

# Medication incident reports

## — improving the quality of reporting

By Gillian Cavell, BPharm, MRPharmS



Reports of medication incidents need to be accurate and complete for the NPSA to identify error trends and disseminate safety information. This article describes how review of incident reports by pharmacists improves the reliability of the analysis

**R**ecognising that the NHS fell short of other industries in its ability to learn from its mistakes, the Chief Medical Officer set out a strategy to improve patient safety in the NHS in “an organisation with a memory”.<sup>1</sup> Of particular concern was the recurrence of preventable adverse events with devastating consequences for patients, their relatives and health care staff.

The most well known example of a recurring medication error is the accidental intrathecal injection of intravenous vinca alkaloids which has caused the death of a number of patients. Concerns about the frequency and seriousness of this error resulted in the publication of national guidance on the safe administration of intrathecal chemotherapy.<sup>2</sup>

“Building a safer NHS for patients”<sup>3</sup> established a goal for improvement by encouraging reporting and learning through a national reporting scheme for patient safety incidents and near misses. The National Patient Safety Agency was set up to collect and analyse patient safety information submitted by NHS organisations and assimilate other safety-related information from a range of sources including published literature. The NPSA

aims to ensure that lessons learnt are fed back into practice through organisation and service delivery, and that solutions to prevent harm are developed, goals for NHS organisations are established and mechanisms to monitor progress against the goals set are developed.

In July 2005, the NPSA published its first *Patient Safety Bulletin*, feeding back to the NHS a review of learning from incidents reported to the National Reporting and Learning System between its inception and March 2005.<sup>4</sup> A total of 85,342 incidents were reported of which 67,344 were from acute hospitals. Medication-related incidents were the third most commonly

reported, accounting for 8.6 per cent of the total reports from this health care setting.

However, the ability of the NRLS to analyse and feed back on information received is limited by the quality of data submitted in the reports.<sup>5</sup> Information provided may be incomplete and, as the reports are anonymous, no further information can be obtained.

For the NPSA to be able to achieve its aims of analysing and assimilating safety-related information to identify themes and trends, it is important that it is provided with information that is accurate, complete and easily accessible. This is not easy to achieve with data from more than 230 organisations being pooled for analysis. Experience from our own trust has highlighted this as an issue.

### Panel 1: Definitions

**Adverse drug reaction** An adverse drug reaction has been defined by the World Health Organization as any response to a drug which is noxious, unintended and occurs at doses used for prophylaxis, diagnosis or treatment.

**Medication error** A medication error is defined as any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of a health professional, patient or consumer.

### Medication incidents

So what constitutes a medication-related incident? A medication-related incident can be an adverse drug reaction or a medication error. Both can result in harm, although adverse drug reactions, where the patient is not already known to have experienced an adverse reaction to the drug, are not preventable. Where appropriate, ADRs are reported to the Committee on Safety of Medicines to enable the safety profile of new drugs to be understood and to identify

Gillian Cavell is deputy director of pharmacy, medication safety at King's College Hospital, London.

## Panel 2: NPSA error codes

- Patient allergic to treatment
- Contraindication in relation to drugs or conditions
- Wrong/omitted/passed expiry date
- Wrong formulation
- Wrong frequency
- Wrong/transposed/omitted medicine label
- Wrong/omitted patient information leaflet
- Mismatching between patient and medicine
- Omitted medicine/ingredient
- Other
- Wrong method of preparation/supply
- Wrong quantity
- Adverse drug reaction (when used as intended)
- Wrong route
- Wrong storage
- Unknown
- Wrong/omitted verbal patient directions
- Wrong drug/medicine

previously unrecognised side effects of established drugs and vaccines. ADRs should also be reported as adverse incidents within organisations.

### Categories of incidents

Accurate categorisation of medication related incidents is vital for organisations to be able to gain an understanding of the types of incidents which occur frequently or errors that recur. The NPSA provides a list of codes against which medication related incidents are categorised. The errors to which codes have been allocated are listed in Panel 2. They are applied to prescribing, dispensing, administration, advice, monitoring and adverse drug reactions. Trusts may develop their own codes for medication-related incidents to enable more precise classification and these will be mapped to the NPSA categories for reporting to the NRLS.

Categorisation of medication-related incidents is complex and requires a good understanding of the medicines process if it is to be carried out accurately and consistently.

### Qualities of an ideal report

The type of information included in the incident report will vary according to the stage of the medication process at which the incident occurred, but it should always contain sufficient details of what was correct or intended and what actually happened. In most instances this will include some or all of the following:

- Drug name
- Dose
- Formulation
- Route of administration
- Frequency
- Times of doses
- Concurrent drug therapy

Details about the patient's clinical status should also be included where appropriate, such as age, weight, renal function, liver function or any other clinical condition which may predispose to adverse outcomes. Omission of any of this information makes classification or categorisation difficult, and assessment of the severity of the outcome of the incident, which is often subjective, even more difficult.

