Polypharmacy in Skilled Nursing Environments: Barriers to De-Prescribing

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Learning Objectives/Goals

1. Recognize potentially inappropriate medications based on the Beers and STOPP lists
2. Consider patient prognosis and time to benefit as well as time to harm when prescribing or deprescribing
3. Understand the role of the consultant pharmacist in the skilled nursing facility setting and how to work together to reduce polypharmacy
4. Implement a systematic plan to review medication lists and deprescribe unnecessary medications
Introduction

- Adverse Drug Reactions (ADR) are the 4th leading cause of death in the United States
  - Over 2,000,000 per year
  - **100,000 Deaths**

- Nursing home ADR
  - 350,000 per year
  - Pending CMS legislation on medication related adverse events in the elderly
“Is there a pill I can take to feel better about all the pills I take?”
Barriers

• I don’t know this patient
• I’m not the PCP
• The specialist started this medication
• The family wants it
• Insurance covers it, so why not?
• They have been taking it for 35 years
• But the symptom is still there
• The guidelines say this patient should be on this medication
Deprescribing Question

• 79 y/o patient, new admission to the NH, recent fall at home with pelvic fracture. Has Alzheimer’s dementia, HTN, and BPH.

• Which drug would you prioritize to “deprescribe” first?
  
  • A. Temazepam 15 mg qhs for sleep
  • B. Quetiapine 50 mg BID for agitation
  • C. Diphenhydramine 25 mg QAM for allergic rhinitis
  • D. Tamsulosin 0.4 mg QD for BPH
Rational De-Prescribing

Use evidence-based criteria (e.g. BEERS*, STOPP**, START***) to evaluate for potentially adverse drug events among elderly patients receiving multiple medications.

*American Geriatrics Society Beers Criteria

**Screening Tool of Older Persons’ Potentially inappropriate prescriptions

***Screening Tool to Alert doctors to Right Treatment
De-Prescribing

- In certain patient populations, does not worsen outcomes
- Decreases risk of adverse drug reactions
- Reduces cost
- Makes patients happy!

Side effects may include death!
De-Prescribing Steps

Step 1: Recognize an indication for discontinuing

Step 2: Identify and prioritize the medications targeted for discontinuation

Step 3: Discontinue, communicate with patient and other providers

Step 4: Monitor for effects

Bain et al. JAGS 56:1946-1952
Indication

• Is the original indication still present?
• Is the drug still appropriate given age, decline in renal function, comorbidities?
• Not all indications in elderly patients need treatment

The Cure

Take two and call me in the morning:

Loo Mein
Consultant Pharmacist Role

• Identify medication-related problems that can cause, aggravate, or contribute to common geriatric problems
• Understand the role of the caregiver, the financial challenges that seniors can face, and the importance of choosing appropriate care
• Regulatory guidance and survey support for facilities
• Advocate healthy living and disease prevention for seniors
Renal and Hepatic Adjustments

- Inappropriate dosing may result in toxicity
  - Geriatric patients are at a higher risk of adverse effects from inappropriate or lack of adjustment
- Recommendations have been developed to assist in adjustments
  - KDOQI guidelines*
  - Renal Failure: Dosing Guidelines for Adults
  - Hepatic Failure: Childs-Pugh Score

*Kidney Disease Outcomes Quality Initiative
Beers Criteria

STOPP

- Proton Pump Inhibitors
- Aspirin without vascular dx
- Benzodiazepines, neuroleptics or opiates in patients with h/o fall
- Anticholinergics
- NSAIDs
- Muscle relaxants
- Estrogens, Androgens
- Sliding scale insulin
Mr B fell at home and was hospitalized to monitor a small subdural hematoma. On the second day of his hospitalization he is difficult to arouse and hypotensive. His home med list provided on admission by his daughter is: Temazepam 30mg qhs, Clonidine 0.2 mg BID, and Amlodipine 10mg daily.

What is the most likely cause of his current symptoms?

