

**Safety Advocate** informs about incidents or sentinel events that have been reported to public and private health care organisations in NSW, Australia and overseas.

It describes the common underlying causes of the events, suggests steps to prevent occurrences in the future and provides information sources to assist organisations in reviewing and updating their own systems.

*"A sentinel event is an unexpected occurrence involving death or serious physical or psychological injury and includes any process variation for which a recurrence would carry a significant chance of a serious adverse outcome. Any event that could have the chance of an adverse outcome is known as a 'near miss'."*

NSW Health (2001) *The Clinician's Toolkit*  
– For Improving Patient Care, p4/6

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## Medication safety

The process of medication use is complex. There are opportunities for confusion or misadventure during all phases of the process including prescribing, dispensing, administration and monitoring. Not all medication related problems are preventable, since most medications are associated with predictable side effects and unpredictable adverse reactions. However there are a number of strategies that can be employed to minimise medication incidents.

### Communicating about medications

A prescription or medication order is a mechanism for communicating information about medication management between all the people involved in the process: doctor, pharmacist, nurse and patient. Whether it is written on a medication chart, a prescription form or in discharge documentation, the intentions of the prescriber must be clear and unambiguous to everyone.

### Factors that may lead to medication incidents

- **Use of abbreviations in medication orders**

Abbreviations can be easily misinterpreted. The use of the symbol *U* (for 'units') has resulted in a patient receiving a ten times overdose of insulin (30 units instead of 3 units). The use of the abbreviation *od* (for 'daily') has been interpreted as *bd* ('twice a day'), or *qid* ('four times a day').

- **Multiple names for medicines**

A medicine has one generic name, but may have multiple brand names. Some medicines are combinations of two or more generic products. There have been reports of patients receiving duplicate doses of medicines (eg heparin and Clexane®) because different drug names were not recognised as being the same or similar products.

- **Look-alike drug names and packages**

Look-alike drug names and packages can be accidentally interchanged. For example, dopamine can be confused for dobutamine and OxyNorm® looks like OxyContin®. Combination drugs may also have like names eg Coversyl® (perindopril) and Coversyl Plus® (perindopril and indapamide). Drug labels can be easily misread, especially when labels or containers look similar or are produced by the same manufacturer. Ampoules of sodium chloride and potassium chloride can be easily confused.

- **Lack of awareness of multiple drug forms**

Many medicines are available in multiple strengths and formulations. Confusion can result in serious harm to patients, especially when absorption characteristics differ. There are many examples of drugs that are problematic if different formulations are interchanged, including carbamazepine, diltiazem, morphine, oxycodone and verapamil. Many have like names eg Tegretol® and Tegretol CR®.

- **Poor handwriting**

Poor handwriting compounds the potential for confusion at all stages in the medication process.

It is expected that health care organisations will become familiar with and use the information from the **Safety Advocate** to:

### Plan

Plan the changes by reviewing and considering the information, if appropriate to the organisation's services.

### Do

Test the planned changes when designing or redesigning relevant systems.

### Study

Study these systems in light of information in the **Safety Advocate** and the results of the testing.

### Act

Act on relevant suggestions or reasonable alternatives or provide a reasonable explanation for taking no action.

**NSW TAG** is an independent association of clinical pharmacologists and pharmacists from NSW public hospitals, funded by NSW Health. Its goal is to promote quality use of medicines in NSW public hospitals and the wider community. It produces consensus drug usage guidelines, provides advice for hospital Drug Committees and facilitates sharing of information about medication-related issues within public hospitals in NSW.

Please distribute this publication to the appropriate people within your organisation.

This publication is available on the NSW HealthNet site:

<http://internal.health.nsw.gov.au/quality>

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## Strategies to reduce medication incidents

Simplicity, standardisation, differentiation, and unambiguous communication are important principles for minimising medication-related problems.

- Encourage use of generic names in medication orders, and reserve brand names for combination products.
- Avoid abbreviations in prescribing and use simple English. Ensure all abbreviations used are approved in advance by the Drug Committee and a standardised, limited list is easily accessible for all staff.
- Ensure that full patient and drug details are provided for all prescription orders. Use standard medication charts and discharge forms that have prompts for mandatory details or use computers. Minimise the number of charts in use.
- Ensure that previous adverse drug reactions (including allergies) are clearly and completely documented on the medication chart.
- Make sure there are procedures in place for clarifying which dosage form and strength is required when multiple products exist. Minimise potential for confusion by reducing the choice of products.
- Store medications in an uncluttered environment. Consider storing each individual patient's medications separately.
- Clear product labeling is vital. Separate or differentiate high-risk look-alike and sound-alike products in ward and pharmacy storage areas and, if appropriate, remove them from ward stocks. Encourage feedback to the pharmacy service about potentially confusing products.
- Ensure that all medication orders are reviewed by a pharmacist, ahead of time if possible.
- Train staff to identify and take extra care with high alert medications that have been implicated in catastrophic errors, including potassium, neuromuscular blockers, insulin, opioids and anticoagulants.
- Educate staff to check with the prescriber or a pharmacist if unclear about any aspect of the prescription.
- Educate staff that if they need to use three or more dosage units of any one product, they should recheck for accuracy.
- Involve patients in the checking process for their own medication. Make sure patients, carers and general practitioners are included in communications about medications, especially at admission and discharge.
- Encourage reporting, review and feedback to staff about all medication-related problems, including adverse drug events/reactions and 'near-miss' errors.
- Make sure all staff have easy access to drug information and decision support materials in ward areas, either in hard copy or electronically. The NSW Health Clinical Information Access Program (CIAP), accessible via the NSW Healthweb, provides suitable resources.

NSW Health has a Policy on the Handling of Medication in New South Wales Public Hospitals, which provides detailed guidance for health professionals to help improve medication safety (Circular 2001/64).

### For further information

For further information please contact Pharmaceutical Services Branch, NSW Health Department on Tel. (02) 9879 3214. Additional information is also available from NSW Therapeutic Assessment Group (NSW TAG), on the web at [www.nswtag.org.au](http://www.nswtag.org.au), Email. [nswtag@stvincents.com.au](mailto:nswtag@stvincents.com.au) or Tel. (02) 8382 2852.