# Medication Safety Watch

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Health Quality & Safety Commission New Zealand
Kupu Taurangi Hauora o Aotearoa

## Medication Safety Watch

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

**Key messages**

- Improving vaccine safety
- Safe use of opioids national collaborative
- Incidents and cautions

Contact details:
beth.loe@hqsc.govt.nz
Ph: +64 9 580 9160

## Medication alerts and safety signals

These alerts and safety signals provide information and actions about high-risk medicines and situations. They are issued to health care staff, managers and organisations. For more information, contact Beth Loe.

**Metoprolol alert**

The Health Quality & Safety Commission has received signed action plans from 15 district health boards (DHBs) (75 percent). These will inform our future work on metoprolol. We will ask the remaining five DHBs to complete and return their action plans.

This *Safety Signal: Risk of serious adverse drug reactions* was released on 30 September, and follows the fatal administration of trimethoprim to a patient with a known, documented allergy to trimethoprim, and who was also wearing a MedicAlert® bracelet.

**UPCOMING:** The safe use of opioids collaborative final learning session for DHB team members and associated stakeholders will be held on 10 and 11 November 2015 in Auckland.

## What's new?

In July, we published a factsheet, *Making strong opioids safer for patients*. This links closely to our high-risk medicines topic in the *Open for better care* campaign and the work of the collaborative.

### *Update on the collaborative*

A very successful learning session two for the collaborative was held on 23 and 24 June 2015. The DHB teams are now working hard to implement their proposed interventions using plan-do-study-act (PDSA) cycles.

The first in a series of webinars hosted by the Commission and the Institute for Healthcare Improvement was held on 22 September 2015 for collaborative teams and focused on completion and documentation of PDSA cycles.

The *second edition* of the collaborative newsletter has also been published.

## Incidents and cautions

### *Clozapine*

Cases of myocarditis associated with clozapine have been reported and resulted in coronial inquiries. Clozapine-related adverse reactions and monitoring requirements featured in the June *Prescriber Update*.

### *NovoRapid® FlexPen® and NovoMix® 30 FlexPen® wrong product dispensing and administration incidents*

The commonest incident reported to the *Medication Error Reporting Programme (MERP)* involving these products is NovoMix® 30 FlexPen® being dispensed instead of NovoRapid® FlexPen®. There has also been a report where NovoRapid® FlexPen® was administered in an aged care facility instead of NovoMix® 30 FlexPen®. The products look similar, especially when the outer packaging has been removed, the pens are in a facility fridge and staff are unfamiliar with the variety of pens available.

*NovoRapid® FlexPen®*


*NovoMix® 30 FlexPen®*


The following system changes will reduce the risk of incidents involving look-alike, sound-alike insulin products.

- Display a chart showing all available insulin products in the dispensary/drug room.
- Store products with look-alike names and/or packaging separately in the fridge.
- Check the patient's dispensing history when entering a new insulin prescription before selecting an item to dispense.
- If possible, check with the patient/family/whānau/carer that the product you are dispensing or administering is the one they were using previously.

### *Inhaler brand confusion*

Several cases have been reported where Beclazone® inhalers were dispensed when QVAR® inhalers were prescribed. Prescribers should specify the brand when prescribing beclometasone inhalers because of the different characteristics and recommended doses of Betazone® and QVAR®. When dispensing beclometasone inhalers, dispense the brand specified on the prescription, or check with the prescriber which brand is intended.

### *Missing fentanyl patch harms child*

An incident in May 2015 reinforces the need for proper disposal of fentanyl patches to prevent accidental exposure in children. In this case, a fentanyl patch fell off and wasn't found by adults. Later, a 14-month-old was found choking; the mother checked for objects in the

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# Reducing vaccine incidents

As with all medicines, adverse incidents involving vaccines can occur. New Zealand and international incident reports[1] highlight which vaccine incident types are most common. We discuss these below, with recommended system changes to reduce the risk of those incidents happening again.

Failures in the cold chain can reduce vaccine potency or result in wastage. *Medication Safety Watch* previously discussed ***maintenance of the cold chain*** and provided medication safety tips. The ***Immunisation Handbook 2014***, the ***National Guidelines for Vaccine Storage and Distribution 2012*** and the ***Annual Cold Chain Management Guide and Record*** provide more information.

## *Other common vaccine errors*

| Common vaccine errors | Possible causes | Examples |
|---|---|---|
| Cold chain failures | See above | |
| Wrong vaccine administered | Brands have similar names or packaging, or contain the same antigen | Infanrix® IPV/Infanrix® Hexa when the wrong product is selected |
| Incorrectly prepared vaccines | Two component vaccines are not mixed<br>or<br>Reconstitution is required and the diluent is administered instead of the reconstituted vaccine | Infanrix® Hexa when only the antigens in the syringe are administered without adding the Hib component<br>or<br>Act-HIB® when only the diluent in the syringe is administered without the Hib component |
| Wrong interval between doses when multiple doses are required for immunity | Child's immunisation history is not up to date or unknown<br>or<br>First dose is given after the recommended age, and the time interval between first and second dose has not been rescheduled so second dose given too soon | Any vaccine requiring multiple doses to achieve full immunity |
| Wrong age | There is an age restriction on when the vaccine should be administered<br>or<br>Age-related vaccine products exist and the wrong vaccine is administered | RotaTeq®<br>or<br>Varilrix®/Varivax® for paediatric use and Zostavax® for adults aged 50+ (see latest ***Prescriber Update*** for more information) |
| Expired vaccines administered | Stock rotation and human factors when picking the vaccine for administration<br>or<br>Expiry date difficult to read | Any vaccine |
| Wrong injection site | Intramuscular injection to body sites without enough muscle (too high on the shoulder or too far back in the fatty tissue of the arm) | Any vaccine administered intramuscularly |
| Wrong route | Human factors in a busy immunisation clinic | M-M-R® vaccine given intramuscularly instead of subcutaneously |
| Wrong patient | Human factors in a busy clinic when multiple family members are being vaccinated at the same time | Any vaccine administered when siblings present together for childhood immunisation |