A. Hypoactive delirium
B. Expanding hematoma
C. Medication adverse effects
D. Pneumonia
Bedside References

• AGS iGeriatrics
• Geriatrics at Your Fingertips

• Beers Criteria: J Am Geriatr Soc 2012;60:616-631
The Prescribing Cascade

- Diabetic with gastroparesis
  - Rx Metoclopramide

- Parkinsonism
  - Rx Carbidopa/levodopa

- Hallucinations
  - Rx antipsychotic
Adverse reaction
Top 3 Drugs Causing Adverse Reactions

- Warfarin
- Insulin
- Digoxin
Minimize Adverse Reactions

**Medical error:** Failure of a planned action to be completed as planned, or the use of a wrong plan to achieve an aim.

**Adverse event:** Injury that was caused by medical management and that resulted in measurable disability.
Antibiotic Treatment Duration

• Antibiotic Stewardship
  • Streamline antibiotics and add stop dates
    • Decreases adverse effects
    • Decreases resistance
    • Decreases risk of C-difficile
    • Decreases pharmacy cost

• Identify patients who do not need antibiotics
  • Viral vs. Bacterial
Start and Stop Dates

• Start Dates are just as important as stop dates
  • Documentation allows for proper de-escalation

• Example: Plavix duration after ACS
  • Need for treatment to occur after 12 months?
    • De-escalation to aspirin
Other Ways to Minimize ADRs

- Avoid inappropriate meds
- Use appropriate drugs for appropriate indications
- Monitor for side effects, drug levels
- Keep creatinine clearance in mind
- Avoid drug-drug interactions
- Incorporate patient values
AVoid INapPROpriATE MediCAtions
Sedative and Hypnotics

• Group of medications that are used to induce sleep or treat insomnia

• Medications classes to consider:
  – Barbiturates
  – Benzodiazepines
  – Non-Benzodiazepines
  – Antihistamines
  – Tricyclic Antidepressants
  – Antipsychotics
Sedative and Hypnotics

• Use of these medications increases the risk of falls, development of delirium, and confusion

• Beers Criteria recommends against the use of barbiturates, antihistamines, tricyclic antidepressants, and benzodiazepines for management of insomnia or agitation
Benzodiazepines and Z-Drugs

• Benzodiazepines are commonly used in long term care residents to manage symptoms of anxiety
  – This category of medications should only be used in residents with severe anxiety disorders.
  – Those prescribed this medication for other reasons should have the medication tapered off slowly

• Beers’ Criteria recommends against chronic use of Z-Drugs* (>90 days) for management of insomnia to prevent dependence

*Z-drugs – Ambien (zolpidem), Lunesta (eszopiclone), Sonata (zaleplon)
Discontinuation of Sedative and Hypnotics

• These medications should be tapered slowly to decrease rebound symptoms of insomnia or agitation
• Residents should be instructed on good sleep hygiene practices to follow during tapering of medications
Good Sleep Hygiene

- Stick to a sleep schedule
  - Go to sleep and wake up at the same time every day

- Watch what you eat and drink
  - Avoid sleeping when hungry or stuffed
  - Cautiously use nicotine, caffeine and alcoholic products as their effects may take hours to wear off.

- Create a comfortable room for sleeping
  - A room that is dark, quiet, and cold is best

- Bedtime ritual
  - Avoid TV or electronics before bed as some research suggests they interfere with sleep.

- Limit daytime naps
- Exercise daily
- Manage stress appropriately
Antipsychotics

• Large population of residents diagnosed with Alzheimer's or dementia-related disorders
  – Antipsychotics have not been approved to manage non-cognitive symptoms of dementia
  – Use in nursing home residents promotes sedation of these residents who exhibit disturbing behavior or resist care.

• Black box warning: Increased risk of death
Antipsychotics

• Typically tapered over 3-6 months or longer to discontinuation or lowest effective dose
  – Avoid withdrawal symptoms
  – Prevent rebound of target symptoms

• Few guidelines on tapering of specific medications are available
  – Best method is patient specific based on clinical judgment and close monitoring during discontinuation period
Non-Pharmacologic Management for Agitation

- Improve sleep quality by following good sleep hygiene practices.
- Reduce lights and noise while patients are resting to avoid anxiety and agitation.
- Separate the person from what seems to be upsetting him or her.
- Assess for the presence of pain, constipation or other physical problem.
- Review medications, especially new medications.
- Pet therapy, music therapy, or massage therapy for the resident might reduce agitation as well.
Psychoactive Committee

• Monthly inter-disciplinary staff meeting
• Participants:
  • Medical Director
  • Consultant Pharmacist
  • Director of Nursing
  • Administrator
  • Social Worker
  • Activities Director
  • Dietary Manager
Psychoactive Committee

• Cases for review: All residents with recently reported behavioral issues, or on anti-psychotics, anxiolytics, hypnotics, anti-depressants, mood stabilizers, drugs for dementia, others(e.g. chronic analgesics, muscle relaxants, other medical, opioids, etc.)

