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When do medication errors occur and who reports them? Analysis of a web-based incident reporting scheme in secondary care

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Focal points

- The results of a retrospective analysis of medication errors reported to a web-based incident reporting scheme in a large teaching hospital are presented
- Errors were most often reported to occur at the administration (41.0 per cent), prescribing (28.2 per cent) and dispensing (19.3 per cent) stages of medication
- Nursing staff were most likely to report administration errors (84.4 per cent) while pharmacists were most likely to report prescribing errors (68.2 per cent)
- In contrast, only 4 (5.1 per cent) medication-related errors were reported by doctors

Introduction

Error reduction is a key goal in the clinical governance agenda. The Government White Paper "An organisation with a memory" recommended that there should be a 40 per cent reduction in the number of serious errors involving prescribed drugs, by 2005.¹ "Building a safer NHS for patients" outlined plans to establish a national mandatory error reporting scheme, to ensure that lessons learnt from adverse events in one locality are learnt across the health service as a whole.²

Several information technologies have been shown to improve the safety of drugs.³ Despite this, relatively little is known about the use of information technology as a means of reporting errors that occur in the process of giving drugs. The research reported here formed part of a wider study of medication errors. The aim of the study was to examine all medication-related incidents that were reported to a web-based incident reporting scheme to assess the stages at which incidents occur in the medication use process and identify which groups of health care professionals are responsible for reporting incidents at each stage.

Method

Retrospective analysis of all medication-related incidents was reported to a web-based incident-reporting scheme during a six-month study period (from October 2002 to March 2003) in a large (1,000-bed) teaching hospital trust. All incidents were recorded by self-report from hospital staff. The main outcome measures were the number of medication-related incidents, the type of health care professional who reported the incident, and the stage in the medication use process when the incident occurred (prescribing, dispensing, administration).

Results

Over six months, 78 medication-related incidents were reported. Table 1 shows the stages in the medication use process when the errors occurred and the type of staff that reported the errors. Medication-related errors were reported most often at the stages of administration (41.0 per cent), prescribing (28.2 per cent) and dispensing (19.3 per cent). Other errors, such as failure to deliver medication to a ward, were less common (11.5 per cent). Of all the errors, 59 per cent were reported by nursing staff, 32.1 per cent were reported by pharmacists, 5.1 per cent were reported by doctors and 3.8 per cent by other members of the hospital staff.

Table 1 Types of medication-related errors

Staff reporting error	Type of medication-related error			
	Prescribing	Dispensing	Administration	Other
Doctor	1 (4.5%)	1 (6.7%)	0 (0%)	2 (22.2%)
Nurse	5 (22.8%)	9 (60.0%)	27 (84.4%)	5 (55.6%)
Pharmacist	15 (68.2%)	5 (33.3%)	5 (15.6%)	0 (0%)
Other	1 (4.5%)	0 (0%)	0 (0%)	2 (22.2%)
Total	22 (100%)	15 (100%)	32 (100%)	9 (100%)

Discussion

Systems are needed whereby errors can be detected and reported at all steps in the medication use process. This study has shown that a web-based incident reporting scheme can be used to monitor drug-related incidents at all stages in this process (prescribing, dispensing, and administration). The types of incidents reported by health care professionals differ markedly, and very few medication-related incidents are reported by doctors. Previous studies, using clinical scenarios, have shown that doctors are less likely to report adverse events than other health care professionals.⁴ Future research should explore what impact information technology has on the willingness of health care professionals to report actual adverse events.

In considering how to learn from adverse events, policy-makers and practitioners may wish to consider the characteristic profile of medication errors in the hospital setting and explore the wider implications of these findings in implementing a national reporting system for adverse events in the NHS.

References

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