Ensuring the accuracy and continuity of patients’ medication when they are admitted to hospitals is now common practice. However, there has been less regard for such medicines reconciliation once care is transferred back into the community. Consequently, there is a risk that medication changes made in hospital are not communicated effectively to GPs and other community healthcare professionals. Research suggests that around 60% of all medication errors in hospital occur as a result of poor communication when patient care is transferred (ie, between wards or during admission or discharge). Other studies suggest that 40–50% of patients have at least one discrepancy in their discharge information, with the most common reasons for error being that medicines are incompletely prescribed (eg, have incomplete or inaccurate instructions) or are omitted.

In 2007, a systematic review found that, in general, deficits in communication and information transfer at hospital discharge are common and may affect patient care. This is likely to include communication about medicines and intentions for prescribing and monitoring. Subsequent medication changes should be documented — either on the patient’s drug chart or in his or her medical notes. This would include indications for new medicines, reasons for altering doses and reasons for treatment being discontinued. This would allow a summary of medication changes and the rationale behind them to be retrieved easily and quickly when a discharge advice letter is written for the patient’s GP.

Whether the changes should be recorded in the notes or on the drug chart was a subject of considerable debate. Recording on the drug chart makes the information more accessible. It also helps to educate junior doctors and others on the reasons for medication changes (eg, a

Planning for discharge: the next step for medicines reconciliation

By Duncan Petty, PhD, MRPharmS, and Sotiris Antoniou, MSc, MRPharmS

Ensuring that medicines reconciliation takes place for every patient admitted to hospital is an excellent start. But to complete the circle there needs to be a renewed focus on communication at discharge.
The advantage of recording in the medical notes is that it creates a permanent record that might be useful during subsequent admissions. However, the medical notes are less transportable so they cannot be moved as easily to another part of the hospital (eg, pharmacy) for the discharge letter to be written.

It was agreed that writing on the drug chart was the most useful method but important and complex medicines management information should also be written in the medical notes.

These ideas are encompassed in the term “planning for discharge”. As soon as patients are admitted to hospital, pharmacists should start planning for their discharge so that the correct information is captured and can be quickly retrieved when the discharge advice letter is written. This concept has been put into practice formally at Barts and The London NHS Trust (see Box, p.176).

Care plans
A care plan for the GP should be written by the pharmacist for patients considered to be at high risk of medicines misadventure. This will tend to be those individuals prescribed the highest number of medicines (eg, patients admitted to care of the elderly or cardiac wards).6

Since writing care plans is a time-consuming process, using risk factors to identify high-risk patients will be necessary. Possible risk factors might include:

- **Medicine factors** — medicines with high risk for side effects and toxicity; those needing titration or monitoring after discharge
- **Patient factors** — eg, people with poor renal function, polypharmacy, etc
- **Social factors** — individuals who are socially isolated, have cognitive impairment, or have been prescribed a compliance aid

Where social factors are identified as a risk factor, healthcare staff need to determine ways to help the patient (eg, large print labels, compliance aids, use of medicines with once-daily dosing). Any proposed solutions should then be forwarded, along with other discharge advice, to community pharmacists, GPs, district nurses and community matrons to ensure that the necessary interventions can be enacted in primary care.

**Patient counselling**
There is evidence that around one third of adverse drug events occurs as a result of patients inadvertently taking the wrong medicines after discharge.9 Patients are not always told about medication changes when they are in hospital so may be unaware of which ones to take when they get home.10

Ideally, clinical pharmacists should talk to all patients before discharge to make sure any medication changes, and the reasons for them, have been made clear. This, however, is not always possible because of the time commitment required to do so and because patients are often discharged outside pharmacists’ working hours.

An alternative would be to offer training to nurses on how to provide this type of counselling. In addition, further training on consultation skills might help nurses to explore patients’ concerns about taking medicines.

**Electronic discharge notes**
Although some trusts have electronic discharge forms, these are not truly “electronic” (ie, the information is usually not transferred electronically to patients’ GP records). In addition, there may be issues about how well such notes are completed. For example, treatment durations might not be documented, new medicines might not be clearly identified as such and, if patients’ medicines are not reconciled properly, the notes could include an incorrect list of medicines. On the plus side, electronically produced notes are always legible.

