Medication safety

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HEALTH QUALITY & SAFETY COMMISSION NEW ZEALAND

Kupu Taurangi Hauora o Aotearoa

Welcome to the first of a series of regular factsheets from the Health Quality & Safety Commission.

New Zealand already has an excellent health care system, but unfortunately things occasionally go wrong – with high human and financial costs.

People in the health sector are working hard to ensure we continue to deliver high-quality health services, that are as safe as possible for patients. This factsheet showcases recent innovations and initiatives in the area of medication safety.

Using medication safely

Medication errors are an on-going and potentially serious cause of patient harm.

- *A patient was given too much insulin, causing her to have severely low blood sugar levels.*
- *After a medication error, a patient developed a slow heart rhythm and low blood pressure. He suffered a cardiac arrest, but responded to emergency treatment.*
- *A patient had a severe anaphylactic reaction to an antibiotic, despite having a previously documented allergy. No long-term physical harm resulted.*

The latest serious and sentinel events report showed that 17 serious medication errors were reported in our hospitals during the 2009/2010 period. This is just the tip of the iceberg – estimates vary, but somewhere between 2 and 13 percent of patients admitted to hospital are estimated to have an adverse drug event of some description.

Some of these patients will be harmed as a result, or have to spend extra time in hospital. This is not only an unnecessary inconvenience to patients and their families, but it also increases costs to the health system.

National Medication Chart

A national medication chart for adult medical and surgical patients is currently being rolled out in District Health Boards (DHBs) as a simple, inexpensive but effective way of reducing medication errors. It is expected to be in place in most public hospitals by January 2012. It is the first of a planned suite of national medication charts.

The adult national medication chart will enable:

- *easy identification of signatures*
- *clear documentation of a patient's adverse drug reactions and allergies*
- *the separation of regular and non regular medicines*
- *the facilitation of standard training and education for all health professionals using the chart.*

One simple design feature that may in itself save lives is a pre-printed decimal point to avoid 'classic' ten-fold errors in dose due to illegible prescribing and misunderstandings about dosage.

The chart will ensure every person involved in prescribing, dispensing, administering and reviewing medicines for adult inpatients will use the same chart throughout public hospitals in New Zealand. Paediatric and psychiatric patents are excepted because special conditions apply to them.

West Coast DHB first to introduce new chart

West Coast was the first DHB to introduce the national medication chart.

The chart is now being used on all wards in Grey Base Hospital, except the Assessment, Treatment and Rehabilitation Ward and the Dementia Ward (the chart is being used in the Children's Ward, with the word 'adult' removed).

The DHB runs two other hospitals – Buller and Reefton. The chart has been introduced in the medical ward at Buller Hospital and will be introduced in Reefton in the future, once a long-stay chart is developed. Grey Base Hospital's Pharmacy Manager, Nick Leach, has been closely involved with the project.

"We had a really enthusiastic doctor, Tamara Brodie, who could see the benefits of a standardised chart being used by all hospitals. Tamara was leaving the hospital at the end of February 2011, so we worked really hard to get the new chart up and running before then.

"Tamara and I went to national training in October 2010, and then received training at Grey Base Hospital in February."

Nick says prior to roll out there was a big focus on training staff in the use of the new chart, and promoting its benefits.

"We invited a nurse from each ward to attend train-the-trainer sessions – to be trained and find out more about the reasons behind the national chart so they could become 'champions' for the chart on their ward.

"We also put up posters throughout the hospital, so everyone knew the launch date and what the chart looked like.

"All nurses had a training session on the new chart – because we are a smaller hospital we were able to cover everyone. Those who were not able to attend group training were trained individually.

"We provided training to doctors at their Friday meeting, and visited Buller Hospital to train the doctors and nurses there."

Left: (L to R) At West Coast DHB, Kathryn Qu and Ruhama Addis are shown how to use the charts by Dr Tamara Brodie and pharmacy manager Nick Leach.

The hospital switched over to the national medication chart on 21 February 2011.

"At Greymouth, we were able to get everyone changed over to the new chart on the same day. Larger DHBs might have to do more of a rolling change over – for example, waiting for an old chart to be completed before introducing the national chart."

