

Pharmacists- the scientists in the high street

Adverse drug reaction (ADR) reporting by pharmacists

Useful information for pharmacists

Introduction

The yellow card scheme for reporting suspected adverse drug reactions (ADRs) was introduced in 1964 and over 400,000 reports have now been received by the Committee on Safety of Medicines (CSM) / Medicines and Healthcare products Regulatory Agency (MHRA).

The monitoring of new medicines is a vital part of the licensing process. A new drug will only have been clinically tested in a few thousand patients, although millions may take it when it is marketed. The reporting of ADRs can identify those drugs for which special precautions may be necessary because of the identification of uncommon adverse effects. If the severity and incidence of adverse effects outweigh the benefits of a drug it may even be necessary to withdraw marketing authorisation.

Key points for pharmacists

- Those who can report are doctors, dentists, coroners, pharmacists, nurses, midwives, health visitors, and pharmaceutical companies under statutory obligations.
- The Society's Code of Ethics states "pharmacists must be alert to potential adverse drug reactions and drug interactions and respond accordingly".
- All suspected ADRs for black triangle drugs and vaccines, all serious suspected reactions for established drugs and vaccines, and suspected ADRs associated with licensed and unlicensed herbal medicines should be reported.
- Pharmacists do not have to be certain that a medicine has caused the reaction. A suspicion is enough to report - if in doubt, fill a card out.
- Special attention should be given to vulnerable groups - patients who are pregnant, nursing mothers, elderly, or who have a history of allergies. All suspected adverse drug reactions in children should be reported.

Role of pharmacists

Community pharmacists are well placed to report ADRs associated with OTC medicines and herbal products. Further expected deregulation of medicines and increased clinical and prescribing roles for pharmacists will enhance these opportunities, increase the level of reporting and yield high-quality information not previously available.¹ Although most pharmacists are aware of the scheme, some may be unclear about what should be reported.²

Hospital pharmacists have been using the yellow card scheme since 1997 and in 1999 all community pharmacists were included. The table gives the number of reports received from hospital and community pharmacists from 1997, with the total number of reports received for comparison. Pharmacists now report about 16% of the total.

Description of ADRs

An ADR is defined by the MHRA as "an unwanted or harmful reaction experienced following the administration of a drug or combination of drugs under normal conditions of use and which is suspected to be related to the drug".³

ADRs may be an extension of the normal pharmacological effect of the drug, such as severe low blood pressure with an antihypertensive agent. Effects are usually dose-related. The second type of ADRs are idiosyncratic, not expected from the usual use of the drug, such as anaphylactic shock from penicillin administration.

When to report

All suspected ADRs for new medicines for which the safety profile has not yet been completely established should be reported. These are known as black triangle drugs and vaccines, and are identified by the symbol "▼" on the product and in medicines information sources.

All **serious** suspected ADRs for established medicines and vaccines should be reported. The MHRA lists serious reactions as those that are fatal, life-threatening, disabling or incapacitating, result in or prolong hospitalisation, and/or are medically significant. Some examples are given in the MHRA's *Guidance Notes for reporting suspected ADRs*.³

It is only necessary for the reporter to reasonably suspect that the medicine has caused the ADR. Factors to be considered are the nature of the reaction, timing, relation to dose, and other possible causes. Reports should be made even if the reaction is already recognised (e.g. gastrointestinal bleeding with NSAIDs). The MHRA advice is "If in doubt, fill a card out".

As well as reporting all suspected ADRs for black triangle drugs and serious ADRs for prescribed and OTC medicines, reports should be made for all suspected ADRs for herbal medicines (licensed and unlicensed), and ADRs in children and the elderly.

Herbal medicines

The MHRA wishes to receive reports of suspected ADRs associated with all herbal medicines, so that their safety can be monitored. Many unlicensed herbal remedies are purchased from outlets other than pharmacies, including Ayurvedic and Traditional Chinese Medicines. The information the MHRA requires about the product is the ingredient(s), source or supplier, and the use to which the remedy was being put. Retention of a sample of the product would be helpful in case an analysis is required.

Although the first yellow card for *Kava-kava* products was not received in the UK until February 2002, it reinforced information about the herb's toxicity gathered from German and Swiss sources. *Kava-kava* products were eventually banned because the risks outweighed the benefits. Herbal products containing *Aristolochia* have also been banned, and the dangers of drug interactions with *St John's wort*⁴ have recently been brought to light by the CSM. This emphasises that herbal products may not always be safe and that the monitoring of their ADRs and drug interactions is vital.

