

# Medication Safety in Older Adults

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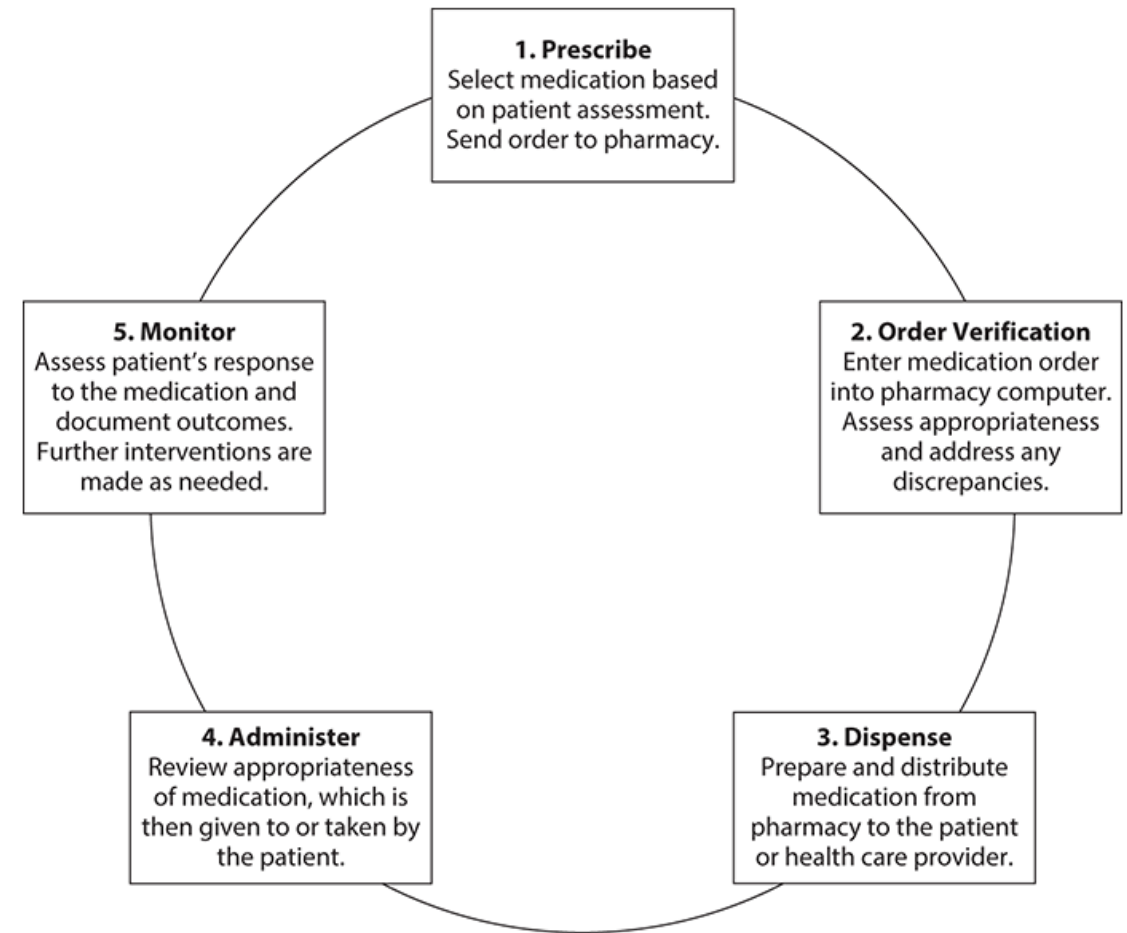
Clinical Assistant Professor, UIC Retzky College of Pharmacy

# Introduction/Background

- Clinical Pharmacist and Clinical Assistant Professor At UI Health and UIC Retzky College of Pharmacy
- 10 years experience as a Clinical Pharmacist working in Internal Medicine
- 10 years working in Medication Safety, the last 2 as the Medication Safety Officer for the Health System

