

Medication Safety in Older Adults

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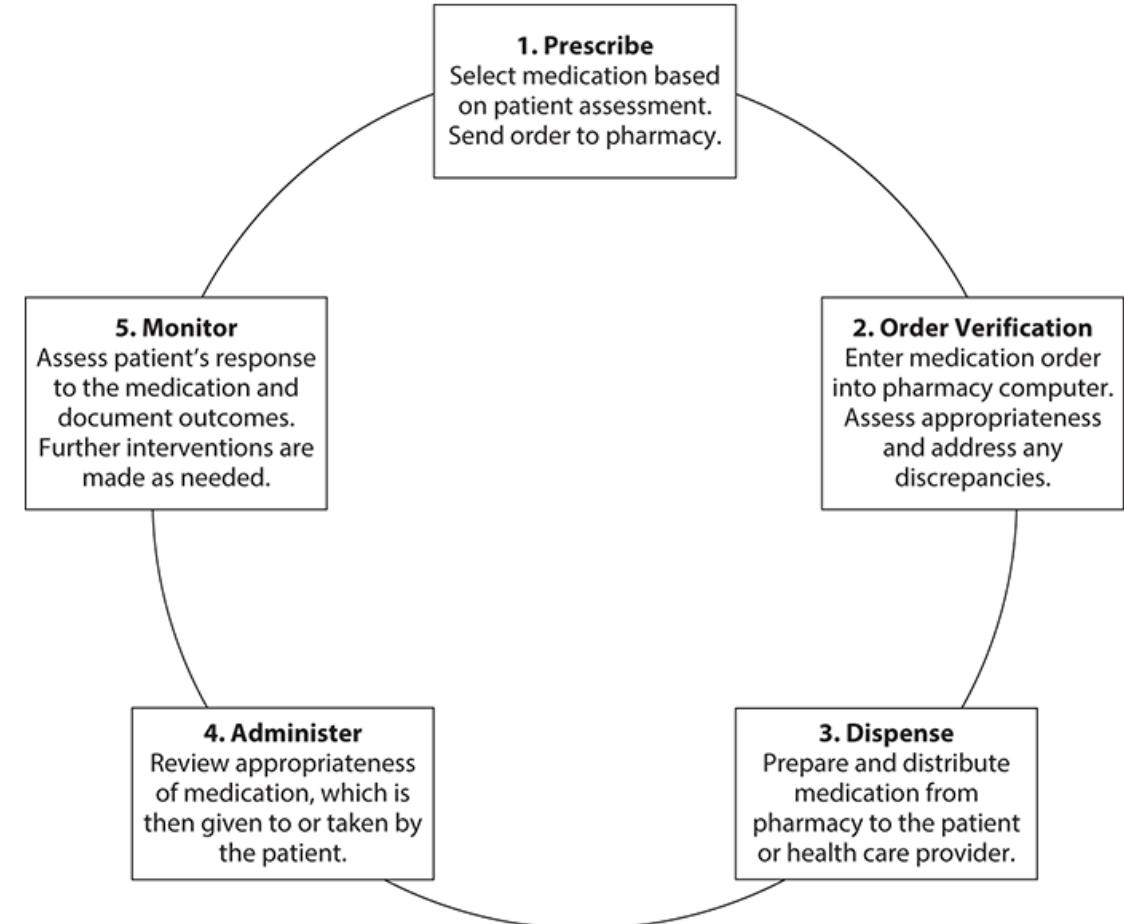
Clinical Assistant Professor, UIC Retzky College of Pharmacy

