Cost of potentially inappropriate medications initiated in 2021-2022

among older adults in Quebec, Canada

Marie-Eve Gagnon, Magalie Gagnon, Jason R Guertin, Caroline Sirois, Marc Simard, Benoît Cossette

Background

Potentially inappropriate medications (**PIMs**) are defined as medications that pose more risks than benefits in older adults, increasing the risks of adverse drug effects and hospitalizations[1-2].

Nearly **1/2** older Canadians used at least one PIM (2021-2022)[3], with higher prevalence[4] and incidence[5] in women.

Estimated $419 Millions in PIM-related costs in Canada (2013)[6]. Avoiding initiation may reduce adverse health outcomes and economic burden.

Direct costs of PIM initiation remain unknown.

Objective

To estimate the direct costs of PIMs initiated in 2021-2022 among women and men aged ≥ 65 covered by Quebec's public drug plan, from the public payor perspective.

Methods

Using medico-administrative data, we assessed the costs of PIMs initiated in 2021-2022 among adults ≥65 years covered by Quebec public drug plan. PIMs were considered as initiated if they had not been claimed in the preceding year. Data were extracted by sex and age groups (65-74, 75-84 and ≥ 85).

Selected PIMs were identified using the 2019 version of American Geriatrics Society's Beers criteria[1] (adapted to the Canadian context).

Costs for all PIM classes were calculated in 2024 Canadian dollars (CAD) and stratified by sex and age.

16 PIM classes

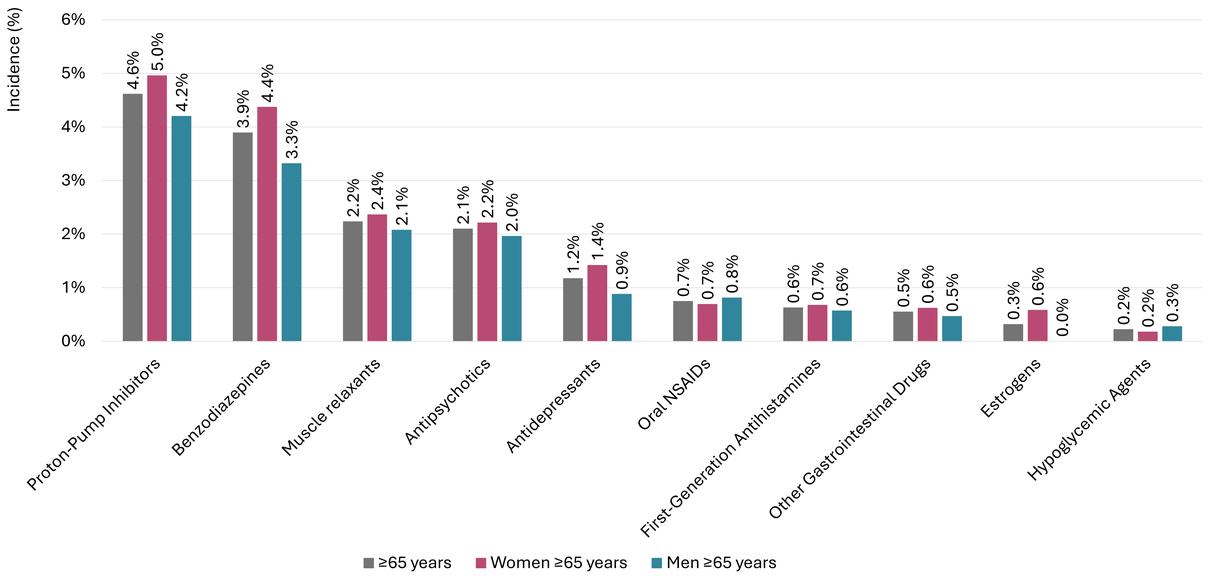
Analgesic Agents	Antidepressants	Antiparkinsonian Drugs	Antipsychotics
Antispasmodics	Barbiturates	Benzodiazepines	Cardiovascular Drugs
Estrogens	1st-Generation Antihistamines	Hypoglycemic Agents	Muscle Relaxants
Non-Benzodiazepine Hypnotics	Oral Nonsteroidal Anti-Inflammatory Drugs (NSAIDs)	Other Gastrointestinal Drugs	Proton-Pump Inhibitors

No claim for : Other Central Nervous System Drugs and Desiccated Thyroid Drugs
Exclusion of parental forms of Antipsychotics, Antispasmodics, Benzodiazepines, Metoclopramide, and Proton-Pump Inhibitors

Results

Initiation of PIMs ♀ (18.2%) > ♂ (14.6%)

Top 10 most frequently initiated PIM classes (2021-2022)



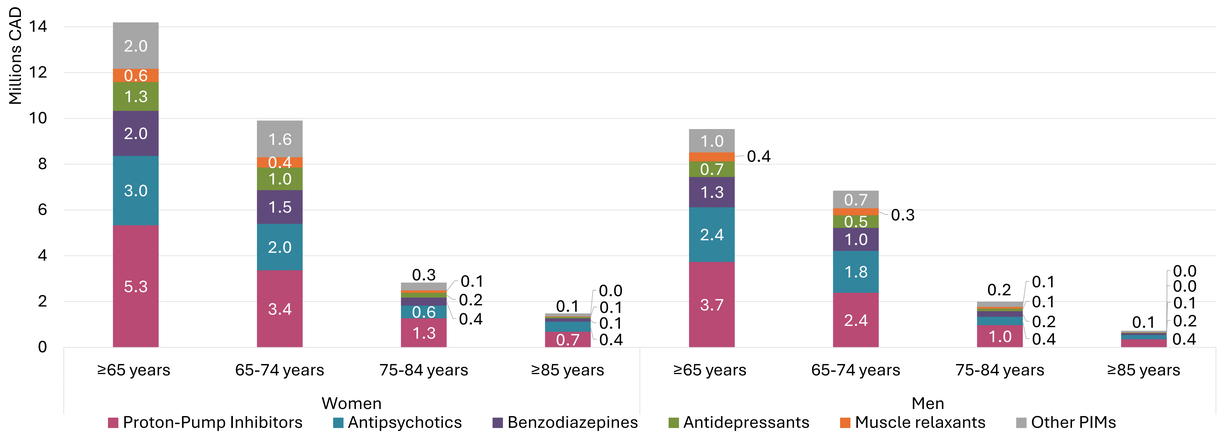
Total costs of initiated PIMs = CAD 23.7 millions (0.7% of medication expenditures among adults ≥ 65 years[7]).

The 5 most frequently initiated PIM classes accounted for 87.3% of the overall costs of all initiated PIMs.

Avoiding these 5 classes could have saved > CAD 20 millions in direct costs.

Additional savings likely when considering costs associated to adverse drug events (ADEs).

Costs of initiated PIM classes by sex and age groups (2021-2022)



Conclusion

To reduce negative health outcomes and public healthcare expenditures, initiatives preventing potentially inappropriate prescribing should prioritize the most frequently initiated classes and those associated with frequent and serious ADEs. Optimizing prescribing practices is essential for reducing PIM costs, improving individuals' health and reducing indirect PIM costs.

RQRM Réseau québécois de recherche sur les médicaments · Université Laval · UQAR Université du Québec à Rimouski · Centre de recherche CHU de Québec Université Laval · VITAM Centre de recherche en santé durable

References