Development of a Policy Toolkit to Inform Canadian Policymakers Regarding Deprescribing

Cheryl Sadowski
University of Alberta

The Team

- Dr. Cara Tannenbaum
- Co-Director, Canadian Deprescribing Network (CaDeN)

- Dr. James Silvius
- Co-Director, Canadian Deprescribing Network

Disclosure

We have the following relevant financial relationships to disclose:

- Drs. Tannenbaum and Silvius have received CIHR funding related to the Canadian Deprescribing Network
  - Groulx, Antoine; Silvius, James L; Tannenbaum, Cara; Farrell, Barbara; Levinson, Wendy; Lussier, Marie-Thérèse; Morgan, Steven G; Rochon, Paula A; White-Guay, Brian. L'amélioration des soins de première ligne chez les patients âgés: a national focus on de-prescribing. CIHR PHSI $400,000. 2014 – 2020
- Dr. Sadowski has received:
  - funding from Pfizer International for $50,000 funding to support the following project: A Novel Strategy to Address the Underdiagnosis and Undertreatment of Overactive Bladder (OAB) and Lower Urinary Tract Symptoms (LUTS)
  - Dr. Sadowski has received consulting fees from Pfizer Canada, consultation regarding fesoterodine (Toviaz)

We have the following relevant non-financial relationships to disclose:

- All authors are members of the Canadian Deprescribing Network

The Bottom Line

- Potentially inappropriate medications (PIMs) and excessive medication use are problems in older adults in Canada.
- Navigating the possible interventions to reduce medication in problems in seniors is complex.
- Providing a resource to guide policy makers generated discussion, but little action to date.
- More concrete choices are required, as well as a political context that enables action to be taken.

Background - Deprescribing

Deprescribing

- A systematic process to discontinue or reduce medication when harms outweigh benefits
- A Canadian study found 51% of seniors wanted to reduce their medication, and 71% said they would discontinue their medication if the doctor supported that action. [Sirois 2017]

The Problem

- Many classes of potentially inappropriate medications are increasing
- The incentives or interventions to reduce these medications are not effective

The Approach

- CaDeN’s mission is to reduce PIMs in older adults
- To achieve that mission health care professionals, older adults, and policy makers are specifically addressed
- Meetings were arranged with 2 ministries of health representatives
- An outline of a toolkit was presented

Proposed Toolkit

- Designed to step policy-makers in any jurisdiction through decision making
- Two component process
  - Accounts for evidence related to the drug(s) in question
  - Accounts for policy considerations

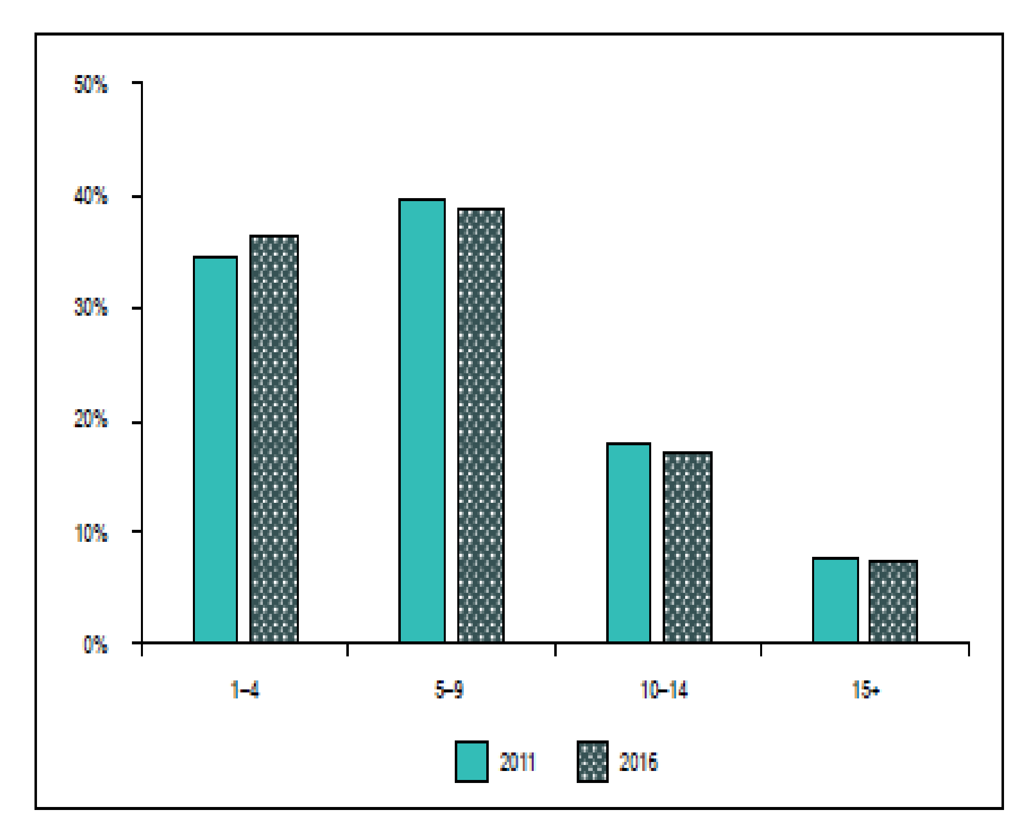
Proposed Toolkit Outline - Phase 1

1. Identification of priority medication classes and problems based on environmental scan, CaDeN members, and research priorities
2. Trends in medication use for selected classes with provincial outliers
3. CaDeN history and resources
4. Review of evidence for deprescribing
5. Evidence for potential policy interventions – benefits, unintended consequences
6. Step-wise approach for decision making unique to each jurisdiction

Sample of Toolkit Content

Medication Use Among Older Canadians

- 17% of the population
- 40% of Canada's spending on prescribed drugs
- 55% of public drug spending



CIHI 2018

Medication Use in Canadian Seniors

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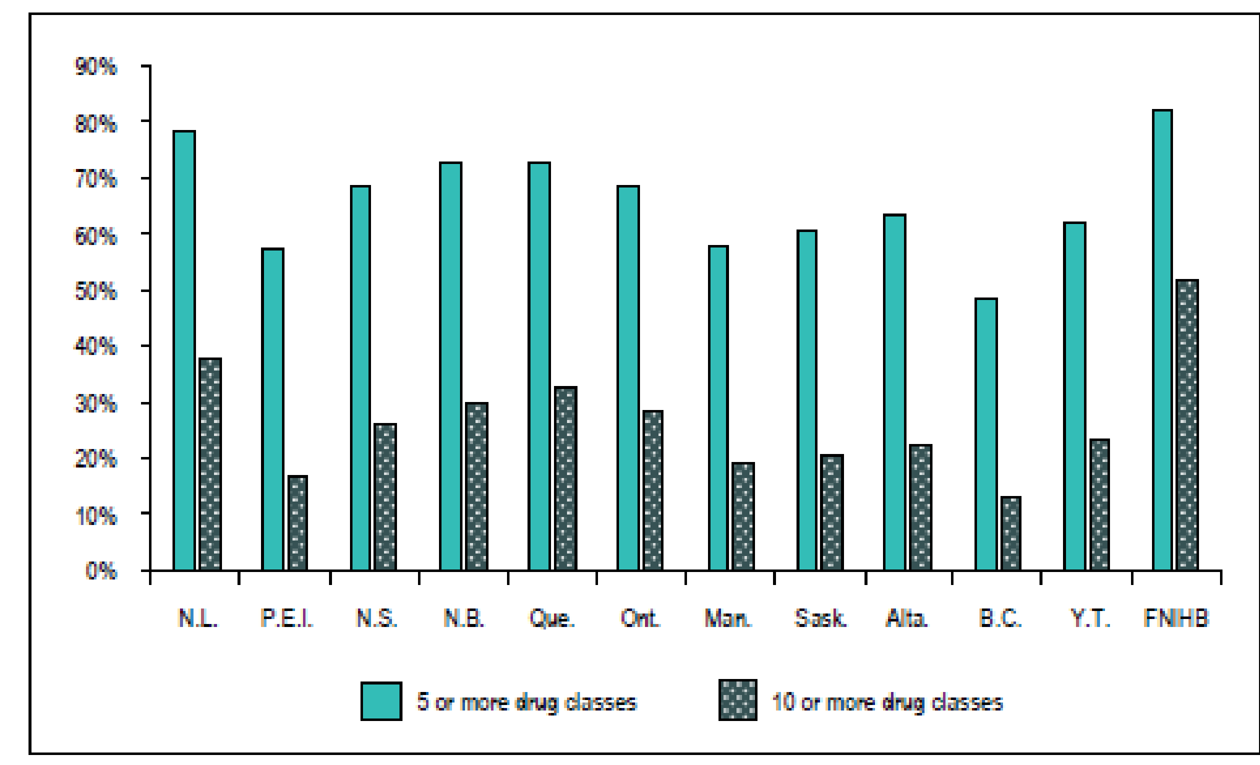


