

# MSOS Member Briefing March 2025

*Moderated by:* E. Robert Feroli, PharmD, FASHP



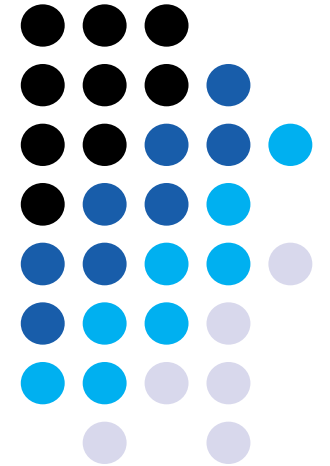
# Medication Error Reduction Plan (MERP)

- History of MERP
  - Loriann DeMartini, PharmD, MPH, BCGP, Chief Executive Officer, California Society of Health System Pharmacists
- MERP Presenters
  - Abhi Mehta, PharmD, MS, MBA, Medication Safety Officer, Salinas Valley Health
  - Viktoriya Ingram, PharmD, FISMP, Medication Safety Officer, Washington Health
- Additional Panelists
  - Mara Miller, PharmD, BCPS, Medication Safety Coordinator, Kaweah Health
  - Shannon Bertagnoli, PharmD, Medication Safety Specialist, ISMP and former Medication Safety & Quality Specialist, Children's Hospital of Orange County (CHOC)
  - Rita K. Jew, PharmD, MBA, FASHP, President, ISMP and former Director of Pharmacy, University of California San Francisco and former Executive Director, CHOC

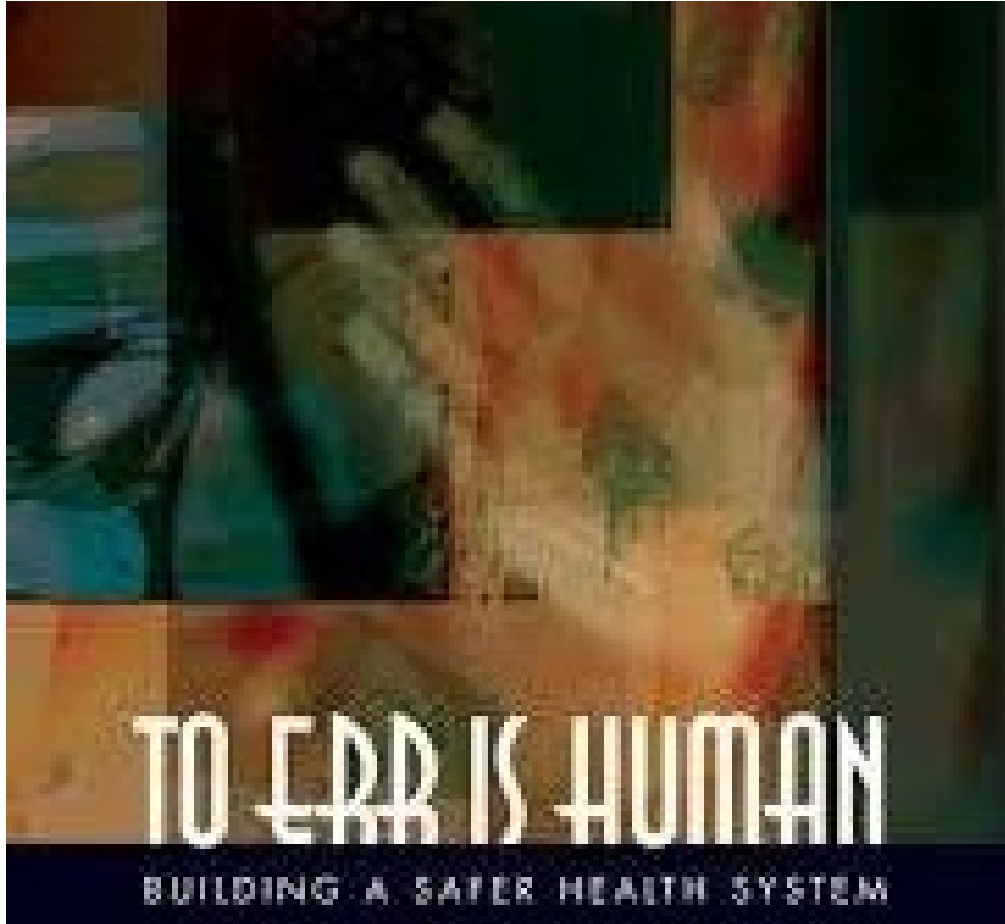


# California - MERP

Loriann De Martini, PharmD, MPH, BCGP  
March 27, 2025



# California Medication Error Reduction Plan Program

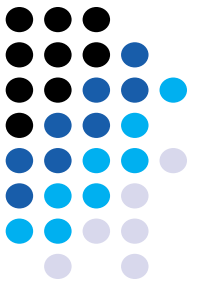


Hospitals must adopt a plan to eliminate or substantially reduce medication-related errors –

Hospital plans must be submitted to Department of Public Health by January 1, 2002 – for review and approval.

Health and Safety Code 1339.63

• <https://codes.findlaw.com/ca/health-and-safety-code/hsc-sect-1339-63/>



# Medication-Related Error

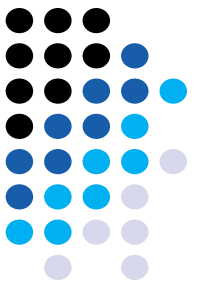
Any preventable medication-related event that adversely affects a patient in a facility that is related to professional practice, or health care products, procedures, and systems, including, but are not limited to....

# Medication-Related Error



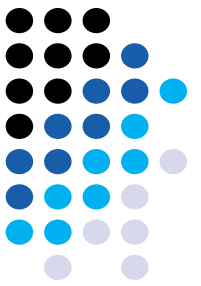
1. Prescribing
2. Prescription order communication
3. Product labeling
4. Packaging and nomenclature
5. Compounding
6. Dispensing
7. Distribution
8. Administration
9. Education
10. Monitoring
11. Use

Health and Safety Code  
1339.63(d)



# MERP Elements

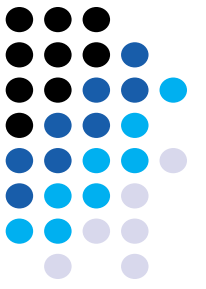
1. Evaluate, assess, and include a method to address each of the procedures and systems listed under subdivision (d) to identify weakness or deficiencies that could contribute to errors in the administration of medications.
2. Annual review to assess the effectiveness of the implementation of each of the procedures and systems listed under subdivision (d).
3. Modified as warranted when weaknesses or deficiencies are noted to achieve the reduction of medication errors



# MERP Elements

4. Include a system/process to proactively identify actual or potential errors and includes concurrent and retrospective review of clinical care.
5. Include multidisciplinary process, to regularly analyze all identified actual or potential medication-related and how the analysis will be utilized to change current procedures and systems to reduce medication-related errors.
6. Include a process to incorporate external medication-related error alerts to modify current processes and systems as appropriate.





# Implementation

- Oversight by the California Department of Public Health(CDPH) Licensing and Certification (LNC) Program under the process of onsite licensing surveys.
- Conducted by the LNC Pharmaceutical Consultant Unit
- Onsite surveys started in 2008 as a separate stand-alone survey.
- Later combined into an overall CDPH licensing survey addressing compliance with all California hospital law and regulations.

MSOS MEETING, MARCH 2025

# SALINAS VALLEY HEALTH- MERP

ABHI MEHTA, PharmD., M.S., MBA.

MEDICATION SAFETY OFFICER, SVH

<https://www.linkedin.com/in/abhiruchimehta/>





- CLINIC SYSTEM WITH A STAND ALONE COMMUNITY HOSPITAL
- 263 ACUTE CARE BEDS
- LOCATED IN MONTEREY COUNTY, CALIFORNIA

# INTRODUCTION- CA MERP

- 2001 California legislation resulting in HSC 1339.63
- Requires every general acute care hospital to adopt a formal plan to eliminate or substantially reduce medication-related errors.
- Reviewed **annually** and updated as necessary.

