹⁵³

Electronic Prescriptions

Generating prescriptions electronically helps to ensure that discharge information is clear and legible, with no written changes. In Lewisham both discharge prescriptions, and any amendments to the prescription by a pharmacist, can be made electronically.¹⁴⁵ A copy of the discharge prescription is electronically sent to the patient's GP via the NHSnet. Experience in Hampshire and Wirral has shown that electronic prescribing, where prescriptions are printed out immediately in the pharmacy, has improved the timeliness of discharge prescriptions.^{154,155}

Pharmacist-written Discharge Prescriptions

A national survey undertaken in 2001 identified that 36% of hospital pharmacy departments offered a pharmacist discharge prescription transcription service. However the majority of pharmacists who responded were writing less than 5 prescriptions per day.^{156,157}

The number of errors, omissions or alternations were found to be considerably lower on pharmacist-written discharge prescriptions (8%) than those written by junior

doctors (32%), and a higher proportion of PODs were considered suitable for re-use at discharge.^{118,158-160}

Non-medical Prescribing

The introduction of supplementary prescribing has provided a clearer mechanism for pharmacist-written discharge prescriptions. In Aberdeen supplementary prescribing has been adapted to suit the discharge process within a cardiac unit. Using protocols and guidelines already in place within the cardiac unit a clinical management plan was produced, which is used as the basis for supplementary prescribing. 80-90% of discharge prescriptions are now written by the supplementary prescriber ward pharmacist.¹⁶¹ The potential extension of independent prescribing to suitably qualified pharmacists will allow the discharge prescribing process to extend further.¹⁶²

Ward-based Discharge Dispensing

Some hospitals have introduced initiatives to speed up the discharge process on the ward by introducing a TTA (to take away) cupboard on the ward. This can only be accessed by pharmacy staff and is designed to enable a pharmacist to dispense simple prescriptions on the ward. In Lewisham this has been introduced on the ear, nose and throat (ENT), orthopaedic and gynaecology wards where the majority of patients are generally fit and have few ongoing pharmaceutical needs, but may require antibiotics, analgesics and preparations relevant to those specialties at discharge.¹⁴⁵ On the ENT ward this system has resulted in 90% of discharge prescriptions being ready by 10am; in the past patients often waited until late afternoon before receiving their medication.

An analysis of the impact of introducing a near-patient pharmacy service at St Thomas' Hospital found that 43% of discharge medication could be provided entirely on the ward, causing no delay to discharge.¹⁰⁶ A further 22% required only one item to be dispensed and were prioritised by the dispensary for return to the ward within one hour. It was calculated that avoiding delays in obtaining discharge medication resulted in 13 beds per day being available for the admission of new patients 4 hours earlier.

Key Messages:

- pharmacist-written discharge prescriptions result in fewer errors and a high proportion of PODs being reused^(154,155,158-160)
- ward-based dispensing reduces waiting times for discharge medication and speeds up the discharge process^(106,145,147)
- clinical screening of discharge prescriptions now routinely takes place in 72.2% of NHS Trusts, and pharmacist written discharge prescriptions in at least one-third^(141,156,157)
- in appropriate circumstances supplementary prescribing, within a relevant clinical management plan, can be used to prepare discharge prescriptions⁽¹⁶¹⁾

A limitation of existing studies is that most have been based on elderly populations, and can therefore be hard to extrapolate to a general population. For example, patients using mental health services generally have much longer stays on psychiatric units than patients on general wards. This leads to more changes in the medication regimen increasing the need for good communication, and possibly lending itself less well to one-stop dispensing practices.

Studies based on intensive interventions can be hard to reproduce without specific funding and some have “woolly” outcome measures, often based on perceptions or focus on pharmacy rather than patient. However, whilst the majority of studies have been small in scale, the overall findings produce a weighty evidence base suggesting that improved communication leads to measurable patient benefit; the involvement of pharmacists across the healthcare interface is imperative and these recommendations should be integrated with initiatives to improve electronic information transfer.

WHAT TO DO

The research evidence and examples of what is working well in practice provide a useful starting point from which to develop ideas on how to tackle discharge and transfer planning between different settings within your area.

ELEMENTS OF A SUCCESSFUL SERVICE

To maximise effective admission, transfer or discharge, and minimise the risks relating to medicines use, the evidence suggests that the following elements should be in place:

- mechanisms for effective **communication** need to be in place between all health and social care professionals involved in the care of the patient to allow planning for discharge or transfer to start as early in the admission as possible. Similar mechanisms should be in place in all long-stay situations where transfer occurs e.g. between hospital and care home.

Depending on the location of transfer, communication may need to include:

- GP
 - care home staff
 - social worker
 - hospital
 - ward staff
 - discharge or ward based pharmacist
 - primary care discharge pharmacist
 - community pharmacist
 - specialist contractor providing home care
 - pharmacy staff
- pharmacists taking a medication **history** to make sure that patients are taking the correct medication from the time that they are admitted to hospital. Information from GP and community pharmacy records will supplement information provided by patients. Where patients are admitted to a care home from their own home the current medication profile should be available from the GP at the time of admission.

The need for an accurate medication history will apply in a range of settings. Examples could include:

- ✓ on admission to hospital from home
- ✓ on transfer from one hospital to another
- ✓ on admission to a care home/hospice from home
- ✓ on admission to a care home/hospice from hospital
- ✓ on transfer from one care home/hospice to another
- ✓ on transfer from mental health unit to supported accommodation

In order to take an accurate medication history the following are needed:

- ✓ GP / hospital summary showing current medication
- ✓ patient's own medication including over-the-counter medicines

- using **patients own drugs** and **dispensing for discharge** reduce the risk of duplicate or discontinued medication being taken once the patient returns home. All medication is brought with the patient to hospital and only those which are continued are taken home again. By combining inpatient and discharge supplies, many patients now go home with at least two weeks supply.
- encouraging patients to **self administer** their medication where appropriate reinforces messages about effective use of medicines, provides opportunities for education and allows staff to assess competency. This provides the opportunity to identify patients who may require additional support to manage their medication in a community setting.

Self administration has a number of benefits:

- ✓ assesses competence at medicines taking
 - ✓ identifies need for education
 - ✓ identifies need for support with medicines at home
 - ✓ reduces nurse/carer time in hospital, care home or day centre
- **reviewing medication**, especially where there have been changes and additions to medication, will reduce the effects of polypharmacy and enable patients to take their medicines more easily without forgetting doses.
 - **obtaining prescriptions** in good time and in sufficient quantity, for the destination to which the patient is going, will allow medicines to be obtained in time for discharge or transfer and avoid patients running out in their new setting before they can obtain further supplies (see action plan below).
 - **obtaining medication in good time** will allow medicines to be available when needed for discharge/transfer. Ensure that adequate supply is available to suit the destination. For example a patient transferring to a care home for the first time may need to register with a GP which may increase the time needed to obtain further supplies of medication.
 - **verbal** counselling of patients (and where appropriate their carers) accompanied by **written discharge information**, increases medication knowledge and compliance. Mechanisms should be in place to assess when support for compliance is required (reminder cards, MAR charts, large print labels, etc) where necessary.
 - **pharmacist-written discharge prescriptions** reduces error rates and improves bed-management, allowing patients to be discharged more quickly. Pharmacists can also take the opportunity of writing the prescription to counsel patients/carers on their medication
 - for hospitals and care homes ensuring that **discharge medication summaries** are received by the patient's GP and community pharmacist before a repeat prescription is required will reduce the risk of unintentional post-discharge changes to medication. It is probably unrealistic to expect a formal discharge letter to be

prepared, typed, received by the patients' GP, and translated into changes to the GP's records before the patient presents for a repeat prescription. Faxing or e-mailing a copy of the discharge summary directly to the GP on the day the patient leaves hospital will improve the chances of information being available in time.

For transfers between other settings (e.g. one care home to another, hospital to care home, ward to ward) the equivalent information about medicines should be supplied, and should arrive before or with the patient.

Information on discharge for medical and elderly patients should include:

- ✓ a complete medication profile
- ✓ whether the drugs are to be continued
- ✓ any changes to medication from medicines on admission and the reason for those changes

For specialist and paediatric patients requiring repeat prescriptions from the GP, information should include:

- ✓ details about drug formulation and supply
- ✓ dosage changes
- ✓ licence status
- ✓ titration
- ✓ monitoring needs
- ✓ discontinuation plans

Discharge summaries should be clear and legible.

- **electronic prescriptions** make the transfer of information between the ward, pharmacy and GP practice easier. This is currently possible via the NHSnet in some areas, and will become standard practice with the introduction of the NCRS. In the future community pharmacy should have access as well.
- clear practice **protocols** within GP surgeries to make sure that information received about revised medication is updated to the patient's medical and computer records.

These need to include:

- ✓ who has authority to transcribe discharge information
- ✓ who has authority to make changes to medication as a result of discharge information
- ✓ what details need to be transcribed
- ✓ time-limits within which information should be transcribed
- ✓ training to be provided to staff undertaking this task

- **medication management** services for high risk patients ensure that they are able to continue with their medication regimen after discharge, and prevent re-admission. Direct contact with the patient's usual community pharmacist can avoid problems with usual medicines and requirements for compliance aids.

Use the self-assessment template to record your state of readiness in each of these areas.

State of readiness self-assessment template

(to be adapted locally as required)

Elements of a Successful Service	Evidence of Progress	State of Readiness			Further Actions Required
		Red	Amber	Green	
Communication					
Communication mechanisms are in place between all health and social care professionals.					
Planning for discharge or transfer starts at admission.					
Discharge from, or transfer between, mental health establishments or care homes is planned well in advance to allow medicines to be dispensed and information shared.					
For transfers from tertiary to secondary care a check is made that the receiving hospital has available all medicines that the patient is taking, or a supply is transferred with the patient.					
Medication History Taking					
Medication history taking by a pharmacist or technician is available for all admissions.					
Information from GP and community pharmacy records is routinely used to supplement patient information.					

State of readiness self-assessment template

(to be adapted locally as required)

Elements of a Successful Service	Evidence of Progress	State of Readiness			Further Actions Required
		Red	Amber	Green	
Information from GP and pharmacy records is routinely obtained prior to admission from home to a care home.					
Patients' Own Drugs					
Patients own drugs are routinely used during admission.					
Combined inpatient and discharge supplied are provided ("Dispensing for Discharge").					
Reviewing Medication					
Patients' medication is reviewed as necessary before discharge.					
Obtaining prescriptions					
Prescriptions are ordered allowing sufficient time on receipt for dispensed medicines to be obtained.					
Systems are in place to identify particular medicines or patients needing greater quantities than the normal discharge amount. Amounts ordered on prescriptions are adequate for the destination of the patient.					

State of readiness self-assessment template

(to be adapted locally as required)

Elements of a Successful Service	Evidence of Progress	State of Readiness			Further Actions Required
		Red	Amber	Green	
Obtaining transfer medicines					
Prescriptions are sent for dispensing in time to allow medicines to be available when needed.					
Self Administration					
Self administration schemes are in place.					
Staff use self administration to reinforce messages about medicines.					
Patients' competency at self administering is assessed prior to discharge.					
Mechanisms are in place to identify those who will require additional support in the community.					
Counselling and Information					
Patients receive verbal counselling about their medicines.					
Patients receive written discharge information about their medicines.					
Mechanisms are in place to assess patients needs for compliance aids and provide reminder cards, MAR charts, large print labels etc as necessary.					

State of readiness self-assessment template

(to be adapted locally as required)

Elements of a Successful Service	Evidence of Progress	State of Readiness			Further Actions Required
		Red	Amber	Green	
Pharmacist-written Discharge Prescriptions					
Pharmacists are involved in writing discharge prescriptions.					
Discharge Medication Summaries					
Mechanisms are in place to ensure that GPs receive these before a repeat is required.					
Mechanisms are in place to ensure that community pharmacists receive these before a repeat is required.					
Information on medicines for medical and elderly patients includes: <ul style="list-style-type: none"> • Complete medication profile. • An indication of whether drugs are to continue. • Identification of changes to medication profile since admission including the reason why a change has been made. 					

State of readiness self-assessment template

(to be adapted locally as required)

Elements of a Successful Service	Evidence of Progress	State of Readiness			Further Actions Required
		Red	Amber	Green	
<p>Information for specialist and paediatric patients includes:</p> <ul style="list-style-type: none"> • Details of drug formulation. • Arrangements for supply. • Dose changes. • Licence status. • Monitoring needs and discontinuation plans. <p>All discharge summaries are clear and legible.</p>					
Electronic prescriptions					
Electronic transfer of information is fully utilised.					
Surgery Protocols					
Protocols are in place to make sure that information received about revised medication is updated to the patient's medical and computer records.					
Medication management					
Services are in place to ensure that high risk patients are able to continue with their medication regimen after discharge, and prevent re-admission.					

State of readiness self-assessment template

(to be adapted locally as required)

Elements of a Successful Service	Evidence of Progress	State of Readiness			Further Actions Required
		Red	Amber	Green	
Links are in place with the Single Assessment Process (SAP).					

ACTION PLAN

There is current variability across the NHS about the way in which transfers and discharges are handled. Some element of good practice will exist in most places, but in many, more could be done to improve the efficiency of transfer and the patient's experience of the process.

It is also important to recognise that not all elements of service may be applicable in all settings. For example the use of Patient's Own Drugs (PODs) may be less appropriate in a mental health setting, where self-administration needs to be carefully considered and may only become appropriate for those patients approaching discharge. Similarly for patients with a history of recent self-harm, supply should be limited to 2 weeks or less.

1. Establish the appropriate forum for agreeing a multi-disciplinary approach across primary and secondary care to medication and discharge or other transfer settings.
 - this could be the sub-economy or PCO prescribing committee, NHS Trust drugs and therapeutics committee, a local pharmacy network, or Trust or PCO clinical governance structures.
2. Review what communication processes already exist for the transfer of information to GPs and community pharmacists at discharge.
 - are there standards in place for the time within which discharge information should be received?
 - are fax and e-mail utilised to speed up providing discharge information?
 - is the quality of the information (including legibility) currently supplied acceptable?
 - are there specific arrangements in place for unlicensed products and “specials” which may be difficult to obtain in the community?
 - if the answers are unknown, audit the current practice to identify the problem areas.
3. Review what communication processes already exist for the transfer of information to staff when patients are transferred to a care home, hospice or intermediate care centre.
 - are there standards in place to ensure that information is provided to care / nursing staff in those settings?
 - are fax and e-mail utilised to speed up providing discharge information?
 - is the quality of information (including legibility) currently supplied acceptable?
 - do patients always transfer with adequate supplies of medicines, accompanied by clear instructions?
 - if the answers are unknown, audit the current practice to identify the problem areas

4. Review the role of junior doctors, pharmacists and pharmacy technicians in taking drug histories at admission and writing up discharge prescriptions.