CIHI 2018

Top 10 in Seniors - Canada

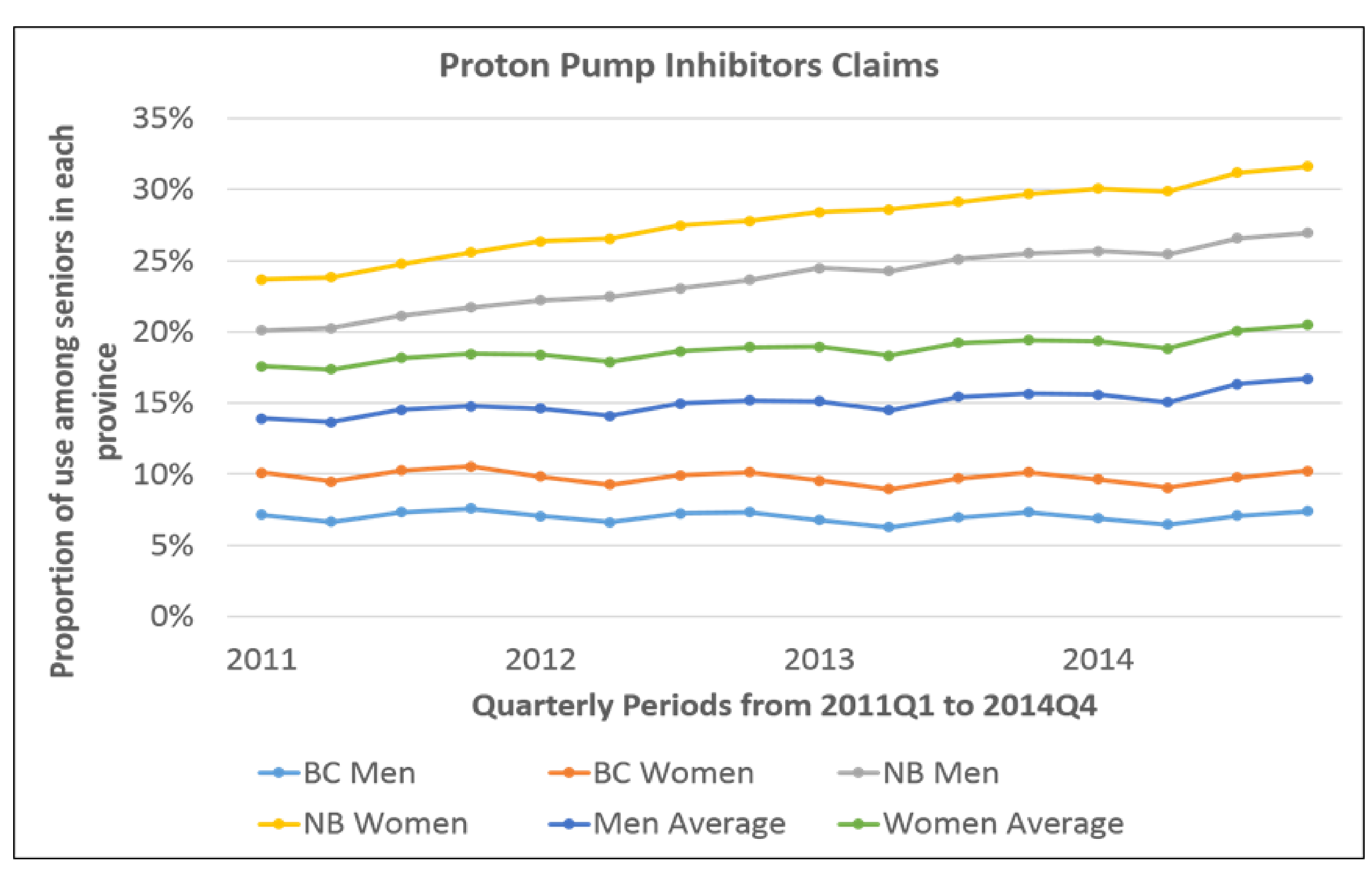
Rank	Drug class	Rate of use	Chronic rate of use
1	HMG-CoA reductase inhibitors	48.4%	43.5%
2	Proton pump inhibitors	32.1%	23.5%
3	ACE inhibitors, plain	24.5%	21.1%
4	Beta-blocking agents, selective	23.5%	20.6%
5	Dihydropyridine derivatives	21.9%	18.8%
6	Thyroid hormones	19.1%	17.9%
7	Angiotensin II antagonists, plain	15.7%	13.8%
8	Natural opium alkaloids	15.1%	2.5%
9	Biguanides	14.9%	12.9%
10	Benzodiazepine derivatives	12.9%	6.1%

