

Medication Safety Watch



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Medication Safety Watch

A bulletin for all health professionals and health care managers working with medicines or patient safety.

Key messages

- Preventing harm from medication errors
- *Open for better care* Medication Safety campaign one steps
- Safe use of opioids collaborative
- Incidents and cautions

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UPCOMING:

- The action plans associated with the metoprolol alert sent to district health boards (DHBs) in August 2014 should be completed and returned to Beth Loe (beth.loe@hqsc.govt.nz) by 28 February 2015. The required actions needed a DHB-level decision that then had to be communicated to primary and secondary care.
- The Health Quality & Safety Commission's list of medicine pairs recommended for the use of Tall Man lettering is being reviewed. Please send Emma Forbes (emma.forbes@hqsc.govt.nz) any changes you would like to see to the current list (available at www.hqsc.govt.nz/our-programmes/medication-safety/projects/tall-man-lettering/).

Error prevention strategies

Having **identified adverse drug events or near misses** in your organisation, what can you do to prevent future incidents?

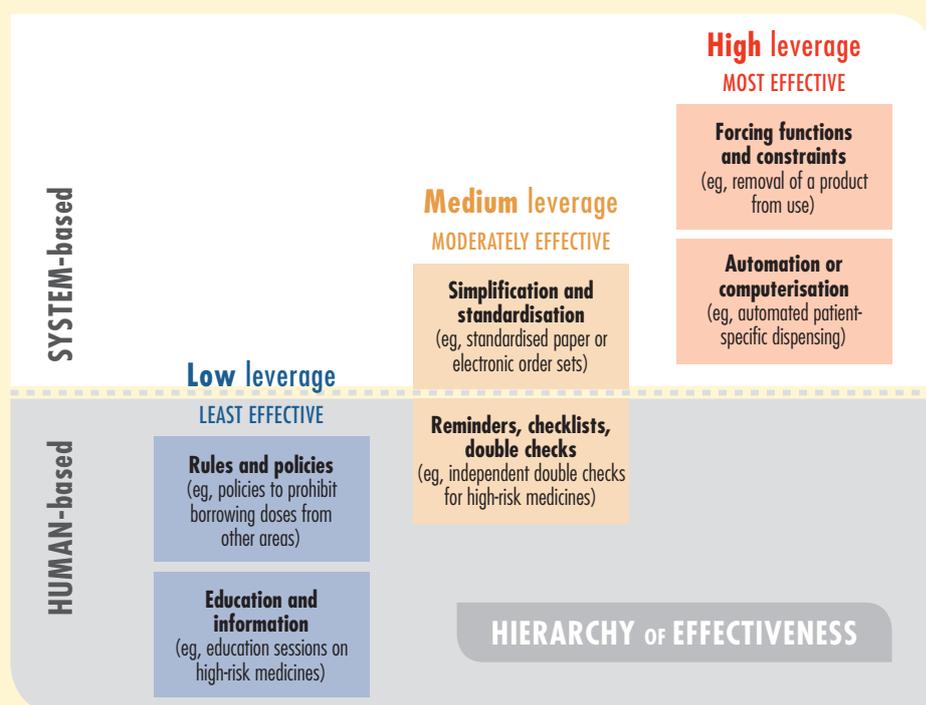
Hospitals commonly use root cause analysis methodology to identify causes and contributing factors of significant adverse events. Does your organisation review significant adverse drug events? For more information on root cause analysis or significant event audit see:

- the Commission's guide, *Root Cause Analysis for Clinical Incidents* (for hospitals)
- the NHS's guidance on *significant event audit* (for general practice)
- the Institute for Safe Medication Practices' *Root Cause Analysis Workbook for Community/Ambulatory Pharmacy*.

Considering the causal factors of no or low harm events and near misses can also lead to system change. A team approach, on a ward or in a surgery, asking why an event happened is important. Analysis of the main and underlying reasons and contributory factors can lead to error prevention strategies that could stop the same thing happening again.

