Taking drug histories — an audit of technician accuracy

By **Jo Tizard,** FdSc

Obtaining accurate drug histories from hospital patients is essential for providing a basis for making decisions on future therapy. An audit at Southampton General Hospital has examined the success of pharmacy technicians taking on this role

Technicians use a range of sources to establish an accurate drug history

Historically, the task of taking a drug history from a patient when they are admitted to hospital has been undertaken by junior doctors. However, there is evidence that pharmacists take more accurate drug histories.[1]

Using the skills of pharmacy technicians and pharmacists at ward level to promote better medicines management was an important theme of the Audit Commission's report entitled "A Spoonful of Sugar". With the number of pharmacy technicians working in clinical settings increasing, more technicians are taking on roles that incorporate drug history taking.

At Southampton Universities Hospitals NHS Trust, extending the role of the pharmacy technician has been an integral part of the medicines management programme since 1997, when the trust implemented a scheme to use patients' own drugs. As the roles of ward-based technicians evolved, drug history taking by technicians became a common occurrence, especially for those working in the acute medical unit (AMU).

Current practice

The AMU at Southampton General Hospital is staffed by a pharmacy team comprising two pharmacists (who are on the ward for 12 hours a day) and two pharmacy technicians. The pharmacists primarily ensure that medicines are used safely and effectively, identify potential drug-related causes for admission and ensure drug–disease interactions are recognised and rectified as early as possible after the patient is admitted. A large proportion of their time is spent on ward rounds, providing clinical advice.

Pharmacy technicians have been trained to obtain drug histories from patients admitted to the unit during pharmacy opening hours. Discrepancies between the prescription chart and the information obtained by the technician are recorded on the back of the drug chart. This information is used by pharmacists and doctors to make informed decisions about a patient's drug treatment.

The technicians use a range of sources to obtain a record of medicines taken by the patient before they were admitted. These include the patient, the patient's relatives or carer, the patient's own medicines, previous hospital notes and GP records. If this range of sources is not used, information relayed back to the GP after discharge may not be complete.

An audit was undertaken at Southampton General Hospital to establish whether technicians are able to take and document accurate records of the medicines taken by patients before they were admitted to hospital, and whether this could have a positive impact on a patient's clinical outcome.

Method

Drug histories documented by both pharmacy technicians and junior doctors were compared over a two-week period. Data was collected retrospectively from all patients admitted to the AMU between 9am and 5pm on weekdays. This ensured that both the technicians and doctors had access to the same sources of information.

Data was collected by the auditor without informing the technicians or doctors involved. For all patients, both drug histories were measured against a set of agreed

Panel 1: Standards used to assess drug history quality

- All drug histories are fully documented when taken from a patient
- All drug names documented are legible
- All drug names documented are written generically (except where brand names are important)
- All drug doses are documented
- All drug frequencies are documented
- Allergy status is confirmed and documented in all patients
- The sources of information used for obtaining the drug history is documented for all patients

Jo Tizard is medicines liaison manager at Southampton General Hospital

Table 1: Extent to which standards for taking drug histories were met

Standard	Technicians	Doctors
Total number of drugs recorded	330	282
Drugs written legibly	330 (100%)	279 (99%)
Drugs written generically	293 (89%)	241 (85%)
Dose documented	312 (95%)	230 (82%)
Frequency documented	313 (95%)	205 (73%)
Source documented	41 (98%)	0

standards, listed in Panel 1 (see p351). After this initial analysis, patient data was anonymised. A clinical admissions pharmacist and an admissions registrar then rated the clinical significance of any discrepancies between the two drug histories.

Audit results

During the audit period, a total of 386 patients were admitted via the AMU. Of those patients, 242 were admitted outside the specified time frame, nine did not take regular medicines before admission and 19 had drug histories taken by the ward pharmacist. All of these patients were excluded from the study.

A further 65 patients were transferred from the AMU or sent home before being seen by a technician so were also excluded. Nine patients had no drug histories recorded by a technician without obvious reason. A total of 42 patients had a drug history taken by a technician that were suitable for analysis against that taken by the admitting doctor.