## 11 PROCEDURES AND SYSTEMS:

1. Prescribing
2. Prescription order communications
3. Product labeling
4. Packaging and nomenclature
5. Compounding
6. Dispensing
7. Distribution
8. Administration
9. Education
10. Monitoring
11. Use



# Resources

STATE STANDARD	REQUIREMENT
	<b>ARTICLE 3 BASIC SERVICES</b>
<b>Health &amp; Safety Code (HSC) § 1339.63</b>  <b>Medication Error Reduction Program (MERP)</b>	<p>Regulation can be found under "Resources," entitled "GACH HSC Requirements"</p> <p><b>Guidance to Surveyors:</b> If the nurse surveyor is required to review compliance for this regulation, use GACH HSC Requirement documents for regulation language.</p> <p><b>Survey procedures:</b></p> <ul style="list-style-type: none"> <li>Review the hospital's MERP activity records. Does the facility have a method to address each of the "procedures and systems" listed under subdivision (d) of H&amp;SC 1339.63 to identify weaknesses or deficiencies that could contribute to errors in the administration of medication? [Note: Procedures and systems listed under subdivision (d) include, but are not limited to, prescribing, prescription order communications, product labeling, packaging and nomenclature, compounding, dispensing, distribution, administration, education, monitoring, and use.] See 1339.63(e)(1)</li> <li>Did the facility, on an annual basis, assess the effectiveness of the implementation of the plan for each of the procedures and systems listed under subdivision (d) of H&amp;SC 1339.63? [Note: Procedures and systems listed under subdivision (d) include, but are not limited to, prescribing, prescription order communications, product labeling, packaging and nomenclature, compounding, dispensing, distribution, administration, education, monitoring, and use.]</li> <li>Has the plan been modified when weakness or deficiencies are noted to achieve the reduction of medication errors? See 1339.63 (e)(3)</li> <li>Are the systems or processes utilized by the hospital for identifying actual or potential medication-related errors: a.)proactively, b.) concurrently, and c.) retrospectively? See 1339.63 (e)(5)</li> <li>Is the committee responsible for the MERP process of the hospital multidisciplinary in nature; i.e., does it include representatives from administration, nursing, pharmacy and medical staffs? Does the multidisciplinary process regularly analyze all identified actual and potential medication related errors? Does the multidisciplinary group regularly analyze all identified actual or potential medication-related errors? Can the facility demonstrate how its multidisciplinary analysis of medication-related events has been utilized to change its procedures and/or systems to reduce medication-related errors? 1339.63 (e)(6)</li> <li>Does the plan include a process or systems incorporating external medication error alerts to modify current processes and systems? See 1339.63 (e)(7)</li> </ul>

SECTION TITLE

## California Medication Error Reduction Plan: Time for Regulators and Accreditors to Adopt Similar Initiatives

Published Date: November 3, 2022

CA MERP Requirements	Examples of Self-Assessment Questions
<p>Evaluate, assess, and include a method to address each of the 11 procedures or systems associated with medication use to identify weaknesses or deficiencies that could contribute to errors.</p> <p><b>11 procedures and systems</b></p> <ul style="list-style-type: none"> <li>Prescribing</li> <li>Prescription order communications</li> <li>Product labeling</li> <li>Packaging and nomenclature</li> <li>Compounding</li> <li>Dispensing</li> <li>Distribution</li> <li>Administration</li> <li>Education</li> <li>Monitoring</li> <li>Use</li> </ul>	<ul style="list-style-type: none"> <li>What committee/team oversees the MERP?</li> <li>Have interventions to reduce medication errors been identified for each of the 11 procedures/systems?</li> <li>How does the hospital determine effectiveness and identify weaknesses or deficiencies in the 11 procedures/systems?</li> <li>Does the method include the use of metrics such as process measures? Aggregate trending reports? Failure mode and effects analysis (FMEA)? Self assessments? Root cause analysis (RCA)? Observation? Robust reporting system?</li> <li>Does the method include analysis of all medication error data to identify problems?</li> <li>How has the assessment process been used to address system deficits and reduce medication errors?</li> <li>Were the implementation strategies used to address the system deficits effective in reducing medication errors?</li> </ul>
<p>Include an annual review to assess the effectiveness of the implementation of each of the procedures and systems listed in the first requirement.</p>	<ul style="list-style-type: none"> <li>How do you know that a specific intervention is working to reduce errors?</li> <li>On an annual basis, did you assess the effectiveness of the plan for each of the 11 procedures and systems?</li> <li>Did the annual review identify interventions that were ineffective?</li> <li>Is the MERP effective in reducing errors?</li> </ul>
<p>Include modification as warranted when weaknesses or deficiencies are noted, to achieve the reduction of medication errors.</p>	<ul style="list-style-type: none"> <li>What method is used to identify weaknesses or deficiencies that could contribute to errors?</li> <li>What weaknesses and/or deficiencies have the hospital noted upon review?</li> <li>How was the plan modified to address the noted deficiencies?</li> <li>Did the hospital reassess the MERP after it had been modified?</li> <li>Was the revised plan or the modification effective in addressing the noted deficiencies?</li> </ul>
<p>Describe the technology to be implemented and how it is expected to reduce medication-related errors associated with one or more of the procedures and systems listed in the first requirement.</p>	<ul style="list-style-type: none"> <li>Does the MERP include an implementation plan for the technology?</li> <li>Has the hospital implemented the technology specified in its plan?</li> <li>How has the technology been effective in reducing medication errors?</li> </ul>
<p>Include a system or process to proactively identify actual or potential medication-related errors. The system or process shall include concurrent and retrospective review of clinical care. (The intent is for the hospital to have a robust medication error reporting system, identify medication system vulnerabilities, and develop corrective actions.)</p>	<ul style="list-style-type: none"> <li>What is the hospital's process to identify medication errors and risks?</li> <li>Does the process include concurrent (e.g., observation) and retrospective (e.g., analysis of error reports, RCA) review of care?</li> <li>Does the process include a proactive component?</li> <li>Does it include a variety of methods to identify risks, errors, and harmful events, such as error reporting, process/outcome metrics, FMEA, self assessments, RCA, capture of pharmacy or nursing interventions, triggers, observation, chart review, and/or survey data?</li> <li>Is the process effective? How do you know it's effective?</li> <li>Is there a culture of safety that encourages reporting? How is reporting encouraged?</li> </ul>
<p>Include a multidisciplinary process, including healthcare professionals responsible for pharmaceuticals, nursing, medical staff, and administration, to regularly analyze all identified actual or potential medication-related errors and describe how the analysis will be utilized to change current procedures and systems to reduce medication-related errors.</p>	<ul style="list-style-type: none"> <li>How does your hospital analyze reported medication errors? Are pharmacists, nurses, physicians, and administrators part of the process?</li> <li>Does the multidisciplinary group regularly analyze all identified actual or potential medication-related errors?</li> <li>How has this analysis been used to change current procedures or systems?</li> <li>What examples can you provide to demonstrate such a change in procedures or systems?</li> <li>Were the changes in the procedure or system effective in reducing medication errors?</li> </ul>
<p>Include a process to incorporate external medication-related error alerts to modify current processes and systems as appropriate.</p>	<ul style="list-style-type: none"> <li>Does the plan include a review of external medication error alerts to modify current processes and systems?</li> <li>What external sources does the hospital use for identification of potential/actual risks related to medication errors?</li> <li>How has the hospital used these external alerts to modify processes and systems?</li> <li>Were changes in the procedure or system effective in reducing medication errors?</li> </ul>



