

**University of Wisconsin-Madison  
School of Pharmacy  
728-742**



**School of Pharmacy**  
UNIVERSITY OF WISCONSIN-MADISON

**Health System Pharmacy Practice Clerkship**

**2024 – 2025**

**Course Manual**

The material contained in the manual is for restricted use of the students and instructors at the School of Pharmacy UW Madison as an aid in teaching. This material may not be duplicated without the written consent of the Faculty Coordinator at the School of Pharmacy.

728-742  
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# Course Description

## Health-System Pharmacy Practice Clerkship (728-742)

### 6 Credits

The 742 Health-System Pharmacy Practice experience emphasizes pharmacy management, distributive functions, safety and quality, and professional development and how these efforts support clinical practice.

Pharmacists utilize their professional judgement to ensure the safe and appropriate use of drugs by patients while working with members of the healthcare team. A pharmacist practicing in a hospital/health system pharmacy practice setting needs to possess competencies in areas including pharmacy systems, medication safety and quality, clinical applications, and professional practice. This experience fosters the development of these professional competencies to help pharmacy students appreciate the complexities of the healthcare system.

**Role of the Clinical Instructor.** The breadth of topics covered in this rotation lends itself well to team teaching. Clinical instructors may be content experts for some, but not all, of the areas addressed in the Health-System Pharmacy Practice experience. Clinical instructors may coordinate and connect students with an institution's personnel who are knowledgeable to mentor students on a specific subject/content area and assess the student's competency in that area (for example, meeting with the procurement officer for the pharmacy department, or meeting with a pharmacy department manager to discuss human resources topics, etc). The clinical instructor of record is responsible for recording the scores earned by the student.

# Evaluation & Grading

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## Grading Summary

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Final letter grades are assigned by the Course Coordinator, NOT the on-site Clinical Instructor.

A	93-100
AB	89-92
B	83-88

BC	77-82
C	70-76
D	60-69
F	Less than 60

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## Grading Rubric

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Course grades are determined according to the following weighting:

<b><u>Student Performance Evaluation</u></b>	
Midpoint	Required
Final	50%
<a href="#"><u>Therapeutic Protocol Activity</u></a>	6%
<a href="#"><u>Drug Use Guideline</u></a>	6%
<a href="#"><u>DUE/MUE Activity</u></a>	6%
<a href="#"><u>Medication Safety Best Practices</u></a>	6%
<a href="#"><u>Shadow an RN during Med Administration</u></a>	5%
<a href="#"><u>Drug Shortages and Hazardous Waste</u></a>	5%
<a href="#"><u>Leadership Topic Discussion</u></a>	4%
<a href="#"><u>Sterile Products Experience</u></a>	4%
<a href="#"><u>Supervision, Oversight and Direction of the Medication Dispensing and Distribution System</u></a>	4%
<a href="#"><u>Health-System Pharmacy Management</u></a>	4%
<a href="#"><u>Discussion Items</u></a>	Required
<a href="#"><u>Student Profile</u></a>	Required
<a href="#"><u>APPE Seminars</u></a>	Required
<a href="#"><u>Student Rotation Self-Evaluation</u></a>	Required
<a href="#"><u>Experiential Checklist</u></a>	Required
<a href="#"><u>Reflection Document</u></a>	Required
<a href="#"><u>Clinical Instructor, Site &amp; Course Evaluations</u></a>	Required

- See the [742 Grading Record](#) and the [742 Summary of Required Assignments](#) for summaries of what to submit, where to submit, and how to score each activity.
- For rotation-specific activities assigned by the site clinical instructor(s), if a student misses deadlines and/or does not complete the work in the timeframe assigned, the course coordinators may adjust the final course grade downward.
- The final course grade may also be adjusted downward at the discretion of the course coordinators given assessment of the student's overall course performance, including issues related to nonadherence to the School's professionalism policy.

- See additional information in the [General Manual](#) regarding point deductions or loss of credit as related to other course requirements.