- could role redesign contribute to the Trust's work programme for reducing junior doctors' hours?
- are processes in place to obtain additional information from GPs and community pharmacists to supplement information from patients?
- are processes in place to ensure that, where necessary, patients receive counselling about their medication, accompanied by written information before discharge?
- are processes in place to ensure the timeliness of writing discharge prescriptions so that patient's discharge is not held up?
- could more be undertaken if the pharmacists involved were supplementary prescribers working within clinical management plans? Could independent prescribing by pharmacists be utilised in the future?
- do protocols exist for these activities?
- do pharmacy staff require additional training and accreditation for these roles?

5. Review the systems in place for use of patients' own drugs and dispensing for discharge.

- do discussions need to take place about the balance of resources between primary and secondary care to enable the supply of patients' own medicines for use in hospital and larger quantities of medication from the hospital at discharge?
- do pharmacy staff require additional training and accreditation for these roles?
- where inpatient and discharge supplies are being combined is there an agreement on the minimum acceptable quantity which must be remaining at discharge?
- do some wards need to have arrangements for ward-based discharge dispensing?
- does the dispensing of discharge medication need to be prioritised or fast-tracked within the dispensary at certain times of day?
- do protocols exist for these activities?

6. Consider how, if not already in place, the introduction of self-administration could be managed.
- what physical requirements exist, i.e. lockable bedside cabinets for storage of medication? Should these be fixed or able to move if a patient transfers to another ward? Do wards where patients are encouraged to spend their time in communal areas need a different approach?
 - what training requirements are there for nursing staff?
 - do protocols exist to enable nursing or pharmacy staff to assess whether a patient is able to self-medicate? How do these deal with a patient whose condition deteriorates?
 - what patient counselling is available to support patients to undertake self-administration?
 - what additional resources are available to support patients who are identified as struggling to manage their medication in hospital, i.e. large print or Braille labels, information sheets, medication diaries, eye drop administration aids, large closures, compliance aids?
 - how will these be seamlessly continued when the patient is discharged? Do the patient's needs meet the suggested criteria for support provided by community pharmacy for people with disabilities?
7. Consider whether there are adequate systems in place to be able to identify to their GP and community pharmacist that a patient is at high risk of medication non-compliance.
- does the assessment process for discharge include an assessment of the patient's ability to manage their medicines at home?
 - does the single assessment process (SAP) include triggers for referral for a specialist assessment relating to medication?
 - how is information communicated to the community pharmacist?
 - what ongoing medication management support is available to patients?
 - are processes in place to identify and resolve language considerations?
 - are processes in place to establish whether the patient's needs meet the suggested criteria for support provided by community pharmacy for people with disabilities?
 - are processes in place to identify where patients are receiving, or in need of, support from home care services such as prompting, supervising or administering medication? Is a social worker involved in the patient's discharge? What information do they need?

8. Consider whether information received at discharge is handled optimally at GP surgeries and community pharmacies.

- are there standards in place for the time within which incoming discharge summaries should be entered onto the practice computer or recorded in the patient's notes?
- are staff aware of the importance of handling this information quickly, and clear about whose responsibility it is to process such information?
- is there a system in place to identify patients who have been recently discharged from hospital when they request a repeat prescription?
- is there a system in place to identify patients who have been recently discharged from hospital when they present to collect a supply from a repeatable prescription?
- do protocols exist for these activities?

9. Consider what public relations activity is required to publicise the changes to patients and health care practitioners.

- do patients understand why they are being asked to bring their medication to hospital with them?
- do GPs and their staff understand why patients are being asked to bring their medication with them to hospital, or are they providing counter-advice in the belief that it will be destroyed, wasting money?
- what systems exist to enable frequent users of health services, particularly out-of-hours services, to have an up-to-date list of their medication available in their home?

Use the action planning template to help you prepare an action plan for your own organisation.

ACTION PLAN TEMPLATE

(to be adapted locally as required)

Desired Outcome	Action	Comments	Timescale	Lead
A multidisciplinary forum is responsible for issues relating to medication issues at discharge or transfer.	Identify the appropriate forum – (this could be a Trust, PCO or sub-economy wide; a prescribing, drug and therapeutics, or clinical governance committee).			
Clear communication processes exist for the transfer of information to GPs and community pharmacists at discharge.	Establish, or review, standards for the time within which discharge information should be received. Audit whether the quality of the information currently supplied is acceptable. Review the arrangements in place for unlicensed products and “specials” which may be difficult to obtain in the community.			
Clear communication processes exist for the transfer of information to staff when patients are transferred to another setting such as a care home, hospice, intermediate care centre, or another hospital.	Establish, or review, standards for the time within which information is provided to care / nursing staff in those settings. Audit whether the quality of information currently supplied is acceptable. Audit whether patients always transfer with adequate supplies of medicines, accompanied by clear instructions. Review audit results and assess the need for discharge / interface pharmacist to assist communication process.			

ACTION PLAN TEMPLATE

(to be adapted locally as required)

Desired Outcome	Action	Comments	Timescale	Lead
<p>The respective roles of junior doctors, pharmacists and pharmacy technicians in taking drug histories at admission and writing up discharge prescriptions are clearly defined.</p>	<p>Review the contribution of pharmacist-written discharge prescriptions to the Trust's work programme for reducing junior doctors' hours.</p> <p>Review the processes in place to obtain additional information from GPs and community pharmacists to supplement information from patients.</p> <p>Review the processes in place to ensure that, where necessary, patients receive counselling about their medication, accompanied by written information before discharge.</p> <p>Audit the timeliness of writing discharge prescriptions and whether patient discharges are being held up.</p> <p>Review whether clinical areas exist where pharmacist supplementary prescribers working within clinical management plans could undertake discharge prescribing.</p> <p>Review whether all necessary protocols exist for such activities.</p> <p>Consider whether pharmacy staff require additional training and accreditation for these roles.</p>			

ACTION PLAN TEMPLATE

(to be adapted locally as required)

Desired Outcome	Action	Comments	Timescale	Lead
<p>Systems are in place for use of patients' own drugs and "dispensing for discharge".</p>	<p>Reach agreement on the balance of resources between primary and secondary care to enable the supply of patients' own medicines for use in hospital and larger quantities of medication from the hospital at discharge.</p> <p>Review whether there is agreement on the minimum acceptable quantity which must be remaining at discharge where inpatient and discharge supplies are being combined.</p> <p>Review whether some wards need to have arrangements for ward-based discharge dispensing.</p> <p>Review whether dispensing of discharge medication need to be prioritised or fast-tracked within the dispensary at certain times of day.</p> <p>Review whether all necessary protocols exist for such activities.</p> <p>Consider whether pharmacy staff require additional training and accreditation for these roles.</p>			

ACTION PLAN TEMPLATE

(to be adapted locally as required)

Desired Outcome	Action	Comments	Timescale	Lead
<p>Systems are in place for the self-administration of medicines by patients, where appropriate.</p>	<p>Review the detailed physical requirements for storage of medication (e.g. lockable cabinets). Consider whether there are training requirements for nursing staff. Review whether all necessary protocols exist to enable nursing or pharmacy staff to assess whether a patient is able to self-medicate. Review the availability of patient counselling to support patients undertake self-administration. Review whether additional resources are available to support patients who are identified as struggling to manage their medication in hospital (i.e. large print or Braille labels, information sheets, medication diaries, eye drop administration aids, large closures, compliance aids). Review how the need for such aids can be seamlessly continued when the patient is discharged (consider the suggested criteria for support provided by community pharmacy for people with disabilities).</p>			

ACTION PLAN TEMPLATE

(to be adapted locally as required)

Desired Outcome	Action	Comments	Timescale	Lead
<p>Adequate systems are in place to be able to identify to the GP and community pharmacist that a patient is at high risk of medication non-compliance.</p>	<p>Review whether the assessment process for discharge includes an assessment of the patient's ability to manage their medicines at home.</p> <p>Ensure that the local protocols for the single assessment process (SAP) includes triggers for referral for a specialist assessment relating to medication.</p> <p>Review communication to the community pharmacist to ensure ongoing medication management support is available to patients. (consider the suggested criteria for support provided by community pharmacy for people with disabilities).</p> <p>Ensure that processes are in place to identify and resolve language considerations.</p> <p>Review mechanisms to identify where patients are receiving, or in need of, support from home care services such as prompting, supervising or administering medication.</p>			

ACTION PLAN TEMPLATE

(to be adapted locally as required)

Desired Outcome	Action	Comments	Timescale	Lead
<p>Information received at discharge is handled optimally at GP surgeries and community pharmacies.</p>	<p>Establish, or audit, standards for the time within which incoming discharge summaries should be entered onto the practice computer or recorded in the patient's notes.</p> <p>Ensure that staff are aware of the importance of handling this information quickly and clear about whose responsibility it is to process such information.</p> <p>Establish, or review, the system to identify patients who have been recently discharged from hospital when they request a repeat prescription or collect a supply from a repeatable prescription.</p> <p>Review whether all necessary protocols exist for such activities.</p>			
<p>Changes about handling medicines at admission / discharge have been effectively publicised to patients and health care practitioners.</p>	<p>Audit whether patients understand why they are being asked to bring their medication to hospital with them.</p> <p>Audit whether GPs and their staff understand why patients are being asked to bring their medication with them to hospital, and whether they are providing counter-advice in the belief that it will be destroyed.</p>			

This document has provided you with the principles needed to achieve safe and effective transfer of medicines when patients move from one setting to another. It is also intended as a practical guide, providing examples of what other organisations have found to be effective in supporting practice in this area (see Appendix 6). Although many of the principles relate to hospital discharge they are transferable to other settings.

The safe transfer of patients from one setting to another is a multidisciplinary process and requires co-operation between doctors, nurses, pharmacists and other healthcare professionals as well as the patient and their carers. To ensure that the transfer of medicines goes as smoothly as possible, when a patient moves between settings, planning for the transfer needs to start as early in the process as can be achieved.

APPENDICES

ACKNOWLEDGEMENTS

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Maureen Baker	Royal College of General Practitioners (RCGP)
Sally Watson	British Medical Association (BMA)

GUIDANCE ON GOOD PRACTICE MEDICINES MANAGEMENT DURING PATIENT DISCHARGE

(Source: Hospital Pharmacists Group¹)

	Key outputs	Associated risks & contributing factors	Guidance on minimising risk
1.	All prescribing is reviewed prior to discharge.	<p>Inappropriate prescribing may be continued.</p> <p>Medication prescribed only for hospital stay may be perpetuated inappropriately in the community.</p> <p>Short courses may be supplied open-ended.</p> <p>Transcription errors, such as prescribing, from inpatient chart to the TTA discharge document.</p> <p>Third party suppliers involved without the pharmacy's knowledge, e.g. home care companies.</p>	<p>TTA medication summary to be written by pharmacy staff and checked by a pharmacist prior to discharge administration – e.g. reducing doses of steroids, duration of antibiotic courses etc.</p> <p>Checks to be carried out when there is transcription from the original prescription in the in-patient chart to a TTA discharge document.</p> <p>Controlled access to FP10(HP)s, e.g. be clear why they are required, log the numbers, review those written upon their return from PPA etc.</p> <p>Ensure procurement and contracting with homecare companies involve pharmacy.</p> <p>Electronic changes to be included in the process.</p>
2.	Funding problems for special items to be addressed prior to discharge.	<p>If funding is not addressed, patients may go without essential medication while Trusts argue over responsibilities.</p> <p>Similar problems could also arise with specials and unlicensed products.</p>	<p>Medicines Management Committees (MMCs) to have robust shared care guidelines in place.</p> <p>MMCs to have robust unlicensed and off-label guidelines in place.</p> <p>PCTs must agree classification of drugs so that responsibility for prescribing can be attributed appropriately.</p>
3.	All medication is reviewed prior to discharge.	<p>The quantities and labelling, if incorrect, would not provide continuity of care in the community.</p> <p>If incorrect PODs are dispensed at discharge, patients may continue with inappropriate drugs and/or formulations.</p> <p>Use of patient own lockers has occasionally revealed incorrect medication placed in locker.</p>	<p>GPs to receive discharge information ASAP.</p> <p>Patient to be made aware of the need to generate a repeat prescription.</p> <p>Written protocols to be followed as part of final discharge process.</p> <p>Ward staff training and robust procedures should be in place.</p>

	Key outputs	Associated risks & contributing factors	Guidance on minimising risk
4.	All medication is reviewed prior to discharge, but if out of hours, pharmacist & technician may not be available	Patients may be discharged with incorrect drugs, together with incorrect advice for administration.	Nurses may be delegated some tasks but will need to follow a strict protocol. All discharges should be well planned with appropriate training and planning in place. Address the issue of access to pharmacy at weekends.
5.	Symptom relief medication is reassessed for need.	PRN drugs continued when symptoms no longer apparent. PRN drugs continued for wrong reasons. Patient unaware that use of PRN drugs is self management and that patient should be advised of criteria for use.	Need to discuss with patient ongoing need for medication. Nurses should know which drugs are short-term and which are for post discharge use. A simple coding system could be used to differentiate. Records of administration to be looked at to evaluate need.
6.	Patient must be able to self administer or receive carer input.	Unable to self administer leads to uncontrolled disease and re-admission. Leads to poorly controlled disease without readmission. Leads to increased risk of side effects /interactions /ADRs. Adds to budget waste through non taking of medication.	Carer administration via social services carers. Compliance aids if appropriate for the patient's needs. There must be a support service available. Post discharge monitoring in place. Pharmacy to link in with wider discharge planning team.
7.	Communications with GP must be clear, concise and prompt.	Patient given incorrect prescription by the GP. Necessary repeat prescriptions not made available due to bad communication with the GP.	Justify drug changes including omission, addition and rationalisation in communication to GP. Ensure necessary repeat prescriptions are available. Ensure necessary monitoring is in place. All documentation to be sent directly to GP by fax, royal mail or e-mail. GPs need a system to record patients requiring drug monitoring. Patient to receive a copy of relevant documentation. Electronic changes to be included in the process.

	Key outputs	Associated risks & contributing factors	Guidance on minimising risk
8.	Where specials are needed, ordering is explained to patient and/or carer.	Breakdown in the patient's continuity of care and treatment.	Ensure continuity of treatment. Suppliers to make necessary stock available to community pharmacies. GP to be made aware of need to prescribe in good time.
9.	Community pharmacist is made aware of current regimen and / or changes.	Erroneous repeats of discontinued medication. Discharge summary to be sent to community pharmacist.	Copy of discharge summary to be given to patient.
10.	Patients to be aware of medication details & directions	If patients are unaware, they may well harm themselves by over / under dosing, by not recognising symptoms of poor control, ADRs etc	All patients to be given adequate counselling by pharmacy staff before discharge as well as relevant written information leaflets.
11.	Follow up as necessary	If some patients are not followed up, they may fail and be re-admitted to hospital or worse.	Risk assessments to be carried out (e.g. Colchester model) to ensure that high risk patients receive home follow up.

