Appropriate Use of Medications in the Elderly

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Disclosure Statement

• The presenter has nothing to disclose concerning possible financial or personal relationships with commercial entities (or their competitors) mentioned in the presentation.
Objectives

Upon completion of this activity, the pharmacist should be able to:

1. Discuss potentially inappropriate medications commonly prescribed for older adults.
2. Review the 2015 updates to the American Geriatrics Society Beers Criteria.
3. Interpret the Medicare Star Rating System that assesses the safety of prescribed medications.
4. Given a case scenario, apply deprescribing tools to formulate recommendations for therapy.
Objectives

Upon completion of this activity, the pharmacy technician should be able to:

1. Identify medications that are deemed potentially inappropriate for older adults.
2. Assess whether medications are deemed safe utilizing the Medicare Star Rating System.
3. Recognize the availability of deprescribing tools that may assist pharmacists.
Self-Assessment Question #1

What percentage of patients >60 years of age take ≥5 medications?

A) 10%
B) 20%
C) 30%
D) 40%
Medications in the Elderly

Population Data

- US General Population
- Elderly

Consume 33% of Medications

US Census Quick Facts, 2015. Available at: [https://www.census.gov/quickfacts/table/AGE775215/00](https://www.census.gov/quickfacts/table/AGE775215/00)
Why Medications Matter

Meds  ADEs
Age-Related Changes in Medication Sensitivity

Pharmacokinetic

• ADME
  – Drug-binding interactions
  – Changes in volume status
  – Decreased muscle mass/protein intake
  – Diminished renal function

Pharmacodynamic

• Decreased baroreceptor response
  • Falls → hip fractures
• Increased anticholinergic sensitivity
  – ACB scale

ACB = Anticholinergic Cognitive Burden

Self-Assessment Question #2

The elderly account for ___% of emergency room visits due to adverse drug events.

A) 5%
B) 15%
C) 25%
D) 35%
Suboptimal Drug Use

Unnecessary Meds

Inappropriate Meds

Underuse of Meds

Adverse Drug Events

Beers Criteria

• Introduced in 1991 by Mark H. Beers, MD

• Designed to improve the safety of prescribing medications for the elderly (≥65 yo)

• Includes more than 40 potentially inappropriate medications (PIMs) or classes of medication

• Beer’s criteria is meant to be used to assist clinical judgement
Self-Assessment Question #3

The Beers criteria provides absolute contraindications for specific drugs in the elderly.

A) True
B) False
Beers Criteria 2015 Changes

• **Nitrofurantoin**
  – Changed recommended CrCl cutoff for use from $<60 \text{ mL/min}$ to $<30 \text{ mL/min}$
  – Avoid long-term use for bacteria suppression
    • Pulmonary toxicity, hepatotoxicity, peripheral neuropathy

• **Alternatives**
  – Other antibiotic
  – If use is unavoidable, monitor closely
Beers Criteria 2015 Changes

- Antiarrhythmics in Atrial Fibrillation – Class 1a, 1c, III
  - Removed recommendation to avoid 1\textsuperscript{st}-line
  - Avoid amiodarone unless HF or LVH
  - Avoid dronedarone if permanent atrial fibrillation or recently decompensated HF

- Digoxin
  - Clarified recommendation to avoid 1\textsuperscript{st}-line in atrial fibrillation or HF
  - No additional efficacy, increased side effects due to decrease renal clearance, potential for increased mortality
  - Still avoid doses >0.125 mg/day for ANY indication

HF = heart failure
LVH = left ventricular hypertrophy
Beers Criteria 2015 Changes

• Nonbenzodiazepine Hypnotics “Z-drugs”
  – Changed recommendation from avoid chronic use (>90 days) to avoid use regardless of duration
  – Added to list of drugs to avoid in individuals with dementia or cognitive impairment
    • Increased risk of falls and hip fracture in nursing home residents
    • Minimal benefit on sleep latency and duration

• Alternatives
  – Low-dose trazodone
  – Low-dose doxepin
  – Rozerem (ramelteon)
Beers Criteria 2015 Changes

• Proton Pump Inhibitors
  – Added recommendation to avoid use for >8 weeks
    • Increased risk of *Clostridium difficile* infection or pseudomembranous colitis
    • Increased risk of bone loss and fractures
  – Appropriate for high-risk patients, compelling indications, or demonstrated need for maintenance therapy
    • Chronic NSAID use or corticosteroid use
    • Erosive esophagitis or hypersecretory disorder
    • Failed “drug holiday” and/or H2-blocker treatment

Beers Criteria 2015 Changes

• Opioids
  – Added as a medication to avoid in patients with a history of falls and fractures
    • Ataxia, syncope, additional falls, impaired psychomotor function
  – Excludes pain management due to recent fracture or joint replacement
    • Reduce concomitant CNS-active medications

• Alternatives
  – Tylenol, short-term NSAIDs (topical if applicable)
  – Duloxetine, gabapentin, pregabalin for neuropathic pain
Beers Criteria 2015 Changes

• Antipsychotics
  – Avoid 1st-line in patients with delirium
    • May induce or worsen delirium
    • BBW: associated with CVA and mortality in individuals with dementia
  – Any (used for dementia related behavioral problems)

• Consider use if patient is harm to self or others

• Acceptable indications include schizophrenia, bipolar disorder, or short-term use as an antiemetic during chemotherapy

CVA = cerebrovascular accident
Self-Assessment Question #4

Polypharmacy and inappropriate medication use in older adults contribute to which of the following? Select all that apply.

