AIMS AND METHOD

We undertook three cycles of clinical audit of prescription charts to improve the quality of the prescriptions written in an in-patient unit. Pharmacy and medical staff reviewed a total of 1466 prescriptions on 242 prescription charts against local guidelines and provided feedback to medical staff. The pharmacist also regularly reviewed prescription charts on the wards between audits.

RESULTS

After three cycles of audit, 99.5% of prescriptions written were legible. The recording of drug allergies, section 58 status and patient age remained poor.

CLINICAL IMPLICATIONS

A combination of clinical audit and continual pharmacist review of prescription charts can improve the quality of prescriptions written by medical staff in an in-patient unit.

Method

A prospective clinical audit was based on the trust prescription writing guidelines. This was then used by the pharmacist and junior medical staff to conduct three cycles of prospective clinical audit of the prescription records of patients admitted to adult wards at the Caludon Centre. The first audit was completed in June 2001, the second in March 2004 and the third in February 2006. Minor adjustments were made to the audit tool in 2004 and the size of the 2006 audit was increased by the inclusion of a newly opened ward. Results were fed back to trust staff at postgraduate medical education meetings. The pharmacist also conducted regular review of the prescription charts on the wards between the audits and highlighted errors to the appropriate medical team.

Prescription writing is a basic clinical skill for all doctors, but errors in prescriptions are believed to be one of the most common forms of medical error. Prescription errors may lead to harm in a number of ways, including subtherapeutic dosage, potential overdose or unintended polypharmacy. This type of error may occur for a number of reasons: some relatively complex, such as shortcomings in medical training, and others more mundane, such as fatigue, interruptions, or being asked to cover unfamiliar patients (Dean et al, 2000). One study of prescriptions in a psychiatric unit for older people found that 20% were illegible and one-third contained missing information (Nirodi & Mitchell, 2002). Clinical audit is a commonly used quality improvement process which measures clinical practice against agreed standards and introduces change where this is indicated (National Institute for Clinical Excellence, 2002). Coventry Teaching Primary Care Trust published guidelines for the completion of prescriptions in May 2001. We used a series of clinical audits in the period June 2001 to February 2006 in an attempt to improve the quality of prescriptions written at the Caludon Centre, a 70-bed in-patient unit in Coventry.

Discussion

The results of this study suggest that clinical audit and feedback combined with pharmacist intervention at ward level can improve the quality of prescriptions in an inpatient setting. The overall legibility of prescriptions reviewed improved to a point where 99.5% of all prescriptions reviewed were considered legible. Specific aspects of prescription writing that had been poor in 2001 also showed improvement, most noticeably the proper cancelling of ‘as required’ and regular prescriptions. However, some basic aspects of prescription writing, such as using block capitals for drug names, only improved slightly and the recording of drug allergies remained very poor throughout the audit period. This is a cause for concern, although the actual risk it represents is difficult to assess. Although drug allergies are believed to occur in 14–17% of all patients, the most common are to antibiotics and non-steroidal anti-inflammatory drugs (Vervloet & Durham, 1998), both of which are not widely prescribed in our unit. However, recording drug allergies remains the responsibility of the prescriber and other...
Table 1. Recording of patient information on drug records

| Percentage recorded | 2001 (n=67) | 2004 (n=57) | 2006 (n=118) |
|---------------------|-------------|-------------|--------------|
| Written in indelible ink | 96 | 97 | 97 |
| Full name | 96 | 98 | 98 |
| Ward | 55 | 26 | 29 |
| Date of birth | 98 | 94 | 94 |
| Consultant | 60 | 26 | 31 |
| Hospital number | 79 | 93 | 88 |
| Legal status | 55 | 63 | 42 |
| Date of admission | 36 | 9 | 16 |
| Age | 21 | 17 | 10 |
| Section 58 status | 5 | 2 | 3 |
| Allergies box completed | 15 | 19 | 10 |
| Legible | 93 | 95 | 98 |

Table 2. Completeness of regular prescriptions

| Percentage recorded | 2001 (n=199) | 2004 (n=238) | 2006 (n=495) |
|---------------------|-------------|-------------|--------------|
| Written in indelible ink | 98 | 98 | 96 |
| Generic drug name used | 96 | 92 | 95 |
| Printed in block capitals | 48 | 42 | 65 |
| Drug name in full | 98 | 99 | 99 |
| Dose in acceptable abbreviations | 90 | 95 | 98 |
| Frequency given | 41 | 47 | 57 |
| Route in acceptable abbreviations | 97 | 98 | 90 |
| Start date given | 100 | 99 | 100 |
| Signed for by prescriber | 100 | 100 | 100 |
| Administration times circled | 97 | 100 | 99 |
| Alterations rewritten correctly | 21 | 75 | 92 |
| Legible | 93 | 99 | 99 |