## Assignments

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### Student Performance Evaluation (SPE) (50%)

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**Explanation:** Although frequent feedback will be provided to students by clinical instructors, student performance in this course will be formally evaluated at the midpoint and at the end of the clerkship.

**Expectations:** The clinical instructor will use the midpoint evaluation to provide formative feedback around the 3-week point in the course. Only the final evaluation will factor into the student's course grade at the end of the rotation.

**Evaluation:** The clinical instructor will use the online Student Performance Evaluation tool to evaluate the student. The score will be entered in the grading record. Grades will not be submitted until all requirements are complete. See the [Student Performance Evaluation](#) in the General Manual for more information.

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### Therapeutic Protocol Activity (6%)

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**Explanation:** Protocols can improve the standardization and efficiency of interventions in the health care setting. The purpose of this activity is to review and understand pharmacy's involvement with protocols.

**Expectations:**

- **Select** and review a medication-related protocol used at the institution
  - Examples: inpatient anticoagulation monitoring, therapeutic interchange, conversion of IV to PO, etc.
- **Discuss** the following with the clinical instructor:

- The rationale for the protocol
- How the protocol impacts the activities of pharmacy personnel and patient care
- The role of the pharmacist for initiating and/or monitoring the protocol
- **Write** a short reflection (2 paragraphs) including the following:
  - Brief summary of the specific protocol reviewed and the role of the pharmacist within the protocol
  - What you learned after completing this activity

**Evaluation:**

- Students will submit the completed written reflection to Canvas
- The clinical instructor will evaluate the student on the following scale:

	<b>1 (Inconsistent)</b>	<b>2 (YES)</b>
<b>0 (NO)</b> Not done or Unacceptable	Some deficiencies with information provided.	Acceptable. Sufficient information provided

- The score will be recorded by the clinical instructor on the student’s electronic grading record

**Drug Use Guideline (6%)**

**Explanation:** Drug use guidelines provide standardized and evidence-based recommendations to optimize medication therapies and disease states. The purpose of this activity is to become familiar with drug use guidelines through assisting in development of or analysis of a drug use guideline.

**Expectations:**

- **Review** the [resources](#) for this activity – see article under “Drug Use Guideline”
- **Review** the institution’s policy and requirements for developing and analyzing a drug use guideline.
- **Choose 1** of the following:
  1. **Assist in development of a guideline**  
Prepare a ~1 page written report or short PowerPoint Presentation to include:
    - The title of the guideline and what portion you assisted with

- Does the guideline contain the newest drugs and/or the most recent evidence for use?
- How does the guideline apply to the practice site?
- What is the process followed by the institution for developing, approving, and implementing a clinical drug guideline?

**Note:** It is not expected that students will independently develop a drug guideline

**2. Analyze a drug guideline currently in use by the practice site**

Prepare a ~1 page report or short PowerPoint presentation to include:

- The title of the site's guideline and the date of approval or when guideline was most recently reviewed
- Does the guideline contain the newest drugs and/or the most recent evidence for use?
- How is the guideline implemented at the practice site?
- What is the process followed by the institution for developing, approving, and implementing a clinical drug guideline?

**3. Analyze a drug guideline created by a United States organization**

Select a drug or drug class (NOT a disease state) and search in Google for a reputable US professional or government guideline about that drug/drug class as used for a specific disease state (examples: opioids, thrombin inhibitor, zoledronic acid, etc.)

