Launch of *Open for better care* campaign focus on medication safety

Frequently asked questions

Why is the national patient safety campaign focusing on medication safety?
Medicines are one of the most common therapeutic interventions in the health and disability sector. They span the full range of health care settings and are used across the spectrum of the population. Three quarters of New Zealanders are estimated to have had a prescription for one or more medicines in the year ended 30 June 2013. Medication safety is one of the Health Quality & Safety Commission's key programme areas.

What aspects of medication safety will the campaign target in particular?
High-risk medicines. The aim is to raise awareness and promote ways to reduce harm. While most medicines have a large margin of safety, a small number can potentially cause significant harm even when used as intended. The medicines most frequently involved in serious adverse drug events (ADEs) are called high-risk medicines. Special attention is needed when they are prescribed, dispensed, supplied, stored, administered and taken.

Where do ADEs occur and are they preventable?
ADEs occur in hospital, primary and community settings. The medicine management process broadly comprises three stages: prescribing, dispensing and administration. The majority of ADEs occur during the prescribing and administration stages.[1 2 3 4] ADEs include both medication errors and adverse drug reactions (ADRs). Up to 60 percent of ADEs are thought to be preventable.[1 3 5 6 7] Medication errors are recognised as being under-reported through voluntary reporting systems.

What is the particular harm caused by high-risk medicines?
No one particular harm is caused by them as a group. Factors that increase their potential for harm include:

- Having a narrow therapeutic index – too little or too much has the potential to cause harm
- Complex or unusual dosing – for example, weekly rather than daily
- High monitoring requirements
- Significant interactions with other medicines, herbal products and food
- Availability in multiple strengths and forms
- Look-alike sound-alike naming and packaging.

What about the harm individual high-risk medicines cause?
High-risk medicines cause different types and degrees of harm related to how they work in the body. The harm can be mild or at worst result in death. See the factsheet on high-risk medicines for more information.

How much do ADEs cost the health system?
Preventable ADEs are known to place unnecessary financial burden on the health budget.[8 9 10 11] Exact costs are hard to quantify and the true burden to patient lives and the community as a whole cannot be measured. Where there is data, comparison or extrapolation is difficult due to variation in methodology. There is very little recent data on the cost of ADEs in New

Zealand. More than 10 years ago, it was estimated the cost to the health system could be $158 million a year (2001).[10 12] The only other New Zealand cost published for preventable ADEs specifically involved a paediatric population and was estimated as $148,287 a year (2009).[6]

How many serious medication errors are there each year and where do they occur?
In New Zealand, between July 2007 and June 2013 there were 2159 reported serious adverse events (SAEs), of which 132 were medication related. Twenty-three of these related to opioids, 19 to anticoagulants and seven to insulin.[13] This is only the tip of the iceberg, as not all medication-related events are recognised or reported.

How many of these errors involve high-risk medicines?
Errors are not necessarily more common with high-risk medicines. But if errors are made there is more likely to be harm and often the consequence for patients is more serious. Patients suffer and there are extra costs to the health care system. While the total incidence of ADEs caused by high-risk medicines in New Zealand is unknown, recently published trigger tool data found that opioids (32.9 percent) and anticoagulants (10 percent) were most commonly implicated for causing an ADE. Of the 19 ADEs identified in the study as contributing to severe harm or death, 50 percent were related to opioid and anticoagulant use.[14] These results align with international literature.

What do you mean by triggers?
Aspects of a medical record may trigger investigation to see if there has been an ADE.

Which high-risk medicines will the campaign focus on?

- Anticoagulants – warfarin, heparin
- Opioids – morphine, oxycodone, fentanyl, methadone
- Insulin
- Concentrated potassium injection
- Oral methotrexate.

Why these?
All are at the top of internationally recognised high-risk medicine lists. Additionally, anticoagulants, opioids and insulin were identified from the New Zealand trigger tool data and the medication-related SAEs as contributing to serious harm or death.