SUMMARY OF STUDIES

Communication

In 1986 a study found that, at one general practice over a three month period, more than half of the patients discharged from hospital contacted their GP before any discharge information had been received.⁷⁷ In 1988 another study, of one practice's patients discharged from their local district general hospital found that discharge letters given to the patient to deliver by hand to their general practitioner took an average of 4 days to arrive.³ By contrast 25% of the discharge summaries posted to the GP never arrived, and for those that did the average delay was 25 days.

Although problems with discharge communication have been identified for many years, studies undertaken in 2001 and 2003 found very similar problems.^{4,78} The 2001 audit of 244 discharge documents received by four general practices in Perth, found that 13% failed to record the main diagnosis or condition; only 28% provided clear follow up plans, 60% were received within 5 days of discharge and in only just over half of the cases was a typed final summary received within four weeks.⁷⁸ The 2003 study investigated faxed discharge summaries, consultant letters and discharge summaries, given to patients from two surgeries and found that, on average, it took 3 days for a discharge summary to be sent by fax, and 22 days for a consultant's discharge letter to arrive. In the majority of cases faxed discharge information was not followed up by letter.⁴

The information needs of GPs post-discharge are also frequently not met; a survey of GPs in Kent found that 84% of GPs "occasionally" or "never" received information about why medicines had been altered in hospital and this was their biggest drug information need.⁷⁹ This supported findings of an earlier study which found GP confusion over continuation of medication post-discharge, and community pharmacist examples of GPs not carrying through changes made to medication during the patient's admission.⁸⁰

As well as looking at discharge information to GPs,⁸¹ which found similar results to other studies, a research group in Bradford looked at community pharmacists' opinions about the discharge information they received⁸². Nearly 96% responded that they would not know that the patient had recently been in hospital, with 74% indicating that if informed they could make an entry in the patient's medication record to highlight this. This confirmed the findings of previous studies which had found that the majority of hospitals did not supply written information to the patient's community pharmacist.^{83,84}

A study in 1996 identified that most discharge summaries are prepared by senior house officers, and assessed their experience in preparing them.¹⁶³ The study showed that most senior house officers had received no teaching on preparing these summaries and had never received formal feedback on the quality of their summaries. Few were able to complete them during their working day - often having to complete them when on-call or in their own time.

Consequences of Poor Communication

Interviews with hospital and community pharmacists in Hampshire found that both groups had few positive experiences of seamless care initiatives (10%).⁸⁵ However, pharmacists on both sides of the interface were enthusiastic to improve communication and were in favour of inter-pharmacist discharge communication.

In 1992, one of the first research teams to recognise the importance of poor communication at the time of discharge followed 50 older patients discharged from geriatric wards.⁵ Patients were discharged with 5 days supply of medication, and written instructions, including a copy of their prescription, to take to their GP. A researcher visited shortly after their initial supply should have been finished and a further supply obtained from the GP. The authors found that in 90% of the patients there was a lack of continuity between the medicines at discharge and those being taken post-discharge. Discrepancies ranged from medicines being stopped or started, and dosage or directions being changed, to those which had originally been dispensed with specific instructions subsequently labelled “as directed”. Most of the patients had not been seen by their GP since discharge, so it was felt that the majority of the changes were unintended.

A study in 1996 developed this area further by classifying discrepancies in prescribing post-discharge into those that were “intentional” and those that were “unintentional”.⁶ In this study 50 general medical patients with 483 prescribed medicines were visited at home 1 and 6 weeks post-discharge, by which time most patients had collected a new prescription. Intentional discrepancies were identified in 104 (35%) medicines at visit one and in 15 (8%) at visit two; and 33 (11%) unintentional discrepancies at visit one and 85 (46%) at visit two. These unintentional discrepancies were dependent on either different labelling or supply systems or breakdown in communication between secondary and primary care.

Implications for Patients

In a study of elderly patients admitted to a general medical ward 14.7% of admissions were felt to be definitely or probably drug-induced.⁹¹ Another study looked at all admissions of elderly patients to five general medical wards and identified that 12% were admitted because of an adverse drug reaction.^{88,89} A large-scale study of elderly patients admitted to all hospital wards in Tayside identified 5.3% of admissions to be definitely or probably drug-related.⁸⁷

In a study which looked at admissions to a medical admission unit, 4.3% of admissions were associated with potentially preventable drug-related morbidity. This study found that in 91% of cases these admissions were related to problems with prescribing, monitoring or adherence.⁹⁰ A study in Cambridge identified that more than 10% of admissions to a medical admission ward were drug-related; 44% of these were classified as severe.⁹²

Recent studies have completed the “circle” between admission and discharge. A US study found that 19% of medical patients discharged from a single teaching hospital

experienced an adverse event within one month of discharge; many preventable and the majority relating to medication.⁹³

Another study of elderly patients discharged from a multi-site Canadian hospital found that 23% of patients had an adverse event after discharge, of which half were preventable or ameliorable, and most (72%) related to drug therapy.⁹⁴ In Nottingham a study compared 133 elderly patients who were re-admitted to hospital within 28 days of discharge, with a control group of patients who were not readmitted.⁹⁵ It was felt that unplanned readmissions were avoidable in 59% of cases and could have been avoided with more effective action at the time of discharge.

Potential Interventions

A survey in 1996, which looked at the type of information supplied by hospital pharmacy departments at discharge, found that only 4% of Trusts actually used the forms developed by the Royal Pharmaceutical Society three years earlier.⁸³ The most common reason given for not doing so was lack of time, with comments including that the form was “very time consuming and labour intensive, with lots of sections to complete.”

Several Trusts have however tried to test their own method of communicating drug-related information across the interface with variable success.⁹⁸⁻¹⁰² These studies were mainly uncontrolled intervention studies, small in scale but providing a range of interesting results requiring further exploration.

Admission Drug Histories

Both intentional and unintentional discrepancies with medication have been identified at the time of admission to hospital. A study of patients admitted to the medical admission unit in Antrim compared details of medication prescribed on admission, with information obtained from the patient's GP and community pharmacist about their medication regimen.¹⁰³ 61% had incomplete or inaccurate medication histories on admission due to missing or incorrect doses, omission of medicines, or medicines no longer being taken recorded on the drug history.

Similar results were found at a London teaching hospital where a discrepancy was found in 85% of medicines, 70% of which were classified as unintentional;¹⁰⁴ and at a clinical teaching unit in Toronto, where 45% of admissions had at least one unintended discrepancy, of which nearly 39% had the potential to cause moderate to severe discomfort or clinical deterioration.¹⁰⁵

A prospective study in Dumfries compared the accuracy with which junior doctors and pharmacists took a drug history and wrote the drug chart for 120 patients admitted to a medical admission unit.¹⁰⁷ There were significantly fewer errors in the medicines histories taken by pharmacists. The study found that an average of 30 minutes was required to take a comprehensive drug history - time that junior doctors are unlikely to have available. It went on to conclude that pharmacists are ideally placed to take accurate drug histories because of their broad knowledge of medicinal products, understanding of the subtle differences between different formulations and presentations, and their awareness of over-the-counter products.

Pharmacists in Durham used a structured protocol approach to medication review and obtaining medication histories in the setting of an acute medical ward.¹¹⁰ They found that half the patients in the study were taking non-prescription medicines, none of which were recorded by the admitting doctor, and which could be of significance following admission. This structured approach was felt to result in more appropriate prescribing, including discontinuing medicines which were no longer required or contraindicated, avoiding adverse drug reactions and tailoring therapy to individual patient's needs.

Changes to the pharmacy services provided at St Thomas' Hospital have focused junior pharmacists' activity on ensuring that admission drug histories are accurate.¹⁰⁶ During a four-month study period each drug history took an average of 10 minutes and it was calculated that an intervention was made to correct the regimen for every 18 minutes of pharmacist time.

A study at Chelsea and Westminster Hospital found that a dedicated medical admissions pharmacist made more interventions than non-designated ward pharmacists and overall, the interventions were of greater clinical significance. Confirming medication histories was shown to be important in ensuring appropriate prescribing of patients' regular medicines on admission to hospital.¹⁰⁹

Recognising the complexity of determining accurate medication histories, pharmacists in Cornwall attempted to determine the value of community pharmacy patient medication records (PMRs) in identifying and clarifying discrepancies which arose between hospital doctor and clinical pharmacist taken medication histories.¹¹¹ They found complete agreement between all three sources in only 21% of patients, with most discrepancies due to the clinical pharmacist identifying a drug not recorded in the PMR. They concluded that the reliability and accuracy of community pharmacy PMRs has to increase before they can be seen as a valuable source of data on prescribed, dispensed and OTC medication.

In Aberdeen a pharmacist has been introduced to the pre-admission clinic team run within the ENT departments.¹⁰⁸ Patients are invited to attend one to two weeks before their theatre date and have all the necessary pre-operative tests carried out. The pharmacist's role involves taking a detailed medication history, checking patients' own drugs for use in hospital, writing the inpatient medication card, counselling patients, communicating with primary care professionals as needed, writing discharge prescriptions and organising supplies for the inpatient stay. However pharmacists in Hammersmith investigated whether there were process-related medication risks linked to a pre-admission clinics, and found that 26% of patients had changes made to their medication between the pre-admission clinic and admission, and 85% had changes made between admission and discharge.¹¹²

At Northwick Park Hospital a recent study assessed the impact of a pharmacist involved on the post-take ward round on the prescribing (including drug histories), drug expenditure and medication associated risks.¹¹³ The study demonstrated that post-take ward round pharmacists can effectively contribute at the prescribing stage of admission, and that their recommendations for optimising drug therapy can decrease

costs of prescribing. As a result of the findings of this study the Trust have funded a full time pharmacist to attend daily post-take ward rounds on a permanent basis.

Discharge Summaries

A study, which tested the effect of providing community pharmacists with copies of information regarding medicines prescribed at discharge, found that for every 19 patients discharged with a copy of their discharge prescription for their community pharmacist, one discrepancy causing an adverse event could be prevented.¹¹⁴

Two studies in Nottingham attempted to evaluate ways to reduce the problems of poor communication, by providing discharge summaries to general practitioners, delivered by the patient. The first study looked at 285 medical patients, half of which were asked to deliver their discharge summary to their GP as soon as possible.¹¹⁶ The average discharge summary delivered by the patient (or carer) arrived within two days of discharge, compared with 4.5 days when sent by post. Hand delivered discharge summaries were felt to accelerate communication between hospitals and general practitioners, as well as having the potential to make savings on postage. The second study took this concept further by issuing an information card to medical patients and a copy of the card in the form of an interim discharge letter to be delivered to their GP.¹¹⁵ The card included information about admission, diagnosis and treatment, including the medication regimen at discharge.

A study in Antrim looked at 109 elderly patients with greater than 4 prescribed medications.¹⁰³ They provided a 'medication record sheet' for patients given to the patient, their GP, and their nominated community pharmacist. Along with re-use of patient's own drugs (PODs) and accuracy of admission drug history, re-admission rates were compared for this group of patients to the average for this age group. Although the study group appeared to have a lower re-admission rate than average, there was no indication that this was statistically significant.

In 1995 the Pharmaceutical Society's admission and discharge forms were piloted in Wrexham with 90 older patients.¹³⁰ The patient's community pharmacist was informed of the patient's admission and asked to provide a copy of the Patient Medication Record (PMR). On discharge the current medication was communicated back to the community pharmacist. The number of interventions made by both hospital and community pharmacists as a result of this information exchange was studied. This information exchange resulted in clinically significant interventions in 17 patients. The authors concluded that the time consuming nature, and the amount of paperwork involved would make this intervention difficult to complete on a wider scale. However the information technology which should be readily available in the near future makes this a more realistic possibility.

A study in West Yorkshire explored the feasibility of faxing a discharge letter including information about current medication, details of discontinued medication, counselling points, reason for admission and any special needs to three participating community pharmacies.⁹⁸ The sample comprised 82 patients and looked at issues that were resolved by using this information. These included 5 non-stock problems (which included medicines not routinely stocked in the pharmacy and ordered for individual

patients); 18 compliance problems; and 13 repeat medication queries, which involved differences between the first community prescription and the discharge prescription. This study was supply-focused but the discharge letter developed comprised a wide range of information for the community pharmacists.

A study in Harrogate combined pharmacist-written discharge prescriptions with the preparation of a pharmacy discharge letter.¹¹⁹ This provided information on discharge medication, including reasons for starting or changing medication during admission. These were felt, by both consultants and GPs to provide valuable information exchange.

Work undertaken in Bradford found that only about 6% of patients who were issued with a copy of their discharge medication summary and asked to show it to their community pharmacist and GP, did indeed take it to the community pharmacist.¹²⁰ However this study found that when accompanied by structured counselling (approximately 30 minutes) less unplanned visits to the GP and fewer re-admissions occurred.

A study in Scotland investigated the benefits of providing GPs and community pharmacists with a medication discharge summary for all paediatric and neonatal discharges where a repeat prescription would be necessary.¹¹⁸ This included details on drug formulation, supply, dosage changes, licence status, titration, monitoring needs and discontinuation plans. Provision of this level of information was shown to significantly reduce the number of pharmaceutical care issues that arose.

However a survey of NHS hospitals undertaken in 1999 showed that only 5% routinely sent a copy of the discharge medication to the nominated pharmacist of elderly patients, and in only 2% of hospitals were all elderly patients counselled by a pharmacist about their discharge medication.⁸⁴

Although these studies have investigated the use of discharge information forms, provided to GPs and/or community pharmacists, they do not always provide details of the form's design. Therefore the complexity of the form itself is not known. This is an important factor as there is a desire to develop a method of documentation that is clear and both easy to complete and to read. A survey of GPs' and community pharmacists' views on what information was required about drug therapy changes implemented in secondary care, and the preferred method for acquiring this information was undertaken in Glasgow.¹¹⁷ 96% of GPs and 94% of community pharmacists expressed a desire for information on the reasons for drug therapy changes, in order to facilitate continuity of patient care.

Pharmaceutical Care Plans

A study in Sunderland involved 43 elderly patients discharged from the care of the elderly wards.¹²³ Patients were counselled before discharge and a pharmacy care plan was completed for their stay; copies of which were sent to the patients' GP and their nominated community pharmacist. Patients were visited at home twice; within one week, and one month of discharge. The study looked at the number of recommendations made in the pharmacy care plan which had been acted upon by the

GP or community pharmacist. These related to avoiding re-prescribing an item, therapeutic monitoring, and container requirements. It was found that 45% of recommendations were acted upon.