Nick says the chart has generally been well accepted by hospital staff, and any push back or niggles have been minor.

"The chart has 19 spaces for fluids and there has been some concern this won't be enough. However, lack of space hasn't been an issue so far. There has also been a bit of negative comment from doctors about having to write out 'micrograms' in full. But this is important, because it adheres to best practice and also ensures legibility of prescribing.

"Some of the nurses were a bit resistant to including their registration number on the chart. We are addressing this by explaining the importance of the registration number, to identify staff both now and in the future."

She says some doctors said they preferred the eleven and a half day format of the old chart, to the seven-day format of the new chart and found having to re-chart more often frustrating.

"We are working with doctors on this and explaining the benefits of the whole chart, rather than just focusing on one aspect."

There have also been many positive comments about the new chart.

"Fluids can be noted on the back of the national chart, whereas previously they had to go on a separate chart. Nurses have told me they find having information about fluids on the same chart as medicines much more convenient.

"As a pharmacist, the two-page layout of the national chart works really well because I can see any anomalies or issues at a glance. The old chart had three pages which included a fold out, which made it harder to read as a whole, especially the administration of the medication."

Now the chart has been introduced, Nick says the focus is on providing feedback and support to staff.

"Pharmacists on the wards keep a close eye on the charts and provide constructive feedback when something is not being filled out correctly. They can answer any questions about the chart and explain why it is important to do various things a particular way."

Nick Leach says, overall, the introduction of the new chart has gone very smoothly.

"I'm confident it will make the prescribing, dispensing and administering of our medicines safer. I'd definitely encourage other DHBs to introduce the national chart as soon as they can."

Medicine reconciliation

Another effective way of reducing medication errors is through the use of a formal medicine reconciliation process.

This process ensures patient medicines are checked at critical handover times, such as when patients are admitted to or discharged from hospital.

The clinicians responsible for the patient's treatment 'reconcile' the medicines prescribed with the medicines listed as being taken by the patient, using a second source of information as confirmation in order to detect discrepancies which require follow-up.

Above: At Capital & Coast DHB, pharmacist Tania Jones discusses medicines with patient Thomas Fothergill.

Capital & Coast DHB reaps benefits of medicine reconciliation

Wellington's Capital & Coast DHB at times detects potentially harmful medication errors during its medicine reconciliation process.

Physician and clinical pharmacologist Dr Chris Cameron, who chairs the medicines committee at Capital & Coast DHB, says seeing how many medication omissions and adverse events have been picked up since the process was introduced has been surprising.

"We thought we were doing a pretty good job of checking the medicines our patients are taking but in fact we've learned that often patients didn't reveal or remember what medicines they were taking," she says.

"It's been quite an insight and we've really taken it on board here at Capital & Coast."

Prior to the introduction of medicine reconciliation, pharmacists or doctors would informally ring a patient's GP or community pharmacy to find out what medicines the patient was on – but only if they thought it was necessary; for example, if the patient arrived by ambulance in the middle of the night, unclear about the medicines they were taking.

"It's a much better system now because the ward pharmacist rings the GP or community pharmacy to find out what medicines the patient is taking and determine if they are taking them regularly, and then compares that list with the information gathered by admitting doctors at the hospital. If there are discrepancies, it's up to us to follow them up."

Chris Cameron says staff are picking up minor discrepancies in many medication charts, such as if a patient is getting their Vitamin B12 injections from their GP on a monthly basis.

"We're getting much better, accurate and reliable information now about the medicines patients are on when they come into the hospital. It's a fantastic system."

She says doctors are taught how to take medication histories in medical school, but the medicine reconciliation process at Capital & Coast DHB shows that when people are busy, incomplete medication histories can go undetected.

The DHB has held workshops and other medicine reconciliation training for nursing, medical and pharmacy staff, and Chris says the new process has been embraced by staff.

"It's all about getting things right for our patients – we're totally focused on that."

If your DHB or organisation would like to be featured in a Commission Factsheet, please contact communications@hqsc.govt.nz

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