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

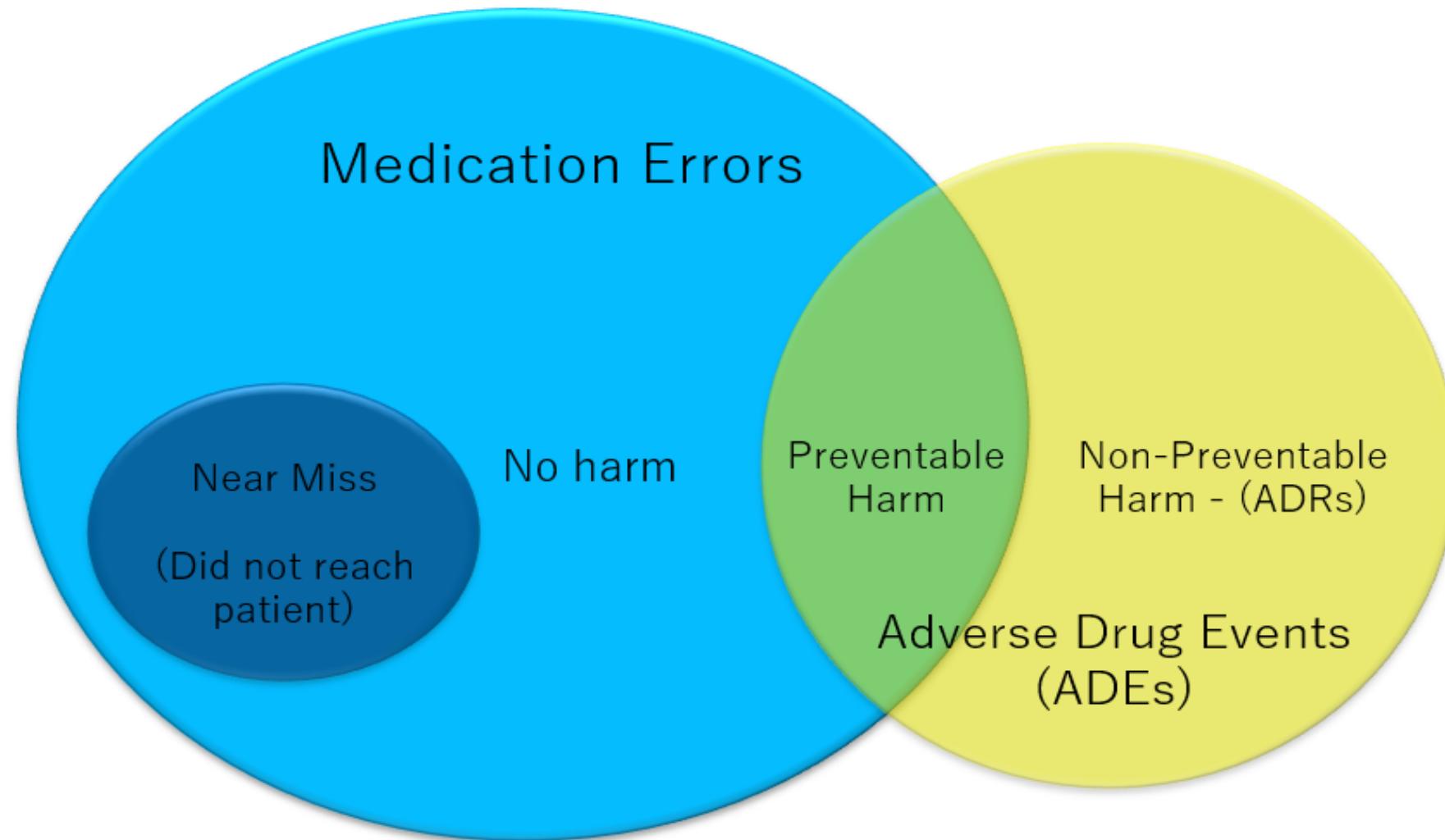
Medication Safety Professionals and The Medication Use Process