A) Adverse drug reactions  
B) Cognitive impairment  
C) Falls  
D) Hospitalization
Describing Deprescribing

• Tapering
• Reducing
• Stopping

• Based on priority
  – Benzodiazepines
  – SGAs
  – Statins
  – TCAs
  – PPIs

Many clinicians find deprescribing difficult to accomplish.

SGAs = second generation antipsychotics or “atypical” antipsychotics
TCAs = tricyclic antidepressants
PPIs = proton pump inhibitors

5-Steps to Deprescribing

1. Identify **ALL** drugs the patient is taking + rationale
2. Consider risk of drug-induced harm to determine deprescribing intensity
3. Assess each drug for current/future **benefit** potential versus **harm**
4. Prioritize drugs for d/c with **lowest** benefit:harm and least propensity for adverse withdrawal reactions
5. Implement a d/c regimen and **monitor** for improvement/onset of adverse effects

*d/c = discontinuation*

Deprescribing Tools

• **STOPP criteria**
  - Similar to Beers criteria
  - Screening Tool of Older Persons Potentially inappropriate medications

• **Medication Appropriateness Index (MAI)**
  - 10 questions for each medication
  - Useful at discharge

• **Deprescribing.org**
  - Ontario Pharmacy Evidence Network

• **Medstopper.com**
  - [https://youtu.be/XXMcDtOO7NI](https://youtu.be/XXMcDtOO7NI)

• **RxISK.org**
  - Information about drug side effects for consumers

• **Drug Burden Index (DBI)**
  - Anticholinergic and sedative medications
Self-Assessment Question #5

Which of the following describes the purpose of the Medicare Star Ratings?

A) Identify high-risk medications
B) Measure and compare performance of Medicare Part C & D plans
C) Evaluate hazardous medications
D) Select the next *DWTS* contestant among individuals ≥65 years
# Medicare Star Rating System

**Health Plan Ratings**

1. Staying healthy: screenings, tests, vaccines
2. Managing chronic conditions
3. Plan responsiveness and care
4. Member complaints, problems getting services, choosing to leave plan
5. Customer service

**Rx Drug Plan Ratings**

1. Customer service
2. Member complaints, problems getting services, choosing to leave plan
3. Member experience
4. Drug pricing and **patient safety**
Star Rating 2017 Changes

• Transition from ICD-9 to ICD-10 codes (Part C & D)
• Require MTM Program Completion Rate for CMS (Part D)
• Medication Adherence for Hypertension
  – RAS antagonists excluded (Part D Star Ratings)

• Display measures:
  – Medication Reconciliation Post Discharge (Part C)
  – Hospitalizations for Potentially Preventable Complications (Part C)
  – Statin Therapy for Patients with Cardiovascular Disease (Part C)
  – Asthma Measures (Part C)
  – Statin Use in Persons with Diabetes (SUPD) (Part D)


MTM = Medication Therapy Management
CMS = Comprehensive Medication Reviews
2018 & Beyond

Proposed New Measures

• HRM performance measure will be converted to a display measure
  – Calculates % of Medicare Part D beneficiaries ≥65 years who received ≥2 Rx for same HRM
  – Prevent punitive implications

• Care Coordination Measures (Part C)
• Depression Measures (Part C)
• Appropriate Pain Management (Part C)
• Use of Opioids from Multiple Providers or at High Dosage in Persons without Cancer (Part D)
• Antipsychotic Use in Persons with Dementia (Part D)


HRM = High Risk Medication
CMS Tools

• Medicare Interactive
  – [https://www.medicareinteractive.org/](https://www.medicareinteractive.org/)

• Medicare Plan Finder Tool
  – [www.medicare.gov/find-a-plan](www.medicare.gov/find-a-plan)
  – 1-800-MEDICARE

• State Health Insurance Assistance Program (SHIP)
  – Personalized health insurance counseling
  – (800) 868-9095 or (803) 734-9900 (SC)

• Agency for Healthcare Research and Quality (AHRQ)
  – Toll Free: (800) 358-9295
  – [https://www.ahrq.gov/](https://www.ahrq.gov/)
Application Time
Case Study

• CK is a 78 year-old female with mild dementia

• PMH:
  – Alzheimer’s disease (MMSE=22)
  – Arthritis (hands)
  – Depression
  – Generalized anxiety disorder
  – Hypertension
  – Insomnia
  – Seasonal Allergies

• Social history:
  – Widowed, lives with daughter and son-in-law and tries to lead a fairly active lifestyle
Case Study

• Medications
  – Ambien 5 mg PO at bedtime
  – Aricept 10 mg PO at bedtime
  – Benadryl 25 mg PO PRN allergies
  – Catapres 0.1 mg PO twice daily
  – Celexa 40 mg PO daily
  – Motrin 400 mg PO two to three times daily PRN pain
  – Xanax 0.25 mg PO three times daily PRN anxiety
  – Zyrtec-D PO once daily PRN seasonal allergies
Case Study

• Does CK meet the criteria for polypharmacy?

• Which medications are potentially inappropriate?

• Which medication is prescribed above the maximum recommended dose for elderly patients?
Summary

• Elderly patients take many medications and changes associated with aging may increase one’s chance of developing adverse effects.

• The Beers Criteria consists of explicit recommendations for inappropriate medications that contribute to suboptimal drug use.

• Multiple deprescribing tools exist to identify PIMs and assist pharmacists in providing recommendations for care of the elderly population.

• Star Ratings are driving improvements in Medicare quality and CMS publishes Part C and D Star Ratings each year.