

Canadian Deprescribing Network

Annual Report **2016**



CaDeN
Canadian Deprescribing
Network



ReCaD
Réseau canadien
pour la déprescription

The Canadian Deprescribing Network is a group of health care leaders, clinicians, decision-makers, academic researchers and patient advocates working together to mobilize knowledge and promote the deprescribing of inappropriate medications in Canada.

The Network's key objectives are to:

- Reduce harm by raising awareness and decreasing the use of inappropriate medications for seniors by 50% by 2020.
- Promote health by ensuring access to safer drug and non-drug therapies.

The Canadian Deprescribing Network is initially focusing on three classes of medications that should be considered for deprescribing in seniors:

- Benzodiazepines;
- Proton pump inhibitors; and
- Long-acting sulfonylureas.

What is Deprescribing?

Deprescribing is the planned and supervised process of reducing or stopping medications that may no longer be of benefit or may be causing harm. The goal is to reduce medication burden and harm, while maintaining or improving quality of life.

Contact us and get involved:

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The Annual Report is available on the website in French and English (printed copies available by request).

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Message from Directors

2016 marks the launch of the Canadian Deprescribing Network with a ground swell of activity from leaders, individuals and organizations across Canada who are interested in deprescribing. Many joined us in tackling the growing problem of over-medication, a problem highlighted in the Toronto Globe and Mail about “Seniors taking too many meds, it’s madness” (see article here: <https://tgam.ca/1R5BXgo>). It is with great pride that we release our first annual report, showing the multi-level systems approach that the Network recommends to shift the way medications are being used and overused in this country.

Funded by a Partnership for Health System Improvement grant from the Canadian Institutes of Health Research and the Ministère de la Santé et des Services sociaux du Québec, our members rallied to put in place an action plan to curb the use of risky medications and increase access to non-pharmacological therapies. Our public awareness subcommittee began by creating an inventory of user-friendly resources to determine if medications can be stopped, and how this might be done. The health care provider awareness subcommittee compiled resources to help clinicians understand and facilitate approaches to deprescribing and posted them on our deprescribing.org website. They also reached out to health care educators across Canada to encourage them to include information about the risks of medication use in older adults and approaches to deprescribing in their educational programming. The policy subcommittee evaluated three drug indicators, and scanned current policies in

each province to limit consumption. We also undertook a national population survey on deprescribing, and an international scan of successful policy initiatives to reduce benzodiazepine use.

We are grateful to our volunteers and staff, and to our enthusiastic collaborators from the National Pensioners Federation, the Canadian Pharmaceutical Directors Forum, the Canadian Institute of Health Information, the Canadian Agency for Drugs and Technologies in Health, the BC Shared Care Polypharmacy Group, the Canadian Foundation for Healthcare Improvement and Choosing Wisely Canada, among others. We sincerely acknowledge Chris Power’s contribution, CEO of the Canadian Patient Safety Institute, who delivered the keynote address at our 2016 annual meeting.

Our deprescribing.org website hosted over 67,000 visitors, and hundreds of individuals received our newsletters. A warm thank you to the journalists and radio reporters from across Canada and the U.S. who are helping us showcase the budding efforts and stories of the Canadian Deprescribing Network.



Dr. Cara Tannenbaum, MD, MSc
Director, Canadian Deprescribing Network



Dr. James Silvius, MD, BA (Oxon)
Co-Director, Canadian Deprescribing Network

Why Focus on Deprescribing?

Canadians are living longer with chronic disease, with **one in four Canadian seniors** suffering from **three or more chronic conditions**, such as diabetes, high blood pressure, arthritis, osteoporosis, cancer, chronic pain and mental illness (CIHI 2014).

The majority of Canadian seniors with chronic conditions are able to lead meaningful lives with the help of safe and effective prescription medications. As the number of chronic diseases increase with age, so do prescriptions. Seniors with three or more chronic conditions take an average of **six different medications** (CIHI 2014).

Polypharmacy refers to the use of five or more medications, taking more medications than clinically indicated, or use of medications where harm outweighs benefit.

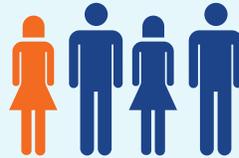
Taking medications may be necessary for health, improving symptoms or prolonging life expectancy. However, as we get older, the benefits and risks of medication may change.

With age, some medications become unnecessary or even harmful because of short-term or long-term side effects, drug-drug interactions, and drug-related hospitalizations.

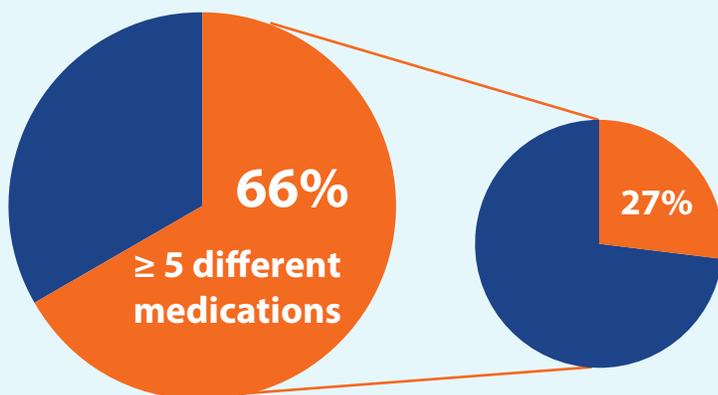
How many prescription medications are Canadian seniors taking?



2 out of 3 Canadians over the age of 65 take **at least 5** different prescription medications.



1 out of 4 Canadians over the age of 65 take **at least 10** different prescription medications.



Seniors taking ≥10 medications

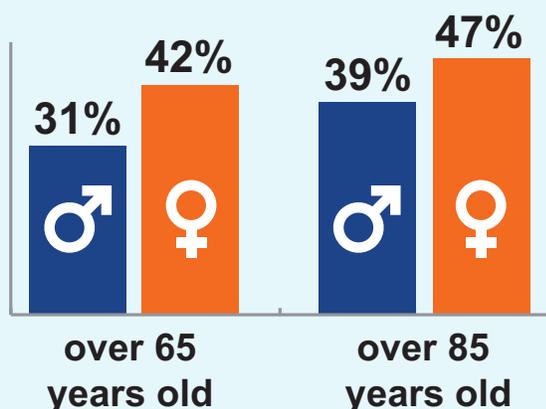
- 20% of seniors age 65 to 74
- 32% of seniors age 75 to 84
- 39% of seniors age 85+

(CIHI 2014)

Unnecessary or Potentially Harmful Medications

Seniors are most at risk, as age-related changes affect how the body handles and responds to medication – making them more sensitive to exaggerated drug effects as they get older.

Canadian seniors who take at least one inappropriate medication



Some medications may be unnecessary, potentially inappropriate and even harmful to seniors. These medications, compiled on the Beers criteria list, are known to increase the risk of adverse effects.

