

New study lists potentially dangerous drugs in Australian health care

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'Potentially inappropriate medicines' (PIMs) include ibuprofen and codeine - pictured. Credit: RMIT University / Ant Bragaglia

Researchers have developed an Australian-first list of 16 potentially dangerous medications used in health care and their safer alternatives.

"Potentially inappropriate medicines" (PIMs) are medicines with risks that may outweigh their benefits. PIMs can have high risks of severe adverse effects, [drug interactions](#), increased risk of falls and even death.

Around the world, lists of these risky medicines are used to help [health professionals](#) improve medication management and safety.

Lead researcher, Dr. Kate Wang, said PIMs lists help clinicians identify medications that have higher risk of negative clinical outcomes, including hospitalization and death. The study is [published](#) in the *Internal Medicine Journal*.

"They should only be used in circumstances where there is a clear need and not an effective and lower-risk alternative available," said Wang, from RMIT's School of Health and Biomedical Sciences.

"The Australian setting is unique, and it is vital that we have our own, up-to-date resource," said Wang.

These lists of high-risk medicines are especially important for older people, who often need multiple medications to manage their conditions. Between 20–70% of older people are prescribed at least one PIM.

Medication-related adverse effects contribute to 20% of all unplanned hospital admissions, with half of them being potentially preventable.

The study drew on a multidisciplinary expert panel of 33 clinicians and researchers with expertise in geriatrics, general medicine, pharmacy, [clinical pharmacology](#), general practice and epidemiology.

A total of 130 medications or medication classes were considered, including medicine classes commonly appearing in PIMs lists internationally such as benzodiazepines, NSAIDs and tricyclic

antidepressants.

Australia's existing PIMs list was developed 15 years ago, and there have been many changes to medications available in Australia since then.

"We found that the lists in other countries were only partially applicable in Australia due to differences in medication availability, what clinicians tend to prescribe, clinical practice guidelines and the health care system," Wang said.

"Furthermore, no Australian lists to date have made recommendations for potentially safer alternatives."

The team says they have developed an Australian-first list of medications that are used nationally where the risks outweigh the benefits for older people and for some, there are safer alternatives. The list includes common medications such as ibuprofen, lorazepam and codeine, some which can be replaced by medications like paracetamol.

"This list may be used by Australian health care practitioners who care for people aged 65 and older," Wang said.

"It may also be used as a reference by researchers, policymakers, consumers and [family members](#) who are interested in the risks of, and potential alternatives to, these medications.

"It's important to note that all medications on this list provide clinical benefits, if used appropriately, and may be suitable for some people considering their allergies, interactions with other drugs, medication conditions, individual beliefs, clinical experiences, preferences and goals."

Wang said there was no replacement for regular, individualized

[medication](#) reviews—particularly for [older people](#) who may be taking medications included in the PIMs list.

The researchers are now assessing the prevalence of PIM use in Australia.

More information: Kate N. Wang et al, Development of a list of Australian potentially inappropriate medicines using the Delphi technique, *Internal Medicine Journal* (2024). [DOI: 10.1111/imj.16322](https://doi.org/10.1111/imj.16322)

Provided by RMIT University

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