**Plan To Eliminate or Substantially Reduce  
Medication-Related Errors  
(SB 1875, HSC 1339.63)**

**Medication Error Reduction Plan (MERP)**

Updated October, 2024

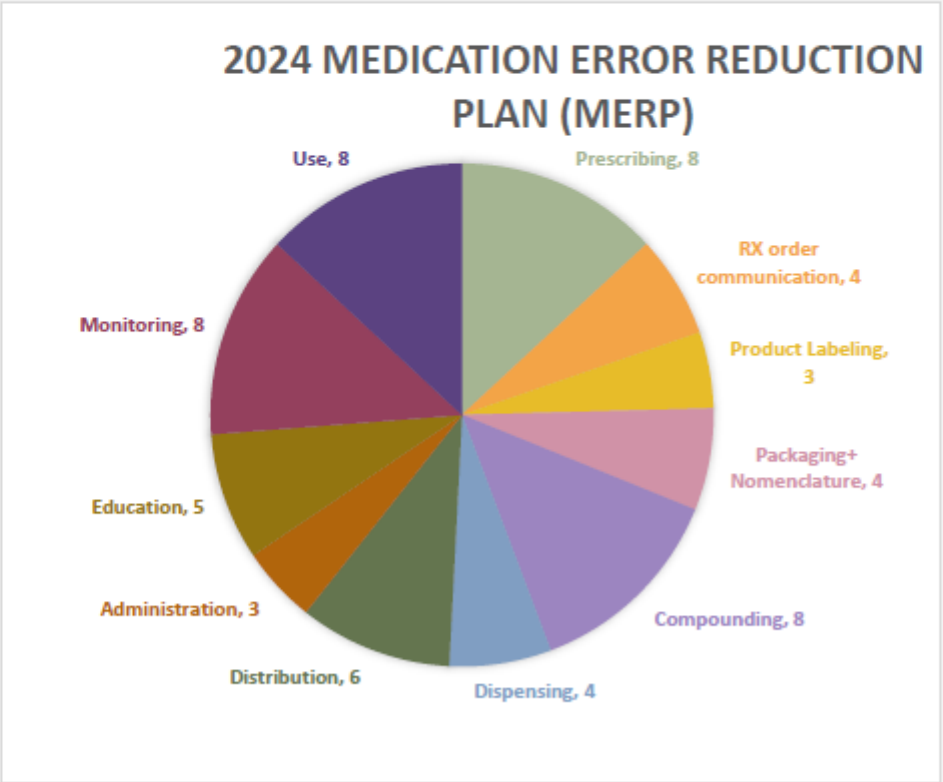
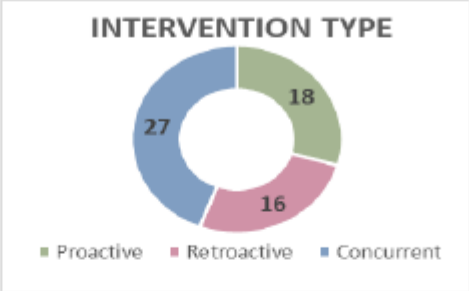
- WORD → EXCEL FORMAT
- ADDED COLUMNS TO MATCH MERP ASSESSMENT QUESTIONS
- UPDATED REPORTING SYSTEM TO CAPTURE CA MERP CATEGORY FOR EACH EVENT
- COVER PAGE
- SUMMARY PAGE FOR A QUICK OVERVIEW OF INTERVENTIONS
- QUARTERLY ASSESSMENT
- INTRODUCTION
- 11 PROCESSES AND SYSTEMS

2024 MEDICATION ERROR REDUCTION PLAN (MERP) SUMMARY

Processes and Systems	Count
1 Prescribing	8
2 RX order commu	4
3 Product Labeling	3
4 Packaging+ Non	4
5 Compounding	8
6 Dispensing	4
7 Distribution	6
8 Administration	3
9 Education	5
10 Monitoring	8
11 Use	8

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Type of Intervention	Count	Definition
Proactive	18	Any process improvement strategy based on safety alerts provided by external resources. i.e. no safety event has been reported at SVHMC yet, however it has been recognized as a safety recommendation or alert by an external organization such as ISMP or ECRI
Retroactive	16	FMEA, MUE or RCA and any process improvement strategy as an outcome of an MUE, RCA or FMEA
Concurrent	27	Any process improvement strategy based on a new regulation, law or policy created, or as an outcome of a survey (internal or external), or as an outcome of a safety report or safety event, or routine reports, any formulary changes





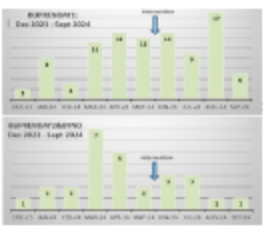
2024 MEDICATION ERROR REDUCTION PLAN (MERP) : QUARTERLY ASSESSMENT						
	Response	Q1	Q2	Q3	Q4	Comments
What committee/team oversees the MERP?	Medication Safety Committee (subcommittee of P&T committee)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A
Have interventions to reduce medication errors been identified for each of the 11 procedures/systems?	Documented weaknesses and interventions under all 11 procedures/systems	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A
How does the hospital determine effectiveness and identify weaknesses or deficiencies in the 11 procedures/systems?	Proactive, retroactive, concurrent interventions (as defined in this document under the Tracker tab)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A
Does the method include the use of metrics such as process measures? Aggregate trending reports? Failure mode and effects analysis (FMEA)? Self-assessments? Root cause analysis (RCA)? Observation? Robust reporting system?	Aggregate trending reports (Barcoding/scanning, Alaris Pump, Override). RCA (discover the root causes of problems in order to identify appropriate solutions) Direct Observation Robust reporting system: RL6	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1/2 TAB DOSING FMEA; PROTAMINE DOSING ERROR RCA
Does the method include analysis of all medication error data to identify problems?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Departmental reports via RL6
How has the assessment process been used to address system deficits and reduce medication errors?	Med error trends, RCA, FMEA	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	RCA- Chemo Error, Protamine error; FMEA- half tab dosing
Were the implementation strategies used to address the system deficits effective in reducing medication errors?	MUE, Process Improvement Audits	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Afterhours TOC workflow- No fall outs since implementation of workflow
INCLUDE AN ANNUAL REVIEW TO ASSESS THE EFFECTIVENESS OF THE IMPLEMENTATION OF EACH OF THE PROCEDURES AND SYSTEMS BASED IN THE FIRST REQUIREMENT.						
How do you know that a specific intervention is working to reduce errors?	Defined follow up dates and post-intervention audits, reviewing trends in med errors reported	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A
On an annual basis, do you assess the effectiveness of the plan for each of the 11 procedures and systems?	Annual review	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Annual MERP review due Oct-2024
Did the annual review identify interventions that were ineffective?	Define threshold for each intervention to be considered effective. Review follow-up data to identify interventions that did not meet threshold	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	TBD- post 2024 Annual review.
Is the MERP effective in reducing errors?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	post 2024 Annual review.
INCLUDE MODIFICATION AS WARRANTED WHEN WEAKNESSES OR DEFICIENCIES ARE NOTED, TO ACHIEVE THE REDUCTION OF MEDICATION ERRORS.						
What method is used to identify weaknesses or deficiencies that could contribute to errors?	Proactive, retroactive, concurrent methods (as defined in this document under the Tracker tab)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A
What weaknesses and/or deficiencies have the hospital noted upon review?	Identified under each process/systems tab	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A
How was the plan modified to address the noted deficiencies?	Identified under each process/systems tab	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A
Did the hospital reassess the MERP after it had been modified?	Annual, ongoing review of identified processes/systems	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Annual MERP review : October 2024
Was the revised plan or the modification effective in addressing the noted deficiencies?	Yes	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	N/A
DESCRIBE THE TECHNOLOGY TO BE IMPLEMENTED AND HOW IT IS EXPECTED TO REDUCE MEDICATION-RELATED ERRORS ASSOCIATED WITH ONE OR MORE OF THE PROCEDURES AND SYSTEMS LISTED IN THE FIRST REQUIREMENT.						



# MERP CROSSWALK 2023-2024

Medication-Related Error Category (H&S 1339,63 (d))  <u>PE1</u>	Responsible Parties	Date of Initiation	% Compliance Annual Review  <u>PE2</u>	Weaknesses or deficiencies are noted to achieve the reduction of medication errors  <u>PE3</u>	Change in Procedures/systems by utilizing analysis to reduce errors  <u>PE5 &amp; PE6</u>	External Medication Related Error Alerts to Modify Current Process  <u>PE7</u>	Technology Implementation to Reduce Errors  <u>PE4</u>
<b>PRESCRIBING</b>							
Hypertonic Sodium Chloride Guidelines & Procedure for Treatment of <u>Hyponatremia</u> (Replaces March 2021 guidelines) Policy STAT 13807182	Medication Safety, P&T & MEC Clinical Informatics Pharmacy Education	Jan 20, 2023	100%	Revised guidelines, added procedure; added mandatory sodium checks; Provides evidence-based guidelines for treatment of acute and chronic hyponatremia	Treatment of Hyponatremia : Acute Hyponatremia guidelines, using hypertonic NaCl 3% 50 mL & 100 mL bolus over 10 min Chronic Hyponatremia guidelines, using either bolus or continuous infusion, with mandatory pre-built sodium checks establishing standards for safer use of IV hypertonic sodium chloride solutions	ISMP <a href="https://www.ismp.org/resources/prevent-errors-during-emergency-use-hypertonic-sodium-chloride-solutions">https://www.ismp.org/resources/prevent-errors-during-emergency-use-hypertonic-sodium-chloride-solutions</a>  Various research articles	EHR – Meditech Drug Dictionary, Order Strings, Order Sets; HealthStream – Education for Pharmacists
Surgical Prophylaxis Antibiotic Order Set Review & Update	<u>ASP</u> , P&T, MEC, Clinical Informatics	Jan 20, 2023	TBD	Many cefazolin and vancomycin pre-op doses were subtherapeutic in existing order sets	Updated Pre-Op cefazolin and vancomycin pre-op doses	ASHP, IDSA <a href="https://www.ashp.org/pharmacy-practice/policy-positions-and-guidelines/browse-by-document-type/therapeutic-guidelines?loginreturnUrl=SSOCheckOnly">https://www.ashp.org/pharmacy-practice/policy-positions-and-guidelines/browse-by-document-type/therapeutic-guidelines?loginreturnUrl=SSOCheckOnly</a>	EHR – Meditech Standing Order Sets