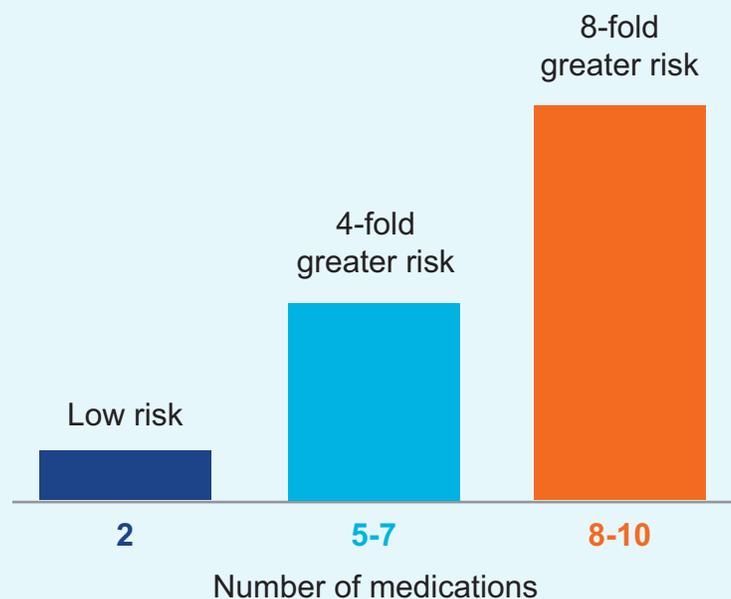
(Morgan *et al.* 2016; 2013 CIHI data)

Adverse Effects

Adverse effects of medication may include side effects, drug interactions, falls, fractures, memory problems and risk of death.

Older women are typically more susceptible to adverse effects of medications and more likely to be prescribed risky medication. This is because women have a longer average life expectancy than men, suffer from more chronic conditions and typically take more medication. Female biology and physiology also increase the risk of harmful effects of medication.

Risk of Drug-Drug Interactions



(Johnell and Klarin 2007)

Cost of Inappropriate Medications for Seniors

Medications in general are costly. Inappropriate medications raise greater concern, because of the added indirect costs associated with drug harms and hospitalizations.

Cost of commonly prescribed potentially inappropriate medications among Canadian seniors:

\$250 million

Proton-pump inhibitors

Increased risk of fractures, memory problems, pneumonia, *Clostridium difficile* infections and diarrhea, kidney disease, and low levels of magnesium and vitamin B12 in the blood. (CIHI 2015)

\$97 million

Antipsychotics

Increased risk of memory and concentration problems, falls, fractures, stroke, dizziness, confusion, diabetes and weight gain.

\$14 million

**Sulfonylurea diabetes pill
glyburide**

Higher risk of hypoglycemia causing dizziness, falls, fractures and confusion.

\$135 million

Benzodiazepines

Increased risk of cognitive impairment, delirium, falls, fractures and motor vehicle accidents.

(Morgan *et al.* 2013)

Total costs of inappropriate medication among Canadian seniors

\$419 million

Canadians spend \$419M per year on potentially harmful prescription medications. This does not include hospital costs.

\$1.4 billion

Canadians spend \$1.4B per year in health care costs to treat harmful effects from medications, including fainting, falls, fractures and hospitalizations.

(Morgan *et al.* 2016; 2013 CIHI data)

Falls, Fractures and Seniors

9% of all emergency department visits

Falls are the leading cause of injury hospitalizations for seniors across the country, contributing to 9% of all emergency department visits (CIHI 2011).

50%

Certain inappropriate medications, such as benzodiazepines, antipsychotics and long-acting sulfonylureas, can increase the risk of falls by 50% because they cause side effects like concentration and balance problems, or dizziness.

30%

Seniors living in the community that are institutionalized within a year following a hip fracture in Canada.

(Morin *et al.* 2012)

20-30%

Hip fracture patients that die within 1 year after the fracture.

(Khong *et al.* 2012)

Cost of a Hip Fracture

\$1.1 billion

Annual direct attributable health care costs for hip fractures in Canada.



\$36,929

for a woman



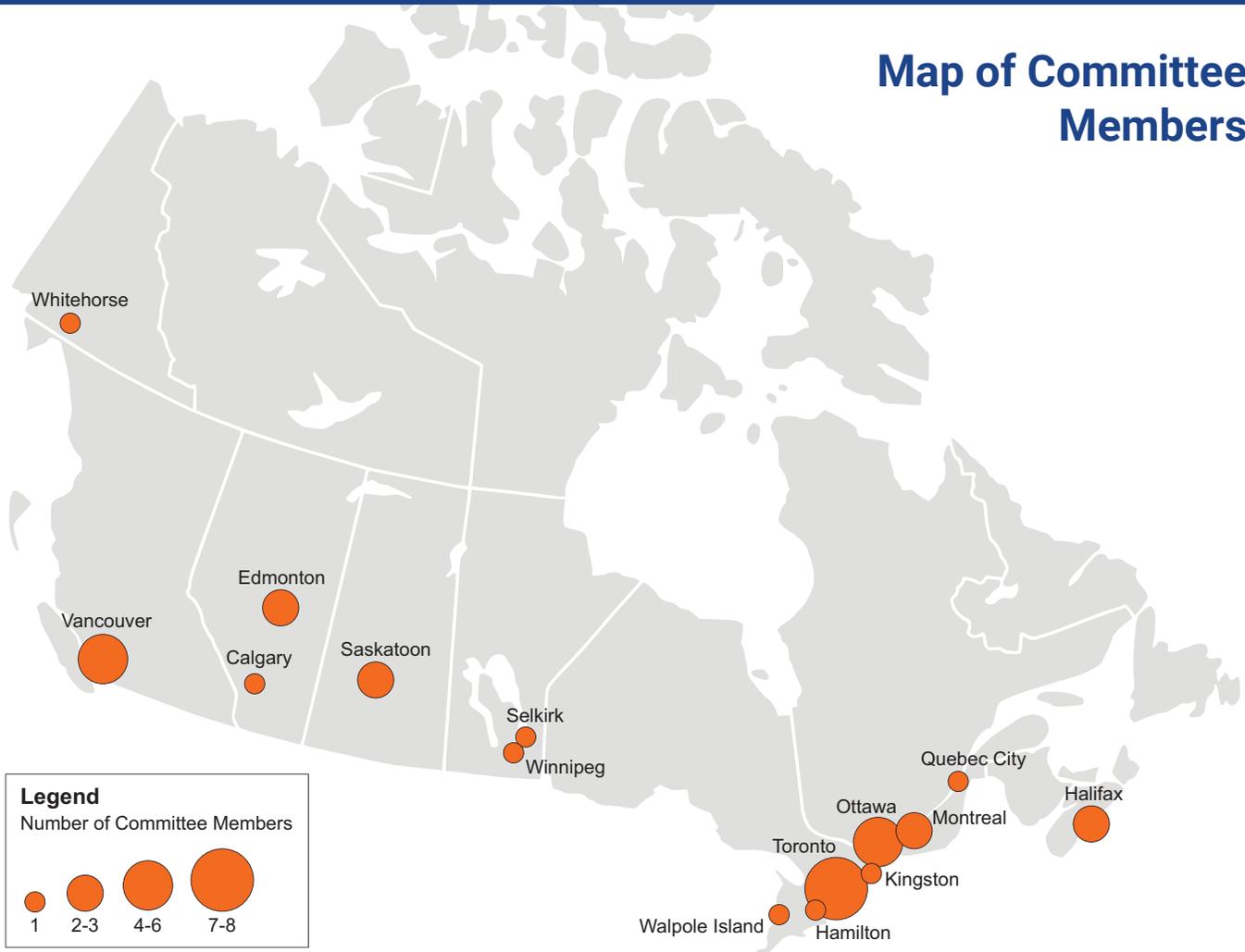
\$39,479

for a man

(Nikitovic *et al.* 2013)

The Network

Map of Committee Members



What is Deprescribing?