## *Strategies for preventing errors*

### Storage

- Store paediatric and adult formulations of vaccines in different parts of the fridge.
- If using containers to store different vaccines (in their original packaging), clearly label them.
- Store vaccines with similar names and packaging on different shelves to reduce the risk of picking errors.
- Display the batch number and expiry date label on all stored vaccines.
- Rotate stock based on expiry date to prevent wastage; put those with the shortest expiry date at the front of the fridge.
- Remove and dispose of any expired vaccines as soon as possible. A recommended disposal/destruction procedure is in the ***Immunisation Handbook 2014***.

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1 Institute for Safe Medication Practices. 2014. *Confusion abounds! 2-year summary of the ISMP National Vaccine Errors Reporting Program (Part I)*.Horsham, PA: Institute for Safe Medication Practices. URL: https://www.ismp.org/newsletters/acutecare/showarticle.aspx?id=95 (accessed October 2015).

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- Have a clear process for keeping two component vaccines together or, if this is not possible because one component is temperature sensitive, ensure both components are clearly marked as needing another component.

### Prescribing

- When prescribing any vaccines with look-alike generic names, specify the brand name too.
- Highlight the administration route.
- Verify the patient's current immunisation status from health records and the National Immunisation Register (NIR), in the case of a child.
- For frequently administered vaccines, establish order sets/quick lists/protocols in electronic systems that include:
  - the full generic name, brand name (if applicable) and standard abbreviation
  - directions (eg, the route), and any special procedures to improve safety
  - information on required follow-up doses
  - details about what (eg, batch number, expiry date) and where (eg, NIR, vaccination record) to document administration.

### Prescribing and administration

- Differentiate the appearance of similar vaccine names on computer screens by highlighting dissimilarities and including full product and brand names.
- Verify the patient's age by asking for their birth date (if the patient is available or their family/whānau/carer) and referencing the health/immunisation record before prescribing, dispensing or administering a vaccine.

### Administration

- Only reconstitute vaccines using the diluent supplied by the manufacturer.
- Clearly label or distinguish diluents (highlight or circle that part of the label) if the manufacturer's label could mislead staff into believing the diluent is the vaccine itself.
- If multiple children are being seen at the same time for vaccination in a clinic:
  - structure appointments so one child at a time is seen
  - if more than one child is being seen at the same time, only bring one child's vaccines into the room at a time
  - check the child's identity using two identifiers (eg, name and birth date) before administering each vaccine.
- If a quick reference guide is available, post one for clinicians to verify the administration route for all vaccines.
- When administering two-component vaccines, document the batch number and expiry date of each vial in the vaccination record before administration to confirm correct selection or preparation of both components. Document actual administration after the vaccine has been given.
- Involve the patient/family/whānau/carer in the verification process.

Help us learn more about problems with administering vaccines and improve systems by reporting any vaccine errors and near misses to *MERP*.

You can contact the Immunisation Advisory Centre on 0800 IMMUNE for advice if an incident occurs.

NB: Remind parents/families/whānau/carers that fever in young children may occur after vaccination but prophylactic use of an analgesic/antipyretic medicine, such as paracetamol, before or at the time of vaccination is not recommended. Refer to the Immunisation Advisory Centre's *position statement on the use of paracetamol around the time of immunisation*.

When dispensing or supplying tablets that are 'for external use only', leave the word 'tablet' off the label. Potassium permanganate tablets have been given orally because of confusion caused by the word 'tablet' on the label.

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child's mouth but found nothing. An ambulance was called and the child developed stridor. When ambulance staff arrived, they found a fentanyl patch stuck to the roof of the child's mouth. The child became hypoxic and had seizure-like activity on the way to hospital. Despite two bolus doses of naloxone in the emergency department, the child's respiratory rate declined and an infusion had to be started. The child needed intensive care admission and a naloxone infusion overnight.

Cases, some fatal, involving children finding and applying fentanyl patches found in rubbish bins have been reported previously.

This case highlights the importance of giving all fentanyl patch users advice about safe use and disposal. The child's mother had no idea her lost patch would be found and harm her child. Some patches stick poorly and information on how to secure them could have prevented this incident.

## Upcoming events

- 8th Medication Safety Conference 2015. Abu Dhabi, 6–8 November 2015. See *www.medicationsafetyconference.com* for more information.
- IHI 27th Annual National Forum. Orlando, 6–9 December 2015. See *www.ihi.org/education/Conferences/Forum2015/Pages/Overview.aspx* for more information.