

Medication Management for Seniors



Dennee Frey, PharmD



Objectives

1. Describe key medication considerations for the elderly, including normal age-related changes, pathologic processes of aging, and pharmacokinetics
2. Understand current gaps between “what is” and “what could be” in medication management for the elderly
3. Discuss some of the changes in medication practice and innovations of care



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“Your condition has no symptoms or health risks, but there is a great new pill for it.”



Value of Medications



- Prescription drugs are the mainstay of treatment for chronic diseases in the senior population, and contribute to increased longevity and improved quality of life
- Our goal: The right medication, right dose, right time

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What do we know about medication errors?



- **They are serious:** 5th leading cause of death for older adults; 7,000 deaths per year due to adverse drug events ¹
- **They are frequent:** Studies estimate up to 48% among community-dwelling older adults
- **They are costly:** The cost of drug-related morbidity and mortality for seniors exceeds **\$120 billion** (includes hospital admissions and long-term care admissions) ²

1. Institute of Medicine. (1999) *To err is human: Building a safer health system*. Kohn, L., Corrigan, J., Donaldson, M. (Eds.) National Academy Press, Washington D.C.

2. Zhan C, Sangl J, Bierman AS et al. Potentially inappropriate medication use in the community-dwelling elderly: findings from the 1996 Medical Expenditure Panel Survey. *JAMA*. 2001; 286:2823-9.



Medications as cause



- 7000 deaths are attributed to medication errors (estimate does not include adverse events inherent to the medication and might be under estimated)
- Indications are that most medication-related problems are predictable, thus, in many cases, preventable
- Estimates that up to one-third of adverse drug events (ADEs) in the community setting are preventable (Gurwitz, 2003)
- Errors associated with preventable ADEs occur most often at the prescribing (58%) and monitoring (61%) stages of medication use process
- Errors involving patient adherence are common (21%) (Gurwitz, 2003)

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Adverse events likely in highest-risk patients



- Twenty percent of the Medicare population have
 - Five or more chronic conditions
 - See 14 different physicians in a year
 - Fill 50 prescriptions annually
 - Account for 2/3 of total Medicare spending

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Elderly patients are at high risk



- Demographics
 - Age
 - Co-morbidity
 - Medication use
- Recent changes in clinical conditions
- Recent transitions in levels of medical care
- Receiving health services in fragmented settings

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Putting it all together



- Adverse drug events are contributing to the death and hospitalization of a growing number of the community dwelling elderly
- Home care recipients are at especially high risk for experiencing such events
- A large portion of such events are preventable
- System changes are needed to realize improvements in medication use

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Make him take 16 of these a day until we
feel better about what we're doing to him!



Geriatric medication management overview

Which elders are at highest risk?

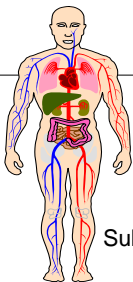
- Disabled
- Frail
- Cognitively impaired
- Depressed



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Factors influencing adverse drug reactions in the elderly



- Changes in physiology
- Polymedicine
- Suboptimal medication choices
- Ethnic variations

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Normal age-associated changes

- Slowed absorption
 - Delays drug action
- Altered distribution
 - Extended effect of fat-soluble medicines
- Changes in metabolism and elimination
 - Slowed elimination
 - Risk of drug accumulation



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Physiology

- Central nervous system
 - Enhanced effect of depressants
- Cardiovascular system
 - Risk of low BP, heart failure
- Endocrine system
 - Diabetic effects of drugs
 - Hypothyroidism
- Receptors
 - Adverse drug effects



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What Is polymedicine?