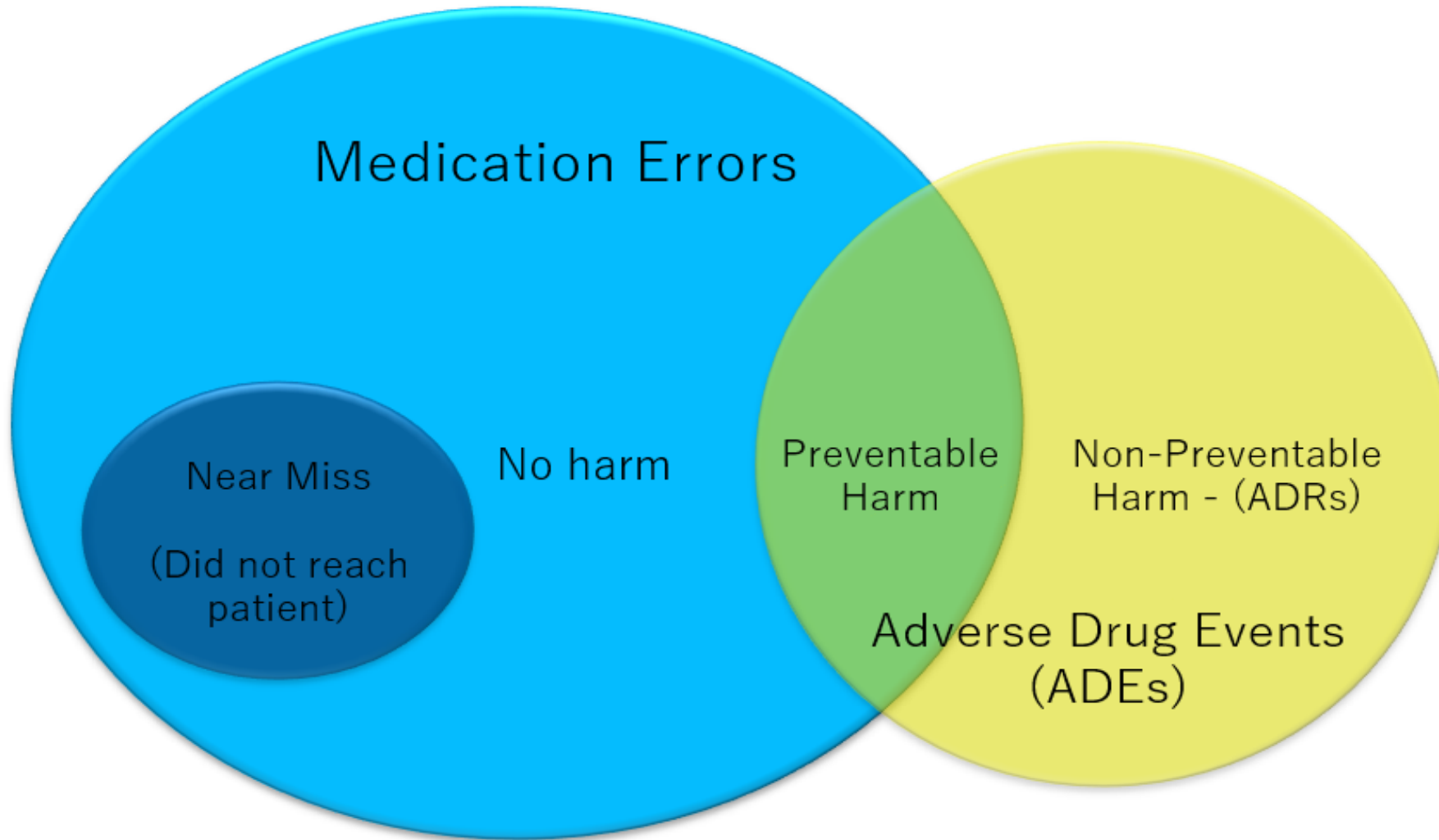
# Medication Safety Professionals and The Medication Use Process