Deprescribing is the planned and supervised process of reducing or stopping medications that may no longer be of benefit or may be causing harm. The goal is to reduce medication burden and harm, while maintaining or improving quality of life.

Deprescribing involves patients, caregivers, healthcare providers and policy makers.

71% Canadian seniors that are willing to stop a medication if their doctor says it is possible.

(Sirois *et al.* 2016)

Goals and Objectives

The Canadian Deprescribing Network is a group of health care leaders, clinicians, decision-makers, academic researchers and patient advocates working together to mobilize knowledge and promote the deprescribing of inappropriate medications in Canada.

Key objectives of the Network are to:

Reduce harm by raising awareness and decreasing the use of inappropriate medications for seniors by 50% by 2020.

Promote health by ensuring access to safer drug and non-drug therapies.

Medication Classes

Three specific medication classes were selected as indicators to guide the efforts of the network, based on the balance of their potential for benefit and harm. There is substantial epidemiological evidence highlighting the harms of these medications for older people, and alternative therapies have been shown to be more appropriate, especially for older people living in the community.

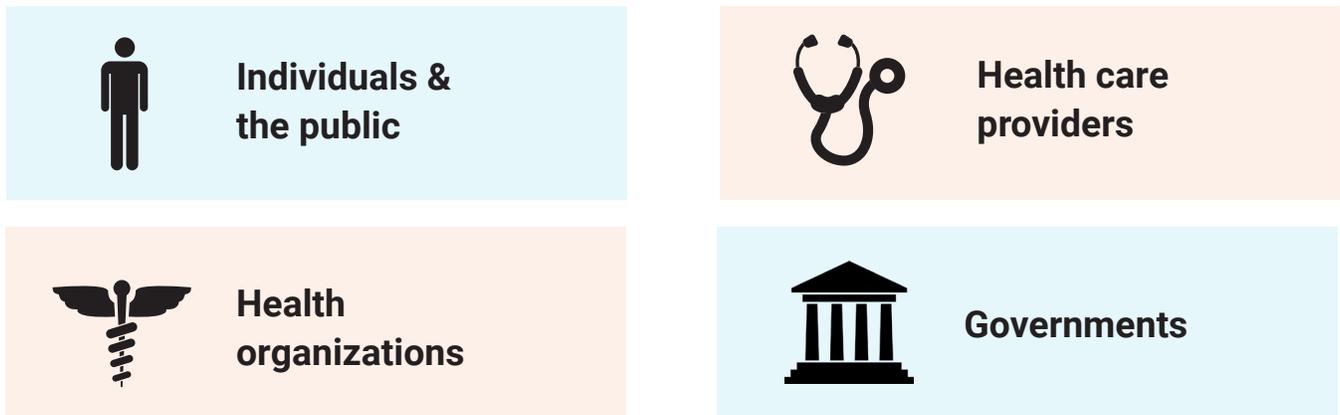
-  **Benzodiazepines** (e.g. diazepam, lorazepam, alprazolam): associated with car accidents, falls, fractures, cognitive impairment, memory problems and mortality.
-  **Proton pump inhibitors** (e.g. pantoprazole, omeprazole, rabeprazole): long-term use is associated with *Clostridium difficile* infections and diarrhea, community acquired pneumonia, low levels of magnesium and vitamin B12 in the blood, fractures, memory problems, and both acute and chronic kidney disease.
-  **Long-acting sulfonylureas** (e.g. glyburide, chlorpropamide): associated with hypoglycemia, falls, fractures, hospitalization and mortality.

Why should they be deprescribed?

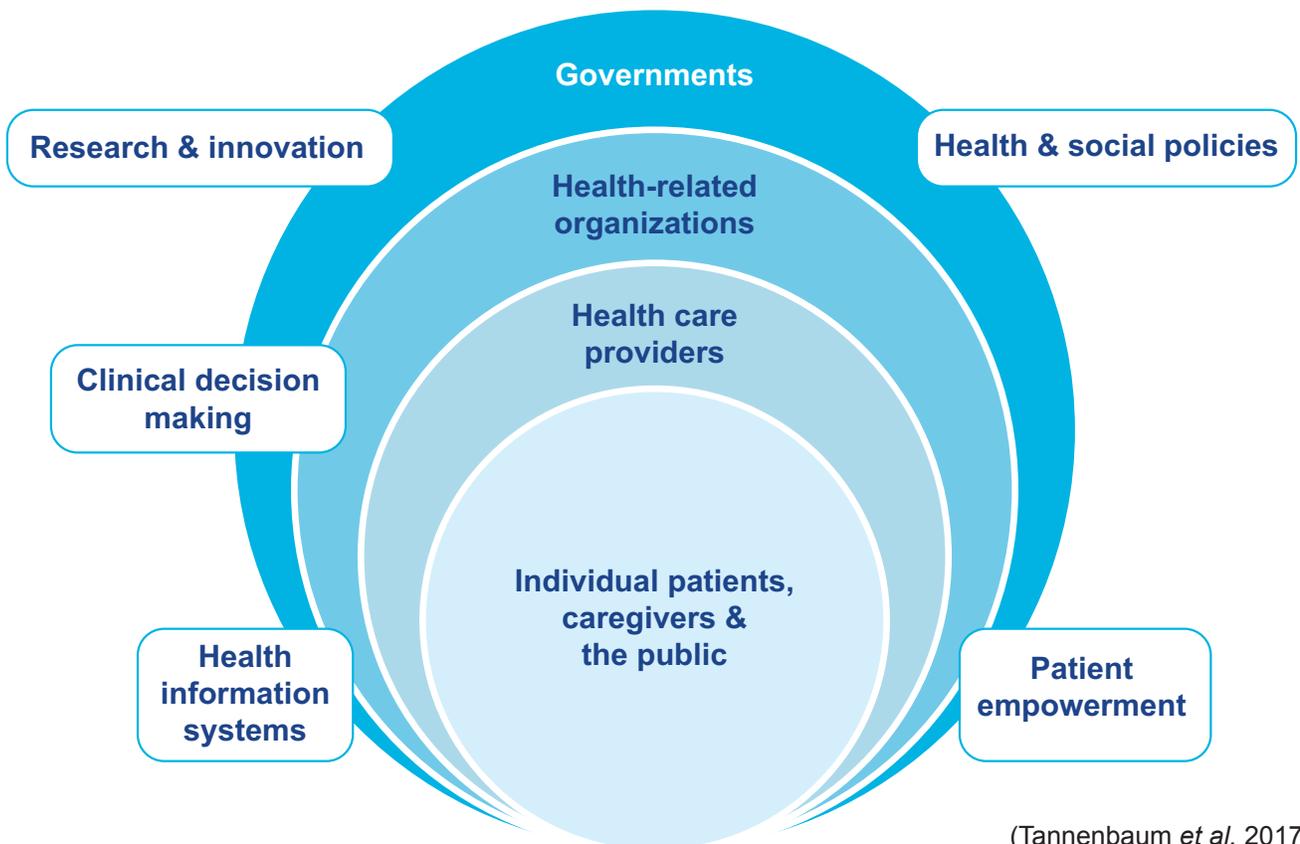
- They are overused;
- They may cause more harm than good;
- Safer alternatives exist.