CIHI 2018, Drug Use in Seniors

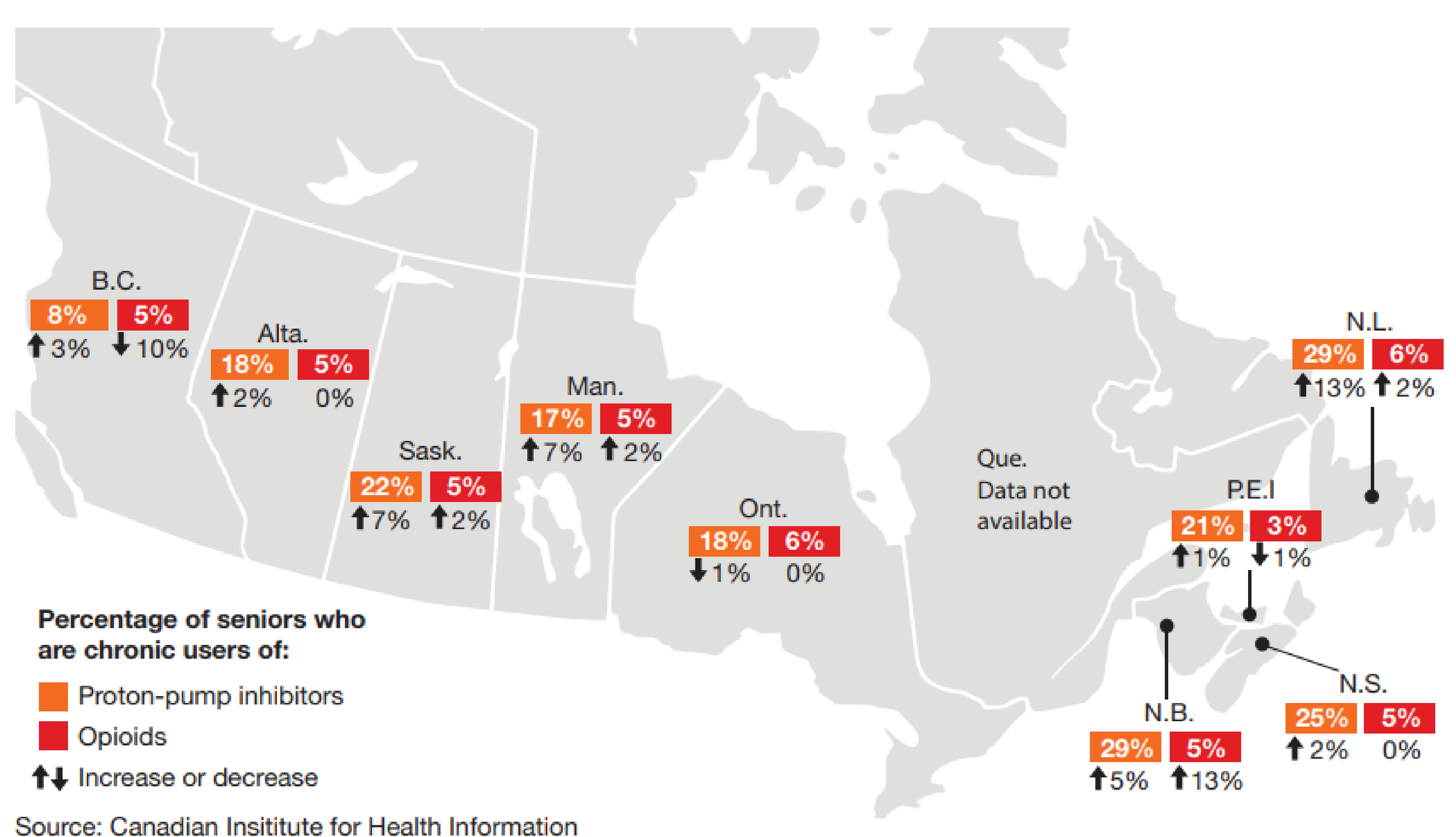
Alberta vs Saskatchewan – Beers Medication Use

Sex/age group	AB % any Beers use	SK % any Beers use	AB % chronic Beers use	SK % chronic Beers use
65–74	51.3%	41.6%	31.9%	26.4%
75–84	55.5%	47.9%	37.8%	31.4%
85+	57.6%	52.8%	40.3%	34.7%
F	58.5%	50.2%	38.9%	32.4%
F — 65–74	57.2%	47.0%	36.4%	29.9%
F — 75–84	60.1%	51.6%	41.3%	33.5%
F — 85+	60.2%	55.2%	42.6%	36.5%
M	47.4%	39.9%	30.0%	25.8%
M — 65–74	44.9%	35.9%	26.9%	22.8%
M — 75–84	50.1%	43.3%	33.6%	28.7%
M — 85+	53.3%	48.4%	36.5%	31.4%
Total	53.4%	45.6%	34.8%	29.5%

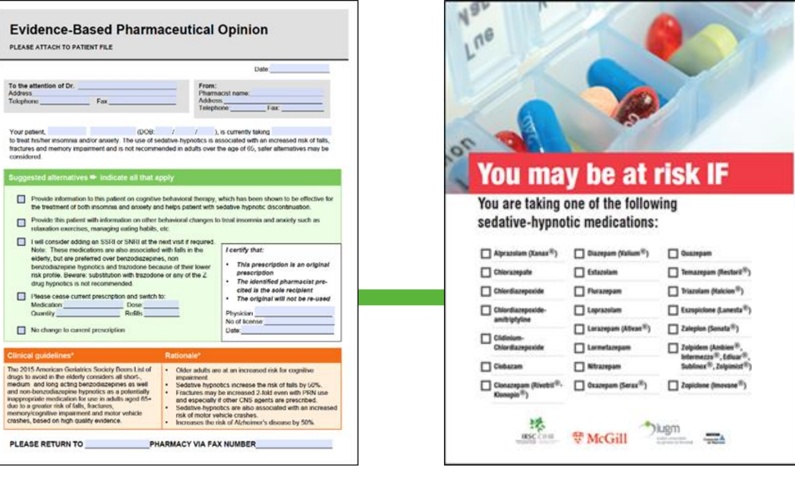
Trends over Time - PPI



Trends over Time - Increases



D-PRESCRIBE Study



Evidence-Based Pharmaceutical Opinion

PLEASE ATTACH TO PATIENT FILE

Date: ____

To the attention of Dr. ____
Address ____
Telephone ____ Fax ____

From:
Pharmacist name: ____
Address ____
Telephone ____ Fax: ____

Your patient, ____ ____ (DOB: __ / __ / __), is currently taking ____ to treat his/her insomnia and/or anxiety. The use of sedative-hypnotics is associated with an increased risk of falls, fractures and memory impairment and is not recommended in adults over the age of 65, safer alternatives may be considered.

Suggested alternatives ➡ indicate all that apply

- ☐ Provide information to this patient on cognitive behavioral therapy, which has been shown to be effective for the treatment of both insomnia and anxiety and helps patient with sedative hypnotic discontinuation.
- ☐ Provide this patient with information on other behavioral changes to treat insomnia and anxiety such as relaxation exercises, managing eating habits, etc.
- ☐ I will consider adding an SSRI or SNRI at the next visit if required. Note: These medications are also associated with falls in the elderly, but are preferred over benzodiazepines, non benzodiazepine hypnotics and trazodone because of their lower risk profile. Beware: substitution with trazodone or any of the Z drug hypnotics is not recommended.
- ☐ Please cease current prescription and switch to:
  Medication ____ Dose ____
  Quantity ____ Refills ____
- ☐ No change to current prescription

I certify that:

- *This prescription is an original prescription*
- *The identified pharmacist pre-cited is the sole recipient*
- *The original will not be re-used*

Physician ____
No of license ____
Date: ____

Clinical guidelines*

The 2015 American Geriatrics Society Beers List of drugs to avoid in the elderly considers all short-, medium and long acting benzodiazepines as well and non-benzodiazepine hypnotics as a potentially inappropriate medication for use in adults aged 65+ due to a greater risk of falls, fractures, memory/cognitive impairment and motor vehicle crashes, based on high quality evidence.

Rationale*

- Older adults are at an increased risk for cognitive impairment.
- Sedative hypnotics increase the risk of falls by 50%.
- Fractures may be increased 2-fold even with PRN use and especially if other CNS agents are prescribed.
- Sedative hypnotics are also associated with an increased risk of motor vehicle crashes.
- Increases the risk of Alzheimer's disease by 50%.

