ARE WE OVERMEDICATED? ADDRESSING THE RISKS OF POLYPHARMACY

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1

Objectives

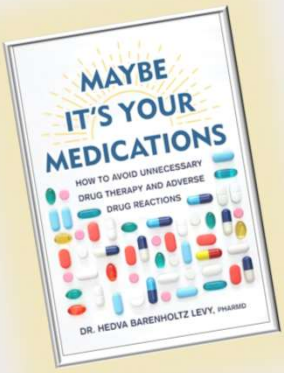
1. Differentiate appropriate vs inappropriate polypharmacy
2. Discuss consequences and risks of polypharmacy
3. Develop a plan for safer medication use as an individual, caregiver, or senior care professional

2

About Me

HbL PharmaConsulting

- What is Senior Care Pharmacy?
- What are medication-related problems?



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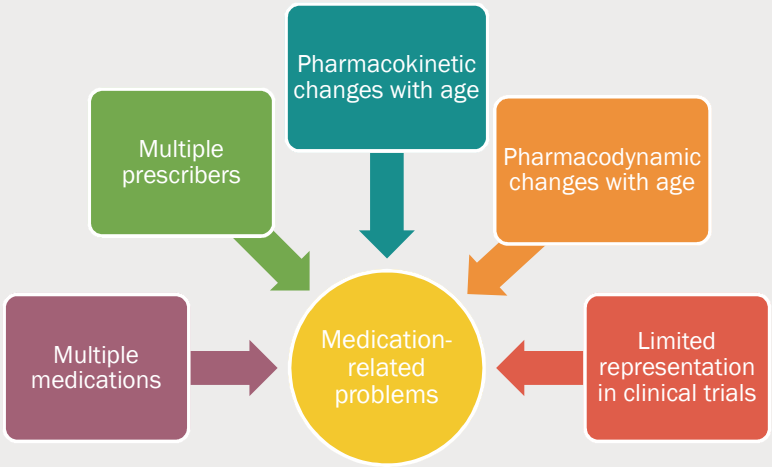
Older adults are at greater risk of medication-related problems



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Medication Use: Prevalence in Older Adults

- Prescription drug use by older adults

	All ages	45-64 y.o.	≥65 y.o.
≥ 1 prescription med.	47%	67%	91%
≥ 3 prescription meds.	22%	(N/A)	67%
≥ 5 prescription meds.	11%	19%	41%

AND:

- 40% use over-the-counter (OTC) products
- >70% use dietary supplements

National Center for Health Statistics 2018; Qato 2016, Kantor 2016

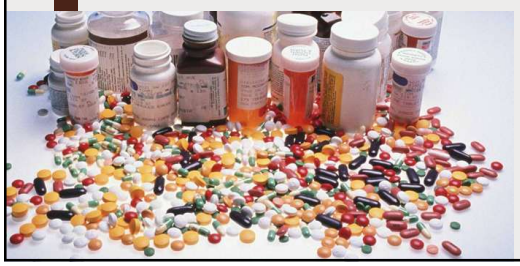
5

Medication use: Trend among adults age 65 and older over time

	1988	2010	2024
Use of ≥5 Rx medications	13%	39%	44%

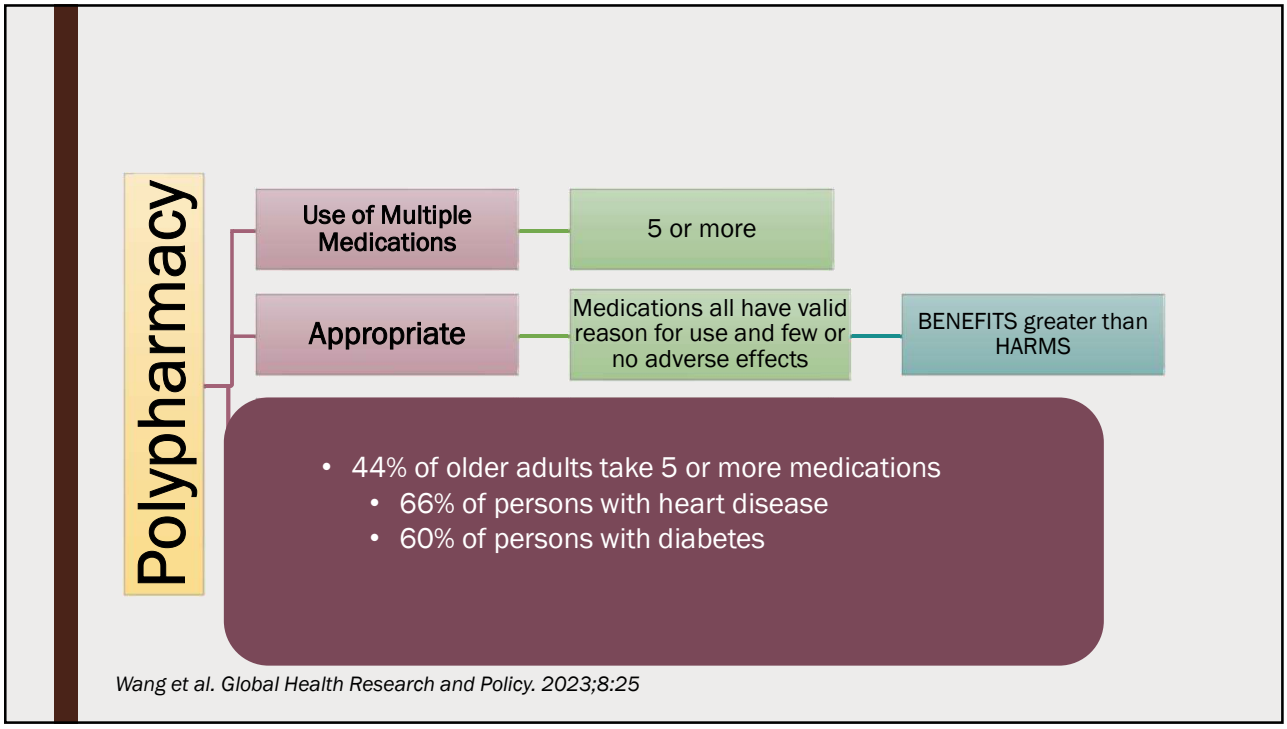
- About 18% take 10 or more drugs per month
- Increasing prescription drug use as the "new normal" (Garber 2019)

6



WHAT IS POLYPHARMACY?

7



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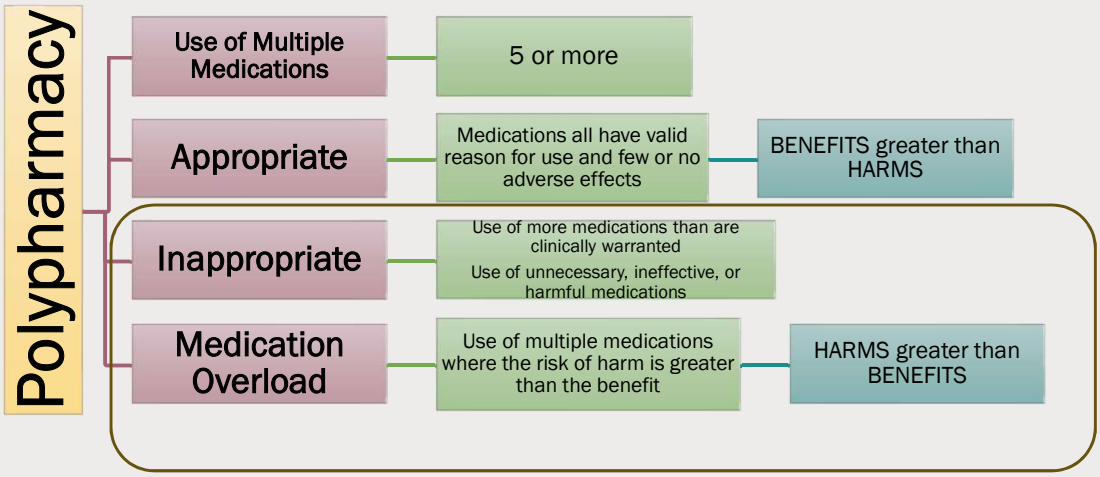