**PRESCRIBING**

	Medication-Related Error Category (H&S 1339,63 (d))	Responsible Parties	Date of Initiation	Date of follow up	% Compliance Annual Review	Weaknesses or deficiencies noted to achieve the reduction of medication errors	Methods used to identify weakness or deficiency (safety report, external reports, guideline changes)	Change in Procedures/systems by utilizing analysis to reduce errors	Process measures to assess change	External Medication Related Error Alerts to Modify Current Process	Technology Implementation to Reduce Errors	Proactive/ Ongoing/ Retroactive	Additional Comments
	<b>PE1</b>				<b>PE2</b>	<b>PE3</b>		<b>PE5 &amp; PE6</b>		<b>PE7</b>	<b>PE4</b>		
1	Hypertonic Sodium Chloride Guidelines & Procedure for Treatment of Hyponatremia (Replaces March 2021 guidelines) Policy STAT 13807182	Medication Safety, P&T & MEC Clinical Informatics Pharmacy Education	1/1/2023	6/1/2024	N/A	Revised guidelines, added procedure; added mandatory sodium checks; Provides evidence-based guidelines for treatment of acute and chronic hyponatremia	External resource	Treatment of Hyponatremia: Acute Hyponatremia guidelines, using hypertonic NaCl 3% 50 mL & 100 mL bolus over 10 min Chronic Hyponatremia guidelines, using either bolus or continuous infusion, with mandatory pre-built sodium checks establishing standards for safer use of IV hypertonic sodium chloride solutions	Utilization report: Slow continuous infusion for tx of chronic hyponatremia was ordered 78 times, and rapid infusion bolus for tx of acute hyponatremia was utilized 24 times.	<a href="https://www.ismp.org/resources/prevent-errors-during-emergency-use-hypertonic-sodium-chloride-solutions">https://www.ismp.org/resources/prevent-errors-during-emergency-use-hypertonic-sodium-chloride-solutions</a>	EHR – Meditech Drug Dictionary, Order Strings, Order Sets; HealthStream – Education for Pharmacists	proactive	
2	Revision of Adult Hyperkalemia Order Set	Medication Safety, P&T, Pharmacy, Clinical Informatics	8/1/2023	8/1/2024	N/A	Reports of hypoglycemia following use of regular insulin (10 Units) to treat hyperkalemia, often with no additional BG checks or rescue dextrose medication orders	External resource	Revision of adult hyperkalemia order set: removal of 10 unit regular insulin entry; addition of weight-based insulin; addition of mandatory K and blood glucose checks; addition of pre-checked dextrose/glucagon rescue medications	Number of hypoglycemia events in patients that utilized the revised hyperkalemia order sets (before and after implementation of change)	<a href="#">Wheeler DT, Schafer SJ, Horwath TA, Deal EN, Tobin GS. Weight-based insulin dosing for acute hyperkalemia results in less hypoglycemia. J Hosp Med. 2016 May;11(5):355-7. doi: 10.1002/jhm.2545. Epub 2016 Jan 13. PMID: 26762588.</a>	EHR – Meditech Order Sets	proactive	
3	Opiate Withdrawal Order Set	P&T, Pharmacy Clinical Informatics	12/1/2023	7/1/2024	N/A	Low utilization since implementation of Opiate Withdrawal Order set in Dec 2023	Meditech Utilization of Opiate Withdrawal Order Set		Utilization Report over 1, 3, 6 months post strategy implementation	N/A	EHR-Meditech,	ongoing	Reviewed at Med Safety Committee Meeting (Aug 2024)
4	Formulary addition: Vivitrol Use in Outpatient Infusion Clinic	Medication Safety, P&T, Pharmacy, Clinical Informatics	2/1/2024	2/1/2025	TBD	Education disseminated to pharmacy and nursing staff to support appropriate use of Vivitrol in the outpatient infusion clinic	Provider request	Added Vivitrol to the formulary for use in the outpatient infusion center	Annual utilization review	N/A	EHR-Meditech,	ongoing	
5	Formulary addition: remifentanyl	Medication Safety, P&T, Pharmacy, Clinical Informatics	2/1/2024	2/1/2025	TBD	Evidence based practice	Provider request	Added remifentanyl to formulary; restricted to OR use	Annual utilization review	<a href="#">Doan V, Liu Y, Teeter EG, Smeltz AM, Vavalle JP, Kumar PA, Kolarczyk LM. Propofol Versus Remifentanyl Sedation for Transcatheter Aortic Valve Replacement: A Single Academic Center Experience. J Cardiothorac Vasc Anesth. 2022 Jan;36(1):103-108. doi: 10.1053/j.jvca.2021.04.038. Epub 2021 May 3. PMID: 34074554; PMCID: PMC8563487.</a>	EHR-Meditech,	ongoing	
6	Antibiotic Stewardship; Pharmacy Protocols: Standardized documentation of EIBL Pharmacy Protocol Consult (Adults)	ASP	4/1/2024	TBD	TBD	Lack of required documentation in the PHA interventions or within EMR for pharmacy protocol consult requested for EIBL administration.	Internal, retrospective review of Piperacillin/Tazobactam and Meropenem extended infusion protocols since Nov 2022	Creation of standardized interventions that pharmacists can use to document indication, current renal function, chosen loading and maintenance dose	MUE	IDSA	EHR – Meditech Order Sets; HealthStream Education for Pharmacists	retroactive	
7	Pharmacist driven Pediatric DKA protocol	Medication Safety, P&T, Pharmacy Clinical Informatics	5/1/2024	TBD	TBD	Create a protocol that would allow pharmacists to perform 2 bag system calculations for Pediatric DKA orders	Lack of a pharmacist protocol to drive calculations in a standardized way to support a pediatric DKA order	Aligning SVH protocol with Stanford Lucille Packard	Utilization analysis	Stanford: Lucille Packard Children's Hospital Dosing Guidelines	EHR-Meditech, Omnicell	proactive	Protocol and order set approval underway



*"Medication safety is like spinach....  
it helps you flex your patient care muscles"*

National Spinach Day March 26, 2025

# Medication Error Reduction Plan (MERP)

## Template



Washington  
Health

Viktoriya Ingram, PharmD, FISMP  
Medication Safety Officer

MSOS Briefing  
March 27, 2025



# MERP Table of Contents

## I. Overview & Background

1. MERP overview / goal
2. Healthcare system
3. Medication Analysis Committee (MAC)

## II. Measuring Medication Safety

1. Medication Error Reporting Rates
2. Reported Errors by Severity
3. Top Reported Medications

## III. Identify Deficiencies to Reduce Errors (11 processes)

## IV. Evaluate Effectiveness of MERP FY (Fiscal Year) 2024

## V. Strategize MERP FY 2025

## VI. Appendices

1. Use
2. Administration
3. Order Communication
4. Distribution
5. Monitoring
6. Prescribing
7. Dispensing
8. Education
9. Product Labeling
10. Packaging / Nomenclature
11. Compounding



## 1. MERP overview / goal

SB1875, approved in September 2000, makes it a condition of licensure that general acute care hospitals implement a formal plan **to eliminate or substantially reduce medication related errors** in the facility.

## 2. Healthcare system

Since 1958, Washington Health has been serving the San Francisco East Bay Area. Our healthcare system is affiliated with UCSF and includes a 415-bed acute care hospital, Level II trauma, 24-hour emergency care and pharmacy services, Birthing Center, Special Care Nursery, Cancer Center, certified stroke & spine surgery programs, cardiac and neuro surgery/interventions, Institute for Joint Replacement and Research, outpatient surgery and rehabilitation services, diabetes management program, respiratory care, and medical imaging.

# Overview & Background

## 3. MAC Committee

This committee **is responsible** for executing the MERP.

MAC **maintains multidisciplinary representation** from medical staff, frontline nurses and pharmacists, information services, diabetes and patient safety programs, laboratory, respiratory therapy, patient relation and risk management, department management, and nursing leadership.

