MEDICATION MANAGEMENT IN THE ELDERLY

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LEARNING OBJECTIVES

- Define polypharmacy
- Outline physiologic changes in geriatric patients that affect response to medications
- List common medications and indications in geriatric patients
- Outline ways to decrease the medication burden in geriatric population

POLYPHARMACY

Term used for any patient on five or more prescription medications

Important to reconcile meds carefully

POLYPHARMACY

- Clarify diagnosis associated with each medication
- Check for duplicates and remove
- Prescribing to meet metrics often results in polypharmacy
- Mental health needs often result in polypharmacy

OTHER POLYPHARMACY GROUPS

- Long term care patients
- Mental Health patients
- Brain injury/spinal cord injury patients

POLYPHARMACY

TABLE 1

Negative Consequences of Polypharmacy

Patient[2-15]

Decreased quality of life

Increased mobility issues

Increased mortality

Increased risk of

- Adverse drug events
- Disability
- Falls
- Frailty
- Inappropriate medication use
- Long-term care placement
- Medication nonadherence

Increased use of the health care system (clinic visits, emergency department visits, hospitalizations)

Health care system[16,17]

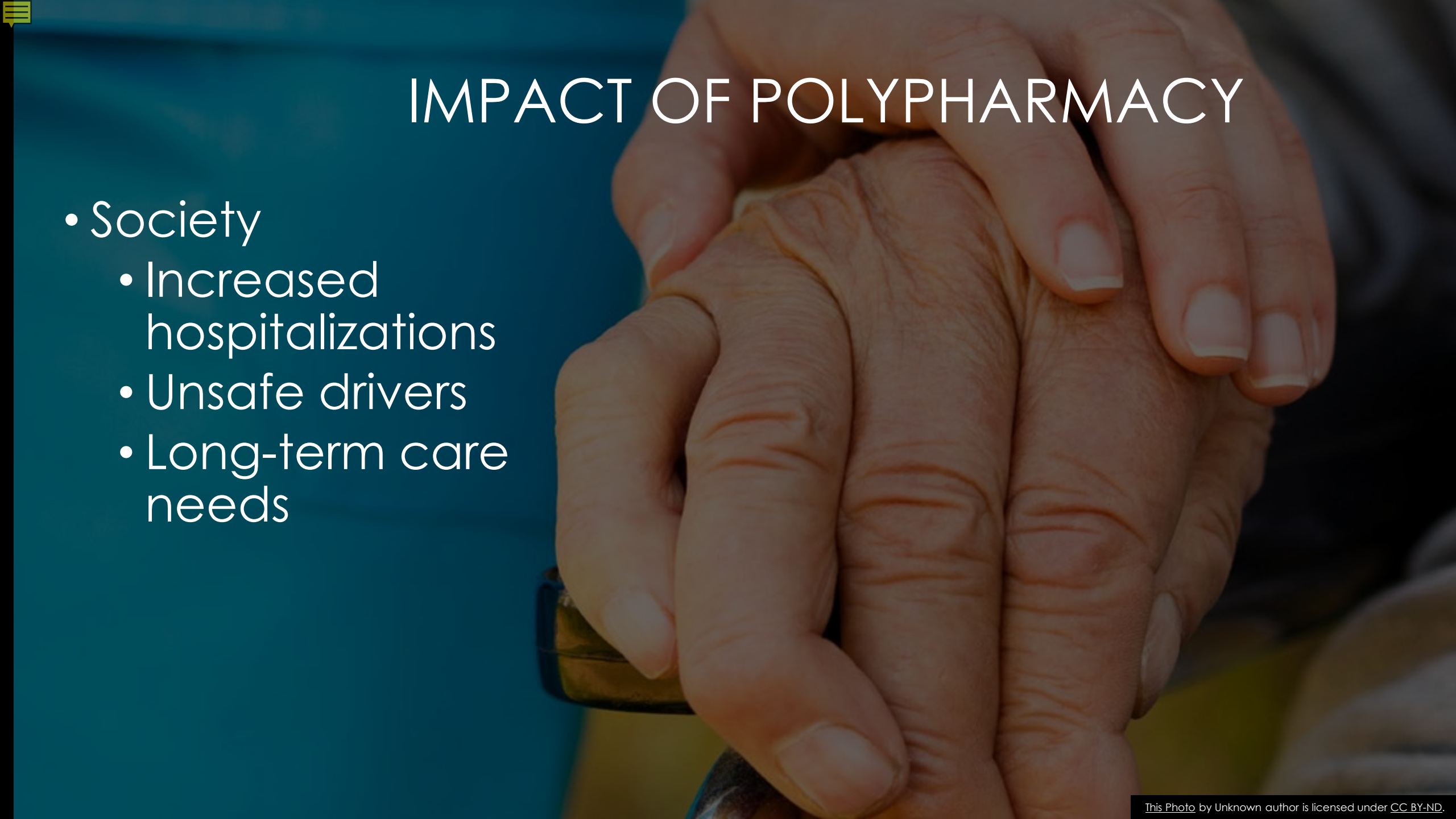
Decreased physician functionality (workflow

