

Drugs and Older Women

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Conflicts of Interest

– None



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Objectives

- Describe older adults and their drug use
- Explore drug-related side effects
- Identify medication challenges and strategies to promote safe medication use



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Women Outlive Men

At age 65, women's life expectancy is three years longer than men

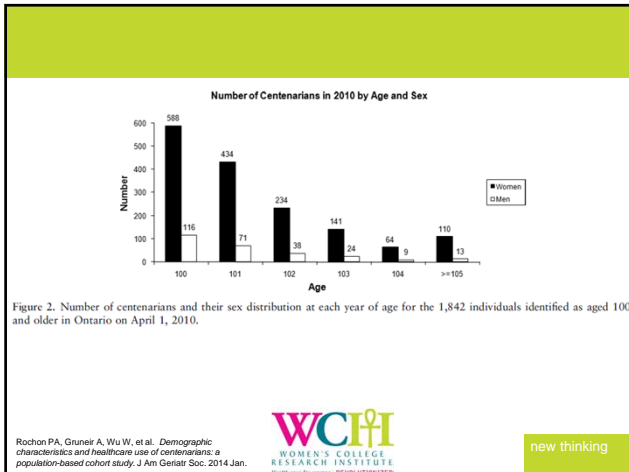
- At age 100, 85% are women
 - At 105, 89% are women
- Among Alzheimer's patients, 2/3 are women
 - There is no evidence men are more likely to develop dementia; this is a function of a longer life expectancy

Rochon PA, et al. Demographic characteristics and healthcare use of centenarians: a population-based cohort study. J Am Geriatr Soc.

Alzheimer's Association, 2014 Alzheimer's Disease Facts and Figures, Alzheimer's & Dementia, Volume 10, Issue 2.



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How Drug Therapy is Used

- More than 80% of older adults take at least one medication

Stone Survey, 2006

How Drug Therapy is Used

- Older women use most medications
 - 20% take 10 or more per week
 - 41% take vitamins
 - 32% take herbals
 - 75% of herbal users don't tell their doctors!

Stone Survey, 2006

Naturals and Herbals

- A 'natural' or 'herbal' product doesn't mean it's necessarily safe!

Kira St. John's Wort

Herbal Medications

- Herbal medication use is increasing among women
 - 1998
 - 14%
 - 2002
 - 27%
 - 2006
 - 49%



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Stone Survey, 2006

Herbal Medications

- Examples
 - Ginkgo biloba
 - Ginseng
 - Garlic
 - Glucosamine



Dergal JM, Gold JL, Laxer DA et al. Potential Interactions between Herbal Medicines and Conventional Drug Therapies Used by Older Adults Attending a Memory Clinic. *Drugs and Aging* 2002.

Smith MB, Christensen N, Wang S, et al. Warfarin knowledge in patients with atrial fibrillation: implications for safety, efficacy, and education strategies. *Cardiology*. 2010;116(1):

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Ginkgo Biloba

Caregiving, dementia, and medication

- 65% of caregivers of people with dementia are women
- Most common caregiver task is helping persons take their medications
 - Play an important role in medication safety
- Medication management in dementia has particular challenges

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Alzheimer's Association. 2014 Alzheimer's Disease Facts and Figures. *Alzheimer's & Dementia*, Volume 10, Issue 2.

Some Canadian Numbers on Seniors

- Beers List
 - Over 1/3 of Canadians had a Beers List prescription
 - 12.4% had claims for multiple drugs from the Beers list, and most were chronic users.