Prepare a ~1 page written report or short PowerPoint presentation to include:

- The title of the guideline and provide the internet link to the guideline
- Does the guideline contain the newest drugs and/or the most recent evidence for use?
- How does this guideline apply to the practice site?
- **Present** findings to the clinical instructor

**Evaluation:**

- Students will submit the completed written report or PowerPoint presentation to Canvas
- The clinical instructor will evaluate the student on the following scale:

<b>0 (NO)</b> Not done or Unacceptable	<b>1 (Inconsistent)</b> Some deficiencies with information provided.	<b>2 (YES)</b> Acceptable. Sufficient information provided
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- The score will be recorded by the clinical instructor on the student’s electronic grading record

## Drug Use Evaluation (DUE)/Medication Use Evaluation (MUE) Activity (6%)

**Explanation:** Drug use evaluations (DUEs) and medication use evaluations (MUEs) are performance improvement methods to evaluate and optimize medication processes within a health system. The purpose of this activity is to understand the usefulness, challenges, and barriers with completing DUEs/MUEs.

### Expectations:

- **Review** the [resources](#) for this activity – see articles under “Drug Use Evaluation (DUE)/Medication Use Evaluation (MUE)”
- **Review** the pharmacy’s policy for completing a DUE/MUE
- **Complete 1** of the following:
  1. **DUE/MUE focused on the appropriate use of a medication**

At a minimum, include an assessment of appropriate:

- Indication
- Dosing
- Monitoring (process and outcome measures)
- 2. **Quality measure assessment**
  - Complete if the institution is not working on a DUE/MUE
  - Assess the institution’s performance of the quality measure as a surrogate for a DUE/MUE
  - Example quality measures: CheckPoint measure, Joint Commission measure, etc.
- **Discuss** the results of the DUE/MUE or quality measure assessment with an appropriate member of the pharmacy management team (i.e., the manager who assigned the DUE/MUE or quality measure)
- **Write** a short reflection (3 paragraphs) including the following:

- Brief summary of the specific DUE/MUE or quality measure completed
- Usefulness, challenges, and barriers associated with designing and completing a DUE/MUE and how this could impact the formulary management process
- What you learned after completing this activity

**Evaluation:**

- Students will submit the completed written reflection to Canvas
- The clinical instructor will evaluate the student on the following scale:

<b>0 (NO)</b> Not done or Unacceptable	<b>1 (Inconsistent)</b> Some deficiencies with information provided.	<b>2 (YES)</b> Acceptable. Sufficient information provided
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- The score will be recorded by the clinical instructor on the student’s electronic grading record

**Medication Safety Best Practices (6%)**

**Explanation:** ISMP’s Targeted Medication Safety Best Practices for Hospitals is a national tool that provides hospitals with best practices to improve medication safety and reduce patient harm. The purpose of this activity is to understand and analyze implementation of ISMP’s Best Practices for Hospitals at an institution.

**Expectations:**

- **Review** the [resources](#) for this activity – see articles under “Medication Safety Best Practices”
- **Complete** the [ISMP Targeted Medication Safety Best Practices for Hospitals Template](#) to determine if your institution has implemented best practices using the [2024-2025 ISMP Targeted Medication Safety Best Practices for Hospitals](#)
- **Discuss** the following with the clinical instructor:
  - Observations from the Targeted Best Practices Template
  - Any identified potential vulnerabilities in the Med Use System that could contribute to medication errors and a possible solution to the vulnerability. Consider observations during completion of the Sterile Products



Experiences, Supervision, Oversight and Direction of the Medication Dispensing and Distribution System, and Shadow a RN during Med Administration activities.

### Evaluation:

- Students will submit the completed Targeted Best Practices Template to Canvas
- The clinical instructor will evaluate the student on the following scale:

<b>0 (NO)</b> Not done or Unacceptable	<b>1 (Inconsistent)</b> Some deficiencies with information provided.	<b>2 (YES)</b> Acceptable. Sufficient information provided
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- The score will be recorded by the clinical instructor on the student's electronic grading record

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### Shadow a RN during Med Administration (5%)

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**Explanation:** Designing optimal medication safety processes requires consideration of all steps of the medication use process. The purpose of this activity is to observe medication administration from the nursing perspective to gain valuable insight on the final steps of the medication use process and delivery of medications to patients.