It is important to recognise human factors and systems-based causes of errors rather than focusing on the individuals involved. Consider such things as poor lighting, distractions, confirmation bias, look-alike/sound-alike medicine names and packaging, and inaccessible/unclear protocols and guidelines when considering why an error occurred.

Error prevention strategies should be varied and focus on human factor principles and system issues. The figure below illustrates the hierarchy of effectiveness for error prevention strategies developed by experts in system safety.



High leverage strategies that 'design out' hazards are most effective because they can eliminate errors and associated harm. They do not rely on individual attention and vigilance. Such strategies include:

- forcing functions – for example, not stocking or locking away potassium chloride concentrated injection to prevent inadvertent bolus administration
- automation – for example, the electronic prescription service which auto-populates a community pharmacy dispensing system, preventing misinterpretation of handwritten prescriptions or picking errors from drop-down boxes
- computerisation – for example, electronic prescribing and administration systems which can incorporate dose checking strategies to reduce the potential for prescribing an overdose or checks (that cannot be overridden) to prevent a medicine being prescribed to a patient who has a documented allergy to that medicine.

Medium leverage strategies do not eliminate hazards but reduce the likelihood of errors occurring. They are relatively easy and quick to implement but need constant updating and reinforcement to maintain people's knowledge and the currency of the process or product. It can be hard to establish and maintain good practice with these strategies as they are highly dependent on the behaviour of the people using the system. They include:

- standardisation – for example, standardising the concentrations of high-risk infusion medicines used in a hospital to reduce the risk of calculation, preparation or administration errors
- independent double checking – for example, a second person independently checking the dose calculation should identify if a calculation error has been made
- checklists – for example, the surgical safety checklist which reduces perioperative harm when correctly used. The checklist must be used as a tool for effective communication not an act of ticking boxes to prevent harm.

Checklists could be used for many procedures but are only effective if used correctly

- warnings, alerts and alarms – for example, alerts on electronic prescribing and administration systems which warn prescribers when interacting medicines are prescribed together. Alert fatigue is a recognised issue with electronic systems, when too many alerts are triggered and prescribers then ignore the alerts
- patient counselling – for example, having the patient or their whānau or carer check what has been dispensed during counselling.

Low leverage strategies are relatively easy and often quick to implement but need constant updating and reinforcement to maintain knowledge and currency. Just because they are low leverage does not mean they are unimportant or unnecessary. They are more effective when combined with other medium or high leverage strategies. They include:

- education and training – for example, annual training on intravenous infusion safety will ensure the competency of nurses who administer intravenous medication but will not in itself prevent incidents associated with human factors, wrong product selection, etc
- guidelines, protocols, policies and procedures – for example, a protocol for the management of anticoagulants including unfractionated heparin and warfarin will help prescribers and administrators manage these medicines. A protocol is of no benefit if no-one reads it. It is important to ensure it is easy to locate and use. A protocol will not prevent all types of incidents

- information documents – for example, reference information on medicines should be available at the point of prescribing and administration to help prevent incidents.

The goal of prevention strategies should be to redesign the medication management process to make it harder for errors to reach the patient. A prevention strategy can include all three types of strategy but always choose the strategies that will have a higher impact on preventing medication errors whenever possible.

Reference sources:

American Pharmacists Association. Leveraging error reduction strategies. ISMP error alert. 2013 Aug 01. URL: www.pharmacist.com/leveraging-error-reduction-strategies

Institute for Safe Medication Practices Canada. Alert: wrong route incidents with epinephrine. 2014 (April 16): 14(4)

Upcoming events

- eMedication Management Conference. Sydney, 26–27 March 2015. See www.informa.com.au/conferences/health-care-conference/electronic-medication-management for more information.
- International Forum on Quality and Safety in Healthcare. London, 21–24 April 2015. See www.internationalforum.bmj.com/home for more information.
- 17th Annual National Patient Safety Foundation Patient Safety Congress. Austin, Texas, 29 April–1 May 2015. See <https://npsf.site-ym.com/?page=congress> for more information.