- 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**

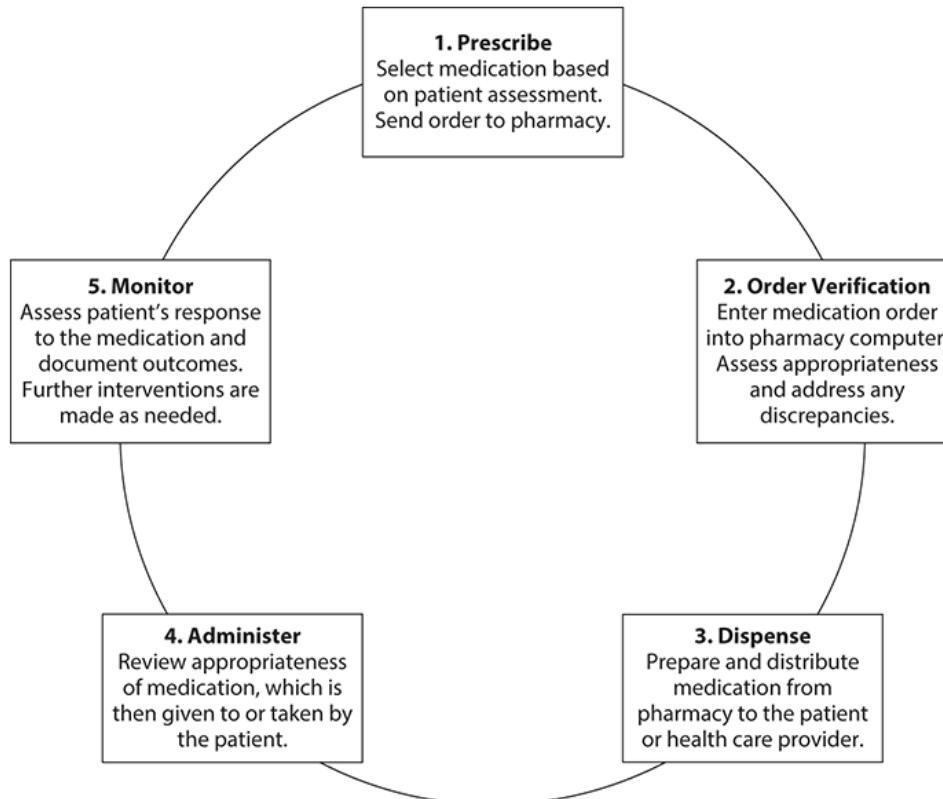


Source: Patrick M. Malone, Benjamin A. Witt, Meghan J. Malone, David M. Peterson: *Drug Information: A Guide for Pharmacists*, 7e
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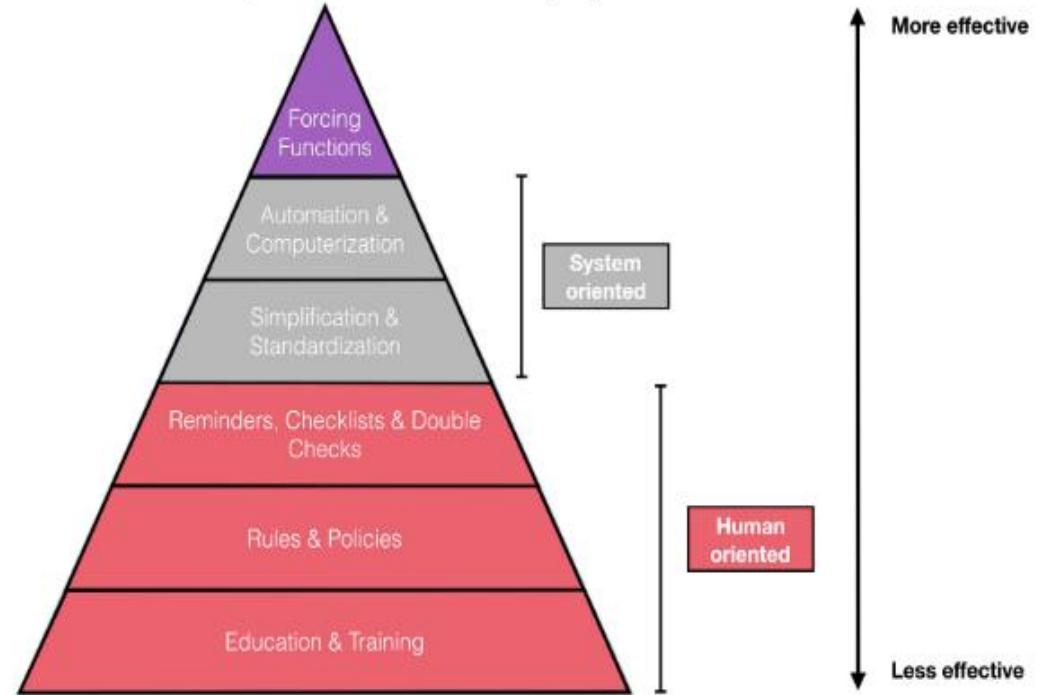
Medication Adverse Outcome Taxonomy



When Errors Happen...