- Role of the Medication Safety Officer (MSO)
  - The MSO serves as the organizational lead for medication safety. Their job is to identify risks in the medication-use process, implement strategies to reduce harm, and foster a culture of safety across all disciplines that touch medications.
    - **System Surveillance and Analysis**
    - **Policy and Process Improvement**
    - **Education and Culture Building**
    - **Collaboration and Leadership**
    - **Regulatory and External Alignment**

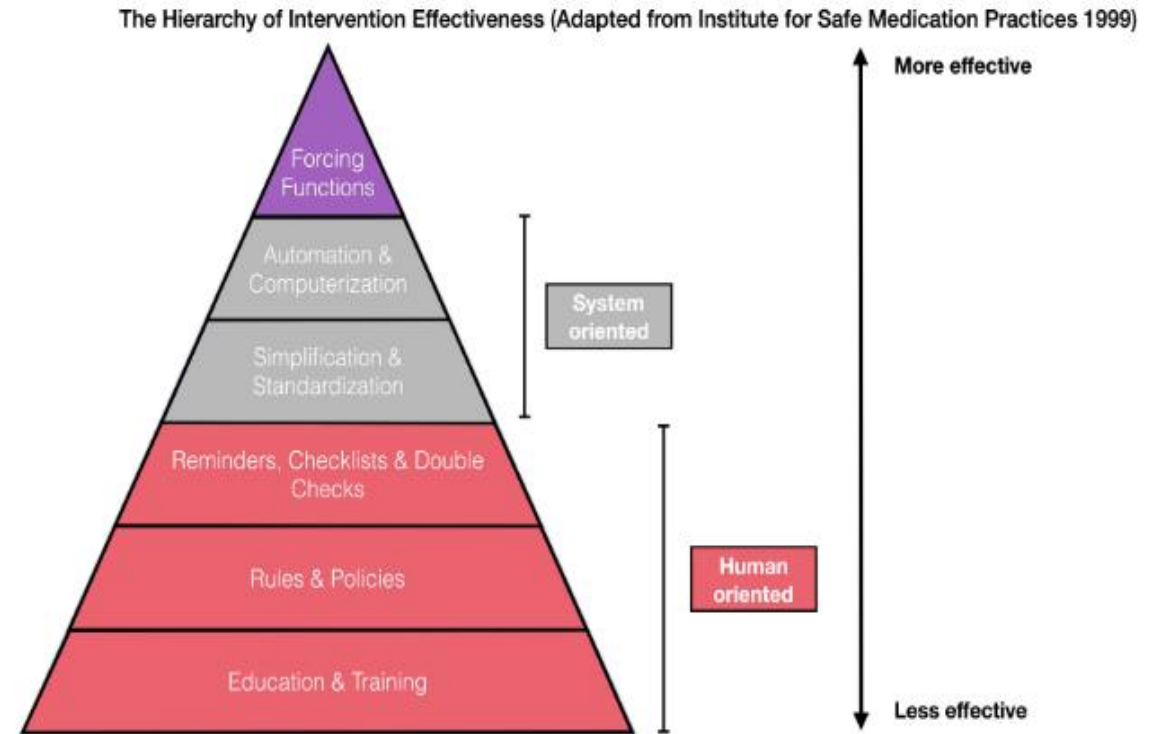
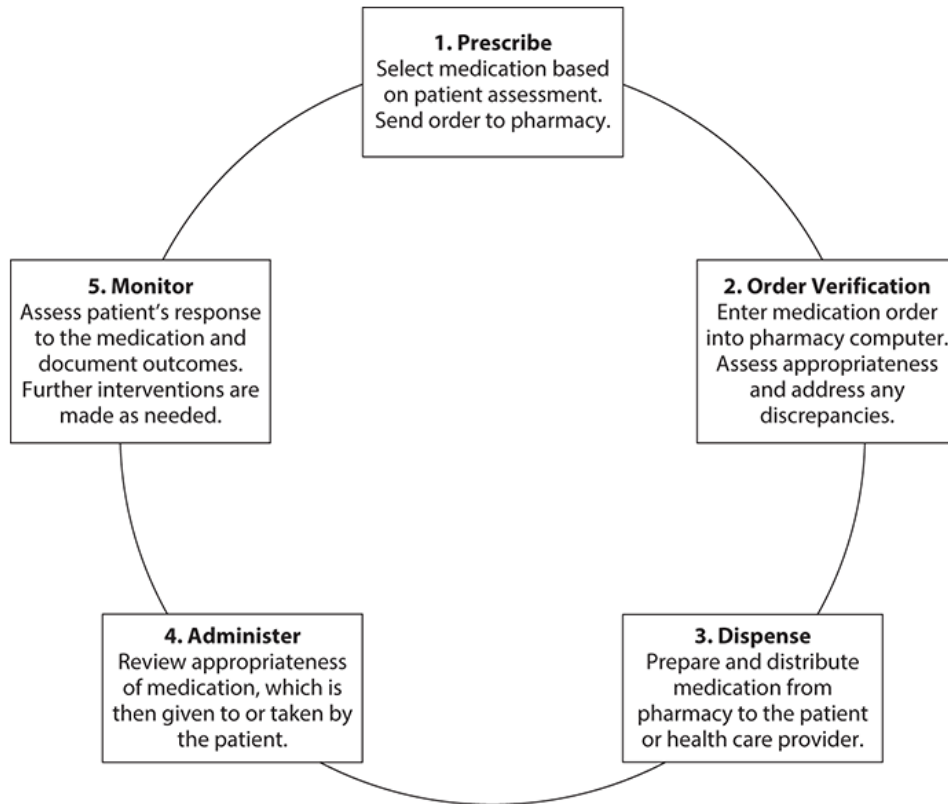