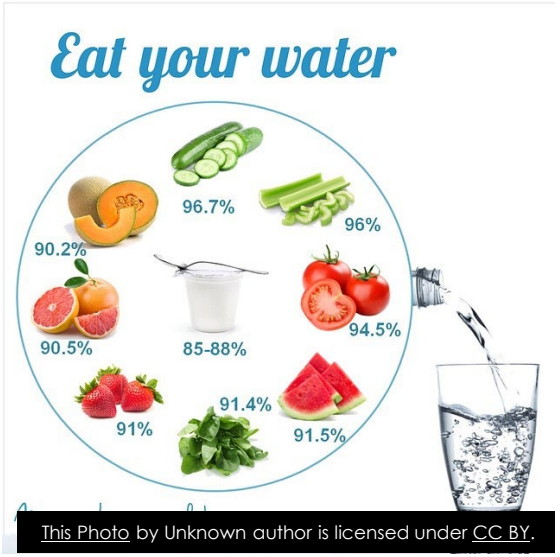
IMPACT OF POLYPHARMACY

- Patient
  - Drug/drug interactions
  - Fall risk
  - Cost
  - Medication side effecs

IMPACT OF POLYPHARMACY

- Society
  - Increased hospitalizations
  - Unsafe drivers
  - Long-term care needs