The Approach

Transformational change across the health care system requires an ecological, comprehensive, synergistic and simultaneous change of behaviour across multiple stakeholder groups.



The Network's model for health system change



(Tannenbaum *et al.* 2017)

Network Structure

The Network was inaugurated in January 2016 and mobilized from the ground up by motivated volunteers from all levels of the health care system in response to an urgent need to resolve the problem of inappropriate medication use in a timely, safe, measurable and sustainable way.

The Canadian Deprescribing Network is currently composed of an executive committee, and five subcommittees. The Network leadership, or executive committee, maintains oversight and considers how the activities of each strategic committee contributes to enabling government, health care providers, patients, and families to work together on deprescribing.

Subcommittees are focusing on the following elements to achieve the goals and objectives of The Network:

1. Public awareness, engagement and action on deprescribing.
2. Health care providers motivation, awareness, and capacity to deprescribe.
3. Policy change at the Federal, Provincial and Territory levels.
4. Integrating deprescribing strategies within electronic health record systems.
5. Research capacity and impact, within a sex-and-gender-based analysis framework.

The activities of each subcommittee are determined based on the expertise and commitment of each member, maintaining a realistic focus on what changes can be achieved in a five-year time frame. The Canadian Deprescribing Network's action plan, which integrates the work of all five committees, is found on the next page.



Network Goals

Raise health literacy in seniors around the issue of prescribing appropriateness.

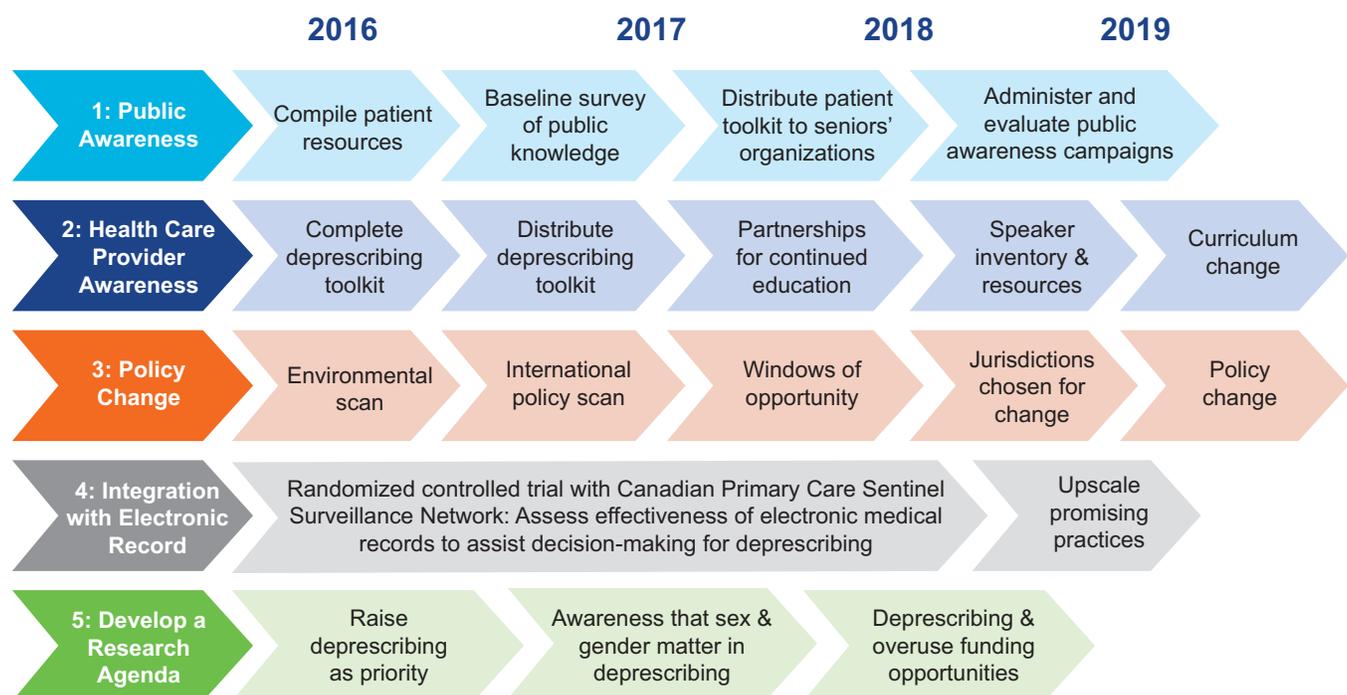
Provide teaching modules to raise self-efficacy and communication skills for engaging patients and healthcare providers in conversations around deprescribing.

Support health care providers to achieve deprescribing through implementation of evidence-based deprescribing guidelines.

Share these tools and processes within Canada and internationally.

Advocate for policy change to enable reimbursement of safer pharmacologic and non-pharmacologic practices and therapies to treat chronic disease in our aging population.

Action Plan



Achievement Timeline

2014

October



Grant submitted

Cara Tannenbaum and James Silviu, along with a number of experts and partners, craft a “Partnership for Health System Improvement” research grant from the Canadian Institutes for Health Research and the Ministère de la Santé et des Services sociaux du Québec.

2015

January



First strategic meeting

Brought together 40 participants including policymakers, patient representatives and health care providers for a first strategic meeting in Toronto.

February



Structure formed

First executive committee meeting; creation of subcommittees and designation of Chairs.

March-
August



Action plan

Action and evaluation plans drafted with the help of the subcommittees.

October



Network funded

Canadian Deprescribing Network is funded.

2016

January

Inauguration and Fair

Official inauguration of the Canadian Deprescribing Network, and the first Deprescribing Fair with over 80 participants from multiple stakeholder groups, expanding its membership and support.

February

Announcement

Official press release sent for the Network's launch.

March

Website

The website deprescribing.org is launched, which includes a section dedicated to the Canadian Deprescribing Network.

April

Newsletter

First newsletter sent out to all members, activities begin.

June-

September

Survey

Baseline population health survey.