### Expectations:

- **Review** the [resources](#) for this activity – see the articles under “Medication Administration/Technology”
  - **Shadow** a nurse and complete the following:
    - **Observe** how bar code technology is used to support the 5 rights.
    - **Observe** the use of pump technology to administer medications. Find out who is responsible for establishing the dosing thresholds (upper and lower end of the dose range) for the drug library. This may require inquiry from the pharmacy department rather than the nurse.

- **Observe** the administration of various dosage forms.
- In addition to bar code technology and IV pumps, **observe and work** with at least 3 other institutional technologies. For example: health information technologies/applications (HIT), automated dispensing cabinets, carousels, dispensing and intravenous compounding robots, remote dispensing, or others that would be described as technologies/automation used in the various stages of the medication use system (prescribing, transcribing, dispensing, administering, and monitoring).
- **Discuss** observations and the following with the clinical instructor:
  - Administration devices observed, and any special administration techniques used for medication administration
  - How are special administration instructions noted in the medication administration record?
  - Are special instructions included automatically with the order entry or is it a manual process? What is the pharmacist's role?
  - How does the technology support the 5 rights and/or reduce med error vulnerabilities in the system?
  - Reflect on the nurse's use of and adherence to the rights of medication administration (right patient, right drug, right dose, right route, right time, and right documentation) as a medication safety practice

**Evaluation:**

- The clinical instructor will evaluate using the following scale:

<b>0 (NO)</b> Not done or Unacceptable	<b>1 (Inconsistent)</b> Some deficiencies with information provided.	<b>2 (YES)</b> Acceptable. Sufficient information provided
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- The score will be recorded by the clinical instructor on the student's electronic grading record

## Drug Shortages and Hazardous Waste (5%)

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### Explanation:

- Medication shortages have become more common and can create challenges in acquiring adequate inventory of medications and supplies to provide optimal care to patients
- Proper disposal of pharmaceutical and hazardous waste is necessary to keep the environment safe. State and federal laws provide regulations for managing and disposing of pharmaceutical and hazardous waste.
- The purpose of this activity is to gain exposure to and enhance knowledge of drug shortages and management of hazardous waste.

### Expectations:

- **Review** the [resources](#) for this activity – see the articles under “Drug Shortages and Hazardous Waste”
- **Drug shortages**
  - Participate in evaluating and resolving a drug shortage issue with the person (or people) designated as the drug shortage “fixer”
  - Items to consider/discuss: anticipated duration of the shortage, treatment alternatives, supply sources, technology changes and communication about the plan.
- **Hazardous waste**
  - Observe the disposal of drug/hazardous waste
  - Consider the type of waste and where/how it was disposed
  - Questions to ask/discuss during observation: who facilitates waste disposal after it leaves the pharmacy, how much waste is generated on a weekly basis, what are the costs associated with drug disposal, etc.
- **Discuss** observations with the clinical instructor

### Evaluation:

- The clinical instructor will evaluate the student using the following scale:

<b>0 (NO)</b> Not done or Unacceptable	<b>1 (Inconsistent)</b> Some deficiencies with information provided.	<b>2 (YES)</b> Acceptable. Sufficient information provided
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- The score will be recorded by the clinical instructor on the student’s electronic grading record

### Sterile Products Experience (4%)

**Explanation:** The purpose of this activity is to understand the basic principles, processes, and best practices for compounding sterile products in a health system.

**Expectations:**

- **Review** the [resources](#) for this activity – see the articles under “Sterile Products”
- **Spend at least 8 hours** in the sterile products area
- **Complete** the following:
  - Observe preparation of small and large volume parenteral products
  - Demonstrate aseptic (sterile) technique
  - Observe and participate in the pharmacy’s unit of use (batch) packaging of parenteral products that are not commercially available
- **Select and assess** one of the best practices from the ISMP sterile products document (see pages 16-19)
- **Discuss** observations and findings with the clinical instructor

**Evaluation:**

- The clinical instructor will evaluate the student on the following scale:

<b>0 (NO)</b> Not done or Unacceptable	<b>1 (Inconsistent)</b> Some deficiencies with information provided.	<b>2 (YES)</b> Acceptable. Sufficient information provided
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- The score will be recorded by the clinical instructor on the student’s electronic grading record

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## Supervision, Oversight and Direction of the Medication Dispensing and Distribution System (4%)

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**Explanation:** Medication dispensing through an institution’s distribution system is a multifaceted process. The purpose of this activity is to gain experience and appreciation for hospital drug distribution systems.