PLEASE RETURN TO ____ PHARMACY VIA FAX NUMBER ____

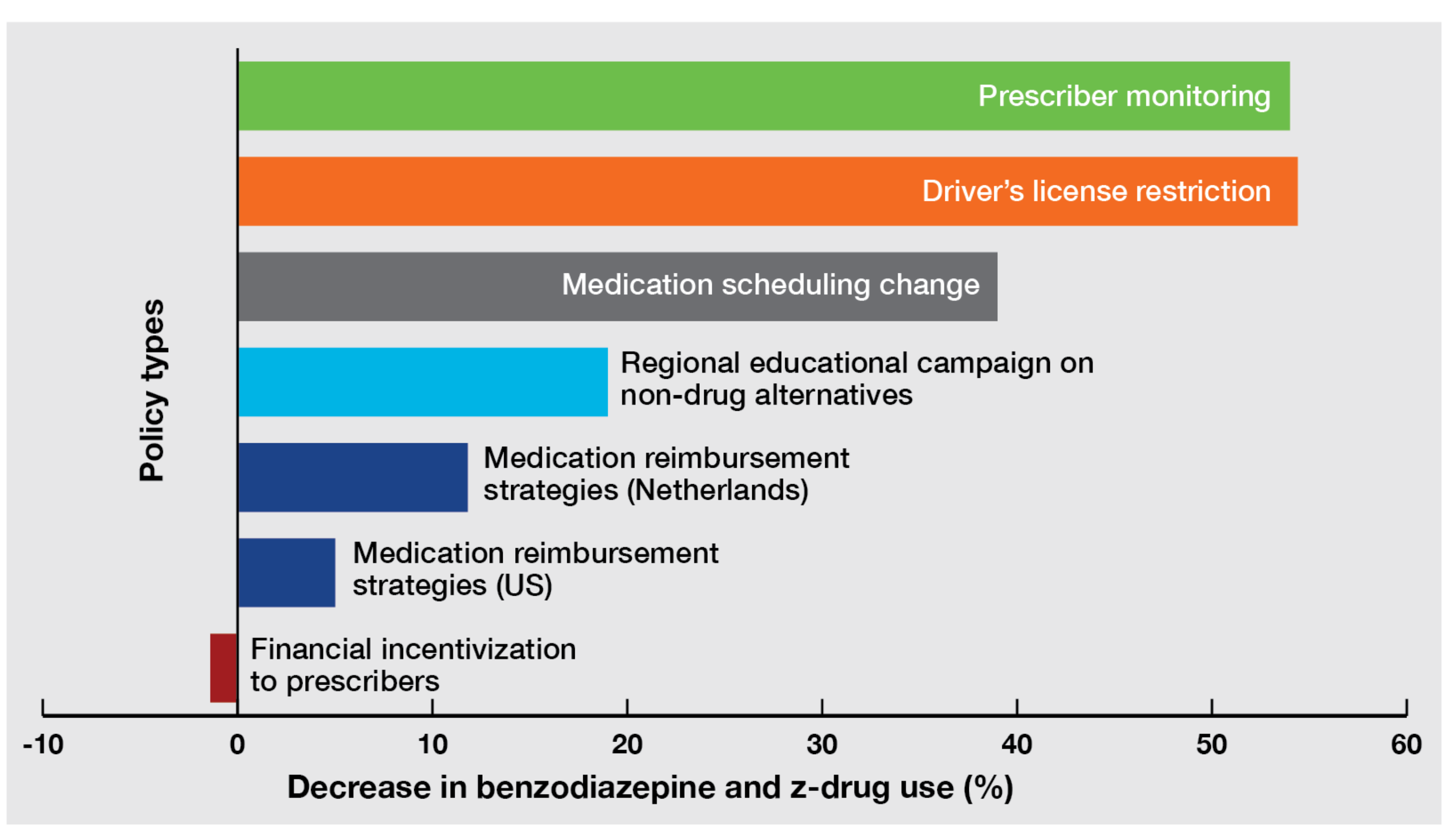
Prevalence and risk difference (95% CI) for discontinuation at 6-month follow-up

Proportion of participants achieving BZD discontinuation

	Intervention	Control
D-PRESCRIBE (n=299)	44.1%	6.5%
D-PRESCRIBE vs EMPOWER (n=293)	44.1%	27.0%

Y-axis: 0%, 5%, 10%, 15%, 20%, 25%, 30%, 35%, 40%, 45%, 50%

Deprescribing Policy



Canadian Deprescribing Network 2018

Resources

deprescribing.org | Benzodiazepine & Z-Drug (BZRA) Deprescribing Algorithm

Why is patient taking a BZRA?

- Insomnia on its own OR insomnia where underlying comorbidities managed
- Other sleeping disorders (e.g. restless legs)
- Unmanaged anxiety, depression, physical or mental condition that may be causing or aggravating insomnia
- Benzodiazepine effective specifically for anxiety
- Alcohol withdrawal

Engage patients

Recommend Deprescribing

Continue BZRA

- Minimize use of drugs that worsen insomnia (e.g. caffeine, alcohol etc.)
- Treat underlying condition
- Consider consulting psychologist or psychiatrist or sleep specialist

Taper and then stop BZRA

- For those ≥ 65 years of age
- For those 18-64 years of age
- Offer behavioural sleeping advice; consider CBT if available (see reverse)

Monitor every 1-2 weeks for duration of tapering

deprescribing.org Bruyère

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No of license: ______
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PLEASE RETURN TO ______ PHARMACY VIA FAX NUMBER ______

How to get a good night's sleep without medication

CaDeN
Canadian Deprescribing Network

WEEKS	MO	TU	WE	TH	FR	SA	SU
1 and 2	Half dose	Full dose	Full dose	Full dose	Half dose	Full dose	Full dose
3 and 4	Half dose	Full dose	Half dose	Half dose	Full dose	Half dose	Half dose
5 and 6	Half dose	Half dose	Half dose	Half dose	Half dose	Half dose	Half dose
7 and 8	Half dose	Quarter of a dose	Half dose	Half dose	Quarter of a dose	Half dose	Half dose
9 and 10	Half dose	Quarter of a dose	Half dose	Quarter of a dose	Half dose	Quarter of a dose	Half dose
11 and 12	Quarter of a dose	Quarter of a dose	Half dose	Quarter of a dose	Quarter of a dose	Half dose	Quarter of a dose
13 and 14	Quarter of a dose	Quarter of a dose	Quarter of a dose	Quarter of a dose	Quarter of a dose	Quarter of a dose	Quarter of a dose
15 and 16	No dose	Quarter of a dose	No dose	No dose	Quarter of a dose	No dose	Quarter of a dose
17 and 18	No dose	No dose	No dose	No dose	No dose	No dose	No dose

TAPERING SCHEDULE

EXPLANATIONS

Full dose · Half dose · Quarter of a dose · No dose

*REFERENCES: American Geriatrics Society 2015 Updated Beers Criteria for Potentially Inappropriate Medication Use in Older Adults, http://onlinelibrary.wiley.com/doi/10.1111/jgs.13702/pdf; Otto et al.(2010). Efficacy of CBT for benzodiazepine discontinuation in patients with panic disorder: Further evaluation. *Behav Res Ther*. 2010 Aug;48(8):720-7. Finkle et al.(2011). Risk of fractures requiring hospitalization after an initial prescription of zolpidem, alprazolam, lorazepam or diazepam in older adults. J Am Geriatr Soc 2011;59(10):1883-1890. Billioti de Gage S, Moride Y, Ducruet T, et al. Benzodiazepine use and risk of Alzheimer's disease: case-control study. Bmj. 2014;349:g5205.

All rights reserved. Copyright © 2015 by Cara Tannenbaum and Institut universitaire de gériatrie de Montréal. Reference: Martin, P., et al., A consumer-targeted, pharmacist-led, educational intervention to reduce inappropriate medication use in community older adults (D-PRESCRIBE trial): study protocol for a cluster randomized controlled trial. Trials, 2015. 16: p. 266.