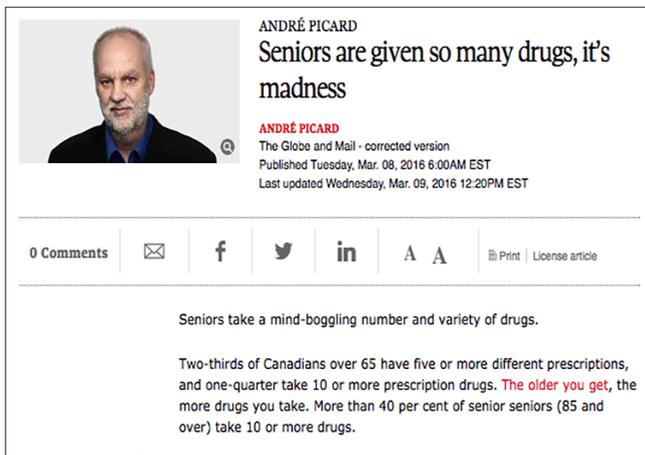
Public Awareness & Motivation



Media Outreach

Deprescribing has become a hot topic, and the Canadian Deprescribing Network has already received significant media attention. Network members have been widely interviewed and quoted, delivering the Network's mission and importance of deprescribing to the media and to the general public.

In 2016 alone, the Canadian Deprescribing Network was featured in 15 articles in prominent newspapers, including The Wall Street Journal, The Montreal Gazette, The National Post, The Globe and Mail, CBC News and Le Soleil.



ANDRÉ PICARD
Seniors are given so many drugs, it's madness

ANDRÉ PICARD
The Globe and Mail - corrected version
Published Tuesday, Mar. 08, 2016 6:00AM EST
Last updated Wednesday, Mar. 09, 2016 12:20PM EST

0 Comments

Seniors take a mind-boggling number and variety of drugs.

Two-thirds of Canadians over 65 have five or more different prescriptions, and one-quarter take 10 or more prescription drugs. **The older you get, the more drugs you take.** More than 40 per cent of senior seniors (85 and over) take 10 or more drugs.



THE WALL STREET JOURNAL

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When Patients Take Too Many Pills, Doctors Deprescribe
Health-care professionals are screening patients to cut out ineffective medicines and avoid risky combinations



Studies show nearly 40% of patients in their 60s take more than five medications. ILLUSTRATION: JEAN TUTTLE FOR THE WALL STREET JOURNAL

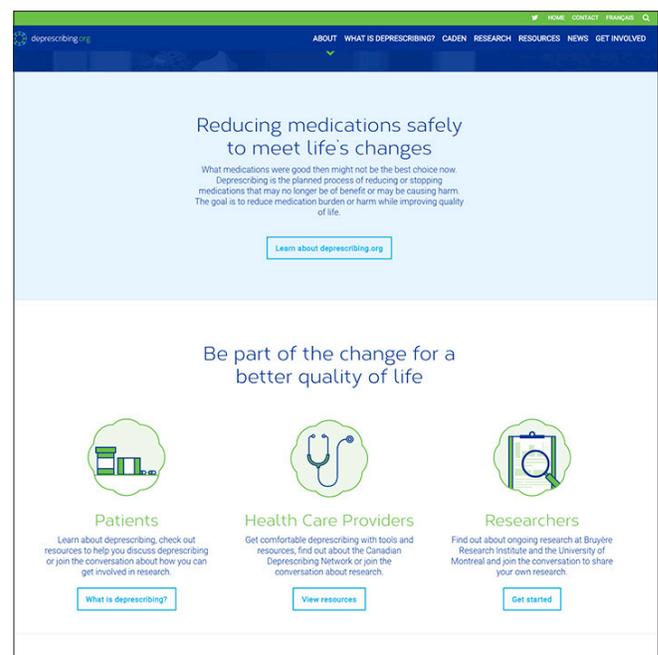
City TV's Breakfast Television, CTV Canada AM, CBC Radio and National Public Radio also interviewed prominent members of the Canadian Deprescribing Network, who discussed its creation, mission and importance.

A deprescribing campaign was launched on the National Pensioners Federation website, which reaches over a million members (see campaign here: <http://bit.ly/2h1blrG>).

Website

The website deprescribing.org was launched in March 2016.

[Deprescribing.org](http://deprescribing.org) is dedicated to providing deprescribing algorithms and resource material to health care providers and their patients, and showcases research efforts on deprescribing. Additional pages and links are being developed to target the specific needs of seniors, the general public, researchers and policy-makers. The website already received over 67,000 hits and has been cited widely in the Media.



deprescribing.org

ABOUT WHAT IS DEPREScribing? CADEN RESEARCH RESOURCES NEWS GET INVOLVED

Reducing medications safely to meet life's changes

What medications were good then might not be the best choice now. Deprescribing is the planned process of reducing or stopping medications that may no longer be of benefit or may be causing harm. The goal is to reduce medication burden or harm while improving quality of life.

[Learn about deprescribing.org](#)

Be part of the change for a better quality of life

- Patients**
Learn about deprescribing, check out resources to help you discuss deprescribing or join the conversation about how you can get involved in research.
[What is deprescribing?](#)
- Health Care Providers**
Get comfortable deprescribing with tools and resources, find out about the Canadian Deprescribing Network or join the conversation about research.
[View resources](#)
- Researchers**
Find out about ongoing research at Bruyère Research Institute and the University of Montreal and join the conversation to share your own research.
[Get started](#)

Patient Deprescribing Toolkit

This year, the Canadian Deprescribing Network's public awareness subcommittee compiled resources to develop a set of tools to help seniors better understand medications as well as the concept and importance of deprescribing.

The tools will also help motivate seniors to initiate conversations with their health care providers about deprescribing. The toolkit will first be piloted and tested in the province of Quebec, and then disseminated across Canada. Some of the tools are highlighted on the deprescribing.org website.

DEPRESCRIBING
Are you on too many meds?

What is Deprescribing? Deprescribing is the planned process of reducing or stopping medications that may no longer be of benefit or may be causing harm. The goal is to reduce medication burden while improving quality of life.

Deprescribing involves patients, caregivers, healthcare providers and policy makers

Deprescribing should be done in partnership with a health care provider. There may be reasons to continue taking certain medications or reasons why close supervision is needed while stopping.

Medications SHOULD NOT be stopped without first consulting a doctor or health care professional.

Are seniors taking too many meds?

2 out of 3 Canadians over the age of 65 are on at least 5 different prescription medications – some of which may cause more harm than good.

1 out of 4 Canadians over the age of 65 take at least 10 different prescription medications.

Why deprescribe?

Taking medications may be necessary for health, improving symptoms or prolonging life expectancy. However, as we get older, the benefits and risks of medication may change.

The risk of harmful effects and hospitalizations increases when taking many prescription medications.

With age, some medications can become unnecessary or even harmful because of short-term or long-term side effects, and drug interactions.

Older women are typically more susceptible to adverse effects of medications and more likely to be prescribed risky meds.

Seniors who fill at least one risky prescription in Canada

31%	42%	39%	47%
over 65 years old	over 65 years old	over 85 years old	over 85 years old

Medications are considered risky when a safer drug or non-drug therapy exists that can be used to treat the same symptoms.