A similar study in Canada involved preparing pharmaceutical care plans for 16 patients discharged from a combined surgical / medical nursing unit.⁸⁶ Patients included in the study were being discharged on medication significantly different from that in use prior to admission. The pharmaceutical care plan included information about the rationale for changes to medication made whilst in hospital, along with recommendations for future changes. The potential outcome of this intervention was assessed by an expert panel, and by obtaining the views of the GPs and community pharmacists who received the information. The views of the GPs and community pharmacists were favourable and all 9 GPs wanted to receive this information in the future. However, the study did not assess the effects of the intervention on patient outcomes or explore the patients' perspective. This study calculated that the completion of 10 care plans per week required 1.1 whole-time equivalent (WTE) pharmacist; a huge time commitment which emphasises the need to develop a time efficient method of documenting drug-related information. There is also a need to question the requirement for staff with specific responsibility for discharge, when perhaps the role of safe, appropriate and efficient discharge should form part of the ward pharmacy role.

A small randomised controlled trial in Oldham investigated the provision of a pharmaceutical care plan to GPs and community pharmacists.⁹⁹ This followed up 28 study, and 25 control-group elderly patients, post-discharge with home visits and assessed the potential consequences of interventions made by pharmacists during these visits through the use of an expert panel. Despite provision of a pharmaceutical care plan the medication of 13 study and 17 control patients was different from that on discharge because of the issue of "old" repeat prescriptions. Contact was made by the visiting pharmacist with each GP where medication was found to be different from that at discharge - all but one was restored to the discharge medication regimen. The effect of pharmacists making a domiciliary visit to newly discharged patients was assessed. It was considered that the domiciliary visit and consequent contact with the prescriber prevented a possible hospital re-admission in 14% of the study group. It was concluded that reliance on the consultant's discharge letter did not enable seamless care.

Pharmacists in Antrim and Belfast have looked at the effect of an intensive clinical pharmacy service and found that it can reduce hospital re-admission rates, save money and has a positive impact on the appropriateness of prescribed medicines. The study, which is part of the Northern Ireland Integrated Medicines Management (IMM) project is the first randomised, controlled study in the UK to assess the impact of a multidisciplinary, cross-sector process designed to improve the effectiveness of medicines usage. The project started in 2001 and more than 900 patients have been recruited. Each patient is followed closely throughout their stay in hospital, using a bespoke approach to pharmaceutical care. Preliminary results show that the length of stay has decreased by about 4 days; and re-admission rates at three and 12 months have been reduced by 11% and 33% respectively.¹²⁵⁻¹²⁸

However a recently published randomised controlled study found that home-based medication review by pharmacists after discharge was associated with a significantly higher rate of hospital admissions.^{122 253} Patients aged over 80 were recruited to the study during an emergency admission. They were visited, at home, by a pharmacist within two and eight weeks of discharge. The purpose of the visit was to educate patients and carers about the medicines, remove out-of-date medicines, and liaise with the patient's GP and community pharmacist as necessary. 281 control patients received "usual care". The trial showed an increase of 30% in emergency admissions amongst the study group. Although the exact mechanism for this result was not apparent, suggestions put forward by the authors include that patients may have adhered better to their medicines, with a resultant increase in side effects or drug interactions; or that as a result of the intervention patients had a better understanding and help-seeking behaviour.

A randomised controlled trial of 362 elderly patients who were prescribed four or more medicines investigated the effectiveness of a pharmacy discharge plan.¹²⁴ Patients were recruited from three acute general and one long-stay hospital in London. A copy of the pharmacy discharge plan, which held information about discharge medication, and medication support required by the patient, was given to the patient, their chosen community pharmacist and GP. Patients were followed up with a domiciliary visit 7 - 14 days after discharge. The effects of this information transfer were assessed through a variety of outcome measures including quality of life; patient satisfaction; patient knowledge and adherence; and re-admission to hospital within six months. No difference was seen in this study between the two cohorts for any of the outcome measures. This may have been due to the choice of outcome measures (patient satisfaction and quality of life) which may be limited.

A randomised single-blind study in Australia assessed the impact of a pharmacist transition coordinator in cases involving the transfer from hospital to a long-term care facility. The pharmacist prepared medication management transfer summaries, coordinated timely medication review by accredited community pharmacists, and organised case conferences with physicians and pharmacists. Patients who received the services of the pharmacist transition coordinator exhibited less hospital usage (emergency department visits and re-admission) than controls and better control of pain. However there were no differences observed in terms of adverse drug events, falls, worsening mobility or increased confusion.¹²⁹

Patient Counselling and Aids to Compliance

A study of 341 patients discharged from a large medical facility in Israel demonstrated that although 73% of patients were aware of the course and purpose of their medication, they were unaware of side effects, needed lifestyle changes, and correct medication schedules.¹³¹

A survey carried out by the Healthcare Commission in 2004 identified that only 39% of adult patients felt that they were given a full explanation of the possible side effects of their medicines. Nearly a quarter did not completely understand the indication of the

medicines they had taken home, while another 7% felt that the purpose of their discharge medicines had not been explained to them.¹⁶⁴

A number of studies have looked at the value of inpatient counselling, mainly for elderly patients, prior to discharge. A small study in Huddersfield investigated the effect of pre-discharge counselling by a clinical pharmacist of elderly patients on four or more items. Study group patients received approximately 30 minutes counselling; all patients received a medication and information discharge summary and medicines reminder card. Forty three study and forty control patients were followed up 2-3 weeks and 3 months post-discharge, to determine their drug knowledge, compliance, home medicines stocks and any healthcare related events. Compliance was better in the study group, who also showed lower rates of unplanned GP visits and re-admission to hospital.¹³³

A study in Leeds demonstrated that an automatically generated reminder chart was a practical and cost effective aid to compliance.¹³⁹ Work in the US highlighted that in acute care discharge counselling increased medication knowledge and compliance; however counselled patients from their rehabilitation division were no more knowledgeable or compliant than un-counselled patients.¹⁶⁵ A study which compared written information accompanied by answering patient's questions, with verbal counselling by a pharmacist, and verbal counselling by a pharmacist with written information highlighted that verbal counselling in combination with written information increased the patient's awareness of their medication the most.¹³⁴

A survey of UK hospitals investigated the provision of multi-compartment compliance aids and medicines reminder charts on discharge from hospital. The study found that medicine reminder charts, reusable multi-compartment compliance aids, and sealed blister packs were supplied by 66%, 82% and 22% of hospitals respectively. However only 16% of hospitals reported having any formal methods for targeting which patients should receive a compliance aid.¹³⁵ A systematic review has been undertaken of published randomised controlled trials of interventions to assist patients' adherence to prescribed medications.¹⁶⁶

Patients' Own Drugs / Dispensing for Discharge

The use of patients' own drugs in Southampton has been found to remove poor quality medicines from use, for example, inappropriately stored, expired or discontinued medication; and avoid duplication of therapy.¹⁶⁷

However experience in Kent demonstrated that supplying a full discharge supply for an unstable disease state could reduce the efficiency of dispensing for discharge schemes. The study also highlighted that patients were being separated from their medication during ward-to-ward transfers or due to failure to locate all of a patient's medication upon discharge. Ward-to-ward transfer documentation was recommended to try and minimise the loss of medicines in this situation.^{168,169}

A study in Manchester identified that it is important to make sure that general practitioners are made aware of such schemes to ensure that they are not seen as a means of "cost-dumping".¹⁷⁰

Self-Administration Schemes

A self-medication programme in Leeds was found to be an effective aid for improving compliance with, and knowledge of, 88 elderly patients' medicines after discharge.¹⁷¹ Patients were prospectively recruited from four wards; two of which operated a self medication programme. Ten days after discharge the mean compliance score was found to be significantly higher amongst patients in the self medication programme than amongst those who had been discharged from wards which did not operate a self medication programme.

However work in Canada demonstrated that although self-medication improved compliance it did not improve the patient's medication knowledge more than pharmacy counselling alone.¹⁵³ 107 consecutive patients admitted to a geriatric assessment and rehabilitation programme were assigned to either participate in a self medication programme or to receive standard care. Their ability to self medicate on discharge, medication compliance at 1 month and patient medication knowledge were measured. The self medication programme was shown to improve compliance but did not improve patients' morale or their medication knowledge. Cognitive factors were felt to limit patients' ability to self medicate.

Pharmacist-written Discharge Prescriptions

A study in Dartford investigated the benefits of a team-based pharmacist, working alongside other members of a medical team.¹⁵⁹ One element of this study involved the preparation of discharge prescriptions by the clinical pharmacist, following the morning ward-round. Where appropriate, discharge medication was discussed with patients at the time of writing the prescription, so that the pharmacist could provide medication counselling, assess which of the patient's own drugs were suitable for re-use and advise patients about any discontinued medication. The number of errors, omissions or alternations were found to be considerably lower on pharmacist-written discharge prescriptions (8%) than those written by junior doctors (32%), and a higher proportion of PODs were considered suitable for re-use at discharge.

Similar conclusions were found by a study in Bristol,¹⁵⁸ which demonstrated that discharge medication organised by a pharmacist resulted in a shorter time from the discharge decision to patient discharge, lower dispensing time, and greater reuse of PODs. As a result bed management improved, reductions were made in drug wastage and medical time was released. In Wigan similar results were found when pharmacists became involved in writing discharge prescriptions, which has resulted in the service being rolled-out to 8 wards.¹⁶⁰ Once the decision has been made to discharge a patient, the discharge pharmacist writes the discharge prescription, identifies which items the patient already has, and counsels the patient. Not only has the service reduced delays, but it has also improved the quality of discharge prescriptions, with a dramatic fall in error rates.

In Scotland a paediatric pharmacist-led discharge process has been shown to improve delivery of pharmaceutical care and communication of drug-related issues to GPs and community pharmacists without a significant increase in the workload of the ward pharmacist.¹¹⁸

SUPPORT FOR PEOPLE WITH DISABILITIES

(Source: Primary Care Contracting)¹⁷²

Full guidance and additional assessment documentation can be found on the Primary Care Contracting website at www.primarycarecontracting.nhs.uk/98.php.

Assessment form for use by pharmacy							
Person's name				Date of assessment/...../.....		
NHS number	.....			Is a carer present?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	
Address	..... ..... .....			How many regular carers provide support?	Paid	Unpaid	
Postcode	.....			Who organises the ordering of your of prescriptions if not the normal carers?			
Tel. Number	.....			Telephone number.....			
Date of birth	...../...../.....			Number of dose alterations made in the past three months (use PMR)			
Preferred spoken language	.....			Is there evidence of non-compliance in pharmacy PMR?			
GP's name	.....			Yes <input type="checkbox"/>			
Date of last medicines use review	...../...../.....			No <input type="checkbox"/>			
What pharmacy services are currently provided?							
If possible, complete the times a day that a carer visits you							
	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Morn- ing							
Mid- day							
Night							
Who do you give authority for the assessor to contact?					<input type="checkbox"/> GP		<input type="checkbox"/> Carer
Others, please state							
Coping routines							
	Currently using	Could be useful	Patient does not think this will help				
Simple routine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Tick chart	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
MAR Chart	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Purchased compliance aid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Paid carer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Family/friend support	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
MDS system supplied by a pharmacy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Summary of action plan agreed							

Assessment form for use by pharmacy

Medicine containers (Consider opening AND closing)	Problem area		Additional information
	Yes	No	
Boxes	<input type="checkbox"/>	<input type="checkbox"/>	
Blister packs	<input type="checkbox"/>	<input type="checkbox"/>	
Tablet or capsule bottles	<input type="checkbox"/>	<input type="checkbox"/>	
Screw lids	<input type="checkbox"/>	<input type="checkbox"/>	
CRC lids	<input type="checkbox"/>	<input type="checkbox"/>	
Winged lids	<input type="checkbox"/>	<input type="checkbox"/>	
Liquid bottles	<input type="checkbox"/>	<input type="checkbox"/>	
Squeezable tubes	<input type="checkbox"/>	<input type="checkbox"/>	
Purchased compliance aid	<input type="checkbox"/>	<input type="checkbox"/>	
Pharmacy supplied compliance aid	<input type="checkbox"/>	<input type="checkbox"/>	
Summary of action plan agreed			

Taking or using medicines	Problem area		Additional information
	Yes	No	
Non-soluble tablets	<input type="checkbox"/>	<input type="checkbox"/>	
Soluble tablets	<input type="checkbox"/>	<input type="checkbox"/>	
Chewed or crushed tablets	<input type="checkbox"/>	<input type="checkbox"/>	
Capsules	<input type="checkbox"/>	<input type="checkbox"/>	
Liquid medicines			
5 ml spoon	<input type="checkbox"/>	<input type="checkbox"/>	
20 ml cup	<input type="checkbox"/>	<input type="checkbox"/>	
Oral syringe	<input type="checkbox"/>	<input type="checkbox"/>	
Creams/ointments	<input type="checkbox"/>	<input type="checkbox"/>	
Inhalers	<input type="checkbox"/>	<input type="checkbox"/>	
Ear/eye/nose Drops	<input type="checkbox"/>	<input type="checkbox"/>	
Suppositories or pessaries	<input type="checkbox"/>	<input type="checkbox"/>	
Other	<input type="checkbox"/>	<input type="checkbox"/>	
Summary of action plan agreed			

Assessment form for use by pharmacy

Taking medicines according to the instructions			
	Problem area		Additional information
	Yes	No	
Reading instructions	<input type="checkbox"/>	<input type="checkbox"/>	
Understanding instructions	<input type="checkbox"/>	<input type="checkbox"/>	
Understanding symbol chart	<input type="checkbox"/>	<input type="checkbox"/>	
Generally forgetful	<input type="checkbox"/>	<input type="checkbox"/>	
The number of prescribed items	<input type="checkbox"/>	<input type="checkbox"/>	
The number of PRN prescribed items	<input type="checkbox"/>	<input type="checkbox"/>	
The number of complementary and alternative medicines	<input type="checkbox"/>	<input type="checkbox"/>	
Medicines similar in appearance	<input type="checkbox"/>	<input type="checkbox"/>	
Medicines varying in appearance from one prescription supply to another	<input type="checkbox"/>	<input type="checkbox"/>	
Lack of understanding of the reason for taking medicine	<input type="checkbox"/>	<input type="checkbox"/>	
Summary of action plan agreed			

Additional notes

Assessment form for use by pharmacy

Summary Form

Compliance aid assessment review for...../NHS

No.....