Table 3. Completeness of 'as required' prescriptions

| Percentage recorded | 2001 (n=119) | 2004 (n=141) | 2006 (n=274) |
|---------------------|-------------|-------------|--------------|
| Written in indelible ink | 93 | 96 | 95 |
| Generic drug name used | 96 | 96 | 96 |
| Printed in block capitals | 53 | 40 | 56 |
| Drug name in full | 99 | 100 | 100 |
| Dose in acceptable abbreviations | 95 | 95 | 99 |
| Frequency given | 87 | 90 | 81 |
| Route in acceptable abbreviations | 94 | 99 | 96 |
| Start date given | 99 | 99 | 99 |
| Signed for by prescriber | 98 | 99 | 100 |
| Reason for administration | 52 | 64 | 74 |
| Alterations rewritten correctly | 93 | 100 | 100 |
| Legible | 95 | 97 | 100 |

Audits have shown allergy recording rates of 75% or more are achievable (Tuthill et al, 2004).

Continuous quality assurance requires ongoing data collection, review of that data and action. Various strategies have been suggested to improve the quality and safety of hospital prescribing, including systems analysis (Hronek & Bleich, 2002), electronic prescribing systems (Fowlie et al, 2000) and applying human error theory (Dean et al, 2000). Barber et al (2003) advocate a three-part strategy aimed at reducing prescribing errors. This is based on improving individual prescriber’s competence, controlling the prescribing environment and changing organisational culture to allow open discussion of errors. Clinical pharmacists can have a positive impact on prescribing practice, outcomes and resource use (Finley et al, 2003), and we believe that clinical pharmacist review on the wards was the most effective element of this audit. Medicines are given because it is believed that the benefits will outweigh any associated risks, but trusts need appropriate controls to ensure that these risks are minimised (Healthcare Commission, 2007). The involvement of clinical pharmacy staff in caring for in-patients is a service that provides such controls and safety measures.

Declaration of interest

None.

Acknowledgements

We thank Drs Padmapriya Musunuri and Karthik Modem for help with data collection.

References

BARBER, N., RAWLINS, M. & DEAN FRANKLIN, B. (2003) Reducing prescribing error: competence, control and culture. Quality and Safety in Healthcare, 12, 129–132.

DEAN, B., BARBER, N., SCACHTER, M., et al (2000) Prescribing errors in hospital inpatients: why do they occur? Pharmaceutical Journal, 265, 17.

FINLEY, P., CRIMSON, L. & RUSH, J. (2003) Evaluating the impact of pharmaceutical practice, outcomes and resource use (Finley et al, 2003). Teaching Primary Care Trust, The Caludon Centre, Clifford Bridge Road, Coventry CV2 2TE, email: tim.coupe@uhcw.nhs.uk

FINLEY, P., CRIMSON, L. & RUSH, J. (2003) Evaluating the impact of pharmaceutical practice, outcomes and resource use (Finley et al, 2003). Teaching Primary Care Trust, The Caludon Centre, Clifford Bridge Road, Coventry CV2 2TE, email: tim.coupe@uhcw.nhs.uk

HRONEK, C. & BLEICH, M. (2002) The less than perfect medication system: a systems approach to improvement. Journal of Nursing Care Quality, 16, 17–22.

NATIONAL INSTITUTE FOR CLINICAL EXCELLENCE (2002) Principles for Best Practice in Clinical Audit. Radcliffe Medical Press.

NRRODI, A. & MITCHELL, A. (2002) The quality of psychotropic drug prescribing in patients in psychiatric units for the elderly. Aging and Mental Health, 6, 191–196.

TUTHILL, A., WOOD, K. & CAVELL, G. (2004) An audit of drug allergy documentation on inpatient drug charts. Pharmaceutical Journal, 175, 16.

HEALTHCARE COMMISSION (2007) Talking about medicines: The management of medicines in trusts providing mental health services. http://www.healthcarecommission.org.uk/c_db/.../Talking...