You May Be at Risk

You are taking one of the following sedative-hypnotic medications:

<input type="checkbox"/> Alprazolam (Xanax®)	<input type="checkbox"/> Diazepam (Valium®)	<input type="checkbox"/> Temazepam (Restoril®)
<input type="checkbox"/> Chlorazepate	<input type="checkbox"/> Estazolam	<input type="checkbox"/> Triazolam (Halcion®)
<input type="checkbox"/> Chlordiazepoxide-amitriptyline	<input type="checkbox"/> Flurazepam	<input type="checkbox"/> Eszopiclone (Lunesta®)
<input type="checkbox"/> Clidinium	<input type="checkbox"/> Lorazepam (Ativan®)	<input type="checkbox"/> Zaleplon (Sonata®)
<input type="checkbox"/> Clidiazepoxide	<input type="checkbox"/> Lorazepam (Ativan®)	<input type="checkbox"/> Zolpidem (Ambien®)
<input type="checkbox"/> Clobazam	<input type="checkbox"/> Lormetazepam	<input type="checkbox"/> Intermezzo®, Edluar®, Sublinox®, Zolpimist®
<input type="checkbox"/> Clonazepam (Rivotril®, Klonopin®)	<input type="checkbox"/> Nitrazepam	<input type="checkbox"/> Zopiclone (Imovane®, Rhovane®)
	<input type="checkbox"/> Oxazepam (Serax®)	
	<input type="checkbox"/> Quazepam	

How to get a good night's sleep without medication

Inventory

An inventory of 1000 senior's organizations, newsletters and local papers in Canada divided by province and territory is being compiled for the dissemination strategy for the patient deprescribing toolkit.

Population Survey

Awareness of Inappropriate Medications

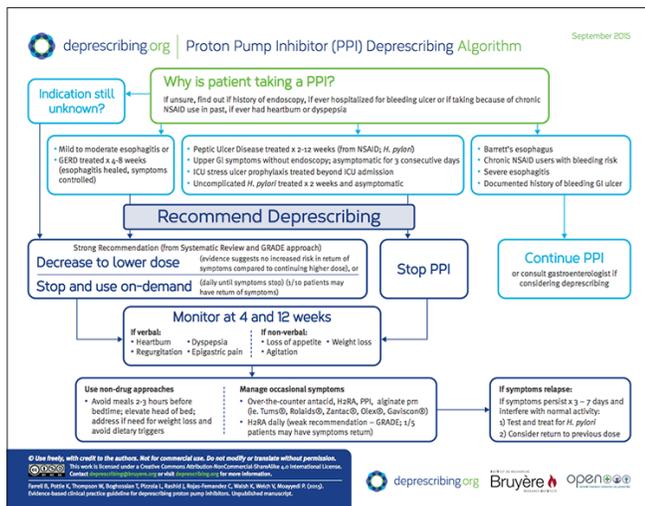
Launched in June 2016, the goal of this pan-Canadian survey was to assess the public's level of knowledge and awareness about medications that may be unnecessary or harmful to Canadian seniors. The survey queries seniors' awareness of inappropriate medicines, alternative therapies, sources of information on medication harms and how this information is used. Over 200 residents over the age of 65 from each province and territory in Canada were surveyed by telephone in English or French, for a total of 2665 participants. The survey will be repeated in 2020 in order to determine the impact and measure success of the public awareness campaigns, which will be deployed in 2017.

Health Care Provider Capacity



Deprescribing Algorithms

Decisions around deprescribing can be very difficult for health care professionals, and few evidence-based guidelines exist to support safe deprescribing for specific drug classes. This is why researchers from the Bruyère Research Institute and the Ontario Pharmacy Research Collaboration, began developing evidence-based guidelines for deprescribing. Each guideline is summarized in an easy-to-use algorithm. These algorithms are helping health care professionals safely stop or reduce medications for specific drug classes — proton pump inhibitors, benzodiazepines, long-acting sulfonylureas and antipsychotics.



Each algorithm provides evidence for the benefits and harms of deprescribing a drug class, as well as the benefits and harms of continuing the drug or drug class. The algorithms also take into account patient preferences and values surrounding deprescribing, together with practical advice on how to implement deprescribing. The algorithms are currently available on the website deprescribing.org.

A Toolkit for Health Care Providers

The Canadian Deprescribing Network is developing a resource toolkit for health care providers, so that they may effectively and safely deprescribe potentially inappropriate medications. The deprescribing algorithms noted above are one important element of this toolkit. The toolkit will also include evidence-based references, training modules and other tools and projects.

Conversations Project

Patient-Physician Communication around Deprescribing

For seniors, prescriptions for potentially inappropriate medications are often renewed at a follow-up visit with their family doctor. Few studies have assessed the consultation process between the family doctor and the senior patient. Even fewer studies have assessed this in the context of deprescribing.

This exploratory project aims to identify communication strategies associated with successfully stopping or dose reduction of inappropriate medications for seniors through a consultation with their family doctor. Participants are recruited at family medicine clinics across Quebec, and their conversations audio-recorded and analyzed. Patients and physicians also completed a short follow-up questionnaire collecting feedback about their visit and factors that enabled or prevented deprescribing of inappropriate medications.



Photo: Vfc; flickr.com creative commons

Randomized Control Trial

Overcoming Barriers to Deprescribing in Primary Care

Several challenges exist to deprescribing in primary care. Physicians often lack awareness of medication harms as well as technical skills to plan deprescribing, including minimizing withdrawal symptoms and discussing availability of drug and non-drug alternative treatments. Another barrier to deprescribing is patient-physician communication and lack of a defined deprescribing process.

This research project, led in collaboration with the Canadian Primary Care Sentinel Surveillance Network, is developing an intervention to overcome these barriers to deprescribing. The objective is to create educational tools to improve awareness, technical skills and communication skills to engage physicians and patients in deprescribing. Family physicians across Canada will be invited to participate in the study.

Reaching out to Health Care Educators

The Canadian Deprescribing Network recognizes that it is important for health care providers to understand that some medications should not be used in older people, that drug dosing for seniors may need to change, that benefits and risks of medications shift over time, and that they need to think about how to start conversations about deprescribing and understand approaches to tapering and stopping medications. To this end, a letter was sent to Canadian health care educators in the summer of 2016 to recommend these important inclusions in health care provider curricula and post-graduate training.

Policy-Maker Opportunities

Health care policy can have a large impact on the prescribing and deprescribing practices of health care providers.

The Canadian Deprescribing Network is developing a national strategy investigating a range of policy levers to support deprescribing and raising political awareness around drug safety.

This involves fostering interest and establishing a meaningful network of people committed to deprescribing at the policy level, as well as building sustainability of deprescribing mechanisms into policy change.



Environmental Policy Scan

The first step towards the Network's policy objectives was to complete an environmental scan of policies in Canada that have promoted deprescribing and sought to enhance access to alternative therapies. An environmental scan was conducted reviewing the policies in place in Canadian jurisdictions (provinces, territories) that were designed to discourage the use of potentially inappropriate medications, and to encourage deprescribing by clinicians.