If pharmacists were to complete these discharge medicine forms then, in the same way that pharmacists improve the accuracy of medicines reconciliation on admission, the accuracy of such forms could be improved.11

**GP practice procedures**
Many attendees believed that not all GP practices have systems in place to ensure care plans are implemented safely and consistently once discharge advice letters are received from hospitals. Guidelines could be developed on how to manage discharge information. In particular:

- **How to reconcile medicines and update patients’ medicine lists**
- **How to ensure that follow-up monitoring (eg, blood tests, consultations to check for treatment efficacy or adverse events) and necessary medication alterations occur**
- **How to identify patients at risk of medicines misadventure due to adherence issues**

**Medicines hotline**
Medicines reconciliation often involves hospital staff contacting GP practices for information on patients’ regular, long-term medicines. However, getting through to busy practices is often a problem. To solve this, each surgery could provide a “medicines hotline” for hospital staff to call when requesting such information.

**Managing repeat lists**
Often, GPs maintain lists of patients’ long-term medicines in their electronic records in the form of “repeats”. Many will include in this list medicines prescribed by other clinicians to ensure that drug-drug and drug-disease interactions are identified. However, GPs need to be aware that if a surgery does not issue a medicine, pharmacy or other hospital staff might interpret the “last issued” date to mean the patient is no longer taking the medicine. To resolve this, GPs could include information within the repeat record for such medicines that identifies who is the main prescriber (eg, “being prescribed by hospital renal team”).

**Post-discharge MURs**
Some patients experience adverse drug events because they are confused about which medicines to
take. Community pharmacists could help patients understand which medicines to take and how to take them — along with any “dos and don’ts” — using post-discharge medicines use reviews (MURs); a system where these can be requested by GPs, hospital staff and patients themselves should be available. Ideally, such MURs would occur after the GP has reviewed the patient’s medicines and performed a clinical medication review to ensure his or her records have been updated appropriately.

Domiciliary MURs Many patients discharged from hospital are housebound and therefore unable to visit a pharmacy to receive an MUR. However, there is scope for primary care trusts to fund domiciliary MURs as a locally enhanced service.

Such reviews do not necessarily need to be conducted by community pharmacists. If a PCT were to commission this service, the tendering process could be opened more widely and reviews could be conducted by pharmacists employed by the PCT’s provider arm, a private company or an acute hospital trust. Furthermore, less complex cases could be handled by pharmacy technicians.

Training new staff
At undergraduate level and during training years, doctors and pharmacists should receive more training about the medicines-related risks that arise during the transfer of patient care. This should provide an appreciation of the problems faced by patients and other healthcare professionals when the reasons for medication changes are not documented and communicated effectively.

By encouraging a cultural change, an improved way of working can become normal practice rather than being seen as an additional duty that doctors and pharmacists are expected to take on.

Justification and funding
The National Institute for Health and Clinical Excellence/National Patient Safety Agency medicines dependency database was extended to include information about medicines taken by patients. This is useful to doctors and pharmacists who need to know what patients are taking, especially when they are discharged.

As part of the remodelled way of working, all ward pharmacists are required to ensure they gain a basic understanding for why each patient is admitted (ie, for which procedure). In addition, a list of the medicines taken by the patient before admission must be documented; this list should be annotated if any of these medicines is used after admission (eg, angiotensin-converting enzyme inhibitors) witheld temporarily after their operation due to possible haemodynamic instability (eg, low blood pressure, acutely impaired renal function).

Throughout their hospital admission, cardiac surgery patients often have some of their medicines (eg, angiotensin-converting enzyme inhibitors) withheld temporarily after their operation due to possible haemodynamic instability (eg, low blood pressure, acutely impaired renal function).

Planning for discharge need not necessarily require new funding. It can be implemented using new ways of working and through education and training.

In 2008, the clinical pharmacy service provided to the cardiac ward at St Bartholomew’s Hospital, London, was reviewed and remodelled. Here, the flow of patients through the hospital’s cardiothoracic unit is described (see Figure below).
reconciliation guidance has provided a mandate to hospitals to put additional resources towards medicines reconciliation on admission. We urge the NPSA to impose a similar mandate for carrying out medicines reconciliation on discharge since this is a likely source of medication errors.

If resources are needed to fund new posts then there may be ways of justifying the service to PCT commissioners and hospital managers. For instance, business cases should provide evidence for the impact of new services (eg, fewer adverse effects caused by medicines) and the financial impact of a new service (eg, fewer readmissions, reduced litigation caused by medicines misadventure). In addition, it may be possible for the PCT to include planning for discharge within its local “Commissioning for quality and innovation” (CQUIN) scheme. This scheme rewards hospitals financially for improving their quality of care. Improving the discharge process clearly improves quality; gaining the views and support of patients might be necessary when preparing the necessary business case.

ACKNOWLEDGEMENT The authors thank those PCPA and UKCPA members who attended the meeting, which was held on 24 September 2009 at the Liberal Club, London.

References
4 Rozich JD, Resar RK. Medication safety: one organization’s approach to the challenge.