Patient's GP

Summary of risk areas	Assessed risk level			"Practical solution", sign-posting or aid provided to support compliance
	High	Medium	Low	
Coping routine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Getting medicines out of containers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Swallowing or using medicines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Following instructions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Intentional non-compliance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Confusion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Sensory problems (e.g. sight)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Physical problems (e.g. tremor)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Carer's activity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
The following MDS has been supplied.....				
Outline of intervention required				

	Yes	No	Completed by	Date
Action plan agreed with patient	<input type="checkbox"/>	<input type="checkbox"/>	
Carer informed	<input type="checkbox"/>	<input type="checkbox"/>	
GP informed, no intervention required	<input type="checkbox"/>	<input type="checkbox"/>	
GP informed, an intervention is required	<input type="checkbox"/>	<input type="checkbox"/>	
Referred for	<input type="checkbox"/>	<input type="checkbox"/>	

Pharmacists Name (IN CAPITALS).....

RPSGB Registration number.....

Pharmacist's Signature.....

Date dd / mm / yy Next review date dd / mm

Pharmacy stamp

GUIDANCE ON IMPLEMENTING ONE-STOP DISPENSING, POD AND SELF-ADMINISTRATION SCHEMES

(Source: Hospital Pharmacists Group¹⁴³)

Multidisciplinary approach

Planning for the introduction of these schemes should be a multidisciplinary process. It must be seen as a joint project, rather than one profession trying to impose changes on another.

Gradual start

Plan a gradual start. Moving from the traditional system, with seven or 14 days' discharge medication, to one-stop dispensing using patients packs may be too big a step to take in one go. One option is to make the change on a gradual basis, perhaps starting with a move to 28-day discharge dispensing while retaining traditional inpatient dispensing, and then moving to one-stop dispensing for discharge.

Most hospitals have started one-stop dispensing and use of PODs schemes with a pilot scheme on one or two wards. This allows staff to get used to new ways of working, and allows accurate costings. The rate of introduction will depend on local factors, including staffing and finance.

Storage

When planning for patient pack dispensing, it is important to remember that extra pharmacy storage will be needed for patient packs.

Medicine cabinets

Lockable medicines cabinets are essential to the development of these schemes. They can be fixed to the wall or the bedside locker. Fitting to the locker is easier for patients who are self-administering their medicines and also allows the locker and cabinet to be moved if the patient moves to a different bed. Bedside lockers incorporating lockable medicines storage are also available. Cabinets of different sizes might be useful, with larger ones used for wards where patients are likely to have complex drug regimens. Care is needed in placing cabinets and choosing ones which are stable and durable. Positioning of the cabinets will need to be decided in consultation with nursing staff.

Supply quantity

Trust policies vary on how much drug to supply with one-stop dispensing. Some hospitals have not yet moved to 28-day dispensing and might, for example run one-stop dispensing with 14 days' supply. But the move is towards 28-day supply on admission.

Publicity

Publicising the POD scheme is essential so that patients know about the scheme and the need to bring their medicines into hospital. Publicity should also extend to communication with primary care staff. GPs and community pharmacists need to be informed about policies regarding the use of PODs and the issue of longer periods of discharge medication. For them to encourage patients to take their medicines into hospital, the rationale for the change in policy on PODs needs to be explained so that it is not seen as a hospital cost-cutting exercise but one that has quality benefits.

Consent

Patients have to give consent for use (or disposal) of the medicines they bring into hospital. Some hospitals require written consent. Patients should also be asked to sign that they accept the conditions associated with participation in the self-administration scheme.

Endorsement

Policies are needed on the endorsement of treatment charts when PODs are used and when patients are self-administering

Assessing suitability

A policy is needed on who assesses suitability of PODs for use in the hospital and the criteria to be used in making this assessment. Pharmacists and nurses can be involved in this assessment, but often it is technicians who do it.

In hospital where pharmacy staff do routine assessment of PODs, arrangements need to be made on what happens when the pharmacy is closed, for example, whether or not nurses can assess the drugs, whether or not ward stocks be available, and when the pharmacist should be contacted.

Discharge procedure

Even if all medicines are already in the patient's cabinet, hospitals stipulate that patients must see a pharmacist (or in some cases a technician) before discharge

Staff training for new schemes

Training of pharmacists, nurses and technicians will be needed for these new schemes.

Self-administration of medicines

Self-administration schemes must be flexible, rather than strictly imposed to whole wards, and must be optional for the patient. Protocols are needed for assessing patients' ability to self-medicate.

Pharmacists and nurses can identify patients who have problems with their medicines, and can provide education about their treatment, with the aim of achieving self-medication before the patient goes home.

Financial aspects

Although supply of a patient pack in place of previous discharge medication is probably cost neutral (or slightly beneficial) to the NHS as a whole, one-stop dispensing requires funds to be transferred from primary care budgets to secondary care budgets. Accurate estimates of costs involved will need to be calculated and the distribution of costs agreed between different health authorities and PCTs. A formula for calculating costs is available on www.doh.gov.uk/prescribingbudgets/prescribing.pdf (Annex A).

GOOD PRACTICE EXAMPLES

The need for safe, effective and beneficial medicines management is a national priority, reflected in the emphasis placed by recent policy documents on this issue, and with recommendations often based on research evidence. However published research evidence often lags behind what is actually happening in practice, as new processes are developed in response to particular problems all the time.

Different ways to manage medicines as part of the discharge process have developed in NHS Trusts across the UK, dependent upon the patients they serve, the medicines involved, the diagnostic groups and local working systems. The following Appendix describes such examples, some of which will be supported by research, others, as yet, are not.

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The starting point for this service was showing that repeat prescription medication histories from GPs had a 45% error rate. With most prescribing done by inexperienced junior doctors this led to confusion.

A team of pharmacy technicians has been established to take medication histories on the medical admission ward. They discuss a patients' medication with them, confirm what they are taking and record, or confirm, their medication history. In 80% of cases a medication change is noted by the technician and referred to the

pharmacist for action. As 40% of medical patients are discharged within 48 hours, this provides a starting point for an accurate discharge. The pharmaceutical care plan used at Maelor Hospital is included in Annex A.

Admission Drug History Taking Discharge Summaries Pharmaceutical Care Plans Patient Counselling and Compliance Aids Patients' Own Drugs Dispensing for Discharge Self-Administration Schemes Pharmacist-written Discharge Prescriptions

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The pharmacy department within United Hospitals Trust has been piloting an Integrated Medicines Management (IMM) programme in collaboration with Queen's University, Belfast. One component involves close collaboration with primary care (GP and community pharmacist) on admission and discharge.

On admission, the IMM pharmacist uses information obtained from the patient, GP and community pharmacist together with patient's own drugs to determine an accurate medication history and therefore

ensure an accurate prescription list written at admission.

At discharge the IMM pharmacist prepares and signs off the discharge prescription and summary. Given the intensive pharmacist input right from the point of admission, additional detailed information can be added to the discharge prescription including medication changes (and reasons for those changes), laboratory information e.g. U&Es, and concordance issues. This detailed discharge information is then forwarded to the GP and community pharmacist on the day of discharge and important issues discussed, if necessary, over the telephone.

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Nine medicines management posts have been created to work with clinical ward pharmacists to improve many aspects of patient care. These have concentrated on information gathering at admission (medication history confirmation and review, taking particular note of how patients actually take their medicines) and expediting discharge by taking responsibility for provision of discharge medication. 'Supply' is not part of the routine tasks given to either the technicians or the pharmacists on the wards, apart from expediting discharge medication.

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Although some 'Dispensing for Discharge' schemes are in place, they are currently limited to a few wards. A project is underway to identify the benefits, drawbacks and costs of providing a variable model 'Dispensing for Discharge' system for as many wards as possible.

Discharge supply is initiated using the ward prescription chart, to eliminate the errors associated with transcription. Ward pharmacists (of sufficient grade and experience) are able to initiate discharge medication on medical, surgical and orthopaedic wards. The provision of discharge medication packs for some areas of the hospital e.g. day-case surgery, A&E, and some surgical specialties has been introduced where standard discharge medication can be identified and agreed with clinicians.

The K-Med system of providing Total Medication Summaries (TMS) for GPs and, where possible, community pharmacists is used. Total Medication Summaries are designed to give excellent information on discharge medication and details of which medicines have been stopped and started including the reasons for those changes. Feedback from GPs indicates that the explanation for the changes in medicines taken by patients is very helpful in ensuring the continuation of therapy. Where problems have been identified with patients' medication, but it has not been possible or appropriate to make changes in the hospital setting, a Medicine Management Review is produced for the GP.

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When a patient is admitted to hospital they are asked to bring all their medicines with them. These are placed in a distinctive Green Bag, labelled with the name of the patient and kept with them as they are admitted and transferred to a ward. Green Bags have been distributed to all care homes, district nursing, mental health and social care teams, GP surgeries and the ambulance service.

The intermediate care pharmacists attend the weekly multidisciplinary team meeting on each intermediate care ward, at which medication is reviewed. Consideration is given to medication issues when

planning discharge. The pharmacist considers the impact of the care plan from the perspective of medication issues, for example amending times of medication to ensure that medicines are given at a time which will coincide with carer visits.

The intermediate care pharmacist links with the community pharmacist and any home care agencies about specific issues and completes a pharmaceutical care plan. These are faxed to all parties involved.

The pharmaceutical care plan used by this scheme is included in Annex A and details of the near patient medication (self-administration) scheme in Annex B.

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As part of the Medicines Management service currently operating on 10 wards, pharmacists proactively manage the discharge process. The pharmacist / technician team for each ward ensures a medication history is taken from each patient at admission.

Dispensing for discharge and reuse of patients own drugs (PODs) is operated on 10 wards. In advance of the discharge day the pharmacist transcribes the medicines required for discharge and the technician ensures the supplies are appropriate from the patient's locker.

The pharmacist attends ward rounds to encourage discharge planning (as well as sorting clinical problems). The patient is counselled before discharge and given a medicines reminder card where appropriate. Discharge information is sent to GPs by fax.

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On admission to hospital, the admission pharmacist or technician will take a drug history using a variety of sources and document it on the reverse of the drug chart using a standardised proforma. Many of the local patients also receive their medication in a monitored dosage system (MDS) from their local community pharmacist, details of which are regularly provided by the PCT. When such patients are identified, the admission pharmacist/technician will contact the community pharmacist to confirm the current contents of the MDS, when it was last dispensed, any particular

pharmaceutical issues and to make a provisional plan for discharge. In-patient pharmaceutical issues and discharge plans are all recorded on the back of the drug chart, along with the admission drug history, allowing any pharmacist to continue that patient's care (especially if the patient is transferred to another ward).

Near to discharge, the community pharmacist will again be contacted regarding his or her MDS patient. If there have been no medication changes and the patient has had a recent supply, then the hospital will not issue any medication on discharge. Where there have been changes, the hospital pharmacy dispenses a two week supply into a reminder device and faxes a copy of the discharge information to the community pharmacist, GP, or any other relevant healthcare professional as per the discharge plan (for example, if the district nurse fills a reminder box, then he/she would be contacted during admission and on discharge as outlined above). Sometimes additional pharmaceutical information is provided for the healthcare professional on discharge, again using a standardised proforma.

Finally, good communication with ward staff is needed to ensure that discharge prescriptions are written as early as possible and staff often refer to the back of the drug charts for the pharmacy discharge plans. The discharge prescription form used at University College Hospital is included in Annex C.

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The media was used to publicise changes in practice, in particular the patient's own drugs scheme, which requires patients to bring their medication into hospital. Publicity has been used to increase the number of patients who bring their own medicines into hospital.

The assessment process for discharge includes an assessment of the patient's capability to manage medicines at home: An assessment tool has been developed to identify medicines management issues, and a care planning process implemented to address

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these. A self-administration of medicines scheme is to be reviewed, and offered to all patients.

A medicines discharge letter has been implemented, giving full medication profiles and details of changes made to medication during the patient's hospital stay.

Communication processes between secondary and primary care are being reviewed to ensure follow-up of patients at high risk from medication non-compliance, including a role for community pharmacists. It is intended to implement electronic prescriptions as soon as possible, so that a patient's discharge prescription can be transferred electronically to the GP via the NHSnet. In the meantime a copy of the discharge letter is faxed to the GP, and sent to the patient's nominated community pharmacist, where consent has been given.

An electronic version of the ward-based discharge checklist (see Annex D) has been developed and a policy for the use of compliance aids is being developed.

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Before discharge, every medical patient is counselled about his or her discharge medication by a pharmacist or suitably qualified ward-based technician. This allows the patient to ask questions about their medication and means that any changes in the medication regimen can be explained to the patient.

If many changes have been made to the medication regimen or the patient seems confused about their medicines, a compliance card is provided for the patient. This gives details of the name of the drug, its indication and when the patient should take the medicine. Examples of where this has made an impact to the patient include:

- A 75-year old patient with musculoskeletal chest pain secondary to bronchitis was confused about his medication. The pharmacist went through everything with him and provided him with a compliance card. The patient was much happier and more confident about taking his medicines at home.
- A 75-year old patient suffered with angina and iron deficiency anaemia secondary to bleeding haemorrhoids. The patient was taking aspirin prior to admission, which was stopped, in hospital. The patient was counselled about the fact that his aspirin had been stopped and he was pleased to have been told this, as he did not realise that it had.
- A 63-year old patient with postural hypotension had brought many medicines into hospital with him and many changes had been made during his stay. The patient was counselled and given a compliance card. The patient was very appreciative that time had been spent with him discussing his medicines and he was more confident about taking his medicines at home.

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When patients are discharged using a Monitored Dosage System (MDS), such as NOMAD or a Dosette box, their nominated community pharmacist is contacted to advise that the patient is leaving hospital. A copy of the discharge prescription is also faxed to the community pharmacist and the GP so that they are informed as soon as possible of changes that have occurred.

If it is decided that a patient requires a MDS in order to cope with their medicines at home the following procedure is followed:

- The GP surgery is contacted to confirm that they will provide 7 day prescriptions
- The patient's regular community pharmacy (or a nominated community pharmacy) is contacted to confirm that they will continue to fill the MDS after discharge
- A copy of the discharge prescription is faxed to the community pharmacy and the GP, the MDS is filled for one week and the patient is discharged

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The Paediatric Pharmacy Unit uses discharge medicine information letters for unlicensed products. Prior to or at discharge the difficulties they may experience on getting further supplies are explained to the patient, and the importance of making an appointment with their GP to arrange a prescription and liaising with the community pharmacy as soon as possible after discharge. These letters are to aid the GP and community Pharmacy in procuring the relevant medicine.

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Administration sheets have been produced with the times of the day especially for renal transplant children. In this way they get to know their medicines better and it is easier to transfer them to community. These have been adapted to patients with language barriers (language, illiteracy), or other problems such as poor vision, by using pictograms, numbers, large print or translation into a different language.