A nation-wide questionnaire was distributed to the Canadian Pharmaceutical Directors Forum, a national group convening senior officials of pharmaceutical reimbursement programs in jurisdictions across Canada. Ten jurisdictions responded to ten open-ended questions regarding policy strategies used to discourage inappropriate prescribing and to support prescribers to optimize the use of medicines.

Policies in Place to Reduce Medications

The following policies that discourage inappropriate prescribing in Canada were identified:

- Delisting medications (e.g. the long-acting sulfonylurea chlorpropamide)
- Dose restriction (e.g. zopiclone less than 7.5 mg, certain proton pump inhibitors)
- Limited use/special authorization (e.g. some antipsychotics)
- Paying for medication review by physicians and pharmacists
- Programs to link patients to a single prescriber and single dispenser in cases where abuse is suspected

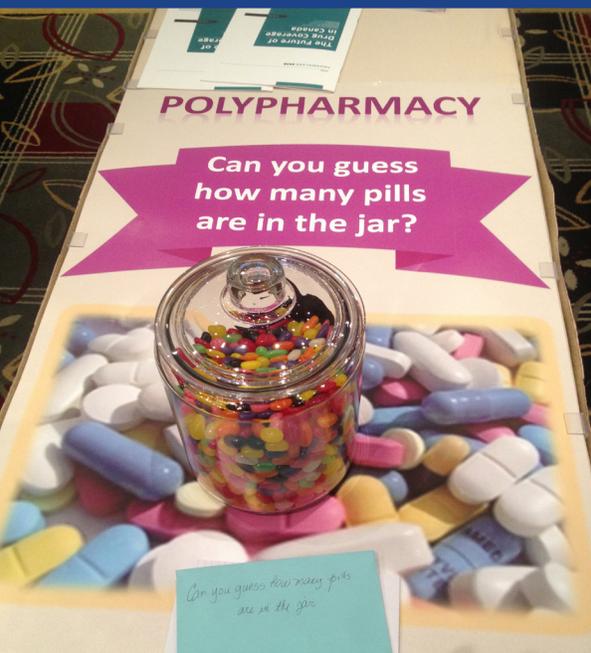
International Review

Policies to Promote Appropriate Prescribing of Benzodiazepines

International policy strategies that promote the appropriate use of benzodiazepines are currently being reviewed to identify policies that have the highest likelihood of success within their different cultural, institutional, and jurisdictional settings. Academic publications and grey literature (including websites, white papers, evaluation reports, etc.) will be used as a key source of information in this study.

The objective of the review is to identify what works, for whom and in what circumstances. The study will also describe the specific features of the policies that work and why, within the specific contexts in which they have been implemented. The study will also foster a better understanding of the magnitude of the effect that these programs/strategies have had, and barriers to implementation.

Events & Networking



Whether it is within our network, the broader community or the public at large, exchanging ideas, knowledge and resources helps build trust and raise awareness. We understand that cultivating relationships is extremely influential to spur progress and to increase general interest in deprescribing.

Below are some examples of how the Canadian Deprescribing Network is connecting people from diverse areas, nurturing the relationships and spreading the word about deprescribing.

Annual Meetings

In January 2015, the Network Directors held an introductory meeting in Toronto. The meeting brought together 40 participants including policy-makers, patient representatives and health care providers who are committed to advancing the deprescribing of potentially inappropriate medications in Canada. The goal was to share best practices, and build support and develop an action plan and strategic vision.

In January 2016, the Canadian Deprescribing Network was officially inaugurated in Toronto at its second annual meeting, which included the first Deprescribing Fair. The meeting brought together over 80 participants from multiple stakeholder groups, expanding its membership and support.

Deprescribing Fair

The Deprescribing Fair is a fun and interactive exhibit that was created to raise awareness and mobilize diverse stakeholders to engage in deprescribing efforts. The Canadian Deprescribing Network piloted the fair at its 2016 Annual Meeting.

The Fair consists of booths, displays and games, such as “Jeopardy”, “The Price is Right” and “Guess the number of pills in the polypharmacy jar”. Participants are assigned a patient profile and given a pillbox with candy “pills” to manage throughout the day to illustrate the burden of polypharmacy.

Participants were asked to evaluate the Deprescribing Fair, and many commented that it was creative, led to a high-energy meeting, and increased awareness of deprescribing tools and methods.

Attending Conferences

Throughout the latter part of 2016 and into 2017, the Network’s event strategy is to “divide and conquer”. Network members have been consistently presenting at prominent conferences and spreading the word about deprescribing and the Canadian Deprescribing Network to diverse audiences.

Some examples include the Federal Government’s Opioid Conference, the Canadian Institutes of Health Research’s Best Brains Exchange, the National Pensioners Federation Convention, the North American Primary Care Research Group Conference, the Canadian Pharmacists Association Conference, the Choosing Wisely Canada National Conference and the American Geriatrics Society 2016 Annual Scientific Meeting.

Partners & Collaborators

The Canadian Deprescribing Network thanks the following organizations that attended meetings, contributed to committees and collaborated, advised or supported The Network since its inception.

Alberta Health Services

Appropriate Use of Antipsychotics - Canadian Connections

British Columbia Ministry of Health

British Columbia Polypharmacy Risk Reduction Initiative

Bruyère Research Institute

Canada Health Infoway

Canadian Agency for Drugs and Technologies in Health

Canadian Association of Advanced Practice Nurses

Canadian Association of Retired Persons

Canadian Centre on Substance Abuse

Canadian Foundation for Healthcare Improvement

Canadian Home Care Association

Canadian Institute for Health Information

Canadian Institutes of Health Research / Drug and Safety Effectiveness Network

Canadian Medical Association

Canadian Nurses Association

Canadian Patient Safety Institute

Canadian Pharmacists Association

Canadian Primary Care Sentinel Surveillance Network

Collège québécois des médecins de famille

Choosing Wisely Canada

Council of Senior Citizens' Organizations of British Columbia

Drug Safety Canada

Government of Saskatchewan

Institut national d'excellence en santé et en services sociaux (Québec)

Institut national de santé publique (Québec)

Institute for Safe Medication Practices

Interlake-Eastern Regional Health Authority

Medstopper

Michel Saucier Chair in Pharmacy, Health & Aging

Ministère de la Santé et des Services sociaux (Québec)

National Pensioners Federation
North York Family Health Team
North York General Hospital
Nova Scotia Health Authority
Nova Scotia Health and Wellness
Ontario Government
Ontario Medical Association
Ontario Pharmacists Association
Ontario Public Drug Programs
Ontario Ministry of Health and Long-Term
Care
Ontario Pharmacy Research Collaboration
Ordre des pharmaciens du Québec
Pharmaceutical Directors Forum
Pharmaprix / Shoppers Drug Mart
PharmaWatch Canada
Patient Advocates
Public Health Agency of Canada
St. Michael's Hospital

Winnipeg Regional Health Authority
Women's Brain Health Initiative
Women's College Hospital

Network Representation

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Michel Saucier Endowed Chair in Pharmacy, Health & Aging
Professor, Faculties of Medicine and Pharmacy, Université de Montréal
Scientific Director, Institute of Gender and Health, Canadian Institutes for Health Research

Cara Tannenbaum is the Director of the Canadian Deprescribing Network. She received her geriatric specialty degree and Master's training in Epidemiology and Biostatistics at McGill University. Dr. Tannenbaum conducted the EMPOWER trial, and is currently leading the D-PRESCRIBE trial, another Canadian trial to reduce inappropriate prescriptions in seniors. In 2013, the Institute of Aging of the Canadian Institutes Health Research presented her with the Betty Havens Knowledge Transfer Award. She continues to work as a geriatrician and older women's health specialist at the Institut universitaire de gériatrie de Montreal in Quebec.



