MTM, Transitions of Care, & Polypharmacy

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Objectives

- Understanding the problems that occur when you move from hospital to long-term-care, Assisted living, Home, etc.
- Understand the role transitions of care can cause medication errors.
- Identify medications that can increase the potential of medication errors in transitions of care.
- Recognize the ways that healthcare contributes to polypharmacy in our geriatric population.
**Background**

- **Transition of Care**: coordination and continuity of health care during a movement from one location to another or transitioning to a different levels of care within the same location.

- **Examples of Care Transitions**
  - Skilled Nursing Facility → Assisted Living Facility
  - Hospital → Rehab Facility
  - Rehab Facility → Home
In the US, approximately 35 million patients are discharged from the hospital each year. Majority are discharged home. Discharge planning is mandatory for hospital accreditation.

Of hospitalized patients, ages 65 and older, 21 percent are discharged to a long-term care facility or other institution.

Approximately 25 percent of Medicare nursing home residents are readmitted to the hospital.

CMS penalizes hospitals for high readmission rates.

1 in 5 elderly patients is readmitted within 30 days after hospital discharge.
Adverse medication events (ADEs) are a large problem that leads to hospital readmissions. ADEs occur in 12-17% of patients after hospital discharge.


At least one medication discrepancy was discovered in 77.6% (n = 45/58) of SNF and 76.0% (n = 19/25) of LTC pharmacy medication lists. A total of 191 medication discrepancies were identified across all SNF and LTC pharmacy records.

CHECK OUT MY FLOOR PLAN FOR THE NEW HOSPITAL
Causes of Readmission

- Analysis of 1000 readmitted patients found 269 readmissions to be potentially preventable
- Of the medication-related risk factors that showed statistical significance:
  - Inadequate monitoring for ADEs or nonadherence
  - Patient/caregiver misunderstanding of discharge medications
  - Inadequate steps to ensure the patient can afford medications
  - Patient/caregiver unable to manage/monitor medications or drug level
  - Errors in discharge orders
  - Drug-drug or drug disease interactions
Pharmacists’ Various Roles in Transitional Care:

- Bedside counseling and comprehensive medication review prior to patient discharge while in an inpatient facility
- Medication Therapy Management (MTM) appointments post-discharge
- Medication Reconciliation while the patient is in a transitional/rehabilitation facility via consultant pharmacists
Improving Transitions of Care

- Expand the role of pharmacists in transitions of care. More team-based care in the future.
  
  Ex. CCM teams. AJHP Volume 75, Issue 10, 15 May 2018, Pages 598–601

- Improve communication between providers, patients, and caregivers

- Implement electronic medical records with standardized medication reconciliation features

- Establish accountability for sending and receiving care especially for hospitalists, skilled nursing facility physicians, and specialists

- Implement payment systems that provide incentives

- Develop performance standards that encourage improved transitions of care
Goals of Effective Care Transitions

- Preventing medical errors
- New or worsening condition
- Formulary differences
- Insurance Coverage
- OTC’s/Herbals Often missed
- Stop orders
- Patches
Goals of Effective Care Transitions

- KCl
- Unique Medication dosing
- High-risk High alert meds
- Identifying issues for early intervention
- Prevent unnecessary hospitalizations and readmissions
- Support your patient’s preferences and choices
- Avoid duplication of processes and efforts to more effectively utilize resources
Seven key elements for effective transitions of care per NTOCC

- Medications Management
- Transition Planning
- Patient and Family Engagement/ Education
- Information Transfer
- Follow-Up Care
- Healthcare Providers Engagement
- Shared Accountability across Providers and Organizations

http://www.ntocc.org
Positive Outcomes in Pharmacist-led Transitions
Positive Outcomes in Pharmacist led Transitions

- Medication Reconciliation
  - 67% reduction in Adverse Drug Event related hospital visits
  - 28% reduction in all-cause emergency department visits

Positive Outcomes in Pharmacist led Transitions

- Discharge Counseling
  - Increased overall patient satisfaction with their hospital care based on survey results
  - Increase in medication adherence

Positive Outcomes in Pharmacist led Transitions

- Reduction in Readmission Rates
  - 49% reduction in 30 day re-admission was seen in 2 studies with pharmacist lead transition of care programs that were insurer initiated

Among 830 patients referred to the TOC program, total health-care costs at 180 days after discharge were an average of $2,139 lower than costs in the control group, yielding estimated savings of nearly $1.8 million for the managed care plan.