- Polymedicine is defined as the use of unnecessary medications, and is independent of the number of medications being taken

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Evidence of polymedicine



- Medications with no apparent indication
- Use of duplicate medications
- Use of interacting drugs
- Drugs contraindicated in concurrent conditions
- Inappropriate dosages
- Pharmacotherapy of adverse drug reactions

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Risks of polymedicine



- Hospitalization
 - 25% of admissions may be drug-related
- Decreased function
 - Physical and cognitive impairment
- Falls
 - These drugs are often associated with falls
 - Sleeping pills, "nerve" pills, alcohol



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Ethnic variations and cultural considerations



Ethnic variation places some groups at higher risk for adverse events such as falls and confusion with certain medications:

- Psychotropics
- Painkillers
 - Asian patients are rapid acetylators but suffer adverse reactions
- Alcohol (alcohol dehydrogenase absent in 50% of Asian patients)
- Culturally sensitive medication management programs are needed



Levy & Polatschek, *Healthcare & Aging*, Vol. 9(1); 2000
Kudama, *Prog Cardiovasc Nurs* 16(4): 152-160, 2001
www.npcnaw.org

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Abuse and misuse of drugs in elders



- Over-treatment with CNS depressants
 - Includes non-prescription medications
 - **Alcohol**, alone, or in combination with drugs
- Withholding pain medications
- Nonadherence to treatment regimens
 - Cardiovascular disorders
 - Diabetes mellitus

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Let's recap:



- Certain groups: Asians, women
- Normal aging: kidneys
- Some pathologies: heart, diabetes
- Some "bad" drugs:
 - Rx: benzos.
 - OTC: Benadryl; alcohol

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Case example using SBAR format



Dr. Gomez's patient, Mr. Smith, is a 76 year old male

- Vital signs WNR: pain 6-8, some relief with medications. Medications include: HTN meds, pain meds (Vicodin and Flexeril for back pain), Ambien for sleep, and Ativan PRN anxiety
- Significant event: 2 recent falls, no reported injury; PT notes some unsteadiness, ataxia
- We are concerned about . . .

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Case example (continued)



- CONCERN:
 - ✓ Polymedicine (pain meds)
 - ✓ Synergistic effects of meds (CNS meds)
 - ✓ Poorly controlled pain
- Adherence

BACKGROUND: Mental status: Alert, oriented, but some forgetfulness and confusion



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Case example, assessment and recommendations



- The problems seem to be:
 1. Insufficient pain control
 2. Drug-related effects, e.g., fall and excessive sedation (Vicodin, Flexeril, Ambien, Ativan)
- Recommendations:
 1. Re-evaluate on-going use of Flexeril and Ativan; check adherence to Vicodin
 2. Consider stronger analgesics (Percocet)
 3. Monitor adherence

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The Medication Management Intervention Program is funded in part by the Administration on Aging Evidence-based Prevention Initiative

Our Clients:

- Our targeted client base of home health clients and dually eligible Medicaid waiver clients is expected to be at highest risk for medication problems, due to multiple medical co-morbidities and frail condition
- Many of these elders do not know which drugs they are on or why . . .

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Medication management program: home health evidence-based origins



- **Home Health Study**
- Multiphase study to identify the prevalence of medication errors and improve medication management among Medicare beneficiaries receiving home health services
 - Developed by Vanderbilt University researchers and the Visiting Nurse Assoc-LA (now Partners) and Visiting Nurse Services, NYC
 - To test the efficacy of the Medication Management Model in home health agencies, the team undertook a randomized, controlled trial intervention to improve medication use
 - The Model used a pharmacist-centered intervention to identify and resolve medication errors

Funded by John A. Hartford Foundation, Inc. in mid-90s



Results of home health study



- Almost 17% had medication errors using the Beers criteria and 19% using Home Health criteria developed for the study; up to 30% using both
 - Medication use improved in 50% of intervention patients, compared to 38% of controls ($p=.05$)
 - Improvement was greatest for therapeutic duplication (71% vs 24%, $p=.003$) and cardiovascular problems (55% vs 18%, $p=.02$)
- **Conclusion:**
 - The trial demonstrated that medication errors can be identified and resolved, and prescribing practices can be improved in this population

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Based upon the evidence, what are the core features of an effective program?