The Hierarchy of Intervention Effectiveness (Adapted from Institute for Safe Medication Practices 1999)



- 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 1st-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

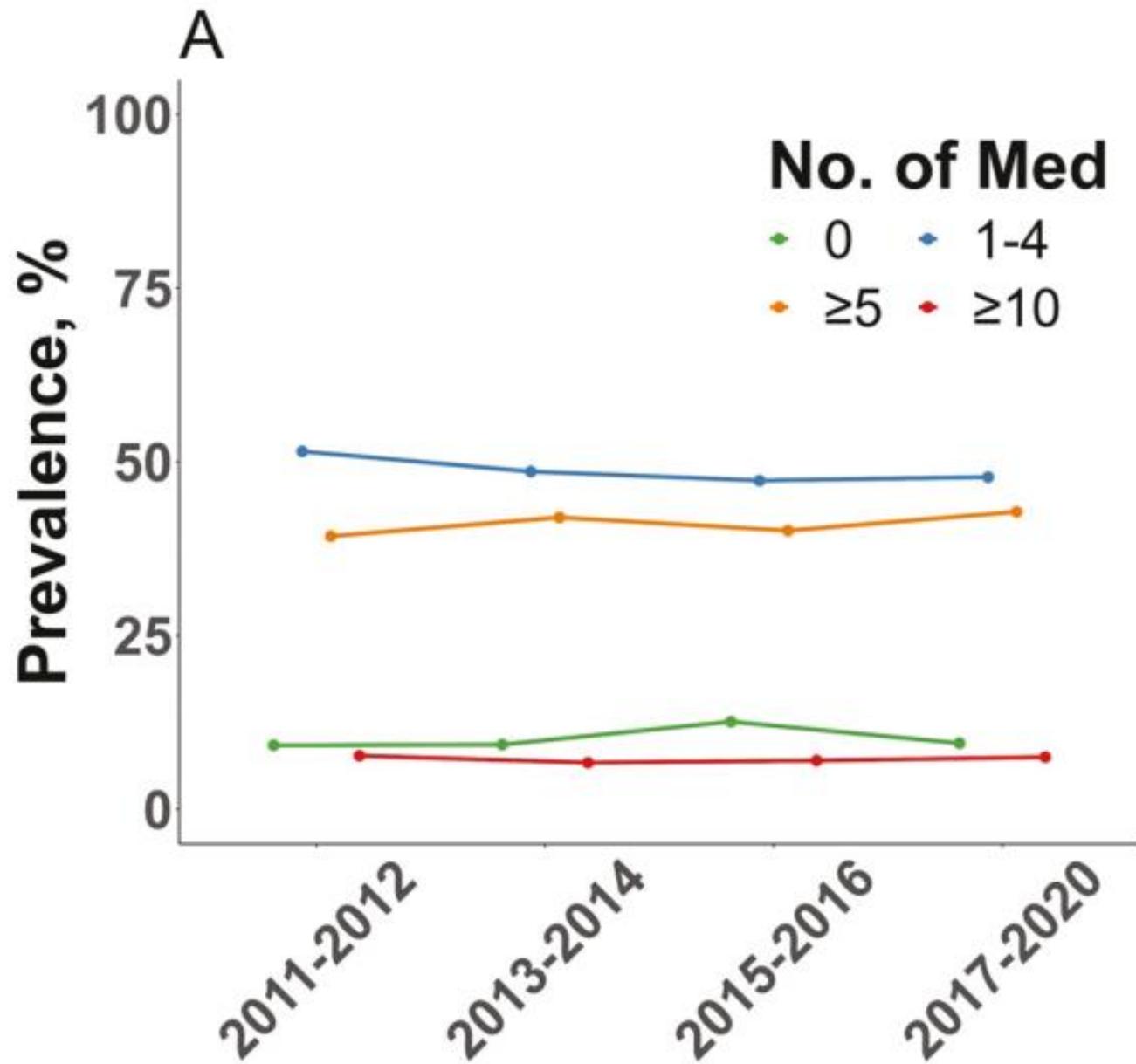
- ▶ Reduced liver blood flow and mass
- ▶ Reduced Phase I metabolism

▶ 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 ≥ 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 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!