### Expectations:

- **Review** the [resources](#) for this activity – see the articles under “Medication Distribution and Dispensing System”
- **Complete** the following:
  - Fill and check medication carts
  - Observe/restock dispensing cabinets
  - Restock and operate robotics (if applicable)
  - Deliver/distribute medications to a diverse patient population by shadowing pharmacy technicians
  - Perform activities within a typical hospital drug distribution system, including order, receipt, evaluation, and review, and describe the appropriate roles of pharmacy technicians and pharmacists in these processes.
- **Discuss** observations with the clinical instructor

### Evaluation:

- The clinical instructor will evaluate the student on the following scale:

<b>0 (NO)</b> Not done or Unacceptable	<b>1 (Inconsistent)</b> Some deficiencies with information provided.	<b>2 (YES)</b> Acceptable. Sufficient information provided
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- The score will be recorded by the clinical instructor on the student’s electronic grading record.

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## Health-System Pharmacy Management (4%)

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**Explanation:** Health systems depend on administrative leaders to manage and support clinical and distributive operations. The purpose of this activity is to gain exposure to health-system pharmacy management through observing pharmacy administrative meetings.

**Expectations:**

- **Review** the [resources](#) for this activity – see the article under “Health-System Pharmacy Management”
- **Complete 1** of the following:
  1. Attend one or more pharmacy manager meetings
  2. Attend one or more interprofessional meetings (such as Pharmacy and Therapeutics, Institutional Review Board, Infection Prevention)
- **Observe** the following during the attended meeting(s):
  - How meetings are run
  - How responsibilities are delegated
  - Pharmacy department reporting structure
  - Perceived knowledge, skills, and abilities necessary to be a pharmacy manager
- **Discuss** observations with the clinical instructor

**Evaluation:**

- The clinical instructor will evaluate the student on the following scale:

<b>0 (NO)</b> Not done or Unacceptable	<b>1 (Inconsistent)</b> Some deficiencies with information provided.	<b>2 (YES)</b> Acceptable. Sufficient information provided
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- The score will be recorded by the clinical instructor on the student’s electronic grading record

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**Leadership Topic Discussion (4%)**

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**Explanation:** All pharmacists must demonstrate leadership skills regardless of position or practice setting. The purpose of this activity is to explore leadership topics relevant to students' interests and career goals.

**Expectations:**

- **Identify and review** a leadership topic relevant to your interests and career goals
  - Sources for leadership topic discussions may include but are not limited to:
    - Articles
    - Books
    - Podcasts
    - TED Talks
    - Webinars
  - Topic and source should be agreed upon by student and clinical instructor
  - See the [Leadership Topic Discussion Source List](#) for a few ideas for potential sources/topics
- **Write** a short reflection (3 paragraphs) including the following:
  - Why you picked the specific leadership topic
  - Highlights/key points from the source reviewed
  - How the leadership topic may be applied to your future practice
- **Discuss** the topic and your reflection with the clinical instructor

**Evaluation:**

- Students will submit the following in Canvas:
  - Leadership topic discussed
  - Source of topic (ex. TED Talk URL, article citation or PDF, webinar link)
  - Reflection
- The clinical instructor will evaluate the student on the following scale:

<b>0 (NO)</b> Not done or Unacceptable	<b>1 (Inconsistent)</b> Some deficiencies with information provided.	<b>2 (YES)</b> Acceptable. Sufficient information provided
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- The score will be recorded by the clinical instructor on the student's electronic grading record

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**Discussion Items (Required)**

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**Explanation:** The purpose of this activity is to discuss numerous topics unique to health-system pharmacy practice.