Other than the campaign focus, what else is the Commission doing to improve medication safety?
The national medication safety programme has a range of work streams focused on improving medication safety. The National Medication Chart and medicine reconciliation are being used in most DHBs. Four DHBs have implemented electronic medicine reconciliation and four have either implemented or are implementing electronic prescribing and administration systems. A safe use of opioids collaborative will be starting in October and will run for 18 months. DHB teams are invited to take part and focus specifically on the safe use of opioids.

High-risk medicines are the target of the programme's medication safety alerts to the sector. The most recent one has been on metoprolol. http://www.hqsc.govt.nz/publications-and-resources/publication/1711/

Medication Safety Watch, published regularly, provides the sector with articles and news. http://www.hqsc.govt.nz/our-programmes/medication-safety/publications-and-resources/publication/1751/

At a national level, the programme works in collaboration with PHARMAC, Medsafe and the pharmaceutical industry to improve labelling and packaging to reduce look-alike sound-alike medicine errors.

To find out more about the programme, go to http://www.hqsc.govt.nz/our-programmes/medication-safety/

How long will the campaign focus on medication safety last?
From October 16 until the end of March 2015.

What will the monthly themes be?

- October – the case for change
- November - identifying and mitigating error and harm
- December and January - partnering with patients and their whanau
- February - preventing error and harm
- March – the safe use of opioids.

Who is the intended audience?
Patients, clinicians and other staff in primary, community and secondary care.

References

[1] Bates DW, Cullen DJ, Laird N et al. Incidence of adverse drug events and potential adverse drug events: implications for prevention. *JAMA* 1995; 274:29-34.
[2] Reckmann MH, Westbrook JI, Koh Y et al. Does computerized provider order entry reduce prescribing errors for hospital inpatients? A systematic review. *JAMIA* 2009; 16: 613-623.
[3] Lisby M, Nielsen LP, Mainz J. Errors in the medication process: frequency, type, and potential. *IJQHC* 2005; 17(1): 15-22.
[4] Kaushal R, Bates DW, Landrigan C et al. Medication errors and adverse drug events in pediatric inpatients. *JAMA* 2001; 285(16): 2114-2120.
[5] Classen DC, Pestotnik SL, Evans S et al. Adverse drug events in hospitalized patients. *JAMA* 1997; 277(4): 301-306.
[6] Kunac DL, Kennedy J, Austin N et al. Incidence, preventability and impact of adverse drug events (ADEs) and potential ADEs in hospitalized children in New Zealand. *Pediatr Drugs* 2009; 11(2): 153-160.
[7] Bates DW, Leape LL, Petrycki S. Incidence and preventability of adverse drug events in hospitalized patients. *Journal of General Internal Medicine* 1993; 8(6): 289-294.
[8] Davis P, Lay-Yee R. Briant R, et al. 2001. Adverse Events in New Zealand Public Hospitals: Principal findings from a national survey (Occasional Paper No 3). Wellington: Ministry of Health.
[9] Briant R, Ali W, Lay-Yee R, Davis P. Representative case series from public hospital admissions 199: drug and related therapeutic adverse events. *NZ Med J* 2004; 117 (1188).
[10] Bates DW, Spell N, Cullen DJ, et al. The costs of adverse drug events in hospitalized patients. *JAMA* 1997; 277(4): 307-311.
[11] Leape LL, Bates DW, Cullen DJ et al. Systems analysis of adverse drug events. *JAMA* 1995; 274(1): 35-43.
[12] Brown P, McArthur C, Newby L et al. Cost of medical injury in New Zealand: a retrospective cohort study. J Health Serv Res Policy 2002; 7: 29-34.
[13] Health Quality & Safety Commission Reportable Events http://www.hqsc.govt.nz/our-programmes/reportable-events/serious-and-sentinel-event-reports.
[14] Seddon ME, Jackson A, Cameron C, et al. The Adverse Drug Event Collaborative: a joint venture to measure medication-relation patient harm. *NZMJ* 25 January 2013, Vol 126: 9-20.