- Guidelines established by an expert panel for resolving high-risk medication problems among clients receiving in-home services:
 - Unnecessary therapeutic duplication
 - Cardiovascular medication problems
 - Use of psychotropic drugs in patients with a reported recent fall and/or confusion
 - Use of non-steroidal anti-inflammatory drugs (NSAID) in patients at high risk of peptic ulcer complications
- A consultant pharmacist assisting the care management team in assessing and resolving potential medication problems
- Computerized medication risk assessment screening and alert process

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Medication problem prevalence



The more they take, the more serious the problem

- Clients with 9 or more medications have a **2x greater odds** of medication-related problems than those with fewer than 9 medications
- Higher the number of medications **positively related** to: ($p < .001$)
 - Any medication problem
 - Therapeutic duplication
 - Inappropriate psychotropic medication
 - Total number of medication problems



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Implementation phase



1. **Healthcare clinician conducts medication assessment and reconciliation**
 - Enters list of medications into computer database
2. **Potential medication problems identified**
 - A software program analyzes data using the intervention's computerized risk assessment screening algorithm
 - Alerts staff and pharmacist of potential problem; protocol implemented
 - Pharmacist reviews medication regimen and consults with staff to develop care plan



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Implementation phase



3. **Pharmacist or healthcare clinician contacts physician**
 - to present the problem
 - discuss the medication regimen
 - obtain follow-up orders
4. **Healthcare clinician assists the client with:**
 - medication changes, adherence issues
 - follow-up periodically
5. **Repeat procedure** if a change in medications is identified during follow-up contact



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Lessons learned that might help your facility or agency



Systems level

- Address practice standards (e.g., BP standard)
- Use a systematic approach to improving medication management
- If at all possible, use a computerized system to screen medications and alert for potential problems
- MD communication, e.g., faxed forms



Lessons learned that might help your facility or agency



Staff level

- Most staff agree: **Improving medication management is important**
- Challenges in medication management
 - “What’s my role?”
 - “Is that my scope of practice?” e.g., Rehab therapist’s role
- MD Communication

Patient level

- Consider under-treatment (e.g., depression and pain)
- Empower clients and care givers
- Cultural considerations
- Adherence assessment/tools

<http://www.ascp.com/education/meetings/2006/midyear/sessions.cfm>

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Putting it all together



- A growing number of clinical studies have demonstrated that well-designed interventions can improve outcomes
- Reviewing the medical literature and networking with other agencies will provide more ideas and will improve chances of success at individual agencies
- Each facility or agency must self-assess to identify priority areas and to effectively allocate resources

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And now you are thinking “What planet are you from?”



- We're a really small agency
- We have really limited resources
- We don't have time to add additional steps to our care processes
- We don't have the training to take part in complicated programs and analysis
- We know that medications are a huge problem, but we don't even know where to start
- We've tried working with other provider settings and practitioners, but they don't show much interest in working with us

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JCAHO 2005 National Patient Safety Goal #8: “Accurately and completely reconcile medications across the continuum of care.”



- 8a) Implement a process for obtaining and documenting a complete list of the patient's current medications upon the patient's admission to the organization and with the involvement of the patient. This process includes a comparison of the medications the organization provides to those on the list.
- 8b) A complete list of the patient's medications is communicated to the next provider of service when a patient is referred or transferred to another setting, service, practitioner or level of care within or outside the organization.

<http://www.jointcommission.org/SentinelEvents/>
<http://www.qualitycheck.org/>

**Sentinel Event
ALERT**

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100k Lives Campaign



The 100,000 Lives Campaign is an initiative to engage U.S. hospitals in a commitment to implement changes in care proven to improve patient care and prevent avoidable deaths. The Campaign is the first national effort to promote saving a specified number of lives by a certain date (June 14, 2006).

