Disclosures

No conflicts of interest

Disclaimer

Objectives

- Understand the impact of polypharmacy on morbidity and mortality

- Create a framework for systematically addressing a medication list

- List several approaches for simplifying a medication list through medication reconciliation and deprescribing

Case

- 55-year-old cis-gender male living with HIV for 20 years returns to clinic for 6 month HIV visit. Takes bictegravir/tenofovir AF/emtricitabine once daily, HIV VL <20 copies and CD4 count 1,100 cells/mm^3. The patient has been undetectable for years and adherence has not been a concern.

- Upon review of systems, patient indicates that he has felt 'foggy' and dizzy more over the last six months, but denies any falls.

- He is co-managed by pain management, nephrology and gastroenterology.

Medication	Problem List
azelastine	chronic pain
alendronate	obstructive sleep apnea syndrome
bictegravir/tenofovir AF/emtricitabine	dyslipidemia
citalopram	Crohn's disease
clonidine	benign prostatic hyperplasia
famotidine	sciatica
fluticasone propionate	thrombocytosis
furosemide	abdominal mass
ibuprofen	moderate recurrent major depression
gabapentin	hemiplegia and/or hemiparesis following stroke
losartan	essential hypertension
metoprolol succinate	chronic kidney disease stage 3 (CrCl 45 ml/min)
tapentadol extended release	hepatitis A/B immune
potassium chloride	human immunodeficiency virus infection
tramadol	

Case

- Does this patient meet criteria for 'polypharmacy'?

- What health risks can polypharmacy contribute to?

- What steps can you take to reduce the burden of polypharmacy?
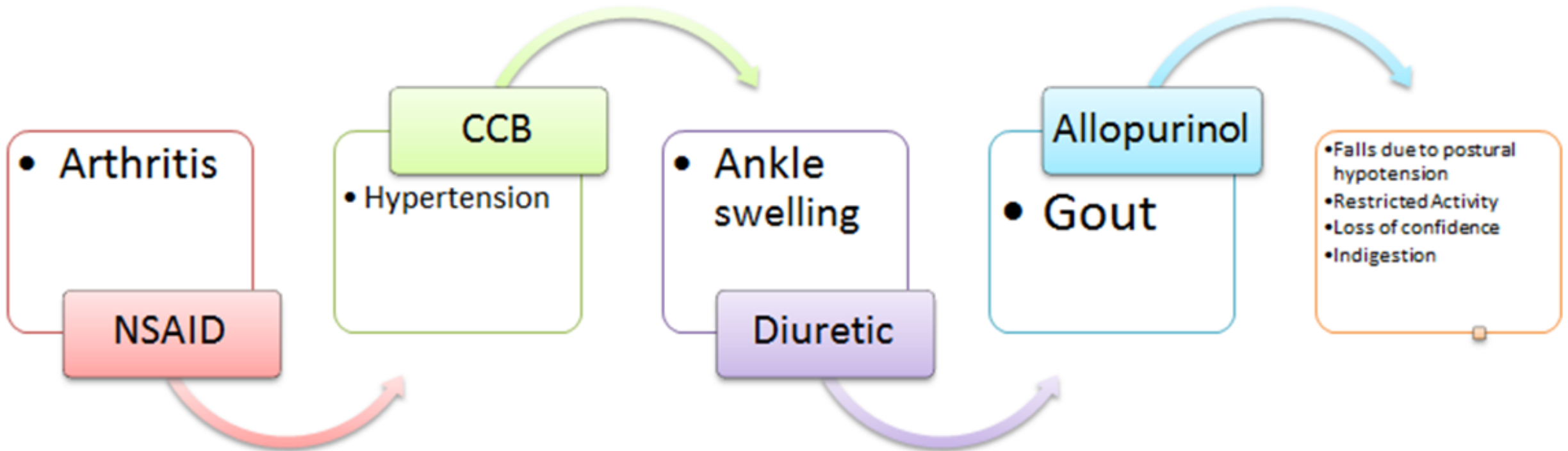
Polypharmacy – Why Does It Matter?