9

A Typical Medication List

- Allopurinol 300 mg daily
- Bupropion 75 mg daily
- Citalopram 40 mg daily
- Ezetimibe 10 mg daily
- Furosemide (Lasix) 40 mg
- Gabapentin 600 mg every evening
- Losartan 25 mg daily
- Metamucil daily
- Nebivolol 10 mg daily
- Pantoprazole 40 mg BID
- Pramipexole XL 4.5 mg daily
- Rosuvastatin 20 mg daily
- Spironolactone 100 mg daily
- Trazodone 50 mg at bedtime
- Vibegron (Gemtesa) 75 mg
- Insulin glargine (Lantus), 25 units in the evening
- Tirzepatide (Mounjaro) 15 mg subcutaneously weekly
- Vitamin B12 1000 mcg daily
- Vitamin D2 50,000 units weekly
- Vitamin C 500 mg once daily
- Estradiol vaginal cream, 2-4 times per week
- Albuterol HFA inhaler *as needed*
- Trelegy Ellipta inhaler daily 100/62.5/25 mcg

10

Another medication list

- Atorvastatin (Lipitor®) 10 mg daily
- Candesartan (Atacand®) 16 mg daily
- Amlodipine (Norvasc®) 5 mg daily
- Esomeprazole (Nexium®) 20 mg daily

New medication when discharged from the hospital

11

Inappropriate Polypharmacy

Any drug prescribed without a clinical indication

- (a.k.a., reason for use)

Any drug prescribed beyond the recommended duration

- *Where treatment duration is well defined*

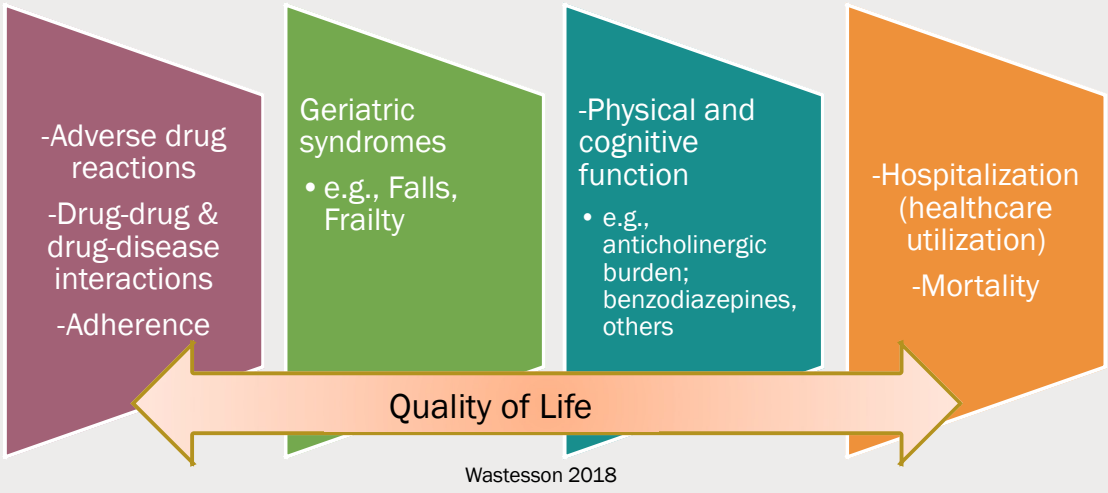
Any duplicate drug class prescription for daily regular use

- *That is, 2 drugs from the same drug class are prescribed*

Source: STOPP/START v3

12

Consequences of Polypharmacy in older adults



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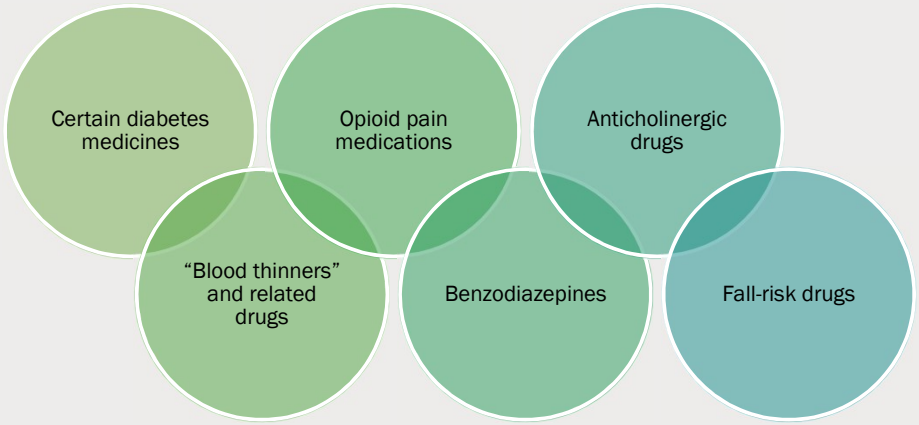
High-alert and Potentially Inappropriate Medications (PIMs) in Older Adults