The extent to which both the technicians and doctors met the agreed standards is shown in Table 1.

The clinical significance of each discrepancy found between the 42 pairs of drug histories was rated according to its severity. There were 16 insignificant discrepancies that did not require further intervention by the pharmacist or medical team. The remaining discrepancies concerned drugs being omitted from one of the drug histories. These were classified as follows:

- Minor The patient would not be harmed if therapy was missed or a simple clarification was required
- Moderate The omission could potentially result in some harm to the patient. Failure to intervene may have changed clinical decisions, impacted on length of stay or affected the patient after they were discharged, with the potential to cause readmission
- Major The omission would harm the patient because important therapy was missed. Failure to intervene would have changed clinical decisions, impacted on length of stay or affected the patient after they were discharged, with the potential to cause readmission

A total of four omissions in the histories taken by technicians required intervention. Three of these were classed as moderate and one was major.

Of the omissions from histories taken by doctors, 21 required intervention. Eight of these were minor, nine were moderate and four were major.

Analysis

Technicians met all agreed standards for taking accurate drug histories to a greater extent than doctors. This is likely to have been helped by the technicians' familiarity with the patients' own drugs scheme that operates in the hospital.

Communicating with patients Ward-based pharmacy technicians routinely assess the quality of medicines brought in from home by patients for suitability of use within the hospital. Engaging the patient in discussions about their medicines is, therefore, common practice. This source of information was most commonly used by pharmacy technicians when obtaining drug histories.

When admitting a patient, the doctor may not have access to this information, as many patients rely on relatives to bring their medicines in at a later date. By seeing the patient slightly later, pharmacy technicians have the advantage of access to this source.

Documenting the source The reliability of the source providing information for a drug history can vary. For example, an alert patient in possession of his or her own medicines will usually be more accurate than a drowsy patient who does not have their medicines with them. Documenting the source used can help other health care professionals validate the accuracy of the drug history.

During the audit, the source of information was never documented by a doctor. Technicians recorded the source used in 98 per cent of the drugs histories obtained. This is largely due to the training undertaken by ward-based technicians, supported by departmental standard operating procedures. This process ensures that information is consistently gathered and recorded in a logical order.

Severity of omissions Technicians made fewer moderate and major omissions from drug histories than doctors. Of the omissions that were made by technicians, most were attributed to the source of information used. For example, drugs started recently may have been omitted because a previous hospital discharge prescription (which did not contain up to date information) was used as the source. It should be noted that the system used for rating the severity of an omission has not been validated.

Limitations One limitation of this audit is that the two drug histories for each patient (taken by the doctor and technician) were compared, instead of independently obtaining a definitive, correct drug history. This was because of time constraints. Future research may consider what the gold standard of drug history taking should be.

Conclusion

Our audit shows that involving technicians in drug history taking can reduce the number of accidentally omitted drugs. These omissions often have the potential to cause patient harm.

Reviewing the process of drug history taking and establishing a checklist to follow would enable the agreed standards to be met more consistently. By ensuring that more than one source of information is used to obtain a drug history, the chance of a drug being omitted can be reduced.

With further training, technicians working in the AMU could free time for pharmacists, allowing them to concentrate on more clinical aspects of patient care. However, this would need investment and creative thinking to achieve.

Further reading

- Gates C. Drug history taking — avoiding the common pitfalls. Hospital Pharmacist 2006;13:98–100
- Michels RD, Meisel SB. Program using pharmacy technicians to obtain medication histories. American Journal of Health Systems Pharmacy 2003;60:1982–86
- Howarth J. How best to take a medication history at hospital admission. Pharmacy in Practice 2007;17:34–36

References

1. Mcfadzean E, Isles C, Moffat J, Norrie J, Stewart D. Is there a role for a prescribing pharmacist in preventing prescribing errors in a medical admission unit? The Pharmaceutical Journal 2003;270:896–9.