Ongoing Projects

- Newfoundland collective impact project to reduce PPIs
  - *Targets physicians, pharmacists, and the general public*
- Manitoba opioid TAPERING trial
  - *6,000 chronic opioid users were mailed an opioid EMPOWER brochure inviting them to taper with an online calculator to reduce opioid dose*
- Quebec primary care deprescribing project
  - *Whiteboard educational videos on deprescribing and EMPOWER brochures on benzodiazepines and PPIs will be available via the electronic medical record*

CaDeN Collaboration

- Focus on deprescribing
- Suite of resources available
- Expertise in deprescribing projects and analysis
- Integration of research with quality improvement
- National perspective developed from provincial and local projects
  - Allows for comparison of different interventions in a variety of jurisdictions
- Learning related to distinct contextual issues

A Pathway Forward

- Medication class(es) prioritized
- Potential outcomes identified
  - Medication related
  - Clinical
  - Humanistic
  - Health system
- Timeline
- Responsibility

Next Steps for the Jurisdiction

- Identifying priorities
- Establishing a steering committee
  - Identifying partners, stakeholders
  - Identifying drug classes to address
  - Selecting or designing the interventions
  - Building the intervention into current programs
- Outlining the roles, responsibilities, timelines, follow-up

Next Steps

- **S**pecific Goals
  - for each stakeholder
- **M**easurable outcomes
- **A**chievable
  - Funding is required to achieve a public awareness campaign with impact
- **R**ealistic expectations
  - for each stakeholder
- Timeline

The Response to the Toolkit

Response – The Positive

The Positive

- Focus on their jurisdiction and comparison in Canada
  - Identified provincial statistics and problems
- Increased awareness of evidence and resources
- Provided evidence, networking with other organizations, linkages with other jurisdictions

Response – The Challenges

The Challenges

- Primary drivers for reducing PIMs were not fully addressed (e.g. cost)
- Concerns regarding perception of the public regarding reducing medications
- Lack of evidence to support outcomes that mattered (e.g ER visits)
- Key decision makers were not present

Response – CaDeN Reflection

- Change is best targeted to:
  - Connecting with the decision makers
  - An environment where there is leadership and ownership of PIMs in older adults
  - Healthcare professionals are already on board
  - Resources are allocated to the problem

- Policy components need further elucidation

Proposed Toolkit – Phase 1

1. Identification of priority medication classes and problems based on environmental scan, CaDeN members, and research priorities
2. Trends in mediation use for selected classes with provincial outliers
3. CaDeN history and resources
4. Review of evidence for deprescribing – trials, policy reviews
5. Analysis of potential interventions – benefits, unintended consequences
6. Step-wise approach for decision making unique to each jurisdiction

Proposed Toolkit – Phase 2

Identification of potential interventions

1. What drug options are available?
2. What non-drug options are available?
3. Who currently pays for what?
4. What are the foreseeable implications of a change?
5. What are the potential unintended consequences of a change – e.g. switch to another agent
6. What costs are associated with the change and where will they be borne?

Next Steps

- Partnerships being proposed/developed

- Follow-up with provincial Pharmaceutical Directors

Conclusion

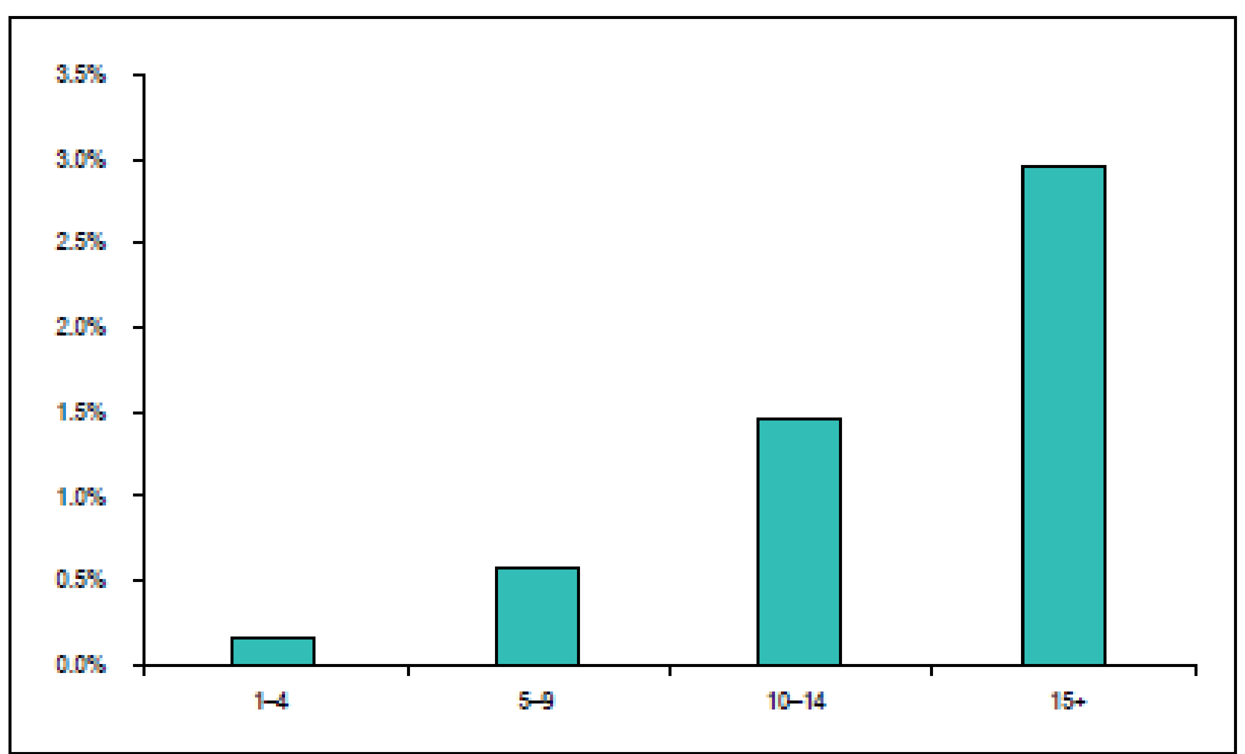
- A toolkit designed to support decision making **requires a focus on jurisdictional context**.
- A toolkit providing some context, evidence, and a process for identifying appropriate interventions can be prepared, but **policy makers still require additional supports and courage to move forward on deprescribing initiatives**.

Questions?

Extra slides

Medication Safety

Figure 8 Percentage of seniors hospitalized for an ADR, by number of drug classes, selected jurisdictions,* 2016



Potentially Inappropriate Medication use in Canadian Seniors (CIHI 2018)

Chemical	Indicated uses	Beers criteria rationale (potential harm)	Rate of use	Rate of chronic use
Pantoprazole (PPI) (>8 weeks)	Gastroesophageal reflux disease, peptic ulcer disease	*Clostridium difficile* infection, bone loss, fractures	13.2%	10.3%
Lorazepam	Anxiety, insomnia	Cognitive impairment, delirium, falls, fractures	8.8%	3.6%
Nitrofurantoin	Antibiotic to treat urinary tract infection	Pulmonary toxicity, hepatoxicity, peripheral neuropathy	5.0%	0.1%
Rabeprazole (PPI) (>8 weeks)	Gastroesophageal reflux disease, peptic ulcer disease	*Clostridium difficile* infection, bone loss, fractures	4.3%	3.5%
Amitriptyline	Depression	Sedation, orthostatic hypotension	2.9%	1.8%
Quetiapine	Schizophrenia, bipolar disorder	Cognitive decline, stroke, mortality	2.8%	1.7%
Omeprazole (PPI) (>8 weeks)	Gastroesophageal reflux disease, peptic ulcer disease	*Clostridium difficile* infection, bone loss, fractures	2.7%	2.2%
Zopiclone	Insomnia	Cognitive impairment, delirium, falls, fractures	2.4%	1.5%
Oxazepam	Anxiety, insomnia	Cognitive impairment, delirium, falls, fractures	2.4%	1.4%
Estradiol (oral/ topical patch)	Menopause	Potential carcinogen (breast and endometrium)	2.1%	1.2%