Source: Canadian Institute for Health Information. *Drug Use Among Seniors on Public Drug Programs in Canada, 2012*. Ottawa, ON: CIHI; 2014

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Table 4: Top 10 Drug Classes by Rate of Use Among Seniors on Public Drug Programs, by Sex, Selected Jurisdictions,* 2012

Drug Class	Common Uses	Male	Female
HMG-CoA reductase inhibitors (statins)	High cholesterol	53.0%	41.5%
Angiotensin converting enzyme (ACE) inhibitors, excluding combinations	High blood pressure, heart failure	33.1%	24.7%
Proton pump inhibitors (PPIs)	Gastroesophageal reflux disease, peptic ulcer disease	24.1%	29.4%
Beta-blocking agents, selective	High blood pressure, heart failure, angina (chest pain)	26.0%	22.1%
Dihydropyridine calcium channel blockers	High blood pressure	20.3%	21.7%
Thyroid hormones	Hypothyroidism	9.7%	24.3%
Natural opium alkaloids	Management of moderate to severe pain	15.9%	16.2%
Angiotensin II antagonists, excluding combinations	High blood pressure, heart failure	13.9%	16.7%
Biguanides	Diabetes	18.2%	13.2%
Thiazides, excluding combinations	High blood pressure	12.9%	17.0%

Source: Canadian Institute for Health Information, Drug Use Among Seniors on Public Drug Programs in Canada, 2012, Ottawa, ON: CIHI, 2014.



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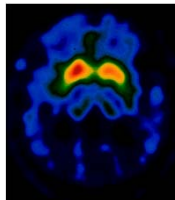
Long-Term Care

- Frailest among older adult population
- On average 85 years old, most women, most with dementia, and often multiple chronic illness
- Use multiple medications, 20% on ten or more



Treating Multiple Conditions with Multiple Drug Therapies

Osteoporosis
Three drugs?



Parkinson's
Two drugs?



Heart Disease
Five drugs?

“While a physician can usually do little to alter the characteristics of individual older patients, the decision whether to prescribe any drug, the choice of drug, and the way it is to be used are all under control of the prescriber.”



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Multiple Drug Therapies

Drug therapies

- Use of multiple drug therapies **puts individuals at risk** for drug interactions and adverse drug events.
- Most medication related problems can be prevented



Stone Survey, 2006

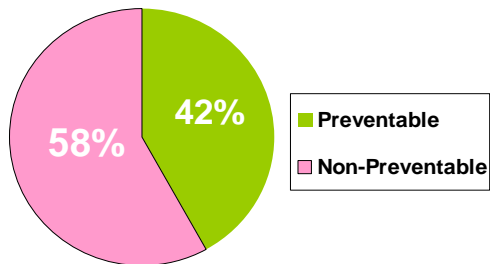
Why More Adverse Events in Older Women?

	Women	Men	
Over-dose	↑	↓	Body weight and Composition
Over-use	↑	↓	Use more medication
Over-reporting	↑	↓	More likely to report



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Adverse Drug Events are Common, and Preventable



Adverse drug events are common among long-term care residents.



Rochon et al., 2005

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Preventable Adverse Drug Events in Older Adults in Long-term Care

- Over 25% of adverse drug events are serious.

AND

- Well over half of the more serious events are preventable.



(Gurwitz, Rochon, Lee, et al., 2005)

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Preventable Adverse Drug Events in Older Adults

- **Adverse drug events are one of the most serious consequences of inappropriate prescribing**
- **“Any symptom in an elderly patient should be considered a drug side effect until proved otherwise.”**

(Brown University Long-term Care Quality Letter, 1995)



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Part 2

Explore drug-related side effects



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Adverse Drug Event

- **“In evaluating virtually any symptom in an older patient, the possibility of an adverse drug event should be considered in the differential diagnosis.”**

Drowsiness Confusion Delirium
Parkinson's-like symptoms Incontinence
Weakness Nausea Falls



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Case 1: Mrs. A

- Mrs. A was diagnosed with dementia
- She is newly admitted to a long-term care home
- She is prescribed Donepezil to manage her symptoms



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Case 1: Mrs. A

- A few weeks later, she is experiencing urinary incontinence issues.
- Should we be concerned?