• **Key question:** Describe the behaviors, circumstances, non-pharmacologic interventions tried.
Goals of monthly review

- Reassess:
  - Behaviors
  - Interventions
  - Medications
  - Changes
  - Dosing
- Aim is medication reduction or cessation
Non-Pharmacologic strategies

- Environmental; e.g. Changing rooms, roommates; Adjusting meal times, table partners; Simplify, structured surroundings, lighting, noise, clutter, etc.
- Caregiver/Staff Education: e.g. nature of illness, unintentional behaviors
- Communication: Improve staff skills in dealing with dementia patients
- Music e.g. Music and Memory Program (iPod)
- Activities; Tasks tailored to individual: computers, animals (real or stuffed), dolls, visitors, exercise, aromatherapy.
RESULTS

• Since January of 2015, the Interdisciplinary team (tracked through the Consultant Pharmacist recommendations) has made 183 interventions related to psychoactive medications. 89 have lead to positive outcomes like dose reductions, discontinuation of medication etc. Negative responses include failed reduction attempts and denied attempts for clinical reasoning (schizophrenia, etc).

• 49% success rate.
Proton Pump Inhibitors (PPI)

• Long term use of PPI’s increases the risk of certain disorders, including:
  – Osteoporosis/Fractures
  – B-12 deficiency
  – Pneumonia
  – *C. difficile* infection

• Recommended duration of therapy is a maximum of 12 weeks.

• Alternative agents include H2 receptor antagonists.
Proton Pump Inhibitors (PPI)

• Reasons for PPI use:
  – Patients on NSAIDs with a history of ulcers
  – Failure to suppress symptoms with H2RA

• How to reduce PPI use:
  – Recommend maximum therapy of 12 weeks
  – Substitute for H2RA when possible
PPI Weaning

• Medication should be discontinued slowly over 2-4 weeks
  – Prevents rebound gastric symptoms

• Use of alternate short acting medications to suppress rebound symptoms
  – H2 Receptor Antagonists
  – Antacids
Non-Pharmacological Options

• Identify factors that alter acid control
  – Foods
    • Timing, meal size, spicy, fatty, etc.
  – Medications
    • NSAIDS, sulfonylureas, bisphosphonates, etc.

• Gravity
  – Do not lay down after eating
  – Raise the head of the bed

• Weight reduction
Other Medications to Consider

Antidepressants
Opioids
Skeletal Muscle Relaxants
Benefits of De-escalation

• Reduces risk of complications
  • Falls
  • Delirium
  • Osteoporosis
• Improve quality of life
• Potential to increase life expectancy
• Decreased drug-drug interactions
Factors that can contribute to over prescribing

- A lack of awareness of alternatives to pharmaceutical care
- Practitioners feeling obligated to follow guidelines for care
  - Guidelines recommend 2 agents for a patient with an A1C of 7.6%-9%
    - If this patient makes lifestyle modifications, they may be stabilized on one medication
    - If the patient is geriatric, then higher glucose goals are recommended and one agent may suffice
# ADA/AGS 2012 Consensus Report on Diabetes in Older Adults: Considerations for Glycemia, BP, and Dyslipidemia

<table>
<thead>
<tr>
<th>Health status/patient profile</th>
<th>Rationale for recommendations</th>
<th>A1C goal*</th>
<th>FPG or PPG (mg/dL)</th>
<th>Bedtime glucose (mg/dL)</th>
<th>BP (mm Hg)</th>
<th>Lipids</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthy</td>
<td>Few coexisting chronic illnesses; cognitive, functional status intact</td>
<td>Remaining life expectancy: longer</td>
<td>&lt;7.5%</td>
<td>90-130</td>
<td>90-150</td>
<td>&lt;140/80</td>
</tr>
<tr>
<td>Complex/intermediate</td>
<td>Multiple coexisting chronic illnesses* or 2+ instrumental ADL impairments or mild-to-moderate cognitive impairment</td>
<td>Remaining life expectancy: intermediate; high treatment burden; vulnerable to hypoglycemia and falls</td>
<td>&lt;8.0%</td>
<td>90-150</td>
<td>100-180</td>
<td>&lt;140/80</td>
</tr>
<tr>
<td>Very complex/poor health</td>
<td>LTC or end-stage chronic illnesses* or moderate-to-severe cognitive impairment or 2+ ADL dependencies</td>
<td>Remaining life expectancy: limited; benefit uncertain</td>
<td>&lt;8.5%$</td>
<td>100-180</td>
<td>110-200</td>
<td>&lt;150/90</td>
</tr>
</tbody>
</table>