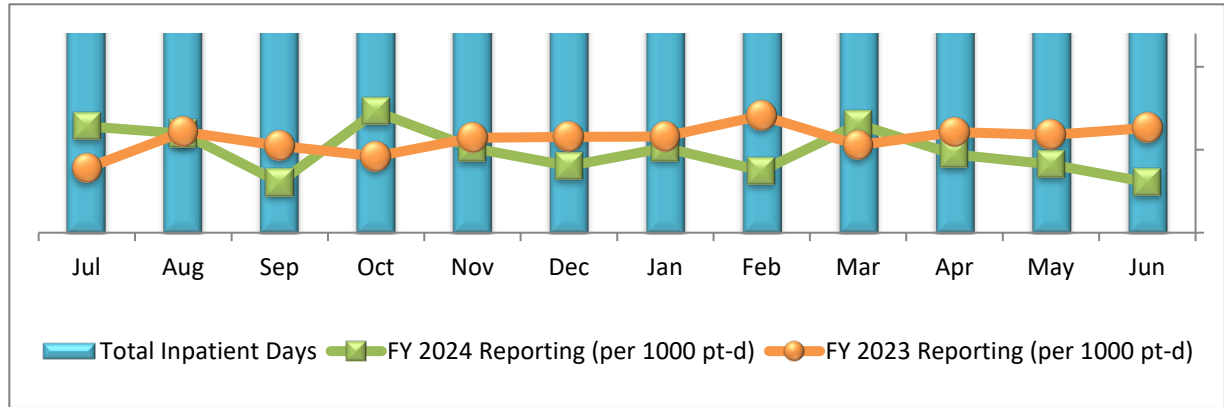
The committee is **co-chaired** by the medication safety officer and a physician champion with extensive knowledge of medication safety improvement.

The committee **analyzes** identified actual and potential medication errors and **uses these findings** to change current systems and procedures to reduce medication errors.

The committee **works in collaboration** with Nursing Councils and **reports to** Pharmacy, Nutrition, & Therapeutics Committee, Medical Executive Committee, Patient Safety Committee, and Quality Steering Council.



# 1. Medication Error Reporting Rates



	FY '18	FY '19	FY '20	FY '21	FY '22	FY '23	FY '24
Total Number of Reports							
Average Reporting Rate per 1000 Pt-Days							

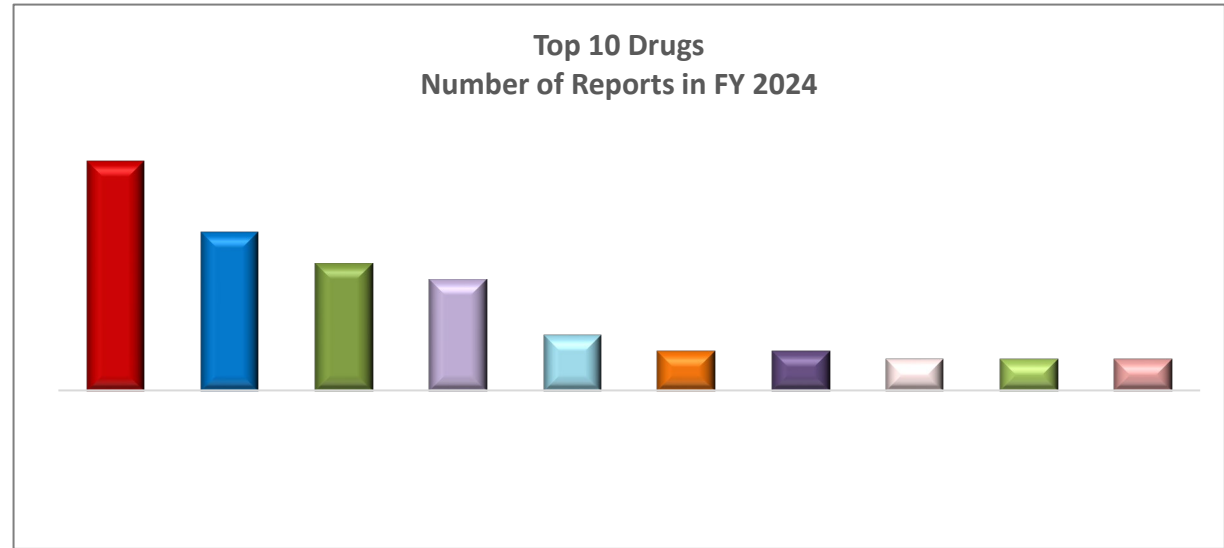
# 2. Reported Errors by Severity

NCC MERP Severity Categorization		FY '18	FY '19	FY '20	FY '21	FY '22	FY '23	FY '24
No Harm Errors								
A	CIRCUMSTANCES OR EVENTS HAVE THE CAPACITY TO CAUSE ERROR							
B	ERROR DID NOT REACH PT (ERROR OF OMISSION DOES REACH PT)							
C	AN ERROR REACHED THE PT BUT DID NOT CAUSE PT HARM							
D	ERROR REACHED PT & REQ MONITORING/INTERVENTION TO CONFIRM NO HARM							
Harm Errors								
E	ERROR CONTRIBUTED/RESULTED IN TEMP HARM & REQUIRED INTERVENTION							
F	ERROR CONTRIBUTED/RESULTED IN TEMP HARM & REQ'D HOSPITALIZATION							
G	ERROR CONTRIBUTED/RESULTED IN PERMANENT PATIENT HARM							
H	ERROR REQUIRED INTERVENTION NECESSARY TO SUSTAIN LIFE							
I	ERROR CONTRIBUTED/RESULTED IN PATIENT DEATH							
Total number of case reports with Severity A-I								

<https://www.nccmerp.org/sites/default/files/indexColor2001-06-12.pdf>

## Measuring Medication Safety

# 3. Top Reported Medications



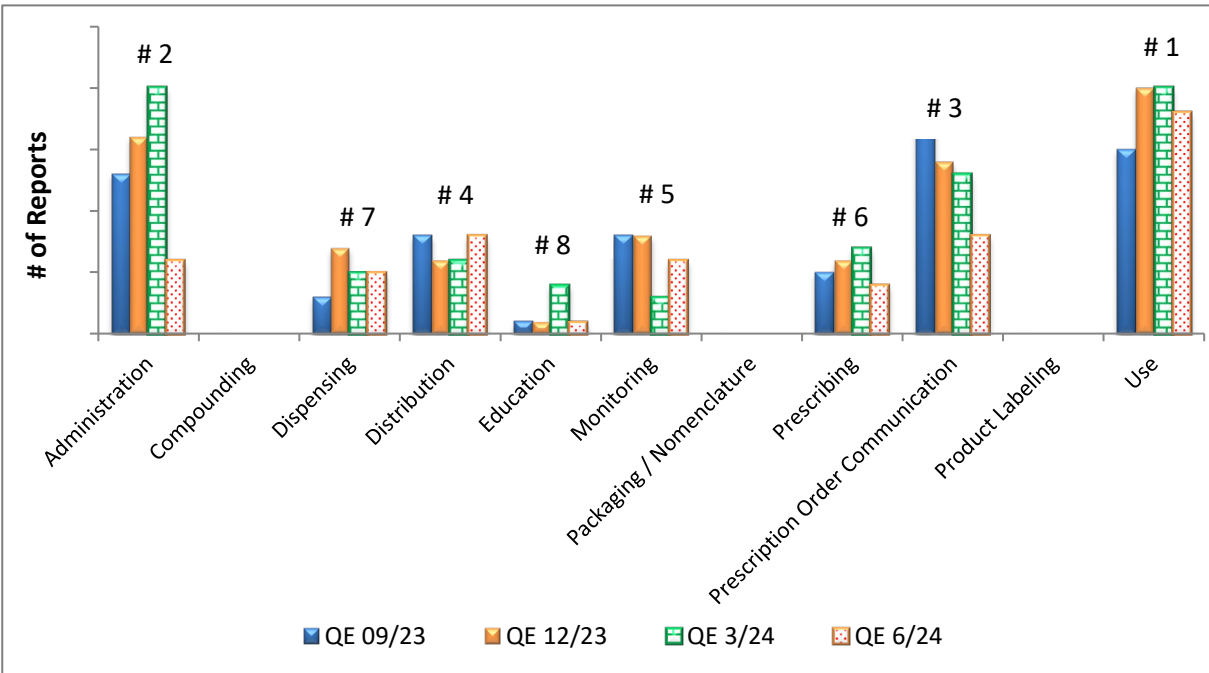
- Data is captured by **electronic reporting system** that allows categorizing events by severity, process, and type of event. **Consistency** is the key in categorizations.
- MERP emphasizes that error reporting trends
  - are **not for benchmarking** with other organizations;
  - reflect number of voluntary reports, **not all errors**;
  - reflect **culture of safety** (i.e., staff feel safe to report concerns and see reporting as a helpful tool in improvements);
  - help **identify and address** existing system weaknesses
- Significant events or events with potentially significant outcome trigger a more intense **root cause analysis by subcommittee**.





