

One step for medication safety



Insulin dispensing in community pharmacies

Check the safety of dispensing processes – use the six questions to review your processes

Background and evidence

Four of the 132 medication-related serious adverse events reported to the Health Quality & Safety Commission between July 2007 and June 2013 related to insulin. Is this the tip of the iceberg? International evidence suggests insulin is frequently associated with adverse drug events and while the events may not often cause serious harm. They can cause patients distress and confusion, and impact on the confidence of patients in managing their diabetes.

The Health and Disability Commissioner investigated an insulin dispensing error (case 07HDC21772, 27 June 2008) when Humulin R was dispensed instead of Humulin NPH, and despite the consumer twice questioning the type of insulin dispensed was told to use Humulin R in the same way as Humulin NPH.

The Medicine Error Reporting Programme (MERP) received 32 insulin-related dispensing error or near miss error reports during the pilot phase. The commonest insulin-related reports related to dispensing the incorrect medicine or the incorrect dose. The commonest incorrect insulin errors related to Humalog/Humalog[®] Mix and Humulin/Humalog[®] but involved a wide variety of other insulin products as well.

A Welsh hospital study¹ of unprevented dispensing incidents over a 12-month period identified 1005 incidents. Insulin was the medicine most commonly involved in incidents (n=34). Of the 34 insulin-related incidents, 16 involved dispensing the wrong insulin product and 11 involved dispensing the wrong dosage form.

A review of patient safety incidents reported to the National Patient Safety Agency between 1 November 2003 and 1 November 2009² identified 16,600 insulin-related incidents in hospitals. Prescribing and dispensing errors accounted for 27 percent of total incidents. The selection of the incorrect product accounted for 14 percent of total incidents due in a large part to the look-alike and sound-alike proprietary names.

Errors have been identified at all stages of the medication management process: prescribing, administration, dispensing and monitoring. While dispensing is not the only activity that can result in errors, safe dispensing systems and additional checks when dispensing insulin can prevent prescribing and dispensing errors reaching the patient and causing harm.

Some of the most common confusions leading to insulin prescribing and dispensing errors follow:

- Misreading the name of the insulin product on the prescription or the product item. There are many different insulin products in varying strengths. Many products have look-alike or sound-alike names, for example Humalog[®], Humalog[®] Mix and Humulin.
- There are usually two or more presentations of equipment for each type of insulin and if the wrong insulin presentation is prescribed/dispensed a patient could find they are unable to administer a dose of insulin because the cartridge or vial will not fit in their insulin administration pen.
- Unclear dosing and/or monitoring instructions can contribute to patient confusion and result in hypoglycaemia or hyperglycaemia.

Reducing harm from high-risk medicines

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The activity:

To reduce the risk of insulin dispensing errors and help promote patient safety, the Health Quality & Safety Commission's Medication Safety team is asking community pharmacies to check storage and dispensing processes for insulin.

This simple, six-question data collection tool is designed to help community pharmacies evaluate the current situation that exists for their staff and patients.

Pharmacy		
Medicine management: insulin	eg	
How many insulin products are stocked in the pharmacy?	4	
How are the different insulin products stored?	By length of action	
Is there a reference easily available in the pharmacy that illustrates all the available insulin products?	Y	
Is there a specific operating procedure for insulin and insulin dispensing, and are the following included: <ul style="list-style-type: none"> • a visual check of the insulin with the patient? • regular fridge monitoring? 	Y/N	
For the last two insulin prescriptions dispensed, did you check the patient's dispensing history prior to dispensing?	Y/Y	
For the last two insulin prescriptions dispensed, did you check the patient's home blood sugar monitoring equipment and regime/results?	Y/N	

Reviewing your results

How insulin products are stored and well-defined insulin dispensing procedures can reduce the risk of insulin dispensing errors.

Blood sugar monitoring and the meter or strips used can be an issue for patients, and checking that their meter is functioning and that they are using it correctly, and at the prescribed frequency, can prevent loss of diabetic control.

1 James KL, Barlow D, et al. A study of unprevented dispensing incidents in Welsh NHS hospitals. *IJPP* 2008; 16: 175–88.

2 Cousins D, Rosario C, Scarpello J. Insulin, hospitals and harm: a review of patient safety incidents reported to the National Patient Safety Agency. *Clin Med* 2011; 11(1): 28–30.

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