The National Palliative Care Summit

Polypharmacy: Too Much of a Good Thing

Terri L. Maxwell PhD, APRN
VP, MedRxperts

Jillian Baer, PharmD, BCPS
Manager, Client Education

Hospice Pharmacia, a division of excellerx, an Omnicare company
Learning Objectives

• Describe problem of polypharmacy in hospice and palliative care

• Identify factors that contribute to polypharmacy

• Identify barriers to discontinuing medications

• Recognize clinical situations in which medications could be discontinued at the end of life

• Discuss a process for appropriate medication discontinuation

• Describe a QAPI project aimed at reduction of polypharmacy in hospice care
Polypharmacy

• Use of multiple drugs and/or the administration of more medications than clinically indicated

  – Consider OTC medications and herbs / complementary remedies
Pop Quiz !!!

• Polypharmacy includes considering content of OTC products (i.e. acetaminophen) that must be added to that of prescription analgesics to avoid toxicity

  – A. True
  – B. False
Prevalence

- Direct relationship exists between age of the patient & number of daily prescriptions
Facts & Figures

• 20% of community-dwelling palliative care patients & 50% of hospice inpatients were found to have received at least one pair of interacting drugs that could have caused clinically significant interactions.
Fill in the Blank!

- At least ________ of older adults take at least one prescription daily - most take two or more daily prescriptions
  - A. 30%
  - B. 50%
  - C. 75%
  - D. 90%
81% of hospice patients are elderly (> 65 yrs old)

Overall, 15% of the population is elderly but they receive 40% of ALL prescribed medications
Elderly use more drugs because they commonly suffer from multiple disease states

- Cardiovascular disease
- Arthritis
- Gastrointestinal disorders
- Bladder dysfunction, etc
Polypharmacy QAPI Project
Data Collection

Average Number of Scripts per Diagnosis Category
N= 200 patients

Diagnosis Categories

Number of Scripts

Lung: 23
Heart: 17
Debility: 17
HIV/AIDS: 17
Cancer: 17
Kidney: 15
Dementia: 14
Other: 14
Stroke or Coma: 12
Liver: 12
Non-ALS Motor Neuron: 9

Polypharmacy QAPI Project
Data Collection
N= 200 patients
Polypharmacy Risks

• More Adverse Drug Reactions (ADR)
  – Between 25 - 50% of adverse drug reactions in older adults may be preventable

• Decreased adherence to drug regimen
  – Number of medications prescribed is the strongest predictor of non-adherence

• Worse patient outcomes
  – Poor quality of life
  – Unnecessary medication expenses
Risk Factors for Adverse Drug Reactions

- Advanced age
- Female
- Hepatic or Renal Insufficiency
- Lower body weight
- History of prior adverse drug reaction
- Polypharmacy
Adverse Drug Reactions

- The most consistent risk factor for ADR’s is the number (##) of drugs taken
  - Risk rises exponentially as the number of drugs taken increases
  - The risk of an adverse medication interaction is greater than 80% when more than 7 medications are taken regularly
Case

• DM is a 92 yo male admitted to hospice on 4/2010 with Debility. He is currently residing in a LTC facility. He has no disclosed secondary diagnoses and NKDA.

• The hospice nurse calls the pharmacy to profile the patient’s medications
  – **Currently he is taking 24 medications**
Case

- Is DM at risk for ADRs associated with polypharmacy?
  - A. Yes
  - B. No
  - C. Maybe
Case

- What potential risk factors does DM possess that can contribute to ADRs?
  - A. Advanced age
  - B. Renal/liver insufficiency
  - C. Polypharmacy
  - D. A & C only
  - E. A, B & C
High Risk Drugs

• Drugs most frequently associated with adverse reactions in the elderly:
  – psychotropic drugs (e.g. benzodiazepines)
  – anti-hypertensive agents
  – diuretics
  – digoxin
  – NSAIDS
  – corticosteroids
  – warfarin
  – theophylline
Contributing Factors in Hospice and Palliative Care

- Multiple prescribers
- Lack of indication for prescribed drugs
- Multiple co-morbidities
- Need for additional medications to manage symptoms
- Lack of recognition of ADRs (using more drugs to treat drug-related problems)
Support for Discontinuation

• Medication regimens should be re-evaluated when goals of care change

• Most medications can be discontinued in a substantial proportion of patients late in life without generating any harm

• Even when adverse drug withdrawal events occurred, these events were easily mitigated by recommencing the medication

• Discontinuing certain medications has benefits such as reducing the risk of falling and improving cognitive function
Barriers to Discontinuation

• Physiological dependence
• Psychological attachment to a medication
• Perception of abandonment
• Clinician fear of damaging the patient relationship
• Related vs. not related- whose responsibility is it to D/C certain drugs?
When Should We Discontinue Medications at the EOL?