Paediatric transplant patients are often prescribed a large number of medicines with complex regimens. Dose administration aids may be helpful, especially when the medicines have to be taken to work or school, as they avoid the need to carry several different containers and they allow optimisation of administration times. In the paediatric renal transplant unit a structured education scheme has been built around the use of Dosette boxes to help address the problem of poor compliance and to facilitate the transfer to community or adult services. Patients (or parents) are trained to fill their own Dosette under supervision by a pharmacy technician. The process is used as a tool to teach them about their medicines, the idea being that use of the Dosette should skill and not de-skill the individual - without education, dose administration aids might lead to confusion.

Starting when the patient is ready to be discharged after transplant, the patient/parent packs their Dosette on a weekly basis coinciding with their regular outpatient visit to the transplant clinic. This gives them an opportunity to ask questions and to discuss any changes that have been made to their prescription. After around 10 weeks, if pharmacy staff are satisfied with the patient's (or parent's) knowledge and skills and the patient is happy, they are discharged from the scheme. The patient is given a "black book" with details of all their prescribed medicines and doses and this book is regularly updated with any change on their medication. Feedback from patients and parents on the scheme has been positive.

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Work on medicines management has gone a long way forward in resolving interface issues, and is running on the admissions and surgical wards at Worthing Hospital and some of the rehabilitation wards at Southlands Hospital. The main aspects are checking drug histories when patients are admitted to hospital, and providing medication record cards for patients on discharge.

This will be rolled out to the Department of Medicine in the Elderly and medical wards as more technicians are trained. When patients who have monitored dosage systems are admitted to hospital the community pharmacy is contacted, to advise them of any early medication changes.

The Trust has introduced initiatives to encourage patients to bring their medicines with them when they come into hospital. Green medicines bags have been issued to the ambulance crews in the catchment area and these are used to bring patients own drugs (PODs) to hospital (see Annex E). A&E also have supplies of the bags and this has encouraged the nurses and doctors to transfer medicines to the wards with the patient, rather than them being lost in the department or sent to pharmacy for destruction. PODs are stored in bedside lockers on medicines management wards so they are readily accessible when the nurses are doing their medicines round.

Use of PODs has huge benefits apart from saving money and preventing waste; it simplifies the drug history taking process, and also reduces the number of missed doses due to a drug not being available on the ward. Before the use of PODs a pharmacist might visit a ward in the morning and find that important doses had been missed if the patient had been admitted the previous evening. It is also safer for patients because medicines that have been stopped can be destroyed, so patients do not go home and take them by mistake. Patients who have problems taking their medicines from PODs have also been identified.

Green bags have recently been issued to the surgical pre-assessment clinics, so that patients can be provided with a bag to bring in their medicines when they come for elective surgery.

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Intermediate Care services are being established to prevent potential admissions to secondary care and to support patients who have been discharged early. The former have been highlighted as being a significant workload for both the Intermediate Care services and GPs. The perception is that managing the medication of these patients is a major part of the workload.

A pilot scheme started running in conjunction with Social Services called COUNT© to target patients who are specifically at risk from poor concordance and/or adverse events due to poly-pharmacy. The aim is to identify vulnerable or house-bound patients who are confused about what medication to take and when to take it or are having problems accessing their medication. COUNT© provides access to a PCT pharmacist to discuss medication issues with the patient and carers in the patients' own home so that the risks of adverse events are reduced. This service has now been extended to Intermediate Care and is now six months into a pilot study. Intermediate Care key workers are trained to recognise potential problems with medication, so that they can make the necessary referral to a PCT pharmacist. The pharmacist discusses their interventions with the patient's GP and recommends follow up action. The pharmacist monitors the progress of the patient in conjunction with the GP, making return visits to the patient as required.

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More information about the COUNT© project can be found in Annex F.

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The hospital has been operating a discharge planning scheme for a number of years, involving community pharmacy, for patients requiring support via a monitored dosage system. This has developed into a two way communication pathway between progressive pharmacies and the hospital pharmacy department.

A discharge planning pilot scheme was carried out two years ago which looked at the dissemination of information to community pharmacy for elderly patients.

The project focused on the information that was sent to GPs, and copied to the pharmacy used regularly by the patient, identifying any

errors/omissions from the next prescription, and interventions undertaken between pharmacy and surgery.

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All pharmacist hours have now been freed for attending ward rounds. This includes developing pharmaceutical care plans. A copy of the GP's list of medication on admission is obtained and compared with the patient's medication prior to discharge.

A summary of medication changes is sent to the GP which also tells them if a medication review has been done prior to discharge. The patient or care home will be issued with a medication reminder card where all the changes which have happened are written down, and any medicines which have been stopped are emphasised. A procedure has been developed for patients who use Monitored Dosage Systems (MDS). The wards are equipped with community prescription pads (FP10(HP)s) to order discharge medications direct from a community pharmacy along with a standard letter to inform the GP that this is how the medication has been issued.

A telephone contact point has been established in the hospital pharmacy so a carer/ pharmacist/district nurse can call if a patient has been admitted who uses a MDS. The patient is traced through the PAS system and the ward pharmacist informed.

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A pilot project is underway to improve the quality of information about patients' medication which is transferred to GPs on discharge. This aims to provide the GP with a comparison of the patient's medication on admission and discharge, and provide information about changes in medication to ensure continuation of clinical decisions about medication made during inpatient stay. Recommendations for monitoring or review of medication are also included, as appropriate.

The project currently features medical patients from a specific surgery. The pharmacist will ring the surgery to identify patients that have been admitted to the Leicester General Hospital. These patients are identified on their drug chart and will be followed through their inpatient stay and information documented on a specific form.

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A standard operating procedure (SOP) has been written for pharmacist discharge prescribing. This involves detailing all reasons for changes to medication and any pharmaceutical follow-up that GP or community pharmacist need to know. The TTO form is being redesigned to include an extra copy for the community pharmacist.

A proforma for documenting clinical pharmacy activity is being developed to facilitate writing of discharge prescriptions and improve communication between pharmacists. The SOP for pharmacy clinical activity includes methods & routines for anticipating discharges much better than currently.

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As one of its MMS programme measures the PCT chose: "the percentage of practices receiving discharge medication information from the hospital before a request for a repeat prescription."

An audit template was developed to assess whether information was being received within the timescale contained in the discharge protocols of Southampton General and Royal Bournemouth Hospitals, i.e. within 48 hours of discharge. (see Annex G).

Data was collected over six months, looking at both the timeliness and the quality of information. As a result a new discharge summary form has been agreed with GPs and the hospital trust and went live in April 2004.

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The hospital provides a collaborative care service which aims to facilitate the transition of patients from hospital into the community.

The collaborative care pharmacy team completes a pharmacy assessment sheet for each patient referred to them. This is sent to the patient's GP and community pharmacist, and contains information on discharge medication, including problems or risks involving medication, possible solutions and anticipated outcomes or further action required.

When a patient is referred to the service the pharmacy team will complete a medication risk assessment which determines the extent of support provided.

Details of the risk assessment tool are included as Annex H.

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Older People who have been discharged from hospital and are most at risk of medication problems are referred by fax to a community pharmacist of their choice. A medication review will be carried out, pharmaceutical care plan formulated along with liaison with the GP

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The PCT has introduced a home-based service to review the medication of patients aged 75+ recently discharged from hospital. The post-discharge medication review team comprises a pharmacist and two pharmacy technicians. During admission, Kettering General Hospital's pharmacy department identifies those who are not getting the most benefit from their prescribed medication. These patients are asked if they would like the team to arrange a visit after discharge. The team is then provided with a list of what the hospital doctors prescribed, and arranges to visit the patient at home to review all medication the patient takes, both prescribed and over-the-counter. By the end of the visit the patient should be confident with the intended medication, and the GP will be given a confirmed hospital medication discharge list and consulted about any discrepancies or problems. During the scheme's first six months, over 170 patients were visited.

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The Trust is currently running a pilot scheme with money from NIMHE which involves the allocation of pharmacy time to community mental health teams (CMHTs). Each pharmacist is equipped with a lap-top which has the Ascribe software and blank copies of medication history, pharmaceutical care plan and patient profile/intervention forms plus the UKPPG information leaflets.

They are thus enabled to act in a clinical capacity at the team bases and interact directly with the other members of the multidisciplinary team as well as with patients and their carers. It is hoped that this project will show quantitatively the benefit of such close pharmacist involvement which will better inform resourcing such teams in the future. It will benefit and improve the seamless transfer of patients between units as well as their re-integration back into the community as all such information can go electronically with the patient.

The medication history taking proforma is included as Annex I.

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Pharmacists on some wards complete discharge prescriptions electronically which are then sent to the pharmacy for dispensing. The electronic record of the patients' stay also includes the doctor discharge and patient discharge information. These electronic records are faxed to the patients' GP within 24 hours of discharge; the patient's record is updated and the risk of medication discrepancies reduced.

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Pharmaceutical Care Plan - Medicine – Continuation Sheet.

Daily Progress Chart

Initial
& Date

Results/To follow up:

Abnormal Lab Values:

Date	Type								Normal range reference e.g. CRP <10mg/l

Example Two

(Source: Mid Essex Hospital Services NHS Trust)

Mid Essex Hospital Services			
NHS Trust Pharmaceutical Care Discharge Plan			
Name and Address of Patient Tel Number Carer/Relative Contact Number		Anticipated Date of Discharge Discharging Unit Tel No. Named Nurse	
Name and Address of G.P. Tel. No. Fax No.		Name and Address of Community Pharmacy Tel. No. Fax No.	
Patient Background Details:			
Pharmaceutical Needs:			
Take Home Medication		Drug Allergies	
Name and Form	Dose	Frequency-include times of administration for MDS	Quantity/No/Type of MDS boxes-/other information
Additional Information		Unit Pharmacist and Contact Number Signature (Pharmacist/technician) _____ Date..... Fax completed form to: <ul style="list-style-type: none"> Unit Pharmacy (with Discharge Summary) <input type="checkbox"/> Community Pharmacy..... <input type="checkbox"/> Community Care Reception 01245 513334..... <input type="checkbox"/> Collaborative Care <input type="checkbox"/> G.P. <input type="checkbox"/> 	

Example Three

(Source: Essex Rivers Healthcare NHS Trust)

Pharmacy assessment and planning sheet		Community Pharmacy Address		Admission date	
Patient Address	GIP Address	Dr Address	Address	Report date	Discharge date
Tel	Tel	Tel	Tel	D.O.B	Unit no
Fax	Fax	Fax	Fax	Ward	Consultant
Details of medication at transfer from hospital. List regular medication first					
Name and form of medication			Strength and dose details		Other details
Initiated in hospital					
Perindopril tablets	Yes		2mg, take one tablet every morning		
Atorvastatin tablets	Yes		20mg, take one tablet every morning		
Clopidogrel tablets	Yes		75mg, take one tablet every morning		
Paracetamol tablets			500mg, take 1 or 2 tablets up to 4 times a day		Maximum of eight tablets in 24 hours.
Other information					
Reason for admission: CVA					
Past medical history: TIA					
Social history: Lives in a house alone					
CT scan = infarct, he has been on aspirin in the past and was not able to tolerate it so he was started on clopidogrel.					
Perindopril was been started due to high blood pressure and atorvastatin to control his cholesterol level.					
Following his stroke he still has problems with mobility so requires a wheelchair. He also has problems with his speech, so he has learnt to communicate using pictures (he has a communication book to help him with this. This created a challenge to teach him to self medicate, the speech and language therapist and myself have developed a picture chart to help him, this includes pictures of the tablet box and tablet so he knows what he has to take (see enclosed chart).					

A copy of this form is to be placed in the patient's hand held notes folder. The information is therefore available to all with the patient's permission. If there are any queries regarding the use of this form please contact the pharmacy team, Colchester General Hospital. 01206 742965

Pharmaceutical risk assessment and care plan		Patients name		Anticipated outcomes and further action if necessary	
Identify the problem or risk involving medication		Give possible solutions and action to be taken			
1. Blood pressure		He was started on perindopril and this has controlled his blood pressure during his admission. It would be beneficial for it to be checked occasionally at his medication reviews.		Patient to remain normotensive. 28/5 Na = 140mmol/l, K = 4.3mmol/l, Urea = 5.3mmol/l, Cr = 77umol/l.	
2. Cholesterol		He has been started on atorvastatin due to raised cholesterol to reduce the risk of further strokes. At his next review his cholesterol should be rechecked. (27/4 cholesterol = 5.4mmol/l and LFTs within normal limits)		Maintain cholesterol below 5mmol/l.	
3. Medication Compliance		He has been successfully self medicating on the ward with the help of a picture chart. It is essential that the same brand/ boxes are supplied with each prescription to avoid confusion.		Patient to comply with his medication.	
4.					
5.					
Contact phone numbers		Hospital pharmacy	Medicines helpline	Report Prepared by	Pharmacist
		01206 742965	01206 742161	Chris Ranson	
Risk score	Home visit to be arranged	yes/ no	Copy of form to be sent to community pharmacy	If this patient is re-admitted to hospital please inform pharmacy on 01206 742965	
55	Date of visit	yes/ no	yes / no		
	Pharmacist		Date sent		

A copy of this form is to be placed in the patient's hand held notes folder. The information is therefore available to all with the patient's permission. If there are any queries regarding the use of this form please contact the pharmacy team, Colchester General Hospital. 01026 742965

Example Four

(Source: Birmingham and Solihull Mental Health Trust)

Pharmaceutical Care Plan				
Patient ID (Initials & ward)				Sex (m/f)
Date of Admission			Age	Weight (Estimate if necessary)
EVIDENCE OF NEED				
Psychiatric problem list	Medical problem list		Current medication	
Assessment – Evaluation of Current Therapy				
P.T.O.				

FUTURE CARE / MANAGEMENT			
Therapeutic goals	Recommended treatment. Medication to be avoided	Monitoring parameters-toxic & therapeutic plus main side effects	Patient education requirements on discharge
Arrangements for follow-up /community care?			

Self Medication Scheme

(Source: Mid Essex Hospital Services NHS Trust)

Mid Essex Hospital Services NHS Trust Medicines Management Assessment.	
Name: _____ Hospital Number: _____ Ward: _____	
Can the patient:	
1. Read and understand standard dispensing Labels. Yes / No If No, would the patient benefit from a. Large print labels? Yes / No b. Braille labels? Yes / No	2. Open Child Resistant Caps (CRCs)? Yes / No If No, can they open a. A standard screw capped bottle? Yes / No b. A winged capped bottle? Yes / No
3. Open blister or foil packed tablets? Yes / No	4. Pick up the tablets individually? Yes / No
5. Swallow tablets? Yes / No	6. Measure liquids in a spoon? Yes / No If No, would they benefit from a. A standard plastic measure. Yes / No b. A measuring pipette or oral syringe? Yes / No
7. Does the patient require a more detailed medicines management assessment. e.g. Elderly; on multiple medications; Complicated dosing regimen. In the opinion of staff looking after patient this would be beneficial. YES – Complete detailed assessment form. Appendix 1B NO	
8. Assessed by: _____ Date: _____	
9. Initial review by pharmacist / pharmacy technician. Advice and recommendations. Name: _____ Date: _____	
<u>Additional Information.</u>	
<u>Agreement.</u>	
The Self-Administration scheme has been explained to the patient and they have agreed to participate. _____ Date: _____	
<u>Destruction of Patients Own Drugs.</u>	
The Patient has agreed to the destruction by the pharmacy department of medicines bought into hospital that are no longer required for their treatment. _____ Date: _____	

**Mid Essex Hospital Services NHS Trust
Medicines Management Assessment**

Detailed Assessment – for patients identified as needing additional support.

