

'A problem that nobody sees': How experts are working to prevent inappropriate medication prescribing

September 16 2022, by Eileen Hoftzyer

Drug A		Side effect		Drug B
Cardiovascular System (n=2)				
Calcium Channel Blocker	→	Peripheral edema	→	Diuretic
Diuretic	→	Urinary incontinence	→	Overactive bladder medication
Central Nervous System (n=4)				
Antipsychotic	→	Extrapyramidal symptoms	→	Antiparkinsonian agent
Benzodiazepine	→	Cognitive impairment	→	Cholinesterase Inhibitor or memantine
Benzodiazepine	→	Paradoxical agitation or agitation secondary to withdrawal	→	Antipsychotic
Selective Serotonin Reuptake Inhibitor (SSRI) / Serotonin-norepinephrine Reuptake Inhibitor (SNRI)	→	Insomnia	→	Sleep agent (e.g., Benzodiazepines, Benzodiazepine Receptor Agonists, Sedating antidepressant, Melatonin)
Musculoskeletal System (n=1)				
NSAID	→	Hypertension	→	Antihypertensive
Urogenital System (n=2)				
Urinary Anticholinergics	→	Cognitive impairment	→	Cholinesterase inhibitor or memantine
Alpha-1 Receptor Blocker	→	Orthostatic hypotension, dizziness	→	Vestibular sedative (e.g., betahistine, Antihistamines, Benzodiazepines)

ThinkCascades: clinically important prescribing cascades affecting older people; by physiologic system. Credit: *Drugs & Aging* (2022). DOI: 10.1007/s40266-022-00964-9

Medications are effective and powerful treatment options for protecting and advancing human health. But medications can also cause harm,

particularly among older adults who are often taking multiple medications over long periods of time.

Experts at the University of Toronto's Leslie Dan Faculty of Pharmacy and Women's College Hospital, have led an effort to create a new tool for prescribers to identify, prevent, and manage potentially inappropriate prescribing practices known as prescribing cascades. Inappropriate medication use as a result of prescribing cascades can put people at unnecessary risk of adverse drug events, reduced quality of life, as well as additional costs to individuals and health care systems.

"Prescribing cascades occur when a drug is prescribed to manage the side effects of another drug, often when a side effect is misinterpreted as a new medical condition," says Lisa McCarthy, an expert in deprescribing and associate professor at the Leslie Dan Faculty of Pharmacy. "Sometimes it makes sense to introduce a new drug to treat [side-effects](#) of another, but sometimes the prescriber doesn't recognize that what they are seeing is, in fact, a drug-induced effect, and this can lead to inappropriate and potentially harmful prescribing."

The tool, called ThinkCascades, is published this week in the journal *Drugs & Aging*. It identifies nine clinically important prescribing cascades that affect [older people](#) when treating for common conditions like anxiety, insomnia, hypertension, or urinary incontinence.

"By identifying nine clinically important prescribing cascades, this tool helps clinicians recognize other prescribing cascades when managing polypharmacy," says Paula Rochon, scientist and founding director of Women's Age Lab based at Women's College Hospital in Toronto.

"If we adjust our thinking to focus attention on raising awareness about prescribing cascades when reviewing medications, we can then work towards optimizing therapies and reducing medication harm for [older](#)

[adults](#), particularly women," says Rochon who is also professor with University of Toronto's Institute of Health Policy, Management and Evaluation.

While the research team outlines there are many instances of prescribing cascades across health care globally, these nine were selected by engaging a multidisciplinary panel of more than 30 clinicians from six countries with expertise in geriatric pharmacotherapy.

"Many clinicians struggle to identify prescribing cascades both conceptually and in [clinical practice](#) which makes them underrecognized contributors to medication-related harm," says McCarthy who is also a clinician scientist at Trillium Health Partners. "In many ways, it's really a problem that nobody sees. And when multiple prescribers are involved, responsibility for appropriate prescribing and patient education may also be unclear."

But McCarthy notes that there is growing awareness about the extent of preventable medication-related harm with the World Health Organization (WHO) identifying medication safety as the theme for its World Patient Safety Day to be held on September 17, 2022.

In addition to raising global awareness of the high burden of medication related harm, WHO's World Patient Safety Day aims to empower patients and families to be actively involved in the safe use of medications. McCarthy agrees that this is an important aspect of reducing harm.

"We've seen that it's not really on medical professionals' radars to commonly think about drug induced signs and symptoms, and so it becomes even more important for patients and families to understand their medications and to be prepared to ask 'is what I'm experiencing related to my [medication](#)?' and, as health care professionals, we need to

be more aware and open to these discussions."

More information: Lisa M. McCarthy et al, ThinkCascades: A Tool for Identifying Clinically Important Prescribing Cascades Affecting Older People, *Drugs & Aging* (2022). [DOI: 10.1007/s40266-022-00964-9](https://doi.org/10.1007/s40266-022-00964-9)

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