# Identify Deficiencies to Reduce Medication Errors

## Error Reporting Trends by Medication Process



A breakdown of the 11 processes with details of cases and actions in each category are documented in subsequent sections. Those sections comprise the main body of the MERP document.

### Target areas in each process section:

- Proactive, concurrent, and retrospective assessments with actions.
- Use of external resources.
- Use of technology to reduce medication errors.

## General Structure for Each Process Section

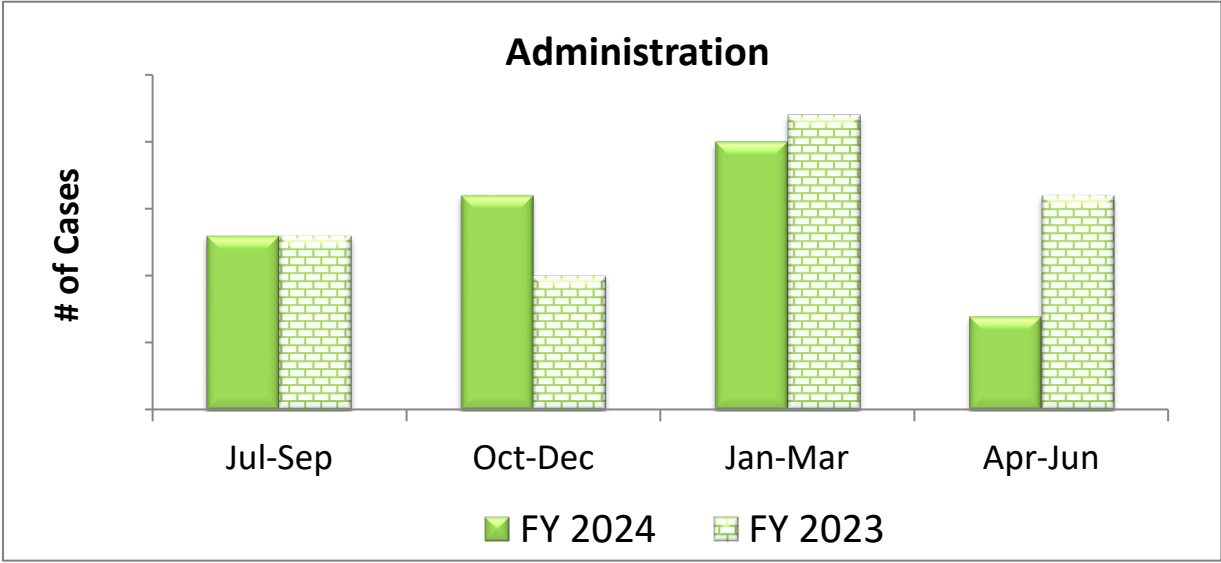
- **Title** [e.g., Use: X of XX (X%) of cases in FY 2024]
- **Assessment & Actions**
  - A. Event(s) summary  
(note if category  $\geq$  E, top 10 drug, new or recurrent, trends)  
ACTIONS: ...
  - B. Event(s) summary  
ACTIONS: ...
- **Completed Actions from FY 2024 / Proactive Project**
  - A. ...
  - B. ...
- **ISMP/ ECRI/ FDA/ TJC Alert:** Summary of alert
  - Assessment: ...
  - ACTIONS: ...
- **Graphs / References to the Appendix**
  - Compare effectiveness with previous years, trends in focus areas
- **FY 2025 Plan**
  - Additional actions and/or monitoring of actions from prior events.
  - New actions based on identified trends.
  - New audits or projects.



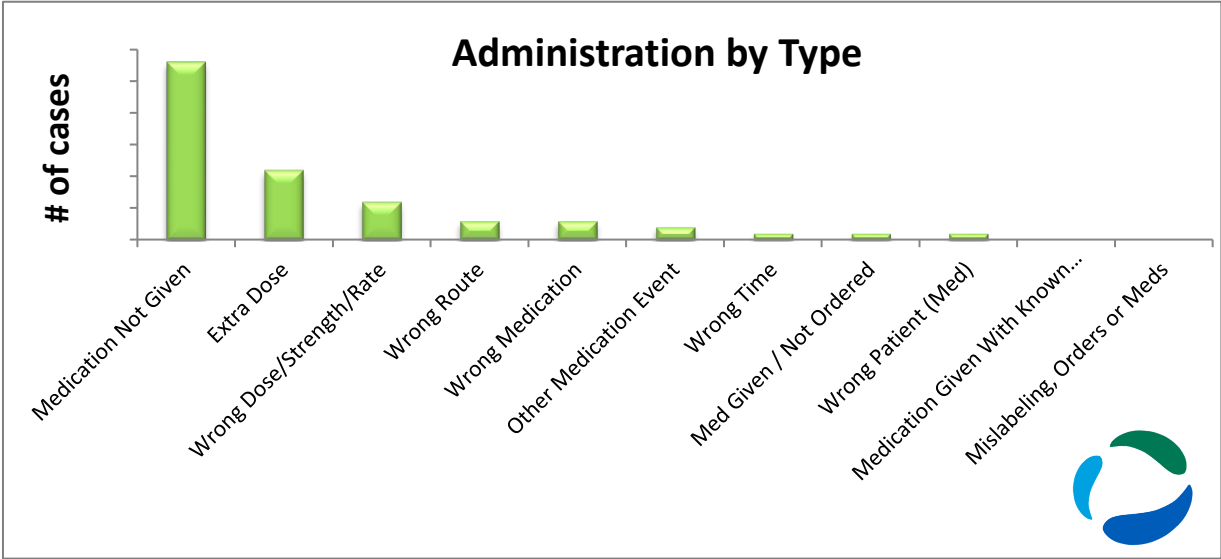
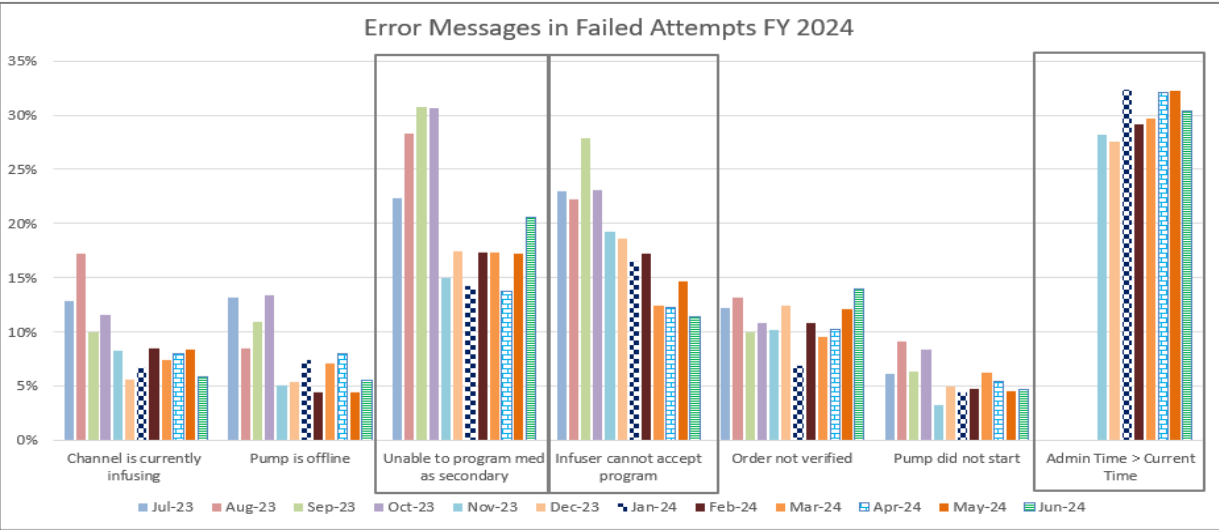