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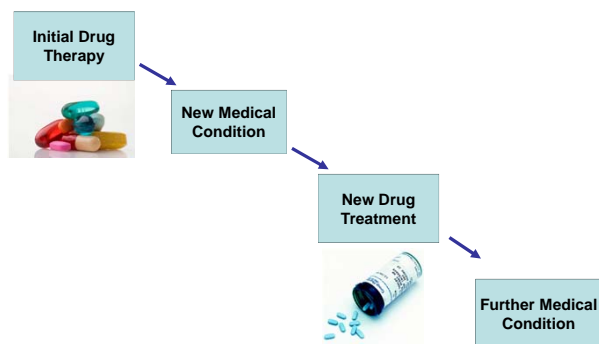
Defining the Prescribing Cascade

A "prescribing cascade" begins when an adverse drug reaction is misinterpreted as a new medical condition

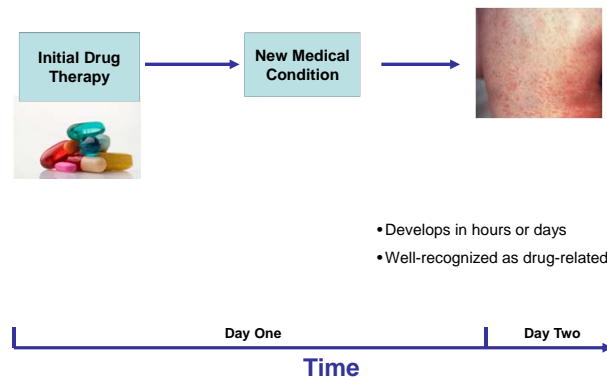


Rochon PA, Gurwitz JH. BMJ 1997

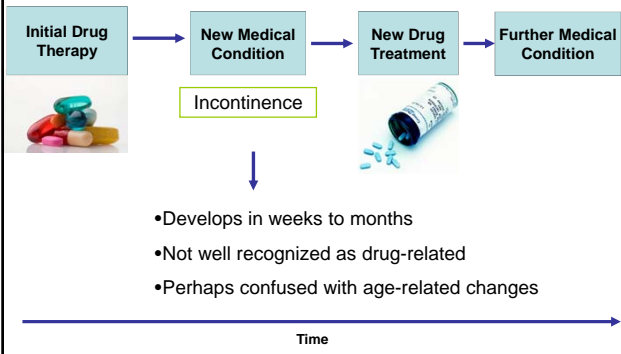
What is a Prescribing Cascade?



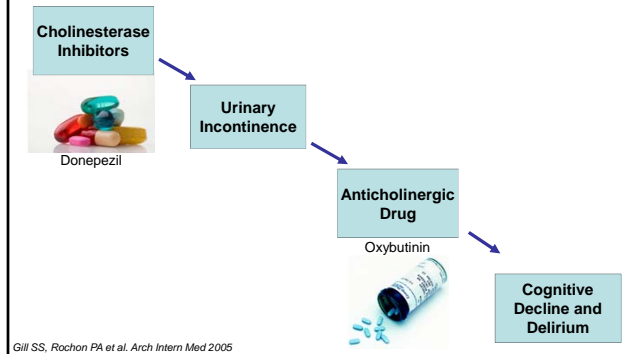
Why are Prescribing Cascades not Recognized?



What is a Prescribing Cascade?



Mrs A's Prescribing Cascade



Adverse Drug Events and the Prescribing Cascade

Prescribing cascades are common examples of **adverse drug events** which have **gone unnoticed** and can be prevented

Prescribing a new drug to treat an adverse drug effect should be the choice of last resort.



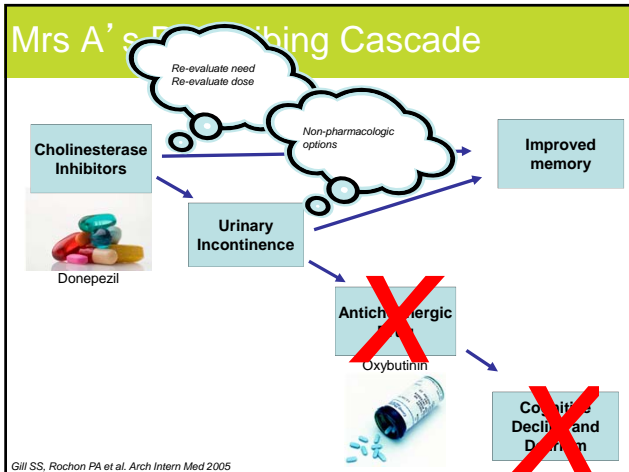
Alternatives to Drug Therapies

More prudent strategies

1. Re-evaluate need for initial drug
2. Reduce dose
3. Consider safer drug alternatives
4. Consider non-pharmacological options



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Cholinesterase inhibitors and anticholinergics

"Mad as a hatter, dry as a bone, the bowel and bladder lose their tone."