The Problem

- Prescribing medicine is a skill and needs to be honed and updated

- Medications have the potential for enormous benefits, but also significant harm

- 84% of older adults take ≥ 1 prescription medication

- Approximately 35% of older adults take ≥ 5 prescription medications (including OTC/herbal)
  - 20% of medications used in older adults may be inappropriate

- Polypharmacy is the greatest predicator for adverse drug events (falls, hospitalization, death)

- **In persons with HIV:**
  - Polypharmacy has been associated with slow gait speed and recurrent falls
  - Polypharmacy is significant as PWH have higher rates of *frailty*, osteoporosis, CVD, and cognitive related concerns compared with non-HIV infected persons

Qato et al. JAMA Intern Med. 2016 Apr;176(4):473-82.; Alhawassi et al. Clin Interv Ageing. 2014;9:2079-2086.; Opondo D et al PLoS One. 2012;7(8):e43617.; The Institute of Medicine, National Academy of Sciences. Informing the future: Critical issues in health.; Kosana et al. Clin Infect Dis . 2023 Dec 26:ciad782

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Definitions

- Polypharmacy
  - Regular use of 5 or more medications on a daily basis

- Medication Therapy Problems (aka Medication Related Problems)
  - When the use (or non-use) of a specific medication results in a less than optimal clinical outcome for the patient

- Prescribing Cascade
  - Begins when an adverse drug reaction is misinterpreted as a new medical condition
  - Another medication prescribed for new condition → more adverse drug reactions
  - Increase costs, pill burden, hospitalizations, and functional decline

Masnoon N et al. BMC Geriatr. 2017;17(1):230.
Piggott K L, et al. BMJ 2020; 368 :m261
https://www.optimizingmeds.org/medication-therapy-problem-documentation/

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Cascade Example

Polypharmacy – What Can I Do About It?

WHO Guide to Rational Prescribing

- Step 1 – Define the patient's problem

- Step 2 – Specify the therapeutic objective

- Step 3a – Choose your standard treatment

- Step 3b – Verify the suitability of your treatment (STEPs)

- Step 4 – Start treatment

- Step 5 – Give information, instructions, and warnings

- Step 6 – Monitor (and STOP) treatment

Tichelaar, J. et al. Eur J Clin Pharmacol 76, 507–513 (2020)

Goals of Deprescribing

- Improve overall health outcomes

- Reduce medication burden
  - Increase adherence to medications needed

- Reduce falls and cognitive impairment

- Decrease hospitalizations and death

- Decrease costs

- Improve overall quality of life

Scott IA et al. JAMA Intern Med. 2015;175(5):827–834.

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Targeted Populations for Deprescribing

Patients

- **Polypharmacy**
- **Multimorbidity**
- **Renal impairment**
- **Multiple prescribers**
- Nonadherence
- Limited life expectancy
- Dementia
- Transitions of care

Medications

- Beers Criteria & STOPP/START
- **Proton pump inhibitors**
- **Nonsteroidal anti-inflammatories**
- Anticholinergics
- Benzodiazepines
- Long-acting sulfonylureas
- Insulins
- Aspirin for older adults

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Deprescribing Process

- ## Step 1
  - Review ALL of the patient's medications and look for 'legacy prescribing'

- ## Step 2
  - Talk to the patient about the deprescribing process weighing preferences & evidence

- ## Step 3
  - Deprescribe medications and develop a taper schedule if needed
  - Stop ONE medication at a time
  - Coordinate with pharmacy

- ## Step 4
  - Create a follow-up plan for monitoring and assessment

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Additional Resources for Polypharmacy

- Beers Criteria (First published in 1991, American Geriatric Society, updated 2023): https://agsjournals.onlinelibrary.wiley.com/doi/10.1111/jgs.18372

- STOPP/START criteria: https://www.cgakit.com/m-2-stopp-start
  - Screening Tool Of Older People's Prescriptions (STOPP)
  - Screening Tool to Alert to Right Treatment (START)

- Clinical review on deprescribing: Scott IA, et al. JAMA Intern Med. 2015.

- Additional guidelines & tools: https://www.deprescribing.org

- Liverpool drug interaction checker: https://www.hiv-druginteractions.org/checker

- Remember team work! Engage team members in clinic and pharmacy to perform regular med list updates/reviews and stewardship

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General Approaches

- Medication reconciliation - "Pharmaceutical Janitorial Work"
  - Contact the pharmacy and obtain a list of current medications and fill history
  - Inquire about over-the-counter, herbal, and recreational drugs
  - Auto-import into the electronic health record
  - Have the patient bring in all their medications (works well with tele-health)

- Review medication / problem list and identify
  - Medications without indication and legacy medications
  - Inappropriate dosing
  - Beers, STOPP/START medications

- Shared decision making and prioritizing stopping medications

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Acknowledgment