PHYSIOLOGIC CHANGES IN ELDERLY BY SYSTEMS

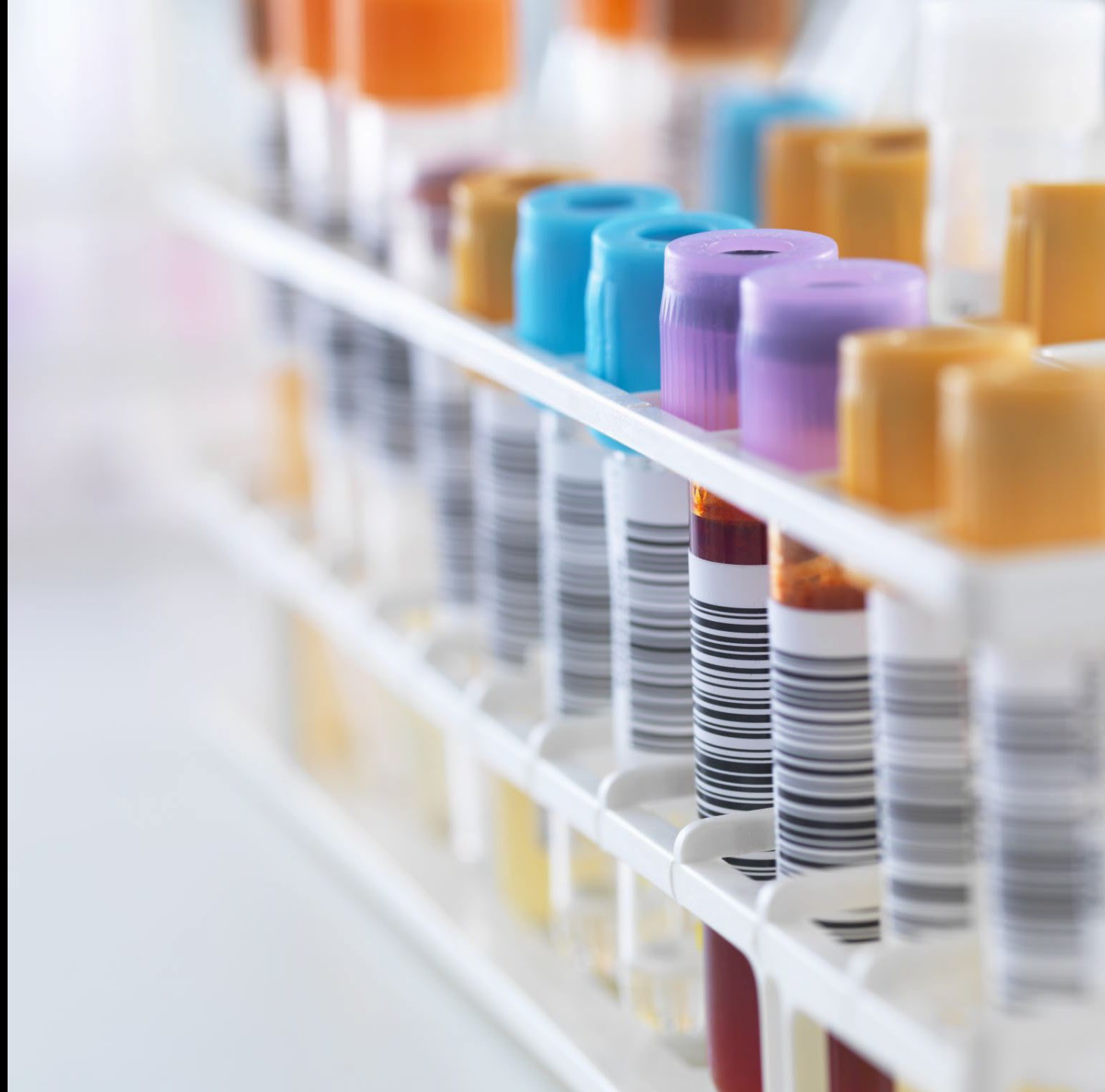
- Renal:
  - Creatinine clearance decreases average 10 ml/decade
  - At age 75, patients have ~ 70% of kidney filtration rate compared to age 30
  - Increased prostaglandins, more prone to nephrotoxicity
  - Decreased thirst—dehydration common

PHYSIOLOGIC CHANGES IN ELDERLY BY SYSTEMS

- GI
  - Decreased amplitude of esophageal contractions
  - More gastritis
  - Increased transaminases and alkaline phosphatase
  - Hepatic size reduced and blood flow reduced—less efficient in metabolizing toxins and drugs
  - Reduced peristalsis in colon—more constipation
  - Loss of teeth

PHYSIOLOGIC CHANGES IN ELDERLY BY SYSTEMS

- GU
  - Urinary incontinence
  - Urinary tract infections
  - Erectile dysfunction
  - Dyspareunia



PHYSIOLOGIC CHANGES IN ELDERLY BY SYSTEMS

- Neurologic
  - Baroreceptors are less sensitive—orthostatic hypotension
  - Visual acuity changes
  - Hearing loss more common

PHYSIOLOGIC CHANGES IN ELDERLY BY SYSTEMS

- Respiratory
  - Increase in alveoli
  - Decrease in number of cilia
  - Cough is not as efficient

MEDS THE ELDERLY MAY TAKE

- Antihypertensives
  - In the general population of adults 60 years and older, pharmacologic treatment should be initiated when the systolic pressure is 150 mm Hg or higher, or when the diastolic pressure is 90 mm Hg or higher.
  - Start "deprescribing", especially diuretics, when systolic stays less than 130.