# Administration

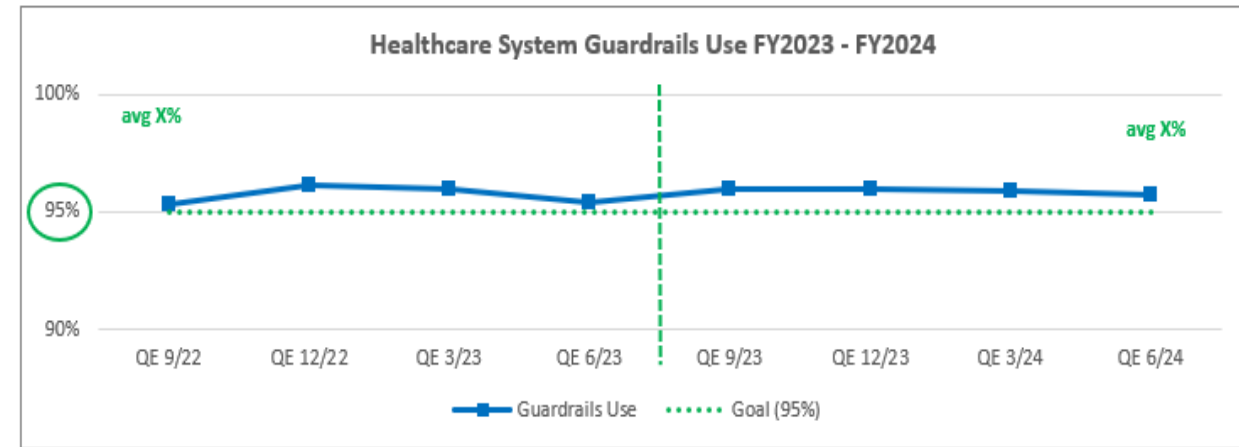
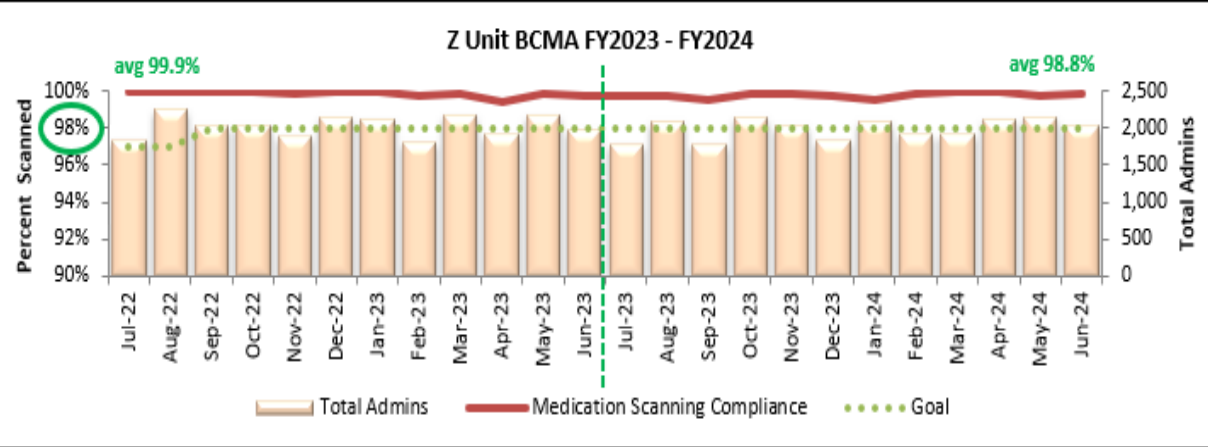
- Quarterly administration event trends in the last 2 years
- Administration event trends by event type and drug
- Actions for top administration event types
- Metrics with trends and actions:
  - ❖ Bar code medication administration
  - ❖ Smart pump pre-population
  - ❖ Smart pump pre-population failed attempts
  - ❖ Smart pump DERS use
- Expanding scanning and/or pump interoperability to other areas
- Related ECRI/ ISMP alerts



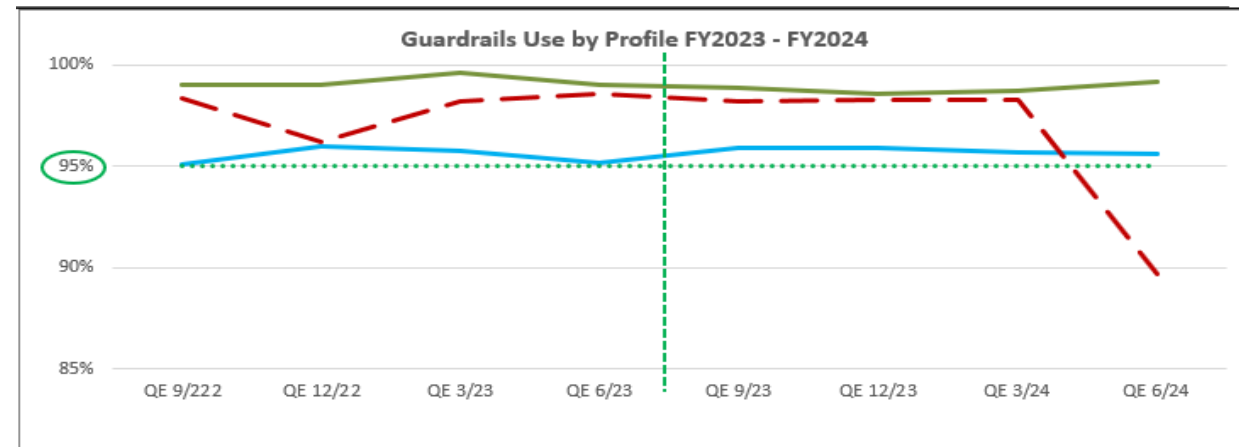
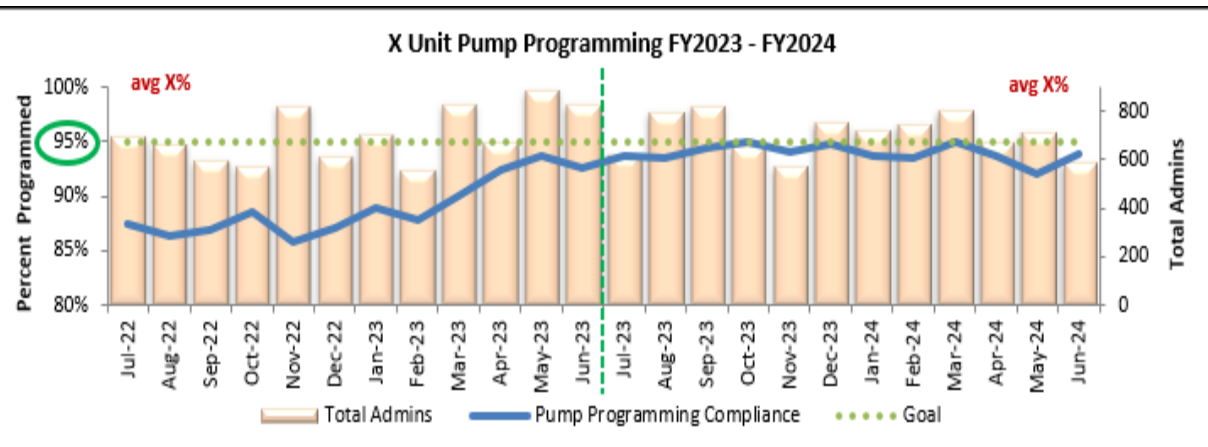
Identify Deficiencies to Reduce Medication Errors



## Administration (examples of metrics)



**Identify Deficiencies to  
Reduce Medication Errors**



## Use

- Use of devices, protocols, developed tools, etc.
- Smart pump events (see table)
- Smart pump patient ID usage
- Automated Dispensing Cabinet use (e.g., overrides)
- ECRI Top 10 Health Technology Hazards
- ECRI Top 10 Patient Safety Concerns
- ISMP Best Practices & Guidelines
- TJC standards, ECRI/ FDA recalls
- Extravasation management
- Follow-up on consults (e.g., pump vendor, ISMP)

Alaris Pump Events FY 2024	#
Out-of-scope medications/areas	
XX	
Manual programming (in-scope medications/areas)	
XX (interoperability not used)	
XX (changes at the pump – e.g., after pause)	
XX (titration order)	
XX (adjusting VTBI after sending order)	
Technical	
XX (IV lines mix-up)	
XX (pump battery died)	
Total events	

## Identify Deficiencies to Reduce Medication Errors

## Prescribing / Order Communication

- Implementation of electronic medication documentation for anesthesiologists
- Development of new and revision of existing order panels and order sets
- Concurrent pharmacy review of prescribing practices for select high-alert medications (e.g., Fentanyl patches)
- Proactive and retrospective assessment and actions for holding anticoagulants