Children's medicines

Children are not just small adults and may have very different reactions to medicines. Also, many medicines are not licensed for use in children and they have not been subjected to clinical trials in those who are under 18 years. Their safety profile in children will not be known and the MHRA would like all suspected ADRs in children to be reported.

The elderly

The elderly are at particular risk of ADRs and interactions, particularly during long-term therapy, because of polypharmacy, co-existing chronic disease and a reduced capacity to eliminate drugs. Any suspected ADRs in the elderly should be reported.

Reporting

Yellow cards may be found in the BNF ⁵, MIMS, the ABPI's *Compendium of Data Sheets and Summaries of Product Characteristics*, and PAGB's *OTC Directory*. A paper copy can be downloaded from the MHRA Internet website or the form can be completed and submitted electronically [www.mhra.gov.uk].

The four critical pieces of information that must be included on the yellow card are:

1. Suspected drug(s) – brand name of medicine(s) (or name and manufacturer for herbal medicines) and batch number if known, route of administration, dosage, dates of administration and indication.
2. Suspected reaction(s) – a description of the reaction(s) and any treatment given, together with the dates the reaction started and stopped, and whether the reaction was considered to be serious. There are also tick boxes to give information on the outcome, and why the reaction was considered to be serious.
3. Patient details – the essential details are patient's sex and age, and their weight (if known). Information that would identify the patient should not be used (for reasons of confidentiality) although their initials and a local identification number are helpful in case it is necessary to refer back to the patient. It is not necessary to obtain the patient's consent to report an ADR, although this should be discussed with the patient.
4. Reporter details – the name and full professional address of the reporter, so that the report can be acknowledged and contact made for further information, if necessary.

Additional information supplied may include other medicines taken, and diagnostic test results and known allergies.

MHRA action

When the MHRA receives the yellow cards, the information is entered on to the Adverse Drug Reaction On-line Information Tracking (ADROIT) system. This data base, and other published information on ADRs, is evaluated weekly to identify potential new hazards and generate further information on known adverse effects of drugs. Information about the risks, and potential risks, can then be balanced against the proven benefits of the medicine.

Action that may be taken includes informing healthcare professionals of the new risks, reducing the recommended dose of the medicine, or withdrawing a medicine from the market.

All yellow card reports are acknowledged, quoting an ADROIT registration number. If requested, the MHRA will supply information about other reports associated with the drug.

References

1. Major E. The yellow card scheme and the role of pharmacists as reporters. *Pharm. J.* 2002; **269**: 25-6
2. Cox A. Embracing ADR reporting could improve pharmacists' standing. *Pharm. J.* 2002; **269**: 14

3. Committee on Safety of Medicines, and Medicines and Healthcare products Regulatory Agency. Suspected adverse drug reaction (ADR) reporting and the yellow card scheme guidance notes. MHRA web site:
<http://medicines.mhra.gov.uk/ourwork/monitorssafeequalmed/yellowcard/yellowcardscheme.htm>

4. Information sheet: "Herb-medicine interactions: St John's wort (*Hypericum perforatum*)". Royal Pharmaceutical Society, September 2002

5. Anon. Adverse reactions to drugs. British National Formulary 46. London: British Medical Association and Royal Pharmaceutical Society of Great Britain, September 2003, p 10.

Further reading

Lee A, editor. Adverse drug reactions. London: Pharmaceutical Press, 2001

This information sheet was commissioned by the Science Committee of the Royal Pharmaceutical Society of Great Britain. The author is Professor Tony Moffat DSc, FRPharmS, Chief Scientist of the Society, with assistance from the MHRA and members of the Science Committee.

This information sheet can be found on the Society's website at: www.rpsgb.org.uk

Copyright Royal Pharmaceutical Society, September 2003

Number of ADR reports submitted by hospital and community pharmacists since 1997 in relation to all UK reports. [From reference 1]

Year	Hospital	Community	All other
1997	713	125	15,798
1998	1,104	168	16,791
1999	1,336	142	17,024
2000	1,842	508	*30,770
2001	1,858	599	18,899
2002	2,094	556	13,629
Total	8,947	2,098	112,911

* Increased due to a national campaign for vaccination against Meningitis C