**Expectations:**

- Review the [discussion items](#) checklist
- All topics on the checklist should be discussed by the end of the rotation
- Many of these topics will be covered in the activities embedded in this course
- Any remaining topics should be discussed with clinical instructor(s)/staff
- See the [resources](#) page for supporting articles/resources related to the discussion item topics

**Evaluation:**

- There is no formal assessment or submission for this activity
- Clinical instructors should incorporate the student’s knowledge and understanding of these topics in the Student Performance Evaluation (SPE)

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**Student Rotation Self-Evaluation (Required)**

**Explanation:** See the [Student Rotation Self-Evaluation Process](#) for details

**Expectations:** The following is an overview of the process:

- A BASELINE self-evaluation is done ONCE prior to the start of the first APPE rotation of the year. The baseline self-evaluation must be reviewed with the site clinical instructor during the first week of the first block.
- SMART Goals must be entered by the end of week 2 for each block.
- A post-rotation self-evaluation must be completed at the end of each rotation. It must be reviewed by the student and site clinical instructor during the last week of each block.
- In subsequent blocks, the post-rotation self-evaluation from the previous block must be reviewed with the site clinical instructor during the first week.
- Failure to complete the self-evaluation will result in an “incomplete” for the block.

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**Reflection Document (Required)**



Students shall upload a reflection document to the 742 Canvas course reflection assignment.

The reflection document should include the following:

- Reflect upon and describe one experience during this rotation that made an impact on your learning experience or professional development, and explain why.

### **General Resources**

- [FDA MedWatch Reporting Program](#)
- [Implementing Medication Use Systems, presentation handout](#)
- [Institute for Health Care Improvement](#)
- [Institute for Safe Medication Practices](#)
- [ISMP Key Elements of the Medication Use System](#)
- [ASHP & ASHP Foundation Pharmacy Forecast 2024](#)

### **Medication Use Evaluation (MUE) / Drug Use Evaluation (DUE)**

- [MUE Overview](#)
- [MUE Guidelines](#)

### **Drug Use Guideline**

- [UpToDate: Overview of Clinical Practice Guidelines](#)

### **Specialty Services**

- [P&T and Formulary](#)
- [Investigational Drugs](#)
- [Institutional Review Board: Frequently Asked Questions](#)

### **Sterile Products**

- [ISMP Guidelines for Safe Preparation of Compounded Sterile Products, 2022](#)

### **Medication Distribution and Dispensing System**

- [ASHP Statement on Drug Distribution Control](#)

### **Medication Administration/Technology**

- [Bar Code Medication Administration Technology](#)
- [Bar Code for Inventory, Preparation, and Dispensing of Medications](#)
- [Clinical Informatics](#)

### **Drug Shortages and Hazardous Waste**

- [Drug Shortage Management](#)
- [Drug Shortages Infographic](#)
- [Managing Pharmaceutical Disposal](#)
- [EPA Hazardous Waste](#)
- [Hazardous Waste Blueprint](#)
- [NIOSH Hazardous Waste](#)

### **Health-System Pharmacy Management**

- [ASHP Guidelines: Minimum Standard for Pharmacies in Hospitals](#)

### **Leadership Topic Discussion**

- [Leadership Topic Discussion Source List](#)

### **Medication Safety Best Practices (includes Med use System and Quality improvement)**

- [Practice-enhancing publications about the medication-use process in 2020](#)
- [Preventing Medication Errors](#)
- [ISMP 2024-2025 Targeted Medication Safety Best Practices for Hospitals](#)
- [The ASHP Discussion Guide on the Pharmacist's Role in Quality Improvement](#)
- [Hospital National Patient Safety Goals](#)