Take care when removing medicines from their original packs to put into compliance aids. Changing the storage conditions can alter the effectiveness of a medicine. A patient developed haematuria after re-packing dabigatran into a weekly pill dispenser. The re-packing changed both the release characteristics and effectiveness of the medicine. See Medsafe's prescriber update at: www.medsafe.govt.nz/profs/PUArticles/September2014MedicineStorage.htm.

What's new?

One steps for medication safety

One steps are short activities (containing five or six questions) designed to help clinicians identify possible safety concerns with current practice and raise discussion about the need for practice change.

The background information supplied with each one step can be used to improve patient safety and for continuing professional development.

The one steps and details about entering our one step competition (still open for entries) are available at www.open.hqsc.govt.nz/medication/one-step/.

Safe use of opioids collaborative

The collaborative is entering an exciting phase, with learning session one this month. Collaborative team members from all participating DHBs are exchanging ideas, learning about collaborative methodology and hearing what each DHB will work on and why. The teams will test their proposed interventions after the session with plan-do-study-act cycles.

Incidents and cautions

Oral chemotherapy outpatient/discharge prescribing and dispensing in the community

In several recent incidents, dispensing of chemotherapy in community pharmacy has caused concern. Community pharmacists are often not familiar with chemotherapy regimens and until recently did not dispense chemotherapy.

To increase the safety of community dispensing of chemotherapy there are several points for prescribers and pharmacists to consider.

Prescribers:

- Clearly document the chemotherapy required, the dose, intended start date and the duration of treatment.
- Only prescribe one cycle of chemotherapy at a time. For example:
 - Fludarabine 30mg daily for 3 days (days 1–3).

- Cyclophosphamide 200mg daily for 5 days (days 1–5).

- Day 1 is 2 March 2015.

- Include the patient's height, weight and body surface area (BSA) on the prescription.
- Include the protocol being used on the prescription.
- Communicate the treatment plan to your patient so that they have a clear understanding of the chemotherapy they should be taking and for how many days.

Pharmacists:

- Take extra care when dispensing chemotherapy prescriptions. They are high-risk medicines.
- Check the dose prescribed matches the protocol and the patient's BSA (<http://nzf.org.nz/nzf/resource/Body%20Surface%20Area%20Calculator.htm>).
- Dispense one cycle of chemotherapy at a time. Patients should be reassessed between cycles.
- Only supply the quantity of tablets/capsules required for one cycle of treatment. The use of whole packs may pose a risk to patients if they contain more tablets than needed for the cycle. Dispensing more tablets than needed for a cycle can result in confusion about the dose or the number of days the patient should take the medicine for.

Azithromycin/Azathioprine

In recently reported incidents, these two medicines were confused and the wrong product was prescribed. No patient received the wrong medicine because the errors were detected as part of the dispensing process. This confusion could easily happen at the dispensing or administration stage too. Serious harm could have occurred if the patient had received the immunosuppressant azathioprine instead of the antibiotic azithromycin, or vice versa.

Human factors play a part in these types of error, for example:

- prescribing or dispensing the wrong medicine when the names both look and sound alike; this is particularly easy in electronic systems where medicine name selection is from a drop-down box
- when both medicines are stored next to each other in the medicine cupboard or on the shelf and the wrong bottle is selected
- if a nurse reads an electronic or paper prescription for one of the two medicines and is familiar with one and not the other.
- if a doctor often prescribes azithromycin then sees a patient needing azathioprine, which they are not familiar with and prescribes azithromycin.

Review your systems to reduce the risk of these errors occurring:

- Review how these two products are stored in the pharmacy and in drug rooms.
- Consider putting a warning in electronic systems on medicines such as cytotoxics and immunosuppressants. For example, the medication you have selected is CYTOTOXIC and infrequently prescribed – please ensure you have selected the correct medication.
- Do not stock immunosuppressants on general wards.

Contribute to Medication Safety Watch

Are you or your organisation working on a new medication safety initiative? Has there been a medicine-related incident or error that you would like to warn others about? If so, contact Beth Loe at beth.loe@hqsc.govt.nz.