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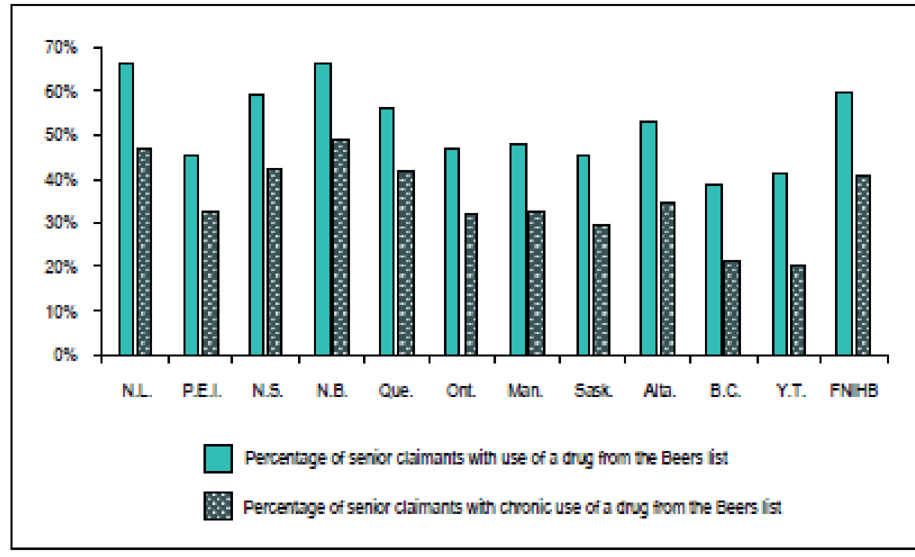
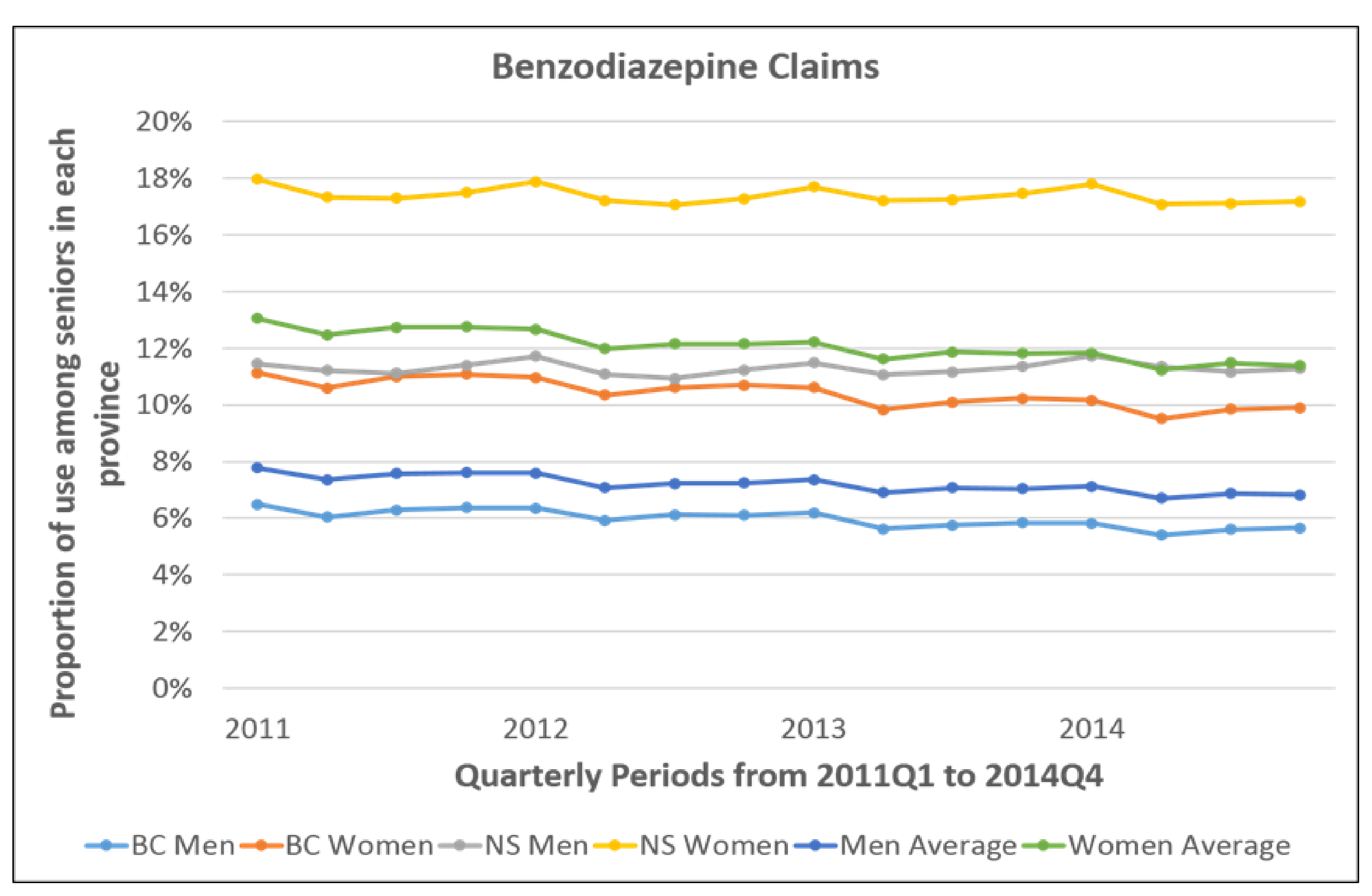
Figure 11 Seniors' usage rate of drugs from Beers list,* by jurisdiction, Canada,[+] 2016

