

# High-risk medicines



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 are called high-risk medicines. Special attention is needed when they are prescribed, dispensed, supplied, stored, administered or taken.

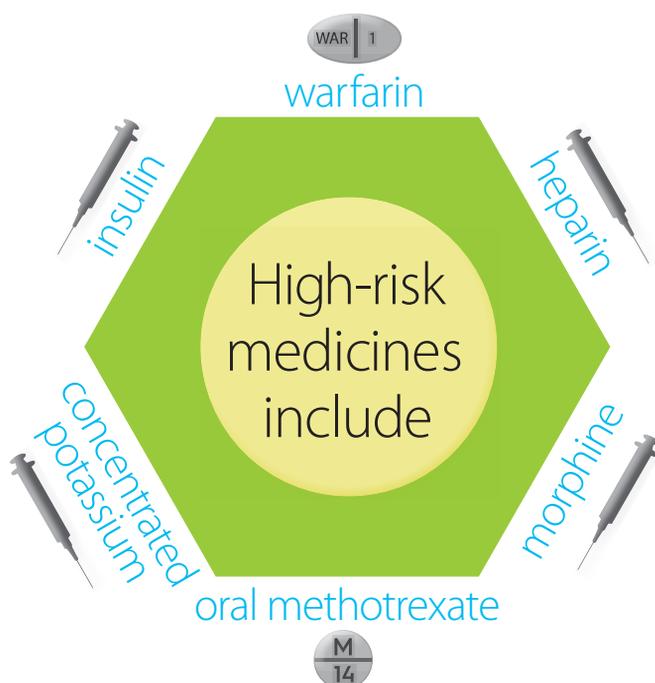
Factors that increase high-risk medicines' potential for harm include:

- 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.

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.

*'High-risk medicines... can be defined as those which have a heightened risk of causing significant or catastrophic harm when used in error.'*

Department of Health, Victoria, Australia



In New Zealand and internationally there are other medicines considered high-risk. Individual organisations may also identify medicines in their organisation that are high-risk. Check what activities are happening in your organisation to reduce harm from any of these medicines.

You can include any medicine identified as high-risk within your organisation in your *Open for better care* campaign activities and messages.

Medicine/medicine group	Some risks of potential harm to the patient	Can be caused by
Anticoagulants	<ul style="list-style-type: none"> <li>Bleeding</li> <li>Blood clot</li> <li>Death</li> </ul>	<ul style="list-style-type: none"> <li>Under or over dosing</li> <li>Interactions with food, other medicines, herbal products</li> <li>Confusion between tablet strengths</li> <li>Inappropriate monitoring</li> </ul>
Opioids	<ul style="list-style-type: none"> <li>Constipation</li> <li>Nausea and vomiting</li> <li>Over sedation</li> <li>Respiratory depression</li> <li>Death</li> </ul>	<ul style="list-style-type: none"> <li>Anti-emetics and laxatives not prescribed when appropriate</li> <li>Overdose, either absolute or relative (dose not decreased to account for renal impairment)</li> <li>Wrong product prescribed, dispensed and/or administered</li> <li>Inappropriate monitoring</li> </ul>
Insulin	<ul style="list-style-type: none"> <li>Hypoglycaemia</li> <li>Hyperglycaemia</li> <li>Death</li> </ul>	<ul style="list-style-type: none"> <li>Wrong dose</li> <li>Wrong product prescribed, dispensed and/or administered</li> <li>Inappropriate monitoring</li> </ul>
Concentrated potassium injection	<ul style="list-style-type: none"> <li>Arrhythmia</li> <li>Death</li> </ul>	<ul style="list-style-type: none"> <li>Bolus administration</li> <li>Wrong product selection</li> </ul>
Oral methotrexate	<ul style="list-style-type: none"> <li>Liver failure</li> <li>Bone marrow suppression</li> <li>Death</li> </ul>	<ul style="list-style-type: none"> <li>Wrong dose – once weekly dose prescribed, dispensed or mistakenly taken daily</li> <li>Lack of monitoring</li> </ul>

## Want to learn more?

Institute for Safe Medication Practices (ISMP). ISMP's List of High-Alert Medications. 2012. Available at <http://www.ismp.org/Tools/highalertmedications.pdf>.

Institute for Healthcare Improvement (IHI). 2012. How to Guide: Prevent Harm from High-risk Medications. IHI, Cambridge, MA. Available at [www.ihl.org](http://www.ihl.org).

Health Quality and Safety Commission. Medication Alerts. Available at [www.hqsc.govt.nz/assets/Medication-Safety/Alerts-PR](http://www.hqsc.govt.nz/assets/Medication-Safety/Alerts-PR).

National Health Service (NHS). 2008. The How-to-Guide for Reducing Harm from High-risk Medicines. Available at [www.patientsafetyfirst.nhs.uk/ashx/Asset.ashx?path=/How-to-guides-2008-09-19/Medicines%201.1\\_17Sept08.pdf](http://www.patientsafetyfirst.nhs.uk/ashx/Asset.ashx?path=/How-to-guides-2008-09-19/Medicines%201.1_17Sept08.pdf).

**The Health Quality & Safety Commission has developed a series of activities designed for individuals or organisations to look at the system for managing high-risk medicines. Take one step to help prevent harm from high-risk medicines – available on the *Open for better care* website at <http://open.hqsc.govt.nz/medication/one-step>.**



[newzealand.govt.nz](http://newzealand.govt.nz)

[www.open.hqsc.govt.nz](http://www.open.hqsc.govt.nz)