James L. Silvius, BA (Oxon), MD, Co-Director

Medical Director, Seniors Health, Community Seniors, Addiction and Mental Health & Pharmacy Services, Alberta Health Services

Dr. Silvius is an Associate Professor, Department of Medicine, Division of Geriatric Medicine, University of Calgary. He is the AHS Medical Director, Seniors Health and Senior Medical Director, Seniors Health Strategic Clinical Network and Vice-Chair of The Canadian Drug Expert Committee, Canadian Agency for Drugs and Technologies in Health. He is a co-founder of the Canadian Deprescribing Network.



Janet Currie, MSW

Medication safety advocate, Psychiatric Medication Awareness Group, PharmaWatch & Psychmedaware.org
PhD Candidate, University of British Columbia

Janet Currie is a policy analyst, researcher and evaluation consultant with

a strong history in medication safety and patient empowerment. She is a Board member of PharmaWatch, chair of the Canadian Women's Health Network, a founder of the Psychiatric Medication Awareness Group and a co-founder of Independent Voices for Safe and Effective Drugs. She was a two-term member of Health Canada's Expert Advisory Committee on the Vigilance of Health Products and manages a public information website on psychiatric drug use and deprescribing. She is currently completing a PhD on off-label prescribing at UBC.



Barbara Farrell, BScPhm, PharmD, FCSHP

Scientist, Bruyère Research Institute, Ottawa
Assistant Professor, Department of Family Medicine, University of Ottawa
Adjunct Assistant Professor, School of Pharmacy, University of Waterloo

Dr. Barbara Farrell is passionate about deprescribing – especially for the frail elderly. As a pharmacist working in the Bruyère Geriatric Day Hospital, she helps older people and their prescribers decide what medications to continue and which ones to reduce. Her research focuses on interprofessional approaches to polypharmacy management, most recently through development and use of evidence-based deprescribing guidelines. She's proud to be one of the co-founders of the Canadian Deprescribing Network.



Steve Morgan, PhD

Professor, School of Population and Public Health, University of British Columbia

An expert in pharmaceutical policy, Dr. Morgan combines quantitative health services research with comparative policy analysis to help identify policies that achieve balance between three sometimes-competing goals: providing equitable access to necessary care, managing health expenditures, and promoting valued innovation. Dr. Morgan earned degrees in economics from the University of Western Ontario, Queen's University, and the University of British Columbia; and received postdoctoral training at McMaster University. He is a recipient of career awards from the Canadian Institutes of Health Research and the Michael Smith Foundation for Health Research, an alumnus of Harkness Fellowships in Health Care Policy, and a former Labelle Lecturer in Health Services Research.



Johanna Trimble

Patients for Patient Safety Champion (Canada)
Steering Committee, BC Polypharmacy Risk Reduction Initiative
Consumer advocate, isyourmomondrugs.com

Johanna Trimble is a passionate patient advocate and a member of several patient groups, among them the Patient Voices Network of BC and Patients for Patient Safety Canada. Her focus is working to prevent over-medication of the elderly and helping to improve home-based, team-delivered, coordinated, community care. In 2016 she received the national Volunteer Champion Award from the Canadian Patient Safety Institute and HealthCareCAN for her work.

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References

Canadian Institute for Health Information (CIHI). 2011. Health Care in Canada. 2011. A Focus on Seniors and Aging. Accessed Nov. 18, 2016. https://secure.cihi.ca/free_products/HCIC_2011_seniors_report_en.pdf

CIHI. 2014. Drug Use Among Seniors on Public Drug Programs in Canada, 2012. Accessed Nov. 15, 2016: <https://secure.cihi.ca/estore/productFamily.htm?locale=en&pf=PFC2594>

CIHI. 2015. Prescribed Drug Spending in Canada. 2013: A Focus on Public Drug Programs. Ottawa, ON. Accessed Nov. 15, 2016: <https://secure.cihi.ca/estore/productFamily.htm?locale=en&pf=PFC2896&lang=en>

Khong, T. P., F. de Vries, J. S. B. Goldenberg, O. H. Klungel, N. J. Robinson, Luisa Ibáñez, and H. Petri. 2012. Potential Impact of Benzodiazepine Use on the Rate of Hip Fractures in Five Large European Countries and the United States. *Calcif Tissue Int.* Jul; 91(1): 24–31.

Johnell, K., Klarin, I. 2007. The Relationship between Number of Drugs and Potential Drug-Drug Interactions in the Elderly. *Drug Safety*; 30 (10): 911-918.

Morgan, SG, Smolina, K, Mooney, D *et al.* 2013. *CanadianRxAtlas*, 3rd Edition, BC Centre for Health Services and Policy Research. Accessed Nov. 17, 2016: <https://open.library.ubc.ca/cIRcle/collections/ubccommunityandpartnerspublicati/47136/items/1.0048514>

Morgan, Steven G., Jordan Hunt, Jocelyn Rioux, Jeffery Proulx, Deirdre Weymann, Cara Tannenbaum. 2016. Frequency and cost of potentially inappropriate prescribing for older adults: a cross sectional study. *CMAJ Open*; 4: E346-E51.

Morin, S., Lix L.M., Azimae, M., Metge, C., Majumdar, S.R., Leslie, W.D. 2012. Institutionalization following incident non-traumatic fractures in community-dwelling men and women. *Osteoporos Int.*;23:2381–2386.

Nikitovic, M., W. P. Wodchis, M. D. Krahn, & S. M. Cadarette. 2013. Direct health-care costs attributed to hip fractures among seniors: a matched cohort study. *Osteoporos Int.* Feb; 24(2): 659–669.

Sirois, C., Ouellet, N., Reeve, E. 2016. Community-dwelling older people's attitudes towards deprescribing in Canada. *Research in Social and Administrative Pharmacy*. Published online ahead of print: [http://www.rsap.org/article/S1551-7411\(16\)30359-X/abstract](http://www.rsap.org/article/S1551-7411(16)30359-X/abstract)

Tannenbaum, C., Farrell, B., Shaw, J., *et al.* 2017. An Ecological Approach to Reducing Potentially Inappropriate Medication Use: Canadian Deprescribing Network. *Canadian Journal on Aging*, vol 36, no 1.

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