Name: _____

Hospital Number: _____

Ward: _____


(To be undertaken by staff on ward)

Ask the patient:

Where do you keep your medicines at home?	
Who gives you your medicines at home?	Self / Informal Carer / Formal Carer
Did you have any problems before admission with taking your medicines. e.g. remembering the times to take your tablets? Remembering how many tablets to take?	If YES please record details.
Are your tablets in a special box? (compliance aid)	If YES state type or give description. Nomad / Dossett / Redidose / Blister
Who fills the special box?	Self / Informal carer / nurse / pharmacist / doctor
Name and Address of Usual Pharmacy (Chemist)	
If box filled by pharmacist, how frequently?	Daily / Weekly / Every 4 weeks / Other (please state)
If not pharmacy filled, are any spare tablets kept in normal tablet bottles in the home to be used for filling the compliance aid.	YES/NO
Who orders repeat prescriptions from the GP?	Self / Informal carer / Formal Carer / Other.....
Who collects repeat prescription from the surgery and takes it to the pharmacy (chemist)?	Self / Informal carer / Formal Carer / Other.....
Who delivers the medicines to you?	Self / Informal Carer / Formal Carer / Other.....
Do you buy any medicines or herbal remedies 'over the counter', from your local chemist or health food shops.?	If YES give details

Discharge Information

(Source: University College London Hospitals Trust)


University College London Hospitals 

NHS Foundation Trust

PHARMACY SERVICES

Middlesex Hospital
Mortimer Street
London, W1T 3AA
Telephone: 020 7636 1195
Fax: 020 7580 6422

University College Hospital
Cecil Fleming House, Grafton Way
London WC1E 6AU
Telephone: 020 7380 9848
Fax: 020 7387 9060



Copy for Pharmacy information

To:

From:

Re:

Fax:

Date:

Pgs (inc this):

Urgent

For Action

For info

1. **Discontinued medication:** The following medicines were discontinued for the above patient during this in-patient admission:
 -
2. **Dose / formulation changes - as follows:**
 -
3. **Medication on discharge:**


Medication	Dose	Comments

4. **Additional info:** As agreed, we have supplied two weeks of the above medication in a Medimax / Venalink (delete as applicable). Please could you follow up accordingly.

Many Thanks

If there is any problem with fax transmission or if you have any other questions re the medication, please contact me on the above number or on 020 7387 9300 bleep

If you have unintentionally received this fax, please contact the sender on the above number and then destroy the fax copy. Thank-you.



UCL Hospitals is an NHS Trust incorporating the Eastman Dental Hospital, Elizabeth Garrett Anderson Hospital, Hospital for Tropical Diseases, The Middlesex Hospital, The Heart Hospital, National Hospital for Neurology & Neurosurgery and University College Hospital.

Discharge Medication Checklist

(Source: Tower Hamlets PCT / Barts & the London NHS Trust)

The points on this checklist must be followed when finally handing the medicines to the patient at the time of discharge to reduce the risk of an error:

A Registered Nurse / Pharmacist / Pharmacy Technician must:

1. Check the doctor has signed the TTA.
2. Check the TTA has been signed by a pharmacist in the validation box.
3. Check TTA against the inpatient prescription chart for any late amendments. Consult with doctor if any revision is necessary.
4. Check individually each medicine prescribed on the TTA is present and labelled with the correct: drug name, patient name and instructions for use
5. For each drug initial the discharge column on the TTA letter if correct.

Ward stock drugs must not be supplied as part of the TTA.

6. Check the patient has sufficient supply until they see their GP (a minimum of 2 weeks supply of long-term medication is Trust Policy).
7. Check the patient understands the regimen for each medicine and educate the patient to take each medicine as instructed
8. For patients on warfarin, ensure:
 - They have a yellow anticoagulant booklet
 - The dose to take on discharge is written in the booklet by the doctor
 - They have a prompt follow up appointment to check anticoagulation
9. Ensure steroid booklets and splenectomy booklets are given where appropriate
10. If any of the above is not complete, contact the doctor, pharmacist or pharmacy technician as necessary.
11. Sign and print the name of the person discharging the patient in the box on the TTA letter
12. Give the patient the yellow copy of the TTA.
13. Empty the drug locker and return any medicines not part of the TTA to Pharmacy in the blue box.

Approved by Trust Medicines Committee July 2003,

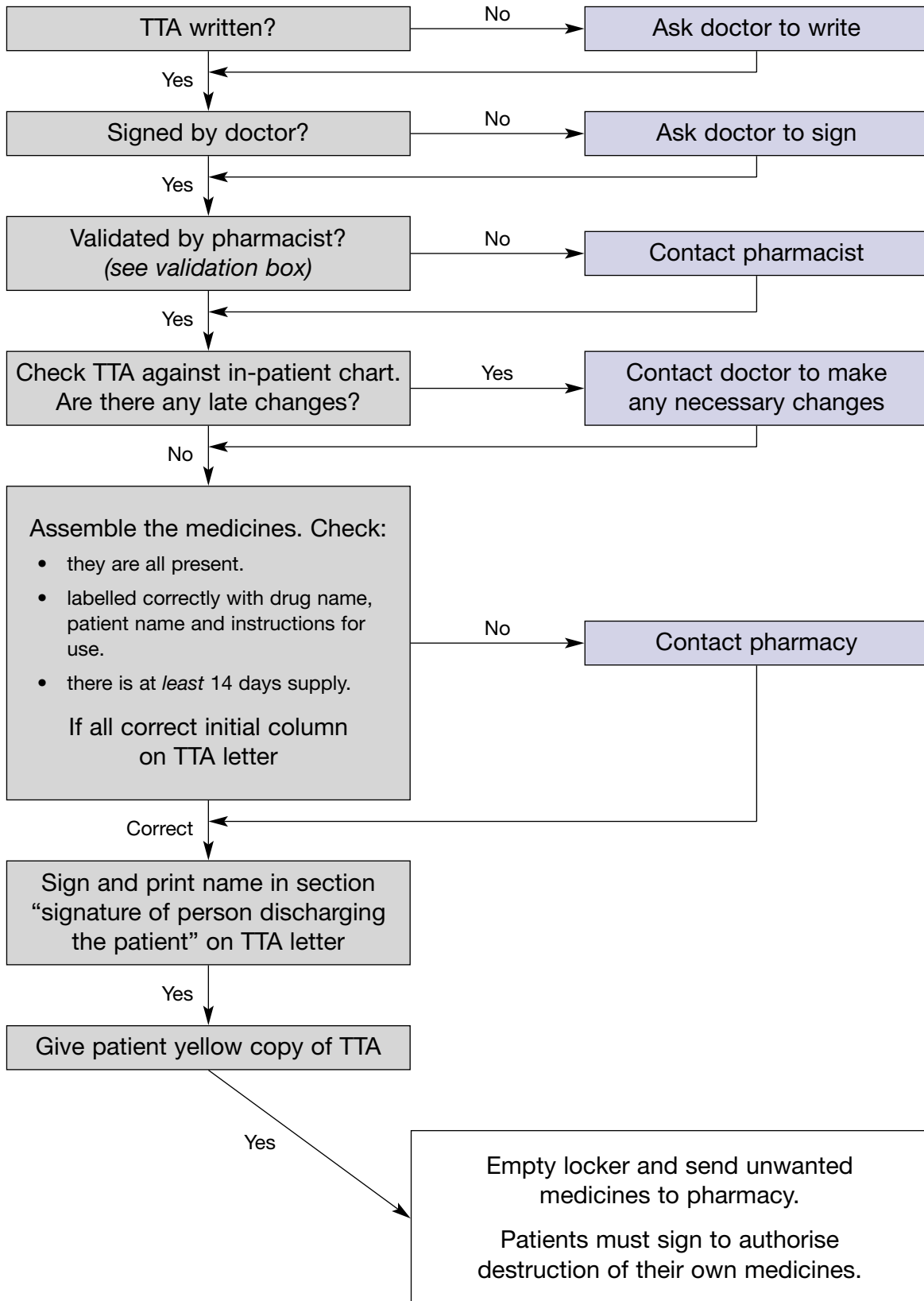
An amendment has been made to the green TTA letter widely used in the Trust. The change has been made to facilitate a comprehensive check of all medication at the time it is handed to the patient at discharge. The extra sections are to be used by the member of staff giving the medicines to the patient. The key changes to the form are:

- The instructions for use on the label for each dispensed medicine should be checked against the instructions on the TTA letter. As each medicine is then handed to the patient the column should be initialled.
- The member of staff giving the medicines to the patient should sign and print their name in full in the new section provided at the bottom of the chart, signing the date and time.

NB If a patient is unable to wait for their TTA letter to be written, amended or dispensed then they should be advised that they or a relative collect the TTA at the earliest possible time to avoid missed dosage.

An FP10 (HP) prescription may be issued out of hours in conjunction with the Duty Manager if absolutely necessary. The patient will need to be informed that prescription charges may apply.

Nursing Actions for Assembly of TTA Medication on Discharge



Patients' Own Drugs

(Source: Worthing & Southlands Hospital Trust)

DEAR DOCTORS

- **Please keep all patient's medicines on the ward**
- **Do not send medicines home with relatives**
- **Do not leave in Doctors office**
- **Please give medicines to a nurse or pharmacist**



PATIENT'S OWN MEDICINES

- **Please transfer all medicines to the ward with the patient in a green bag**
- **Do not send medicines home with relatives**
- **Only send medicines to pharmacy to be destroyed if they have been stopped by a doctor**

Thank you

Please transfer all medication with the patient

(Including patients own CDs and fridge items)



The Little Green Medicine Bag.

- You have now been issued with a supply of green medicine bags.
- Please when ever possible collect all the patients medicines and take to Worthing Hospital in the Green Bag supplied.
- Worthing Hospital now has (POD) Patients own drug lockers for all patients on all wards and departments.








Thank you


The COUNT© Service

(Source: Guildford and Waverley PCT)

COUNT© — Making the most of your medication

C		<u>C for confused about your medicines</u>	
		Are you unsure what each of your medicines is for?	Yes No
O		<u>O for over ordering medicines</u>	
		At home have you got lots of unused medicines?	Yes No
U		<u>U for unable to open or use medicines</u>	
		Do you find it difficult to open all the packaging easily?	Yes No
N		<u>N for not taking medicines</u>	
		Do you sometimes forget to take your medicines?	Yes No
T		<u>T for travel</u>	
		Do you have to fetch some of your medicines every week or fortnight?	Yes No
		Do you have problems getting to your GP or Community Pharmacy?	Yes No

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Guildford and Waverley 
Primary Care Trust

COUNT© is a service currently provided for Intermediate Care and Key Care patients by our PCT Primary Care Pharmacists.

The COUNT© tool has been developed to help non-medical and non-clinical staff identify patients who have a problem with their medication:

- C**onfused over what the medicine is for and how and when to take it
- O**ver ordering medicine – stockpiling, sharing, overuse, underuse
- U**nable to open packaging – unable to unscrew the lids on bottles or open foil packs or use inhalers (agility)
- N**ot taking medicine – forgetting, or choosing not to take medicine
- T**oo many or too few journeys - collecting medicines every week and access issues

The Primary Care Pharmacists in Guildford & Waverley PCT each work with a group of practices. Once a patient has been identified they are referred to the pharmacist who works with the patient's GP. On receipt of a referral the pharmacist consults the patient's medical notes (on the practice computer system) and discusses their case with the appropriate health care professionals (GP or district nurse). A home visit is

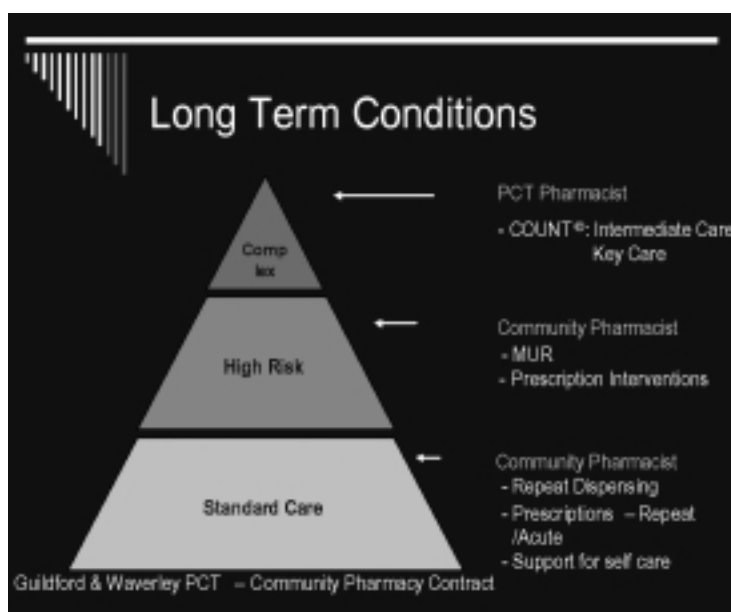
arranged for the pharmacist together with the original referrer. A thorough medication and compliance review is undertaken and a discussion is held with the patient, carer and family to determine a regimen that will best suit the patient at this point in time. The pharmacist discusses his/her recommendations with all the relevant health care professionals (GP, consultant, district nurse, community pharmacist, social services), agrees a plan of action and updates the patient's medical records. Appropriate follow up is included in the action plan.

The success of this scheme can be attributed to:

- Training key workers in Intermediate Care and district nurses in Key Care on how to use the COUNT© tool
- The Primary Care Pharmacists having an established professional relationship with their allocated GPs
- The Primary Care Pharmacists becoming familiar with the patient's history before visiting the patient
- Allowing time for a detailed medication review and discussion with the patient, carer or wider family in the patient's own home
- Post visit discussion with all appropriate health care professionals to ensure agreement and continuity of care
- Organised follow up

Next steps:

At present the service is reactive and deals mainly with patients in the top section of the Long Term Conditions Pyramid. We aim, through the Community Pharmacy Contract, to provide a proactive approach. We have discussed with our community pharmacists the possibility of using the Advanced Service Medicine Use Reviews to target patients in the middle section of the pyramid. We have supplied our community pharmacists with the COUNT© tool and criteria and will be providing practical training before they undertake their MUR Assessments. We aim to ensure that this particular group of patients receives required interventions that will prevent or delay their movement to the top section of the LTC pyramid.