• Prevent Adverse Drug Events...
by implementing medication reconciliation

□ Assign Responsibility. If you haven't done so yet, now is the time for your board and executives to assign a specific, senior person to lead your Campaign work between now and June. Create a captaincy, and offer that leader the resources and visibility to drive the needed process changes in the affected clinical units.

<http://www.ihl.org/IHI/Programs/Campaign/Campaign.htm?TabId=4>



Other changes that may improve care transitions



- The National Quality Forum recently approved a care coordination voluntary consensus standard for hospitals
- 3-ITEM Care Transition Measure: patient perspectives on coordination of hospital discharge care
- Care Transitions site: <http://www.caretransitions.org/>

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3-Item Care Transition Measure



- The hospital staff took my preferences and those of my family or caregiver into account in deciding what my healthcare needs would be
- When I left the hospital, I had a good understanding of the things I was responsible for in managing my health
- When I left the hospital, I clearly understood the purpose for taking each of my medications

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What can you do by Tuesday without hurting a hair on a patient's head?



- Quick start
- Focused and manageable
- Start small: one staff, one team, one program

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Identify and contact local systems



- Educate yourself on national quality initiatives related to medications
- Contact individuals involved in key quality initiatives that are important to them
- Remind them of your important relationship
 - Can manage their high risk patients
 - Have access to data they need
 - TIFs/admissions
 - ROCs/Discharges
 - Can help them meet their quality goals (while you meet yours)
- Offer to contribute in some manner to their initiatives that relate to your patients and goals

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Increase pharmacist level of involvement



- Volunteer for UR/PAC committee
- College professor/students
- Hired consultant
- Local chain or independent pharmacy
- Affiliated or local health system
- Colleges of pharmacy

Accreditation Council for Pharmacy Education

<http://www.acpe-accredit.org/standards/default.asp>
<http://www.aacp.org>

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Target high-risk medication-related problems



- **Therapeutic duplication**
 - **Goal of therapy:** *discontinue duplicate drug*
 - "Low hanging fruit" with high yield
 - Can be effectively identified with a computerized risk assessment screening and alert program
- **Warfarin/ Coumadin**
- **Falls, confusion and dizziness linked with certain medication use, e.g., psychotropic drugs**
- **Non-adherence**



Screening and other computerized tools



- Despite challenges in computerizing medication risk assessment screening...it can work and can be a cost effective too across settings!!
- Staff can be alerted to potential problems and implement the intervention quickly
- Tie programming in with OASIS (for HH, or other measures)
- See www.homemedics.org for more information (home health section, toolkit, Eddy VNA and Home Care Plus experience in particular)
- QIO tools

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What do participants say?



"The pharmacist I spoke to was very helpful in sorting out my medications."



"I was on too many medications and didn't know what they were for. I don't have to worry about that any longer."

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Next steps



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Medication Management For Seniors WebEx

A Conference Call/WebEx Session Presented by
Stratis Health, with Dennee Frey, PharmD

Wednesday, August 30, 2:00 – 3:15 p.m.

Objectives

Participating in this session will enable attendees to:

- Describe key medication considerations for the elderly, including normal age-related changes, pathologic processes of aging, and pharmacokinetics
- Understand current gaps between “what is” and “what could be” in medication management for the elderly
- Discuss some of the changes in medication practice and innovations in care, including Part D Medicare, medication therapy management, and evidence-based practice

Faculty

Dennee Frey, PharmD

Dr. Frey, a PharmD and clinical expert on medication management, has over 20 years experience in home care and long-term care, including as a consultant pharmacist working directly with clinicians at the former Visiting Nurse Association of Los Angeles (VNA-LA). She has developed and implemented several national multi-site demonstration projects in geriatric, HIV/AIDS, and Hospice/Palliative home care; has served as Consultant Pharmacist/Project Director for VNA-LA and as Field Consultant for the JCAHO Home Health Program; and has presented at local, state, and national home care and pharmacy associations on a variety of topics. Dr. Frey is committed to improving medication management and advancing the practice of consultant pharmacists in home health and long-term care.