Anticholinergics cause confusion and urinary retention

	Cholinesterase Inhibitors	Anticholinergics
Memory	↑	↓
Incontinence	↑	↓

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Strategies to Optimize Prescribing

- Older adults with chronic disease and multiple drug therapies are at particular risk for prescribing cascades.
- Misinterpretation of drug-induced events as **part of the aging process** can easily occur and is particularly likely when the drug-induced symptoms are **indistinguishable from illnesses that are common in older persons** (e.g. confusion, falls, incontinence, parkinsonism).

(Rochon & Gurwitz, 1997)

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Part 3


Identify medication challenges and strategies to promote safe medication use

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Dementia and Medication


- Management of dementia requires multiple medications
- Patients with dementia have particular challenges
- Medication compliance is important, but may require tailored strategies


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Dose


Journal of the
AMERICAN GERIATRICS SOCIETY



- Required dose may not be available or is too expensive
- 25% of people across Ontario estimated to be splitting pills daily to achieve desired dose


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Rochon PA et al. Age and Gender Related use of Low Dose Drug Therapy: The Need to Manufacture Low Dose Therapy and Evaluate the Minimum Effective Dose. Journal of the American Geriatrics Society. 1999

Caregiving, dementia, and medication

- 65% of caregivers of people with dementia are women
- Most common caregiver task is helping persons take their medications

Alzheimer's Association. 2014 Alzheimer's Disease Facts and Figures. Alzheimer's & Dementia, Volume 10, Issue 2.

Challenges in Taking Medication

Forgetting to take Pills?

- Use Memory Aids
- Try telephone reminders



<https://caregiver.org/caregivers-guide-medications-and-aging>

Challenges in Taking Medication

Scheduling medications to fit into routine

- Link pill taking to daily routine



Challenges in Taking Medication

Difficulty opening bottles

- Use easy to open pill bottles



Challenges in Taking Medication

Difficulty hearing instructions

- Speak louder, write down information



Challenges in Taking Medication

Keep master list of medications

MedsCheck
PERSONAL MEDICATION RECORD

Whenever you see a doctor, including your primary care physician and any specialists, review and update this medication list.

After any hospitalization, check with your doctor or pharmacist to review this medication list.

Patient: _____ Primary Physician (Phone): _____
Pharmacist and Pharmacy (Phone): _____ Date Prepared: _____

Start Date (Month/year)	Name of Medication (Brand & Generic Name)	Strength	How to take this medication			Purpose	Comment	Prescribed By
			Quantity	Route	Frequency			

Allergies: No known allergies

Product	Reaction

Pharmacist Signature: _____ Patient Signature: _____

MedsCheck

- Annual 30 minute 1-to-1 meeting with pharmacist
 - Follow-up appointment possible when recently hospitalized or major change in therapy
 - For you or a loved one (Medscheck on behalf of someone else)
- Free; pharmacist reimbursed by OHIP
- Contact your pharmacist to set up appointment



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Pay extra attention when....

- Recently in hospital or seen by a specialist
- New illness, recently ill
- Any major changes in health



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Review Medications when Returning Home from Hospital

- At hospital discharge, ½ of older adults are on at least one unnecessary drug.
- Some are benign, some are not
 - "Routine" medications such as antacids, stool softeners, sleeping pills
- Review all medications at the time of care transition for appropriateness and intended duration of treatment



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(Hajar et al., 2000; Gurwitz 2005)

Providers' Responsibilities

- Review all existing medications
- Consider use of non-pharmacologic therapy
- Consider benefits of drug discontinuation
- Improve safety through drug substitution
- Consider a reduced dose
- Consider addition of potentially beneficial therapies

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Rochon & Gurwitz, Lancet 1995

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