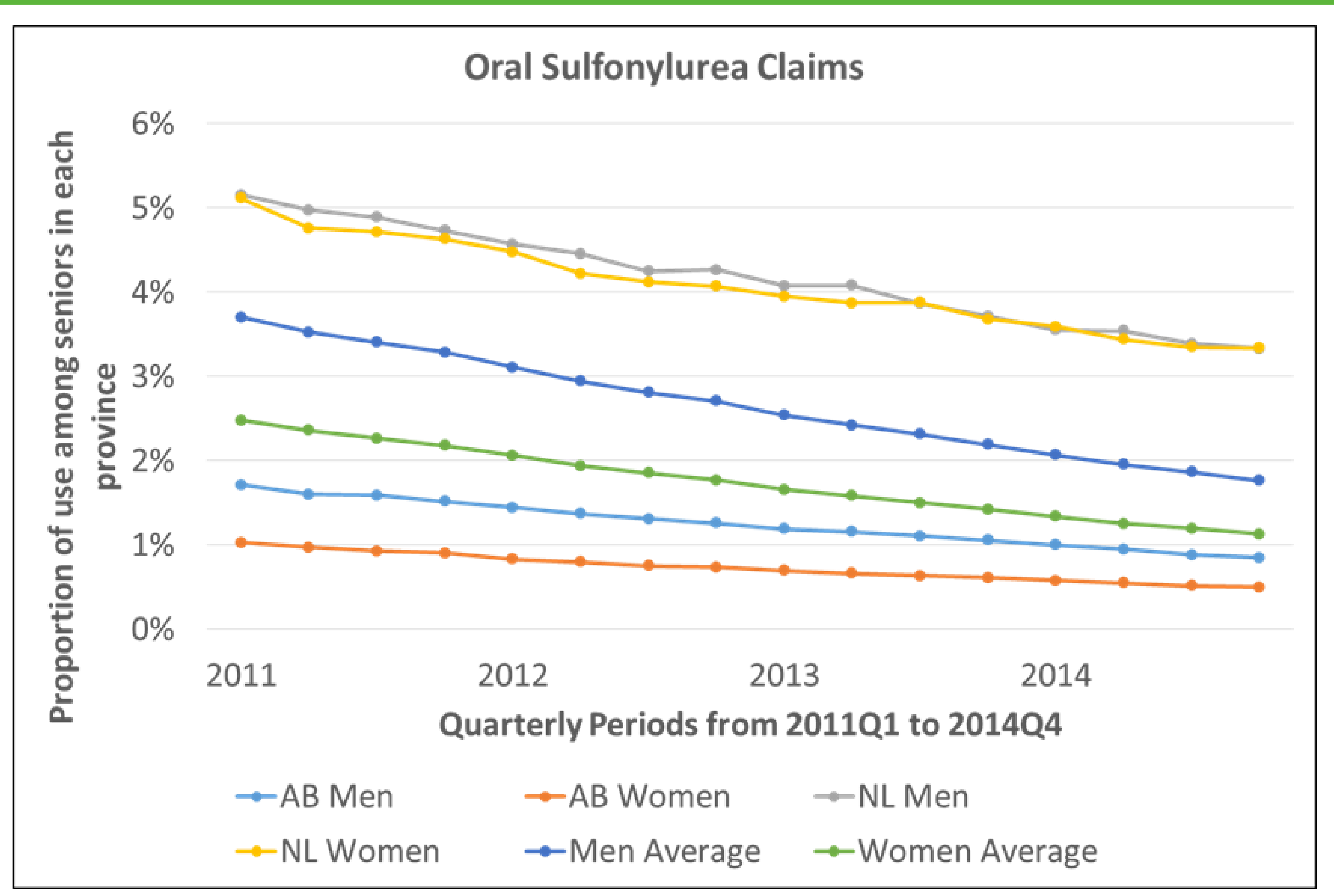


CIHI 2018

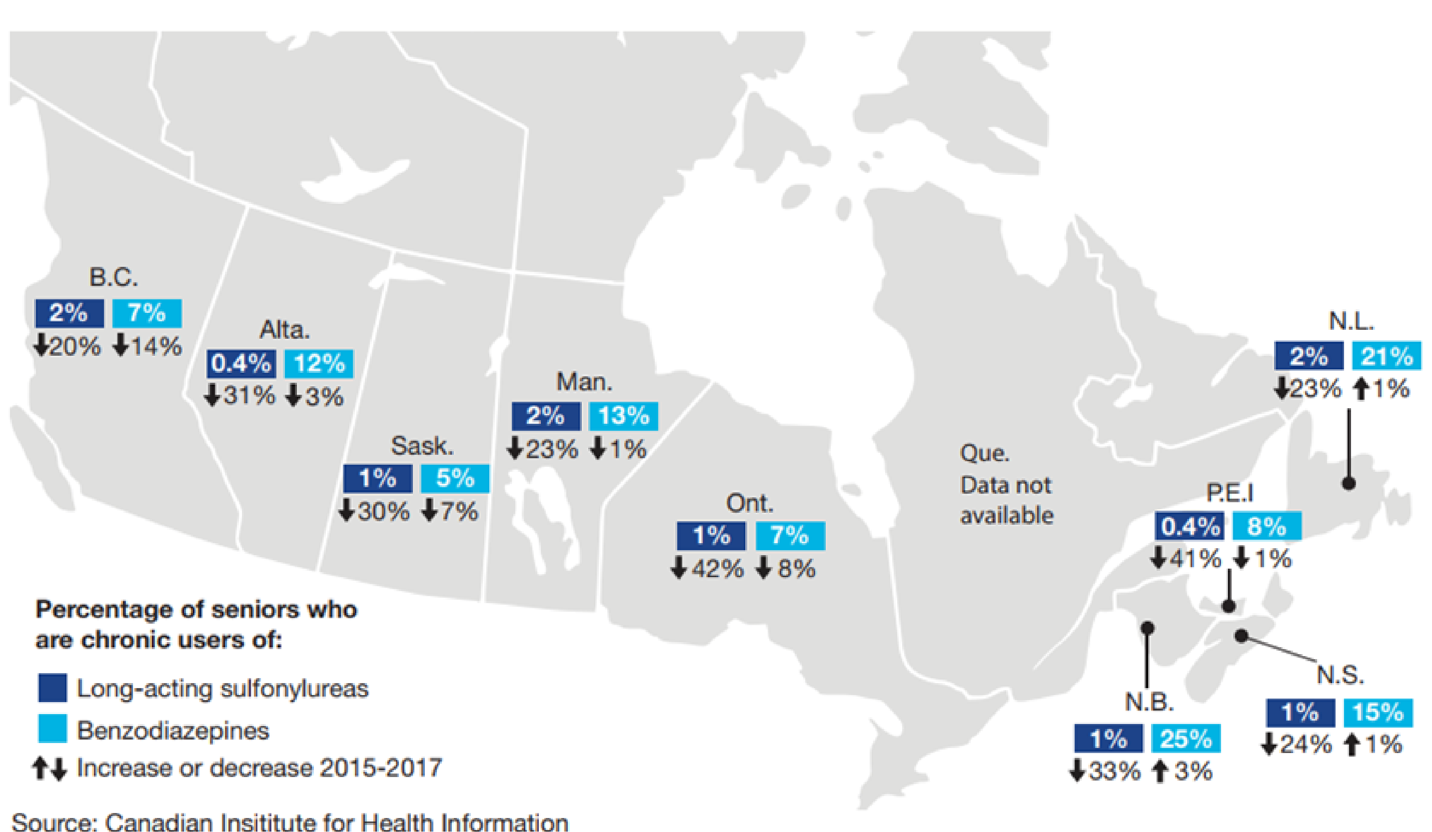
Trends over Time - Benzodiazepine



Trends over Time - Sulfonylurea



Trends over Time – Decreases



Cost Estimates of Chronic Inappropriate Use in Seniors

- Inappropriate medication use alone has been estimated to cost $419 million in Canada
  - Morgan 2016
- Cost of inappropriate medication use in Alberta

CaDeN Priority Medications

- Benzodiazepines
  - falls, fractures, confusion, dementia, hospitalization, MVA
- PPI
  - pneumonia, bone loss, *C. difficile* infection, renal impairment, cardiovascular events
- Sulfonylurea
  - hypoglycemia, cognitive impairment, falls

Context in Alberta

- Prescription Monitoring Program
  - Benzodiazepines
  - Opioids
- Physician reimbursement
  - Medication reviews
- Pharmacy policies and reimbursement
  - CACP, SMMA (medication reviews)
  - Refusal to fill