Am J Health-Syst Pharm. 2018; 75:e273-81
Optimizing the TOC for patients with HF from the hospital to the community/home is crucial for improving outcomes and decreasing high rates of hospital readmissions, which are associated with increased morbidity, mortality, and costs.

Medication reconciliation, patient education, medication dosage titration and adjustment, patient monitoring, development of disease management pathways, promotion of medication adherence, and post-discharge follow-up.

Cohesive multidisciplinary team approaches can improve medication adherence and provide a trusted resource for patients’ questions

A community pharmacist–led intervention delivered to higher-risk patients showed a significant decrease in readmission rate to the same hospital compared with lower-risk patients hospitalized in the same unit but not receiving the intervention.

JAPhA January–February 2018, 58(1)36-43.

Community pharmacists have the ability to identify drug-related problems and make recommendations for patients moving from the inpatient to an outpatient setting. In addition, the data suggest that when given adequate time, pharmacists performing service responsibilities may identify more drug-related problems, resulting in additional recommendations.

JAPhA November–December 2018, 58(6)659-666.

Pharmacists can identify and resolve discrepancies when completing medication reconciliation after hospital discharge, but patient outcome or care workload improvements were not consistently seen.

Questions?
References


A week’s worth of medication for a 92-year old patient, before and after deprescribing.

Photo reprinted with permission from Dr. David Alldred
## Defining Polypharmacy

<table>
<thead>
<tr>
<th>Basic</th>
</tr>
</thead>
<tbody>
<tr>
<td>The simultaneous use of multiple drugs to treat a single patient for one or more conditions, prescribed by many separate physicians and perhaps filled at more than one pharmacy</td>
</tr>
<tr>
<td>DIFFERENT from polymedicine: multiple medications used to treat multiple diseases</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Numeric</th>
</tr>
</thead>
<tbody>
<tr>
<td>No consensus</td>
</tr>
<tr>
<td>Most common definition: 5 or more medications daily</td>
</tr>
<tr>
<td>Definitions range from 2 or more from 11 or more</td>
</tr>
</tbody>
</table>
Polypharmacy

Indicated and Beneficial Polypharmacy

Medication Overload
- "Never Necessary" Prescribing
- "Indicated but not Beneficial" Prescribing
- Unnecessary OTC and Supplemental Use
- "No Longer Necessary" Prescribing
Unnecessary Medications

- Multiple studies have shown older adults to be at risk of unnecessary medications due to lack of indication, lack of efficacy, and therapeutic duplication. Having an increased number of medications (polypharmacy) tends to increase the number of unnecessary medications.

- Interventions to reduce unnecessary drug use include incorporating a pharmacist into a care team, pharmacist-led medication reviews, academic detailing, feedback reporting, and physician medication review.

- Polypharmacy- Consequences: Non-adherence, Unnecessary drugs, ADRs, Medication errors, Drug Interactions, Increased health care costs, Prescribing Cascade
Polypharmacy Contributing Factors

- Age: $\geq 65$ years ($\sim 53\%-67\%$ take more than 5 medications)
- $\geq 6$ comorbid chronic conditions
- OTC and supplement use
- Long Term Care
Medication Overload: America’s Other Drug Problem

How the drive to prescribe is harming older adults

April 2019

https://lowninstitute.org/projects/medication-overload-how-the-drive-to-prescribe-is-harming-older-americans/
Polypharmacy Contributing Factors