• Medications…
  – prescribed with no indication
  – performing duplicate therapy
  – with diminished benefit OR no longer meeting goals of care
  – with ADRs or those that contribute to side effects
Process for Discontinuation

1. **Recognize** indication for discontinuation

2. **Identify** and prioritize the medication(s) to be targeted for discontinuation

3. **Plan**, communicate and coordinate medication discontinuation with pt/caregivers/and health care providers

4. **Monitor** the patient for beneficial and harmful effects
Weaning

Be prudent when weaning with certain medications:

- Neuroleptics
- Anticonvulsants
- Benzodiazepines
- Antihypertensives
- Opioids
- Antidepressants

Close follow-up and assessment is essential when weaning these agents!
Medication Reconciliation

- Medication Reconciliation - an effort to reduce the number of medication errors which occur world-wide every day
The Med Rec Mandate

• JC: National Patient Safety goals: #8

• “Accurately and completely reconcile medications across the continuum of care”
Bottom Line:

- Review and document a complete and current medication list
  - Communicate to the next provider of service upon referral or transfer within or outside the organization
Medication Reconciliation: Best Practices

• Medication allergies/co-morbid disease states?
• List of current medications
  – All prescriptions, over-the-counter medications, and herbals
  – What is the dosage taken? What formulation?
  – How frequently do you take this medication?
  – How long have you been taking this medication?
  – What is the purpose of the medication?
  – What monitoring is required for each medication?

NOTE: Use probing questions
Medication Reconciliation: Best Practices

• What are the side effects of these medications?
• Are there any special instructions for taking each medication, i.e., special foods or times or activities which might effect the benefits of the medication? Special dosage forms besides oral- i.e. inhalers, topical, etc?
• With each new medication added, should you continue to take your previous medications?
• Are there other medication names that sound just like or look just like this one?
Case

- DM is a 92 yo male admitted to hospice on 4/2010 with Debility. He is currently residing in a LTC facility. He has no disclosed secondary diagnoses and NKDA.

- The hospice nurse calls the pharmacy to profile the patient’s medications
  - Currently he is taking 24 medications
### Case: Medication Profile

**Vit. B12 IM every month** *(anemia)*

**Iron 325mg QD** *(anemia)*

**Warfarin 1mg QD** *(A. Fib)*

**Zymar ® 0.3% 1gtt every M & Th** *(conjunctivitis)*

**Proscar ® 5mg QD** *(BPH)*

**Flomax ® 0.4mg QHS** *(BPH)*

**Dulcolax ® 10mg 1PR QD prn** *(constipation)*

**Docusate 100mg BID** *(constipation)*

**MOM 30mL QD prn** *(constipation)*

**Guiatuss 10mL Q4H prn**

**Cymbalta ® 20mg QD** *(depression)*

**Remeron ® 7.5mg QHS** *(depression)*

**Puralube ® eye oint prn** *(dry eyes)*

**Refresh ® liquigel TID** *(dry eyes)*

**Alamag Plus 30mL Q6H prn** *(dyspepsia)*

**Omeprazole 20mg QD**

**Albuterol via neb TID prn**

**Gemfibrozil 600mg BID** *(hypercholesterolemia)*

**Atenolol 50mg QD** *(HTN)*

**Trazodone 25mg QHS** *(insomnia)*

**Antivert ® 25mg BID prn**

**Vicodin HP ® Q4H (6a-10p)** & **Q4H prn** *(pain)*

**Benadryl ® 25mg QHS & Q8H prn**

**Cranberry tab BID** *(UTI)*
Case

1. **Recognize** indication for discontinuation
2. **Identify** and prioritize the medication(s) to be targeted for discontinuation

- What medications should be considered for D/C due to lack of established indication?
Case: Medication Profile

- Vit. B12 IM every month (anemia)
- Iron 325mg QD (anemia)
- Warfarin 1mg QD (A. Fib)
- Zymar® 0.3% 1gtt every M & Th (conjunctivitis)
- Proscar® 5mg QD (BPH)
- Flomax® 0.4mg QHS (BPH)
- Dulcolax® 10mg 1PR QD prn (constipation)
- Docusate 100mg BID (constipation)
- MOM 30mL QD prn (constipation)
- Guiatuss 10mL Q4H prn
- Cymbalta® 20mg QD (depression)
- Remeron® 7.5mg QHS (depression)

- Puralube® eye oint prn (dry eyes)
- Refresh® liquigel TID (dry eyes)
- Alamag Plus 30mL Q6H prn (dyspepsia)
- Omeprazole 20mg QD
- Albuterol via neb TID prn
- Gemfibrozil 600mg BID (hypercholesterolemia)
- Atenolol 50mg QD (HTN)
- Trazodone 25mg QHS (insomnia)
- Antivert® 25mg BID prn
- Vicodin HP® Q4H (6a-10p) & Q4H prn (pain)
- Benadryl® 25mg QHS & Q8H prn
- Cranberry tab BID (UTI)
Case