Audit of Discharge Medication Information

(Source: New Forest PCT)

Hospital Number of Patient	Age / DoB	
Date the discharge summary was received by practice		
Date patient was discharged (if present on form)		
Was a repeat prescription requested before summary was received?	Yes	No
Was the discharge summary easy to read?	Yes	No
Completeness of information - are the following present?		
Patient details	Yes	No
GP details	Yes	No
Consultant details	Yes	No
Admission details	Yes	No
Diagnosis on admission	Yes	No
diagnosis on discharge	Yes	No
Information on patient's treatment while in hospital	Yes	No
Medication Information		
How long was medication supplied for at discharge?	5 7 14 28 days	
Does the summary contain the full name of each drug?	Yes	No
Does the summary contain the specific dose for each drug?	Yes	No
Does the summary contain the dose frequency for each drug?	Yes	No
Does the summary contain the quantity of each drug supplied?	Yes	No
Does the summary include any acute items?	Yes	No
Does the summary indicate which medicines are to be continued?	Yes	No
Does the summary indicate which medicines are to be stopped?	Yes	No
If the patient has been started on any new items, was a reason for starting the medication given?	Yes	No
If the patient had medicines stopped, was a reason for stopping given?	Yes	No
Does the summary contain details of any drug idiosyncrasies, allergies or adverse reactions?	Yes	No
Does the summary give details of any follow up appointments?	Yes	No
Was the discharge summary signed by the pharmacist?	Yes	No
Was the discharge summary signed by the prescribing doctor?	Yes	No
Please give details of any other issues		

Pharmacy Risk Assessment Tool

(Source: Essex Rivers Healthcare Trust)¹⁷³

Essex Rivers Healthcare 		
NHS Trust		
Collaborative Care Pharmacy risk assessment score sheet. (to be used in conjunction with the pharmaceutical care planning sheet)		
Patient details label	date	
	pharmacist	
Section (low score = low risk)	Max	score
1. Number of medications	10	
2. Doses and frequencies per day	10	
3. Number of formulations	10	
4. Reason for admission and relevance to medication	10	
5. Co-existing medical conditions including mental health	10	
6. Home support available	10	
7. Professional support available	10	
8. Impact of medication on lifestyle	20	
9. Need for concordance	10	
Total score	100	
Comments		
No further input from pharmacy	0-25	
Liaise with community pharmacist	25 - 50	
Arrange post discharge visit	50+	
N.B. if the drug impact score is high it may be necessary to arrange a home visit even if the other risk factors are low.		

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Contact telephone 01206 742965 or Fax 01206 742319

Collaborative care

Pharmacy Risk assessment score sheet guide to completion.

This sheet is intended to give the pharmacist a score that indicates the risk to the patient from the medication after discharge. The level of post discharge support will be arranged based on the score.

1. The number of drugs is an indication of the problems a patient may face and is one of the few purely qualitative factors. Score one for each medication prescribed at discharge to a maximum of 10.
2. The frequency is also relevant. Score 2 for each time of day doses need to be taken up to a maximum of 10. Include all medication including external, eye drops etc.
3. Please score each formulation as 1 to give an indication of the complexity of the regime.

The following are more subjective and require a careful evaluation of the risk to the patient especially of re-admission due to iatrogenic effects.

4. The reason for admission is an important indicator of the importance of medication as a risk of admission. High risk factors are falls, treatment failures, strokes, over doses and self-harm.
5. Co-existing conditions include those that are not being treated as part of the acute event, e.g. diabetes for a patient admitted after a fall, confusion and depression in a medical patient or epilepsy in a patient with asthma.
6. The degree of support at home will have a major impact on the successful discharge. Evaluate this and score no support as 10 and full family help as 0.
7. Similarly, professional support needs to be considered and evaluated. The minimum for a collaborative care patient will be once daily visits from a home care worker (score high) and the maximum (low risk) would be a full package with OT, Physio, district nurses visiting and community pharmacy and GP availability. (Score 0).
8. This is the most important area and each medication must be evaluated to decide the risk and impact on the patient after discharge. If the risk is high then this score alone may dictate a home visit after discharge. Factors to consider include side effects, changes in regimes, new drugs not taken before and potential for interactions. Score a maximum of 20 for this section
9. The need for concordance should be scored based on the potential outcome of over or under dosing, irregular dosing etc. Maximum score for a high risk patient would be 10

Guidance

1. Number of medicines

Polypharmacy is a major issue associated with risk. It is fairly well documented that the more medicines a patient takes the greater the risk of adverse drug reactions, drug interactions and poor compliance.

Each medicine will score 1 to a maximum of 10. This will include all prescribed medication excluding stoma equipment, dressings or catheters (these should be included in the comments section).

2. Frequencies

Score 2 for each time of day doses need to be taken up to a maximum of 10. This should include all medication and creams, eye drops etc. For PRN medication it was decided that an extra 2 would be given as long as it would be possible for it to be taken at any time of the day.

e.g. PRN paracetamol would have a score of 2 as the patient would take it when he or she is in pain, this may correspond with times of other regular medication. An exemption is if the dose frequency specifies a specific time for instance senna tablets 2 ON PRN, if that patient already was taking a tablet at night then this would be scored as an extra 2.

3. Number of formulations

Each formulation would score 1 to give an indication of the complexity of the regime (up to a maximum score of 10).

The different formulations should represent the different routes of administration that is being used by a particular patient. e.g. All the following would score 1:

- Oral solid dosage forms e.g. tablets, capsules, long acting preparations.
- Liquids
- Sub-lingual tablets
- Creams
- Suppositories
- Sachets/ powders.
- Pessaries.

4. Reason for admission and relevance to medication

This is very subjective and very difficult to give an accurate score. It is well documented that approximately 5-10% of all hospital admissions are drug related. Below are some examples of scores that could be used to help when deciding on a particular score for a patient. It must be taken into account that all patients are different and circumstances will also be different.

<u>Score</u>	<u>Reason for admission</u>
0	Elective Surgery
2	Fall - not associated with medication. Confusion caused by a UTI.
6	CVA/MI but is on all medication expected. Confusion caused by constipation (secondary to medication)
8	Fall associated with medication
10	CVA: patient in atrial fibrillation but not taking aspirin. Self harm/overdose.

5. Co-existing medical conditions including mental health

This will give an indication to the number of other medical problems from which the patient suffers. The greater the number, the greater the risk to the patient.

Each chronic condition will score 1 but at the discretion of the Pharmacist each condition can score an extra 1 if it is felt that it is not well controlled. This will allow for differences between patients with long past medical histories one being well controlled and the other being very unstable.

6. Home support available

Patients who have a lot of family support will be at less risk compared to patients with no support and living alone. Below are some examples to help to decide on a score. Once again every patient's circumstance is likely to be different.

<u>Score</u>	<u>Social Circumstance</u>
2	Lives with family
4	Lives with able partner
5	Lives alone but has family support
8	Lives with partner (but patient is main carer)
10	Lives alone

7. Professional Support available

Every patient will start with a score of 10, then it will reduce by 1 for every time a home care worker or another professional goes in to see the patient, e.g. Home care workers are going in 4 times a day, physiotherapist and district nurse are both going in once a week, then this patient would score 4.

Other professionals that should be taken into account are social worker, Macmillan nurse and specialist nurse e.g. asthma, diabetes and Parkinson's disease.

8. Impact of medication on lifestyle

Factors that must be taken into account are side effects, changes to medication regime, drug interactions, the need for blood tests e.g. therapeutic drug monitoring, U&Es, LFTs.

This will be related to each of the risk factors that have been identified on the pharmaceutical care plan. Each one can score up to a maximum of 4 depending on its effect on patient lifestyle.

If a patient has only 1 or 2 problems but the pharmacist feels it will have a profound effect on the patient then in this case that problem could be scored out of a maximum of 10 e.g. Polypharmacy.

9. Need for Concordance

This score is based on the outcome if the patient misses or takes extra doses of medication. If the outcome is likely to be re-admission to hospital or treatment failure then this would score high.

Examples:

<u>Score</u>	
2	Pain killers only
5	SSRI initiated for depression
7	Post CVA: initiated on aspirin anti-hypertensives
10	Warfarin, digoxin and diuretics for patient being treated for CCF and AF.

USEFUL WEBSITES

Audit Commission	www.auditcommission.gov.uk
Change Agent Team	www.changeagentteam.org.uk
Department of Health	www.dh.gov.uk
Guild of Healthcare Pharmacists	www.ghp.org.uk
Healthcare Commission	www.healthcarecommission.org.uk
Medicines Partnership	www.medicines-partnership.org/
National Audit Office	www.nao.org.uk
National electronic Library for Health	www.nelh.nhs.uk
National Institute for Health and Clinical Excellence (NICE)	www.nice.org.uk
National Patient Safety Agency	www.npsa.nhs.uk
National Prescribing Centre	www.npc.co.uk
National Programme for IT	www.connectingforhealth.nhs.uk
National Service Frameworks	www.dh.gov.uk/PolicyAndGuidance/HealthAndSocialCareTopics/HealthAndSocialCareArticle/fs/en?CONTENT_ID=4070951&chk=W3ar/W
NHS Northern Ireland	www.n-i.nhs.uk
NHS Scotland	www.show.scot.nhs.uk
NHS Wales	www.wales.nhs.uk
Pharmaceutical Services Negotiating Committee	www.psnc.org.uk
Primary Care Pharmacists Association	www.pcpa.org.uk
Royal Pharmaceutical Society of Great Britain	www.rpsgb.org

GLOSSARY AND ABBREVIATIONS

Acute Services - medical and surgical treatment and care mainly provided in hospitals.

Assessment - a process whereby the needs of an individual are identified and their impact on daily living and quality of life is evaluated.

Care Package - a combination of services designed to meet a person's assessed needs.

Care Planning - a process based on an assessment of an individual's assessed need that involves determining the level and type of support to meet those needs, and the objectives and potential outcome that can be achieved.

Clinical Governance - a framework through which the NHS is accountable for continuously improving the quality of services.

Community Health Services - services provided outside the hospital setting by health care professionals employed by NHS Trusts or PCOs such as district nurses, school nurses and health visitors.

Compliance - The extent to which patients take medicines according to the prescribed instructions.

Co-morbidity - other co-existing illness in addition to the particular illness which is currently most significant.

Concordance - the process of shared decision making about medicines between a healthcare professional and a patient, based on partnership, where the patient's expertise and beliefs are fully valued.

Directed Enhanced Services (**DES**) - enhanced services within the nGMS contract that are under national direction with national specifications and benchmark pricing which all PCOs must commission for their population. Examples include services to support staff dealing with violent patients, improved access, influenza immunisation, childhood immunisations, and advanced minor surgery.

Disease Management - the process of considering the entire healthcare needs of a patient with a particular disease and then managing the whole process of their delivery in an efficient and cost-effective manner.

Health Economy - Strategic Health Authority and the PCOs, main NHS Trusts, and social services department that are co-terminous with it.

Intermediate Care - a short period (normally no longer than six weeks) of intensive rehabilitation and treatment to enable patients to return home following hospitalisation, or to prevent admission to long term residential care; or intensive care at home to prevent unnecessary hospital admission.

Local Enhanced Services (**LES**) - enhanced services within the nGMS contract that are developed locally. Terms and conditions are discussed and agreed locally between the PCO and the practice.

Multidisciplinary - refers to when professionals from different disciplines - such as social work, nursing, occupational therapy etc, work together.

National Enhanced Services (**NES**) - enhanced services within the nGMS contract that have national specifications and benchmark pricing which PCOs can choose to commission. Examples include intra-partum care, anti-coagulant monitoring, intra-uterine contraceptive device fitting, specialised drug and alcohol, sexual health services, depression or multiple sclerosis services, enhances services for the terminally ill, homeless, those with learning disabilities, and immediate and first response care.

National Institute for Health and Clinical Excellence (**NICE**) - a special health authority responsible for providing national guidance on the promotion of good health and the prevention and treatment of ill health.

National Patient Safety Agency (**NPSA**) - a special health authority responsible for coordinating the reporting of, and learning from, mistakes and problems that affect patient safety.

National Programme for Information Technology (**NPfIT**) - information technology modernisation programme within the NHS.

National Service Frameworks (**NSFs**) - documentation bringing together the best evidence of clinical and cost-effectiveness with the views of service users to determine the base ways of providing particular services.

NHS Care Record Service (**NCRS**) - part of the National Programme for IT, which will deliver a live, interactive patient record, accessible by all practitioners involved in the individual's care.

NHS Trusts - statutory bodies providing NHS hospital healthcare.

Payment by Results (**PBR**) - a new financial system, which will replace block contracts, where payment is linked to activity adjusted for casemix, based on a standard national price tariff.

Personal Social Services (**PSS**) - personal care services for vulnerable people including those with special needs because of old age or physical disability. Examples of services are residential care homes, home helps, and social workers who provide help and support for a wide range of people.

Pharmaceutical Care - the responsible provision of drug therapy for the purpose of achieving definite outcomes that improve a patient's quality of life. These outcomes are cure of disease, elimination or reduction of a patient's symptomology, arrest or slowing of a disease process, or preventing a disease or symptoms.

Pharmaceutical Care Plan - direct involvement of the pharmacist in the design, implementation, and monitoring of a therapeutic drug plan to produce a specific therapeutic outcome.

Plurality - a mixed economy of public and private sector healthcare provision.

Practice Based Commissioning (**PBC**) - GPs commission the care and other services required to meet the needs of their patients.

Primary Care - family health services provided by family doctors, dentists, community pharmacists, optometrists and ophthalmic medical practitioners.

Secondary Care - specialist care, typically provided in a hospital setting or following a referral from a primary or community health professional.

Single Assessment Process (**SAP**) - an integrated assessment process which aims to make sure that older people's care needs are assessed thoroughly and accurately, but without duplication by different agencies.

Social Care - personal care services provided by local authorities for vulnerable people, including those with special needs because of old age or physical or mental disability, and children in need of care or protection. Examples include residential care homes, home help and home care services etc.

Special Health Authorities - health authorities with a unique national or supra-regional function which cannot be undertaken by other kinds of NHS bodies (for example the Prescription Pricing Authority, NICE).

TTA / TTO (To Take Away / To Take Out) - the medicines supplied for the patient to take away at the end of their hospital admission.

Unified Assessment Process - term used in Wales for the Single Assessment Process (SAP).

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Notes