MEDS THE ELDERLY MAY TAKE

- Cardiac
  - Beta blockers
  - Anticoagulants
  - Aspirin
  - Antiarrhythmics

MEDS THE ELDERLY MAY TAKE

- GI
  - PPI
  - Laxatives
  - Antispasmodics

MEDS THE ELDERLY MAY TAKE

- Respiratory
  - Decongestants
  - Antihistamines
  - Anticholinergic meds in common cold preps

MEDS THE ELDERLY MAY TAKE

- GU
  - Alpha blockers
  - Anticholinergics for incontinence
  - PDE inhibitors
  - Frequent antibiotics

MEDS THE ELDERLY MAY TAKE

- Psychiatric
  - Sleep
  - Depression
  - Anxiety

MEDS THE ELDERLY MAY TAKE

- Pain meds
  - NSAIDs
  - Gabapentin
  - Opioids
  - Tramadol

MEDS THE ELDERLY MAY TAKE

- Recreational
  - Marijuana
  - Alcohol
  - Benzodiazepenes

WHAT CAN WE DO?

- Prescribe less when we can
- Take a careful medication history
- Review what the consultants do
- "Deprescribe" when possible

MEDICATION USE IN THE ELDERLY

There will ALWAYS be more polypharmacy than we like

Educate patients and caregivers

Deprescribe carefully

Avoid medications when possible

USEFUL TOOLS

1

BEERS criteria

- Developed 1991,
- updated 2023

2

STOPP, Screening Tool of Old People's Prescriptions

3

Drug Burden Index

DEPRESCRIBING

- Stopping or tapering 1 or more of a patient's medications
- Target medications from which patients no longer derive reasonable benefit,
- Prevent consequences of high-risk medication combinations,
- Reduce cost and complexity while patients remain on beneficial medications.

DEPRESCIBE

- Highly anticholinergics: antihistamines, some muscle relaxants, meds for overactive bladder.
- NSAID's
- Hypoglycemic agents
- Anti-hypertensive agents

DEPRESCRIBE

- Pain medications should be carefully addressed
  - Scheduled acetaminophen
  - Topical NSAID's
  - SNRI's, TCA's anti-epileptics
- Opiods—taper 10% weekly

DEPRESCRIBE

Benzodiazepines-- In 2007 the most commonly prescribed anxiolytic in elderly

Antipsychotics

Cholinesterase inhibitors

DEPRESCRIBE

- Statins in some cases
- Herbals and vitamins
- In palliative or end of life care

CASE PRESENTATION

- 92 yo woman w/ osteoarthritis, HTN, anxiety, intermittent A fib, Acute on Chronic Diastolic Heart Failure, Stage 3 CKD, frequent UTI's, iron deficiency anemia, hyponatremia ALLERGIES: Sulfa, fluroquinolones, nitrofurantoin

- Meds
  - Omeprazole
  - Budesonide/formeterol
  - Dicyclomine
  - Tiotropium
  - Sodium Chloride
  - Furosemide
  - Alprazolam

WHAT CAN BE DEPRESCRIBED?

- Alprazolam
- Omeprazole
- Amiodarone

CASE PRESENTATION #2

74 yo woman w/ type 2 DM on insulin, peripheral neuropathy, CKD, COPD, hypothyroidism, depression, CAD and CHF

Meds:

- Long-acting insulin
- Short-acting insulin
- Gabapentin
- Home oxygen
- Citalopram
- Furosemide
- Clopidogrel

WHAT CAN BE DEPRESCRIBED?

- Short acting insulin
- Gabapentin
- Citalopram

OUR CHALLENGES--CONSIDER THE FOLLOWING

- Current medications
- Comorbidities
- Decreased renal and hepatic function
- Lower lean body mass
- Increased sensitivity to anticholinergic drugs