- Prescribing is kind
- Prescribing is a quick fix
- DTC Advertising
- Patients are “primed” for Prescriptions
- Guidelines focus on disease states- not as much about patients age, health, disease trajectory, or overall drug burden
- Industry influence- not as many places funding studies to stop medications
“Each capsule contains your medication, plus a treatment for each of its side effects.”
Polypharmacy Contributing Factors

- Lack of teamwork
- Care Transitions
- Poor EMR Design
- Prescribing Cascade
- Lack of awareness
- Lack of time and information
- Fear of causing harm or discomfort
Polypharmacy Dangers

- Accounts for nearly 30% of hospitalizations
- Fifth leading cause of death in US
- Falls and Fractures
- Unnecessary medications to treat side effects
- Complicated dosing and timing
  - Missed doses → uncontrolled disease, failed treatment
  - Accidental overdose → drug reactions
- Adverse Drug Events
  - Metabolic changes
  - Decreased clearance
- Prescribing Cascade: misinterpreted as a new medical condition
- Drug interaction
  - 50% chance when taking 5-9 medications
  - 100% chance when taking ≥20 medications
- Increase Health Care Costs
For every $1.00 spent on drugs for nursing home patients, $1.33 is spent on treating the problems these drugs cause. ($4 billion/year)

# Pharmacist Interventions

## Strategies
- MTM
- Medication Reconciliation
- Counseling
- Match medications with conditions and goals of therapy
- Carefully consider medications to discontinue or substitute
- Assess therapy appropriateness
- Continuously assess efficacy

## Tools
- Drug Burden Index
  - Cumulative exposure of anticholinergic and sedative medications on physical and cognitive functions in geriatrics
- Beers Criteria
- The Screening Tool of Older Person's Prescriptions (STOPP)
- Screening Tool to Alert doctors to the Right Treatment (START)
- Fit FOR The Aged (FORTA)
- Algorithms
- Mnemonics
Medications Most Likely to Cause Harm

Three classes of drugs contribute to 60 percent of emergency room visits for adverse drug reactions among older adults.\textsuperscript{15}

- **Blood Thinners**
  Blood thinners such as aspirin or warfarin can cause severe bleeding, which can be life-threatening.

- **Diabetes Medications**
  Diabetes medications such as insulin or gliclazide can cause low blood sugar in older adults, increasing risk for falls, fractures, confusion, seizures, and hospitalization.

- **Opioids**
  Opioids prescribed to treat pain in older adults can be habit-forming and can lead to sedation, falls, cognitive impairment, and motor vehicle accidents.

Other classes of drugs have been shown to increase the potential for harmful side effects.

- **Sedative Hypnotics**
  Sedative hypnotics such as benzodiazepines (anti-anxiety medications) and many sleep medications, as well as antidepressants, increase the risk of falls, fracture, cognitive impairment, and other adverse effects.\textsuperscript{16, 19}

- **Over-the-Counter Drugs**
  Many commonly used over-the-counter drugs, including bladder medications and antihistamines have anticholinergic properties. These medications can cause hallucinations, confusion, tachycardia, dry eyes, and other adverse effects, which become more pronounced at higher doses and in combination with each other.\textsuperscript{20, 21}

- **Blood Pressure Medication**
  Blood pressure medications, especially when used at high doses or in combination, can lower blood pressure too much and lead to falls, cognitive impairment, and other adverse effects.\textsuperscript{16}

- **Antipsychotic Drugs**
  Antipsychotic drugs can lead to delirium, cognitive impairment, drug-induced movement disorders, and metabolic disturbances.\textsuperscript{17}
Medication Appropriateness Index

Questions:

1. Is there an indication for the medication?

2. Is the medication effective for the condition?

3. Is the dosage correct?

4. Are the directions correct?

5. Are the directions practical?

6. Are there clinically significant drug-drug interactions?

7. Are there clinically significant drug-disease/condition interactions?

8. Is there unnecessary duplication with other medications?

9. Is the duration of therapy acceptable?

10. Is this medication the least expensive alternative compared to others of equal utility?
POLYPHARMACY

YOU GET DRUGS

AND YOU GET DRUGS

EVERYBODY GETS DRUGS
## Disorders Precipitated or Exacerbated by Drugs

<table>
<thead>
<tr>
<th>Disorder</th>
<th>Drugs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asthma</td>
<td>Beta Blockers (systemic, ocular)</td>
</tr>
<tr>
<td>CHF</td>
<td>NSAIDs, thiazolidinediones (glitazones)</td>
</tr>
<tr>
<td>Diabetes</td>
<td>Furosemide, Thiazides, Steroids</td>
</tr>
<tr>
<td>Essential Tremor</td>
<td>Beta Agonists, Lithium</td>
</tr>
<tr>
<td>Gout</td>
<td>Loop &amp; Thiazide Diuretics</td>
</tr>
<tr>
<td>Edema</td>
<td>amlodipine, gabapentin, NSAIDs</td>
</tr>
<tr>
<td>Dementia</td>
<td>Anticholinergics, Benzodiazepines</td>
</tr>
<tr>
<td>HTN</td>
<td>NSAIDS</td>
</tr>
<tr>
<td>Parkinsonism</td>
<td>Antipsychotics, metoclopramide</td>
</tr>
<tr>
<td>PUD</td>
<td>NSAIDs</td>
</tr>
<tr>
<td>PVD</td>
<td>Beta Blockers</td>
</tr>
<tr>
<td>Urinary Retention</td>
<td>Anticholinergics</td>
</tr>
</tbody>
</table>
### Common Manifestations of Adverse Drug Reactions in the Elderly That May Be Incorrectly Interpreted as Signs of Aging

- Confusion
- Depression
- Lack of appetite
- Weakness
- Lethargy
- Ataxia
- Forgetfulness
- Tremor
- Constipation
- Dizziness
- Diarrhea
- Urinary retention
Reducing polypharmacy

- Improve information at the point of care
- Foster communication and coordination of care
- Shared Decision making
- Empower patients and families
- Consider non-pharmacologic approaches
- Avoid prescribing prior to diagnosis
- Avoid starting 2 drugs at the same time
- Reach therapeutic dose before switching or adding drugs
- Routine prescription checkups
Reducing polypharmacy

- Determine therapeutic endpoints and plan for assessment
- Anticipate side effects
- Consider risk vs. benefit
- Avoid prescribing to treat side effects of another drug
- Use 1 medication to treat 2 conditions
- Consider drug-drug and drug-disease interactions
- Use simplest regimen possible
- Adjust doses for renal and hepatic impairment
- Avoid therapeutic duplication
- Use least expensive alternative


https://lowninstitute.org/projects/medication-overload-how-the-drive-to-prescribe-is-harming-older-americans/
Definition

- **Medication therapy management** (MTM) is medical care provided by pharmacists whose aim is to optimize drug **therapy** and improve **therapeutic** outcomes for patients.
Medication Management Program

- History
- Why it has been successful
- Challenges of the program
  - Finding and setting up sites
    - Seniors understanding of the program
    - COVID
What Pharmacists Look For!

- Drug-drug interactions
- Drug-condition interactions
- Appropriate doses
- Unnecessary therapy
- Missing drug therapy
- Compliance issues
- Proper monitoring of drug therapy
- Therapeutic duplication
- Potential cost savings when appropriate
- Vaccines that are due
So how do we set up a Medication Management visit for a senior?

1. Identify seniors or group of seniors at one location for the information session and one-on-one sessions

2. Contact Mark at Mark.Dewey@ndsu.edu or text/call 218-770-8588 to find date, time, and virtual format that will work for one-on-one medication session.
www.lrhc.org click on “virtual appointments”
Doxy.me secure virtual appointments

Rehab Therapies Providers

Medication Therapy Management - Pharmacists

Mark Dewey
DeeAnna Hanson
Tori Rude
Jackson Nelson