Consider the example of an error categorised as a "wrong route" error. When a report states that a drug was given by the wrong route, it could mean any of the following:

- The drug was prescribed to be given intravenously but the dose was given orally as a tablet
- The drug was prescribed to be given orally but, since the patient was nil by mouth, an appropriate intravenous dose was administered
- The drug was prescribed to be given intravenously but the injection solution was given via the enteral line in error
- The drug was prescribed to be given orally or via the nasogastric tube. The dose of oral liquid was measured into an intravenous syringe and given intravenously in error

Clearly the severity of the error and potential for patient harm is different for each of the possible scenarios described above. The amount of detail included in an incident report must be sufficient in order for the report to be meaningful.

Since it is impossible to subject all reported medication-related incidents to a full analysis to identify the root cause, it is useful if an incident report includes a comment from the reporter about the reasons that the error might have occurred.

### Accuracy of incident reports

Typically, incident reports are made as handwritten records describing an event, although on-line reporting is increasingly being used. Since handwritten reports will be in an individual's own handwriting style this can present a challenge to staff whose task it is to enter this data onto a computerised database. This data entry is often carried out by non-clinical, administrative staff in a risk office, who are given the difficult task of interpreting information given to them in a free text description.

Apart from the myriad of writing styles which need to be understood, unfamiliar

and possibly misspelt drugs names need to be transcribed, as do equally unfamiliar medication-related processes. From this information the incident will be categorised before it is fed back within the organisation. This is the same information that will be submitted to the NRLS. It is sometimes impossible even for a pharmacist familiar with drug names and medication safety issues to understand exactly what has happened from reports submitted.

### The role of the pharmacist

Ideally all medication-related adverse incidents should be reviewed by an experienced pharmacist before they are entered into a risk management database to ensure that there is sufficient detail in the report, that drug names are spelt correctly and to advise on categorisation of the incident. In some trusts pharmacists are responsible for entering the data themselves, but where this is not the case a pharmacist's input at some stage is required.

At King's College Hospital, London, the pharmacy department works closely with the risk management staff, who log all incidents onto the incident reporting database, to ensure accuracy and consistency of incident reports involving medication. All reports logged as medication-related incidents are downloaded into an Excel spreadsheet and sent as a weekly summarised report to the pharmacy department.

The pharmacist reviews each incident to ensure location, category, sub-category and grade are appropriately allocated, and that the qualitative information in the free text section of the report reflects the information provided in the incident report. This may involve reference to the original incident report. The spelling of drug names is checked and approved drug names included where the report only contains a brand name or abbreviated drug name. Changes are made to the summarised report and returned to the risk management department for amendment to the database entry.

In our experience the sections of the incident reports which require amendment most frequently are the subcategory (eg, wrong dose, wrong frequency, wrong formulation) and the category (eg, prescribing, dispensing, administration, adverse drug reaction). These are the two categories where knowledge of the medicines process is required so that the report reflects the source of the error rather than the stage of the process at which the error was detected, and also the actual type of error being described.

All articles in the "safety of medicines in practice" series can be accessed via *PJ Online* ([www.pjonline.com/safety](http://www.pjonline.com/safety)). The website has links to all of the regular features in *Hospital Pharmacist*.

### Panel 3: Examples of how incident reports may be incorrectly categorised

Incident	Categorisation
A patient experiences a severe skin reaction following the administration of a drug which they had not previously been prescribed.	May be categorised as an administration error instead of an unavoidable adverse drug reaction.
When dispensing a medicine the pharmacy team realise that the prescription is not correct. The pharmacist contacts the prescriber for clarification, corrects the prescription and reports the error.	May be categorised as a dispensing error rather than a prescribing error.
An infusion of a drug being administered at the wrong rate.	May be categorised as wrong dose instead of wrong rate of administration.

Amendments to the drug name and the information in the free text part of the report are required less often, although the pharmacist may add additional terms in the free text section to facilitate searches for similar errors at a later date. In some cases amendments to more than one section of the report might be required.

Some examples of the way in which medication incident reports may be categorised incorrectly are shown in Panel 3.

#### Conclusion

Pharmacist review of medication-related incident reports locally allows data to be analysed on a regular and cumulative basis in the knowledge that it has been categorised consistently. This enables clusters of errors involving similar drugs or similar processes and trends in error types to be reliably identified and highlighted in quarterly and annual analysis by the medication safety subcommittee. This in turn

enables feedback to the trust through the clinical governance structure and strategies to target problem areas to be agreed.

All pharmacists can contribute to medication safety on a national basis by ensuring that medication incident reports submitted to the NRLS contain sufficient information for the report to be meaningful, and are accurately categorised so that they will appear alongside similar incidents reported by other organisations. This will strengthen the data available to the NPSA so that recurring errors and errors associated with patient harm can be identified and incorporated into strategies to improve medication safety across the whole NHS.

#### References

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3. Department of Health. Building a safer NHS for patients — implementing an organisation with a memory. London: The Stationery Office; 2001.
4. National Patient Safety Agency. Building a memory: preventing harm, reducing risks and improving patient safety. London: NPSA; 2005.
5. National Patient Safety Agency. Patient Safety Bulletin 1. London: NPSA 2005.