IMPACT OF POLYPHARMACY

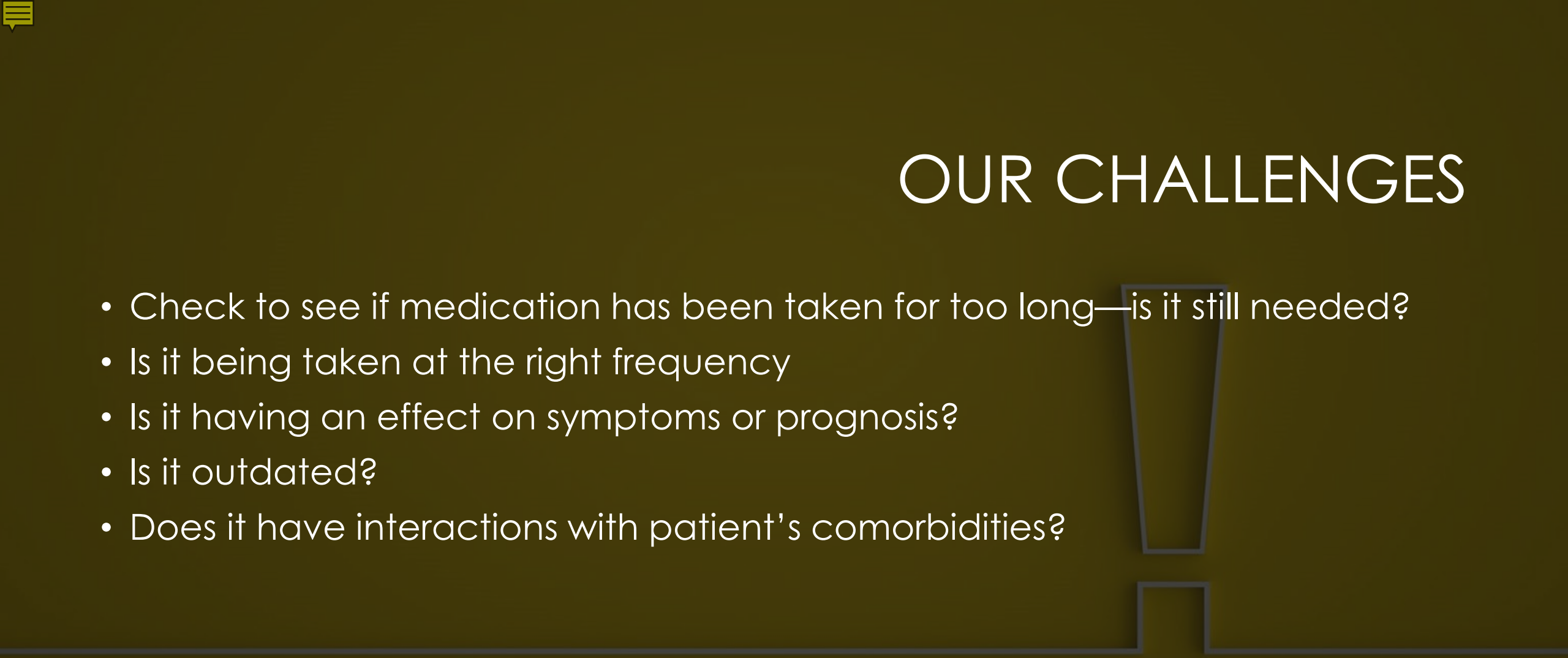
- Drug interactions
- Medication side effects
- Falls
- Cost
- Nonadherence

OUR CHALLENGES

- First, the management of comorbidities is often lacking in disease-specific guidelines.
- Multimorbidity is rising due to the ageing population
- Deprescribing methods are sparse, and results are conflicting

OUR CHALLENGES

- Check to see if medication has been taken for too long—is it still needed?
- Is it being taken at the right frequency
- Is it having an effect on symptoms or prognosis?
- Is it outdated?
- Does it have interactions with patient's comorbidities?



OUR CHALLENGES

- Patients may be reluctant if med was rx by another provider
- Automated refills may confuse patients
- Time constraints
- Patients with multiple concerns at each visit

RATIONAL PRESCRIBING FROM THE WORLD HEALTH ORGANIZATION

- 1. Define the patient's problem
- 2. Specify the therapeutic objective
- 3a: choose your standard treatment; step 3b: verify the suitability of your treatment;
- 4: start treatment
- 5: give information, instructions, and warnings
- 6: monitor and stop treatment in case of adverse effects or treatment failure.

REFERENCES

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QUESTIONS

THANK YOU WVAFP