EMPOWER Study

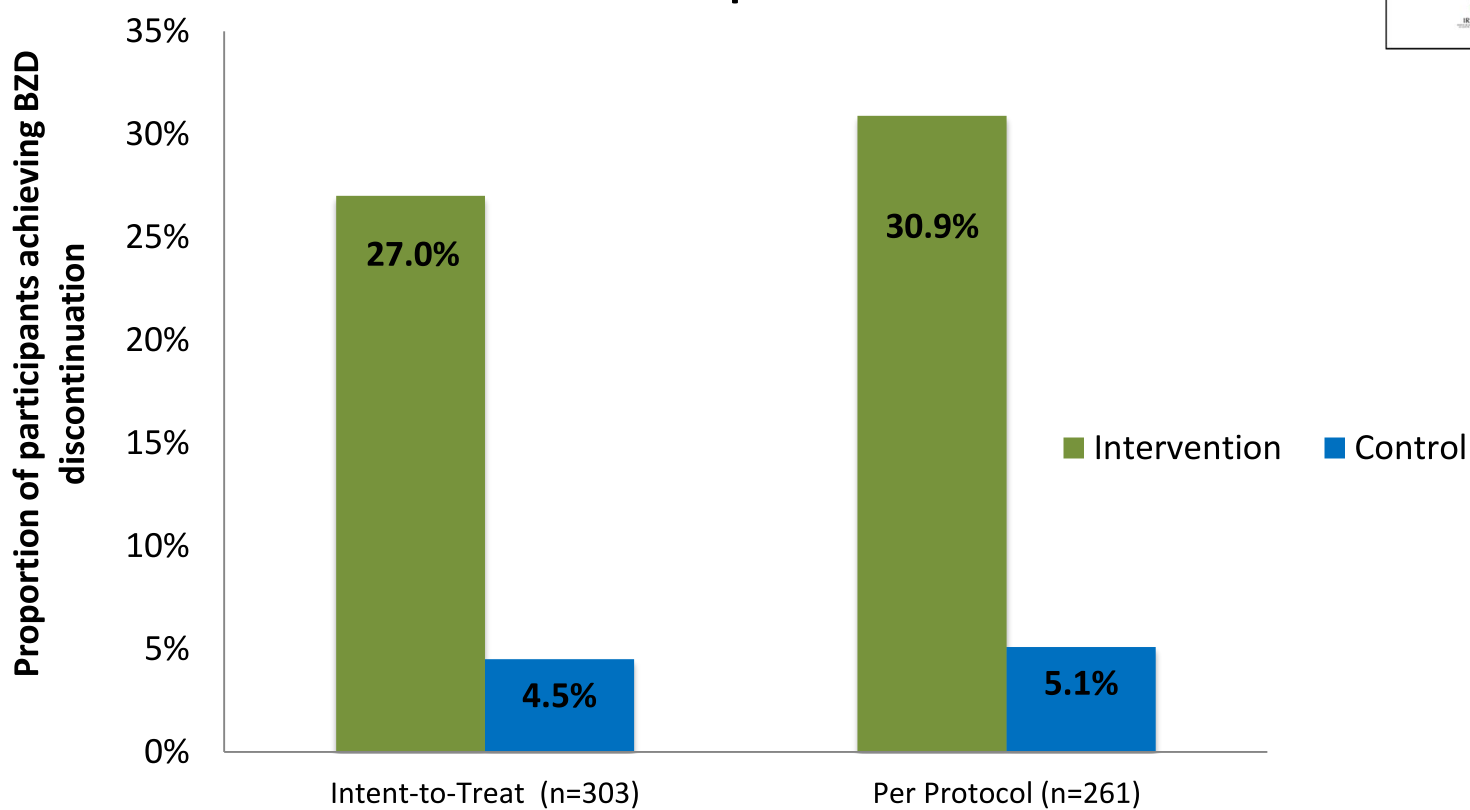
You may be at risk IF

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

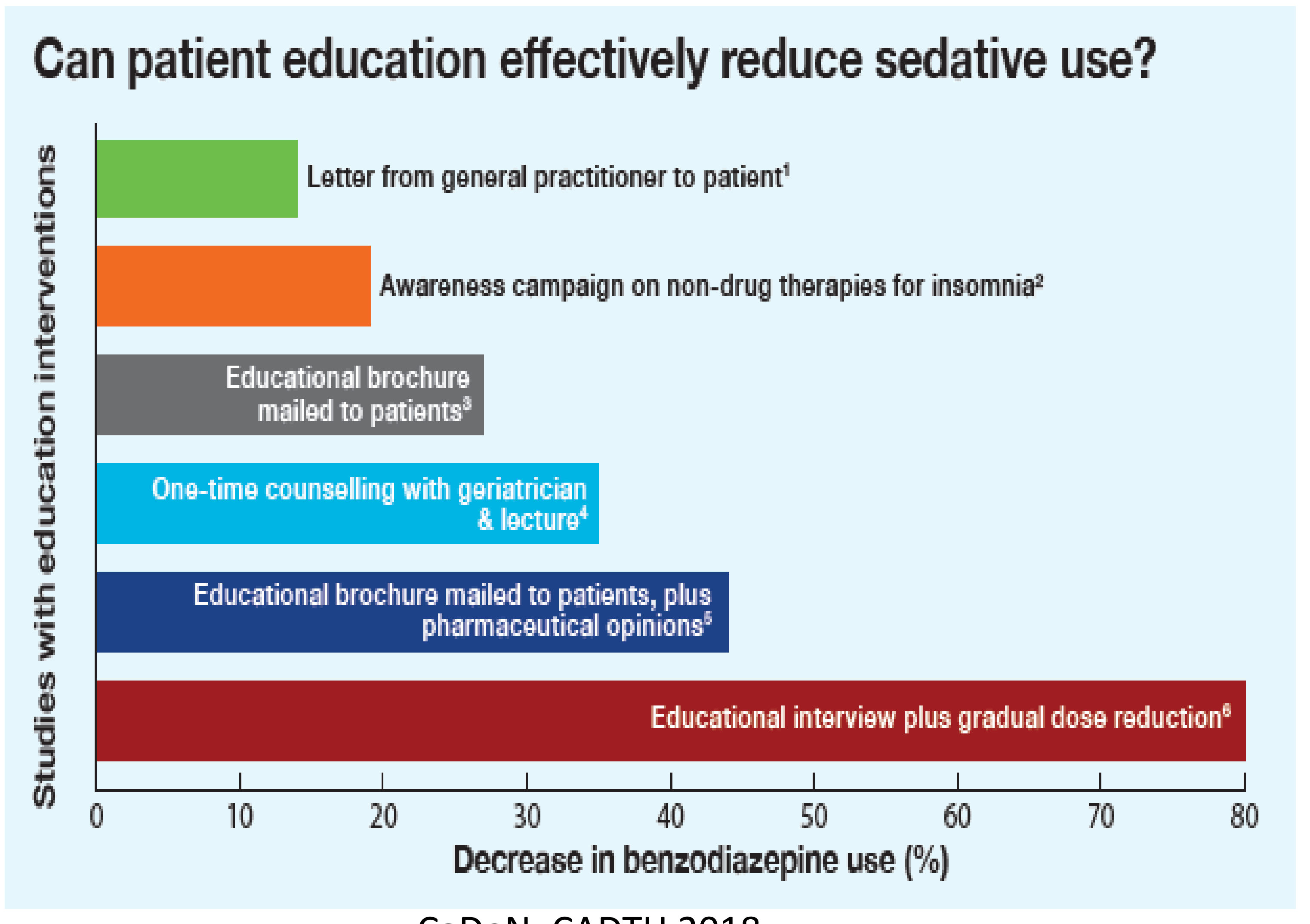
- ☐ Alprazolam (Xanax®)
- ☐ Chlorazepate
- ☐ Chlordiazepoxide
- ☐ Chlordiazepoxide-amitriptyline
- ☐ Clidinium-Chlordiazepoxide
- ☐ Clobazam
- ☐ Clonazepam (Rivotril®, Klonopin®)
- ☐ Diazepam (Valium®)
- ☐ Estazolam
- ☐ Flurazepam
- ☐ Loprazolam
- ☐ Lorazepam (Ativan®)
- ☐ Lormetazepam
- ☐ Nitrazepam
- ☐ Oxazepam (Serax®)
- ☐ Quazepam
- ☐ Temazepam (Restoril®)
- ☐ Triazolam (Halcion®)
- ☐ Eszopiclone (Lunesta®)
- ☐ Zaleplon (Sonata®)
- ☐ Zolpidem (Ambien®, Intermezzo®, Edluar®, Sublinox®, Zolpimist®)
- ☐ Zopiclone (Imovane®)

IRSC CIHR · McGill · iugm

Prevalence and risk difference (95% CI) for discontinuation at 6-month follow-up



Education Review



CaDeN, CADTH 2018

Examples of Deprescribing Projects/Programs

- Policy
- Deprescribing Tools
- Health professional education
- Patient education/engagement/empowerment