1. **Recognize** indication for discontinuation

2. **Identify** and prioritize the medication(s) to be targeted for discontinuation

• What medications should be considered for D/C due to *duplicate therapy*?
Case: Medication Profile

- Vit. B12 IM every month (anemia)
- Iron 325mg QD (anemia)
- Warfarin 1mg QD (A. Fib)
- Zymar ® 0.3% 1gtt every M & Th (conjunctivitis)
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- Dulcolax ® 10mg 1PR QD prn (constipation)
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- Remeron ® 7.5mg QHS (depression)
- Puralube ® eye oint prn (dry eyes)
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- Omeprazole 20mg QD
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Case

1. **Recognize** indication for discontinuation
2. **Identify** and prioritize the medication(s) to be targeted for discontinuation

- What medications should be considered for D/C due to *medications with diminished benefit OR those not meeting goals of care*?
  - Limited prognosis
  - Medications not effective for condition
  - Treatment target no longer concordant with goals of care
## Case: Medication Profile

<table>
<thead>
<tr>
<th>Medication</th>
<th>Dose</th>
<th>Frequency</th>
<th>Indication</th>
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</thead>
<tbody>
<tr>
<td>Vit. B12 IM</td>
<td>every month</td>
<td>(anemia)</td>
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<tr>
<td>Iron 325mg</td>
<td>QD</td>
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<td></td>
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<td>(conjunctivitis)</td>
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Case

1. **Recognize** indication for discontinuation
2. **Identify** and prioritize the medication(s) to be targeted for discontinuation

- What medications should be considered for D/C due to *potentially significant or active ADRs/side effects*?
Case: Medication Profile

- Vit. B12 IM every month (anemia)
- Iron 325mg QD (anemia)
- Warfarin 1mg QD (A. Fib)
- Zymar® 0.3% 1gtt every M & Th (conjunctivitis)
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Case - Wrap-up

3. Plan, communicate and coordinate medication discontinuation with pt/caregivers/and health care providers

4. Monitor the patient for beneficial and harmful effects
QAPI Project - Next Steps

• Identify patients at risk for polypharmacy
  – COPD patients
  – Dementia patients

• Perform chart review on subset of patients
  – What is the patient using and what do they need?
  – What can be discontinued based upon declining functional status and changing goals of care?

• Identify drugs that can be potentially discontinued
  – Educational initiative that questions use in hospice patients
  – Indication
  – Risks associated with use
CARE: Avoiding Polypharmacy

- **Caution and Compliance**
  - Understand side effect profiles
  - Identify risk factors for an ADR
  - Consider a risk to benefit ratio
  - Keep dosing simple- QD or BID
  - Ask about compliance!

https: fammed.washington.edu/network/sfm/Bagful%20of%20Pills.ppt
CARE: Avoiding Polypharmacy

• **Adjust the Dose**
  – Start low and go slow- titrate!
  – Unique pharmacokinetics in elderly
  – Altered:
    Absorption
    Distribution
    Metabolism
    Excretion

https://fammed.washington.edu/network/sfm/Bagful%20of%20Pills.ppt
CARE: Avoiding Polypharmacy

• Review Regimen Regularly
  – Avoid automatic refills
  – Look for other sources of medications- OTC
  – Caution with multiple providers
  – Don’t use medications to treat side effects of other meds
  – What can you discontinue or substitute for safer med?

https://fammed.washington.edu/network/sfm/Bagful%20of%20Pills.ppt
**CARE**: Avoiding Polypharmacy

- **Educate**
  - Talk to your patient about potential ADRs
  - Warn them for potential side effects
  - Educate the family and caregiver
  - Ask pharmacist for help identifying interactions

https://fammed.washington.edu/network/sfm/Bagful%20of%20Pills.ppt
Case

- Hospice nurse calls back, 5 days later, to profile additional medications:
  - Levaquin® 500mg QD for lower respiratory infection
  - Aricept® 5mg QHS for dementia

- Upon further discussion, the nurse notes that the patient has been experiencing severe diarrhea and is generally feeling very poor
Case

• Should DMs profile be re-evaluated considering the addition of these medications?
  – A. Yes
  – B. No
  – C. Absolutely!
Case

• What should be considered for D/C at this point and why?

  – A. Warfarin, if not already discontinued - diminished benefit, lack of required monitoring, DI with Levaquin®

  – B. Levaquin® – Inc. risk for serious ADRs and DI with warfarin; Dose too high

  – C. Aricept® – not indicated for Debility; potentially causing diarrhea; not inline w/ goals of care

  – D. None of the above

  – E. All of the above
Closing thoughts…
Thank You for Participating!
References


References


• Laird, RD. Polypharmacy in the elderly. [http://coa.kumc.edu/GEC/password/PowerPointPresentations/Polyphar.pp](http://coa.kumc.edu/GEC/password/PowerPointPresentations/Polyphar.pp)