*Lower goal may be set if individual can achieve goal without recurrent or severe hypoglycemia or additional treatment burden; \*\geq3 chronic illnesses; \*Presence of this type of disease, such as stage III-IV CHF or oxygen-dependent lung disease, chronic kidney disease requiring dialysis, or uncontrolled metastatic cancer may cause significant symptoms, impairment of functional status and may reduce life expectancy significantly; \$Equates to est avg glucose \(\sim200\) mg/dL; looser targets may expose patients to additional risks

ADA=American Diabetes Association; ADL=activities of daily living; AGS=American Geriatrics Society; BP=blood pressure; CHF=congestive heart failure; FPG=fasting plasma glucose; LTC=long-term care; PPG=preprandial plasma glucose

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Disease-Based Guideline Management

• Use guidelines as a reference to begin therapy, but stay mindful of duration

• Discuss current options with the resident and allow their beliefs/opinion to shape therapy
  – Many prefer lifestyle modifications compared to taking another pill

• Set appropriate dates to follow-up with the resident to determine if the medication is still necessary.
  – Is the original indication still present?
  – Is the drug still appropriate given aging, decline in renal function, comorbidities, etc?
Interpret the Evidence

• Assess applicability and quality
• Most trials do not include > 75 y/o or patients with multiple conditions
• Extrapolating evidence to older adults could be harmful
• Consider time horizon to benefit in number needed to treat (NNT)
Prognosis

• Consider remaining life expectancy, quality of life, and functional status
• Is the patient likely to live long enough to benefit?
• Particularly important in long-term care population

Eprognosis.org
Clinical feasibility

• Consider treatment complexity and feasibility
• ↑ Complexity
  • ↑ risk of non-adherence
  • ↑ adverse reactions
  • ↓ quality of life
  • ↑ economic burden
  • ↑ strain on caregiver

AGS Patient-Centered Care for Older Adults with Multiple Chronic Conditions 2012
Patient Preferences

• Patients not comfortable with treatment plan are much more likely to be non-adherent
• One therapy may worsen another condition
• Medications often confer long-term benefits at the risk of short-term harm
Transitions of Care

• 20% of Medicare patients are readmitted within 30 days due to medication errors that occur during transitions of care
• Pharmacist review of medications at all transitions of care
  • Role in reducing and adjusting patient medications
• Studies have shown promising results of medication reconciliation and patient education upon discharge
  • 39% reduction in 30 day readmission rates
  • 59% reduction in 90 day readmission rates
Optimizing Therapies and Care Plans

• Prioritize!
  • Optimize benefit
  • Minimize harm
  • Enhance quality of life
• Stop inappropriate medications
• Use non-pharmacologic interventions when possible
Long term risks of medications: Do drugs cause dementia?

• Anticholinergics:
  • Patients taking oxybutynin, amitriptyline, olanzapine, meclizine or similar anticholinergic burden for 3 yrs had 1.5 times risk of developing dementia in next 10 yrs
    • JAMA Intern Med 1/26/15

• Benzodiazepines:
  • Benzo use for >3 mo increased risk of dementia, longer use and use of meds with longer half life increased risk 84%
    • BMJ 9/9/2014
Pending CMS Legislation on Medication-Related Adverse Events in the Elderly

• The CMS collaborated with the Agency for Healthcare Research & Quality (AHRQ) and the Office of the Inspector General (OIG) to develop a tool which includes potentially preventable medication-related adverse events, risk factors, triggers, and probes to assist surveyors in investigating actual and potential adverse events and evaluate whether systems are in place to prevent medication-related adverse events

• The trigger tool is one of several tools in use for the pilot focused survey
Pending CMS Legislation on Medication Related Adverse Events in the Elderly

• The CMS is releasing the draft Adverse Drug Event Trigger Tool to assist surveyors as they investigate medication related adverse events and to assess whether facilities have implemented effective systems to prevent adverse drug events.

• Use of this draft tool is not mandatory but may aid surveyors in assessing compliance around medication issues during standard and complaint surveys.

• Nursing home providers may also find it useful as a risk management tool.

• The draft trigger tool is available on the CMS Nursing Home Quality Assurance and Performance Improvement (QAPI) website: http://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/QAPI/NHQAPI.html
De-Prescribing Steps

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2. Identify and prioritize the medications targeted for discontinuation
3. Discontinue, communicate with patient and other providers
4. Monitor for effects

Bain et al. JAGS 56:1946-1952
Summary

• Avoid inappropriate meds
• Use appropriate drugs for appropriate indications
• Monitor for side effects, drug levels
• Keep creatinine clearance in mind
• Avoid drug-drug interactions
• Incorporate patient values
References

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