Source: Patrick M. Malone, Benjamin A. Witt, Meghan J. Malone, David M. Peterson: *Drug Information: A Guide for Pharmacists*, 7e  
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# Medication Adverse Outcome Taxonomy



# When Errors Happen...



- Analyze error entry node and downstream failures
- Identify root causes for error occurrence
- Implement system oriented solutions to prevent future occurrences of error

# Medication Safety in the Older Adult Population

- Why are older adults at risk of medication errors or adverse drug events?
  - Physiologic changes alter the pharmacokinetic and pharmacodynamic properties of medications
  - Older adults take a lot of medications (Polypharmacy)
  - Higher rates of comorbidities
  - Limited family/social support

# Pharmacokinetic Changes in Older Adults

## ▶ **Absorption**

- ▶ Increased gastric pH
- ▶ Delayed gastric emptying and intestinal motility
- ▶ Reduced hepatic 1<sup>st</sup>-pass

## ▶ **Distribution**

- ▶ Reduced distribution for hydrophilic drugs
- ▶ Increased distribution for lipophilic drugs
- ▶ Reduced albumin can lead to increased free fraction of highly protein bound drugs

## ▶ **Metabolism**

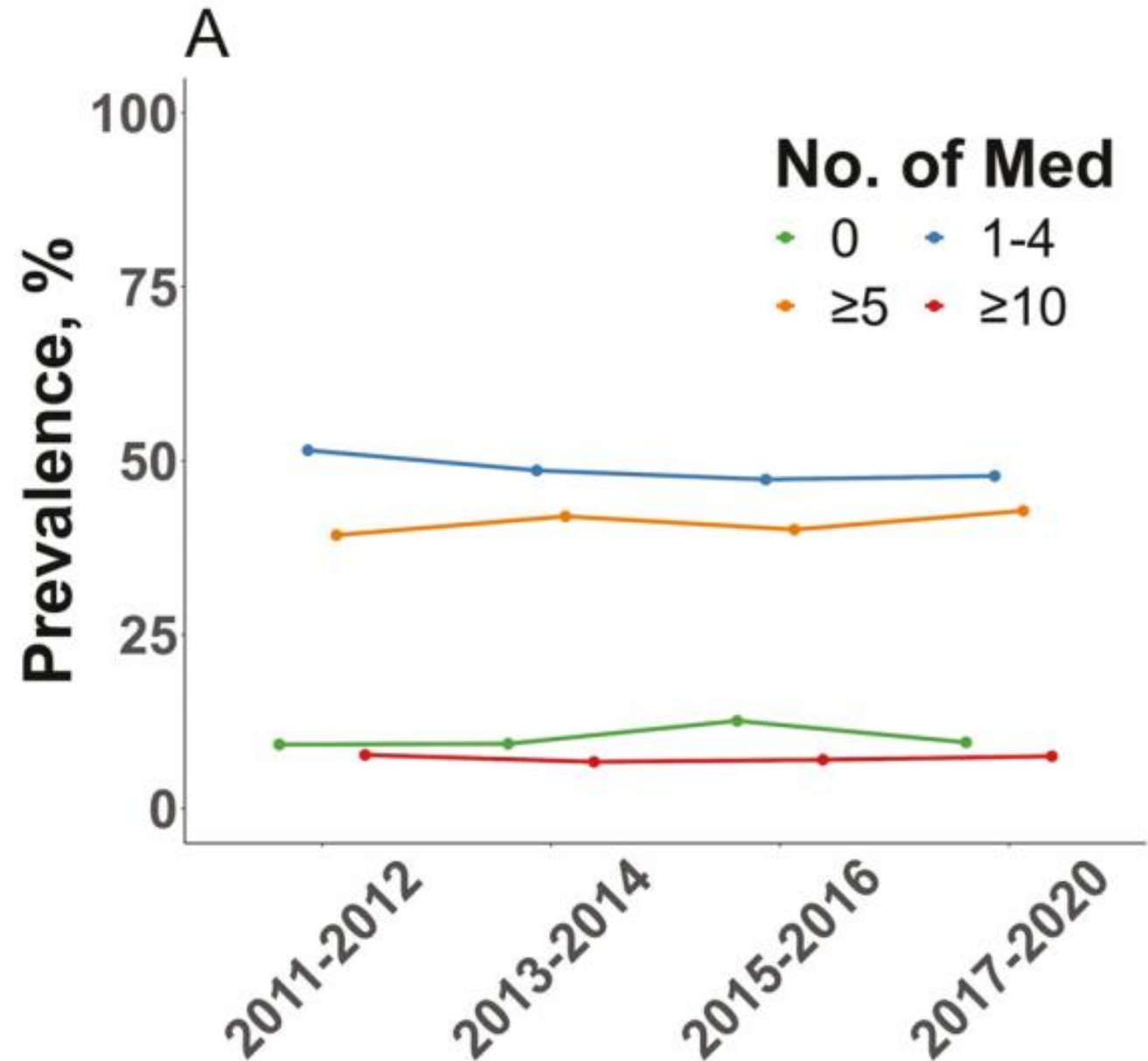
- ▶ Reduced liver blood flow and mass
- ▶ Reduced Phase I metabolism

## ▶ **Excretion**

- ▶ Reduced GFR leads to accumulation of water-soluble drugs and metabolites

# Polypharmacy

- Polypharmacy is often defined as taking five or more medications concomitantly
  - There is a very high prevalence of polypharmacy in older adults
- In fact, many older adults take  $\geq 10$  medications





# Strategies for Preventing Adverse Medication Outcomes in Older Adults

- Consulting providers with deep experience caring for older adults.
  - Encourage confidence in saying: “I don’t understand, can you explain?”
- Maintain an accurate medication list. Bring medications to provider visits.
- Align administration times, ask prescribers if there are ways to consolidate or simplify therapies/schedules.
- Use one **high quality** pharmacy. Get to know your pharmacist and ask for help.
  - One of the most common errors observed is when patients to continue taking or restart medications their doctor intended for them to stop.

# Strategies, continued...

- Seek social/family support to help interpret and execute medication related plans.
- Be on the look out for medication inertia.
  - Explore De-prescribing, “Do I still need this?”
- Consider allowances for “tight control” over diseases markers.
  - Aggressively targeting disease marker goals in older adults can expose to greater risk of medication adverse events
- Use oral syringes for measuring liquid medications.
- Use medication organizers and electronic reminders.

Thank you!