14

High-alert Medications: beneficial, but use with careful monitoring

Blood thinners and medications that increase the risk of bleeding	• Anticoagulants and antiplatelet drugs, including aspirin (warfarin, Eliqus®, Xarelto®; clopidogrel & others) • Additional risk when combined with NSAIDs, certain antidepressants, or dietary supplements associated with increased bleeding risk
Diabetes medications that can cause LOW blood sugar levels (HYPOglycemia)	• Glipizide, glimepiride, glyburide; • Most insulin products (exception = long-acting/basal) • Also, use of products in combination
Opioid pain medicines	• Drug interaction concern with benzodiazepines, gabapentin • Greater risk of respiratory depression • Constipation, fall risk

15

Potentially Inappropriate Medications (PIMs) in Older Adults

AGS Beers List 2023

- *First developed in 1991 by Mark Beers, MD*
- *American Geriatric Society (AGS) updates it every 3 years*

Definition of PIM

- Medications that should be avoided in persons age 65 and older <u>when safer options are available</u>
- *Risk of adverse effects outweigh benefit for most individuals*
- *Personal-centered approach –"PIMs" might be appropriate based on specific situation*
- *Ideally, avoid "PIMs"; if prescribed, be aware of concerns and monitor for side effects*

More info at AGS foundation website

- *https://www.healthinaging.org/medications-older-adults/medications-older-adults-should-avoid*

16

Examples of "PIMs" from the AGS Beers Criteria

Drug Category	Examples of drugs	Reason Why a PIM
Benzodiazepines (BZDs): family of drugs used to treat sleep or anxiety	alprazolam, clonazepam, diazepam, lorazepam, temazepam, others	Fall risk, motor vehicle accidents, decreased memory, dementia
Non-BZD sleep medicines (Z-drugs)	Zolpidem (Ambien), zaleplon (Sonata), eszopiclone (Lunesta)	Fall risk, motor vehicle accidents, decreased memory, dementia
Older antihistamines	diphenhydramine, chlorpheniramine, doxylamine, hydroxyzine	Confusion, decreased memory, cognitive impairment in older persons; dry eyes, dry mouth, constipation, difficulty urinating
Proton pump inhibitors (PPIs) when used longer than 8 weeks to treat simple reflux	Omeprazole (Prilosec), pantoprazole (Prevacid), rabeprazole (Aciphex), esomeprazole (Nexium)	Increased risk *C. difficile* diarrhea, bone fracture, pneumonia; low magnesium levels
Muscle relaxants	cyclobenzaprine (Flexeril), methocarbamol (Robaxin), carisoprodol (Soma), and others	Risk of grogginess or confusion, increase fall risk, constipation, dry mouth, difficulty urinating. Little evidence that they are effective
Certain diabetes medications	Glipizide, glimepiride, glyburide	Risk of very low blood sugars

17

Anticholinergic Medications

Clinical uses

- Overactive bladder
- Depression
- Allergies
- Insomnia (sleep aids)
- Irritable bowel
- COPD

Anticholinergic Medications block acetylcholine (chemical messenger in brain) involved with memory & learning

Side effects

- Confusion, memory loss
- Dementia
- Delirium
- Falls, dizziness
- Constipation
- Dry mouth
- Dry eyes
- Urinary retention

Adapted from Phutietsile. Expert Rev Clin Pharmacol 2025

18

Examples of anticholinergic drugs

Antidepressants

Amitriptyline
Nortriptyline
Doxepin
Paroxetine (Paxil)

Drugs for overactive bladder

Oxybutynin (Ditropan)
Tolterodine (Detrol)
Darifenacin (Enablex)
Solifenacin (Vesicare)
Trospium (Sanctura)

Allergy medications

Diphenhydramine (Benadryl)
Hydroxyzine (Vistaril)
Chlorpheniramine (Chlor-Trimeton),
Doxylamine

Over-the-counter sleep aids

Tylenol® PM, Advil® PM
Unisom®
ZzzQuil®

19

Drugs that Increase Fall Risk

Fall risk related to polypharmacy:

- *Taking 4 or more drugs associated with 18% increased fall risk*
- *Taking 10 or more…50% increased risk*

- Benzodiazepines
- Non-BZD sleep medications
- Antipsychotic drugs
- Older antihistamines
- Opioid pain medicines
- Antidepressant drugs
- Antiseizure drugs (including gabapentin, pregabalin)
- Certain drugs for overactive bladder
- Certain blood pressure drugs

20

Some OTC products that require caution in older adults

Type of medication	Examples	Possible adverse effects
Acetaminophen	Tylenol	• Excess use can cause liver damage
Aspirin	--	• Bleeding
Antihistamines—OLDER ones	Benadryl Tylenol PM Unisom *Cough & cold products*	• Dry eyes, dry mouth • Constipation, difficulty urinating • Decreased memory, confusion
Nonsteroidal anti-inflammatory drugs (NSAIDs)	Advil (ibuprofen) Aleve (naproxen)	• Stomach ulcers, bleeding • Heart concerns: increased blood pressure; worsened heart failure; heart attack, stroke • Kidney injury
Proton pump inhibitors for longer than 8 weeks (for heartburn)	Omeprazole (Prilosec) Pantoprazole (Prevacid)	• *C. difficile* diarrhea • Bone fracture • Pneumonia • (low magnesium)

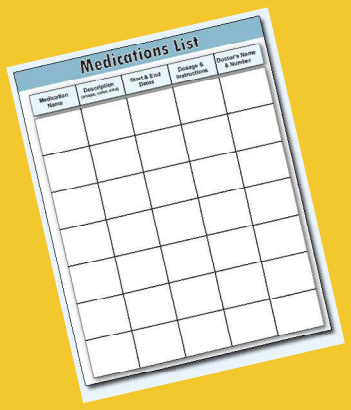
21

STRATEGIES FOR SAFER MEDICATION USE

Medication-related problems are preventable!

23

Medication List



Current, complete, & accurate

- *Keep it updated! Have it accessible!*
- *Prescription medicines, OTC, AND dietary supplements*
- *What are you actually taking at home? What are you not taking? What are you taking differently than on the instructions?*

Include key info:

- Reason for each drug
- Prescriber name
- When started

Share with every care provider at every visit

24

Know your medications

Ask questions

- *You should know reason for each medication AND goals of therapy*
- *Pharmacists are drug therapy experts*
  - Use us!!

Know essential information about each medication

- *Say "Yes" at the pharmacy counter!*

25

"Eight Essential Items" to know about your medications

1. Brand & generic names
2. Reason for taking
3. Instructions
4. Missed dose instructions
5. How long you need to take & refill instructions
6. Common side effects & serious side effects
7. Important interactions (with other medications, food, alcohol)
8. How to properly store the medicine

26

Advocating for Medication Safety

Communicate

- Recognize your role on the healthcare team
- Person-centered care & shared decision making

Get Engaged in Your Drug Therapy Choices & Decisions

- What might that look like?

27

Regular Medication Review

Medication reviews by *qualified health professional*

- *Review for proper duration; safety and effectiveness for <u>your</u> situation (kidney function, age, health conditions, other medications, etc.)*
- *Safer alternatives?*
- *Non-drug alternatives?*

Identify medicines that no longer are needed or are harmful:

- *"Prescription check-up" that focuses on <u>reducing</u> <u>medications</u> (Lown Institute 2019)*

28

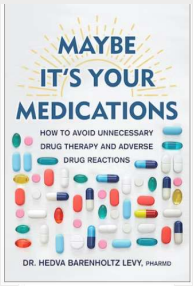
Take-home points

- Polypharmacy may be appropriate for many patients and must be differentiated from inappropriate polypharmacy
- Consequences of polypharmacy can have a significant impact individuals and healthcare systems
- High-alert medications warrant careful monitoring and patient education
  - *Certain diabetes medications, drugs that increase bleeding risk, and opioid pain medicines*
- Potentially inappropriate medications (PIMs) should be avoided when possible
  - *Many have negative impact cognitive and/or physical function*
- Strategies for safer medication use include good medication lists, knowing basic information about one's medications, communication, and getting regular medication reviews

29

Thank you!!

Time for Your Questions ? ? ?



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30