## Product Labeling

- TJC National Patient Safety Goal on labeling medications/ solutions on and off the sterile field
- Audits of medication/ solution labeling in OR
- Review of options for improved medication labeling for anesthesiologists
- ISMP alerts related to commercial product labels



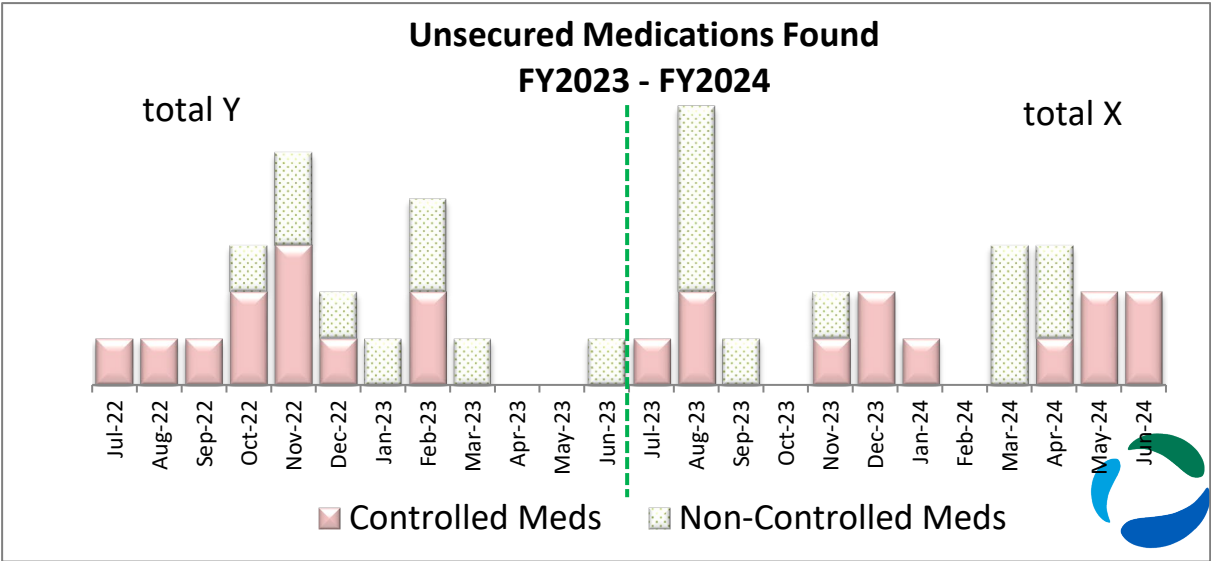
# Monitoring

- Critical drug level processing time
- Coordination of drug level draws with dose administration (e.g., Vancomycin peak and trough)
- Timely entry of patient weight and height on admission
- Baseline labs for Heparin
- Ensuring existing and newly-purchased gurney/beds' weight scales locked to kilograms
- Regular software upgrades to prevent issues with blood glucose monitors connectivity
- Hyper- and hypoglycemia monitoring
- Pharmacy dashboard on monitoring medications (e.g., antimicrobials, anticoagulants)
- Drug utilization evaluations

# Distribution

- Medications in unsecured location (reports, audits)
- Patient's own medications not returned on discharge
- Medications not transferred with patient
- Controlled substance diversion prevention projects

Identify Deficiencies to Reduce Medication Errors



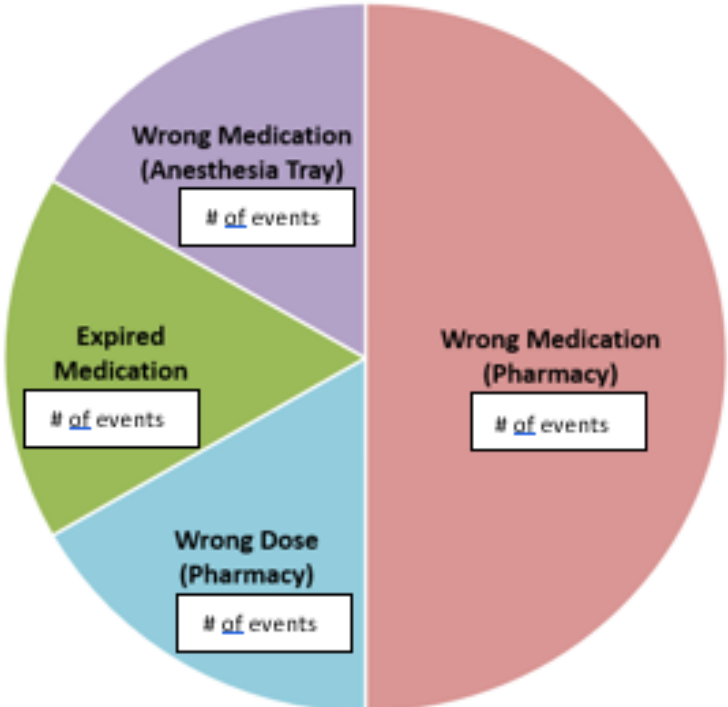
# Dispensing

- Medication dispensing events (see graph)
- Events and metrics related to pharmacy activities:
  - Order entry per pharmacy protocol
  - Medication reconciliation
- ISMP alerts
- Make sure as many medications as possible are in the most ready-to-administer, commercially available forms

# Education

- Patient's own medication(s) found at bedside or were reported as taken
- Patient education metrics:
  - Education for oral anticoagulant therapies
  - Pre-discharge medication education for patients ≥ 75 years of age with a risk of readmission
- Staff education: annual education, new staff orientation (hazardous drugs, diabetes management)

Identify Deficiencies to Reduce Medication Errors



# Packaging & Nomenclature

- Look-alike / sound-alike (LASA) medication events
- Annual review and update of LASA medication list

# Compounding

- Sterile IV preparation barcode scanning
- Explore options for incorporating technology in sterile product compounding (e.g., image capturing)



## Evaluate Effectiveness of MERP FY 2024

### Targets Met for FY 2024

- Met goals
- Completed projects
- Improvements in target areas
- Positive trends

### Room for Improvement

- Not met goals
- Incomplete projects
- Negative trends
- New medications on top 10 medication list

## Strategize MERP FY 2025

### Emphasize values and approaches

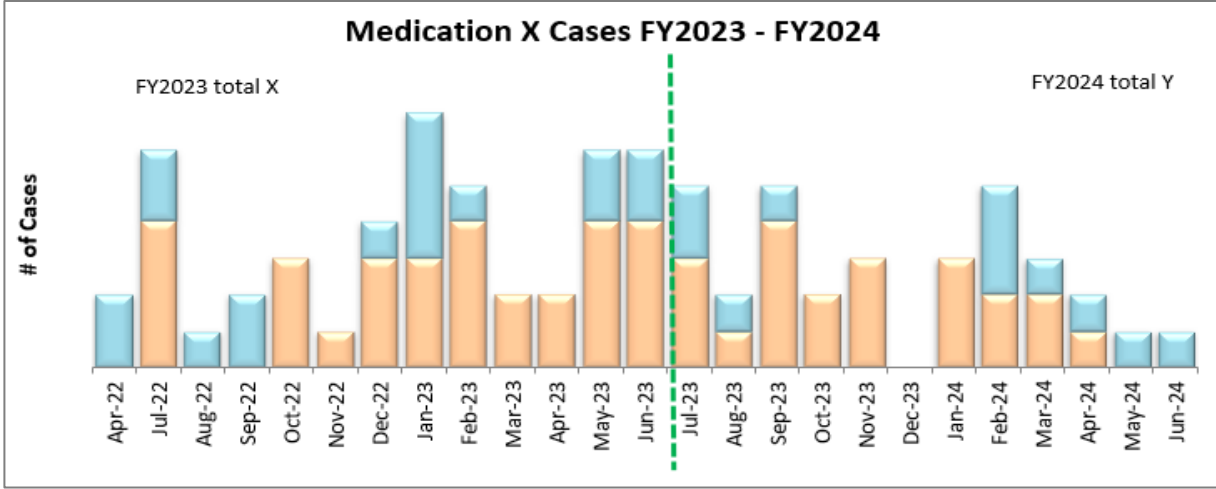
- Support culture of safety and collaboration (good catch awards, 'Thank You' letters for self-reports, involving stakeholders in decision making, and sharing completed projects in response to reports)
- Foster spirit of active listening, respect for unique perspectives, and celebration of accomplishments
- Incorporate error reports, patient grievances, and data
- Utilize ISMP's hierarchy of risk-reduction strategies

### Set goals and outline significant projects

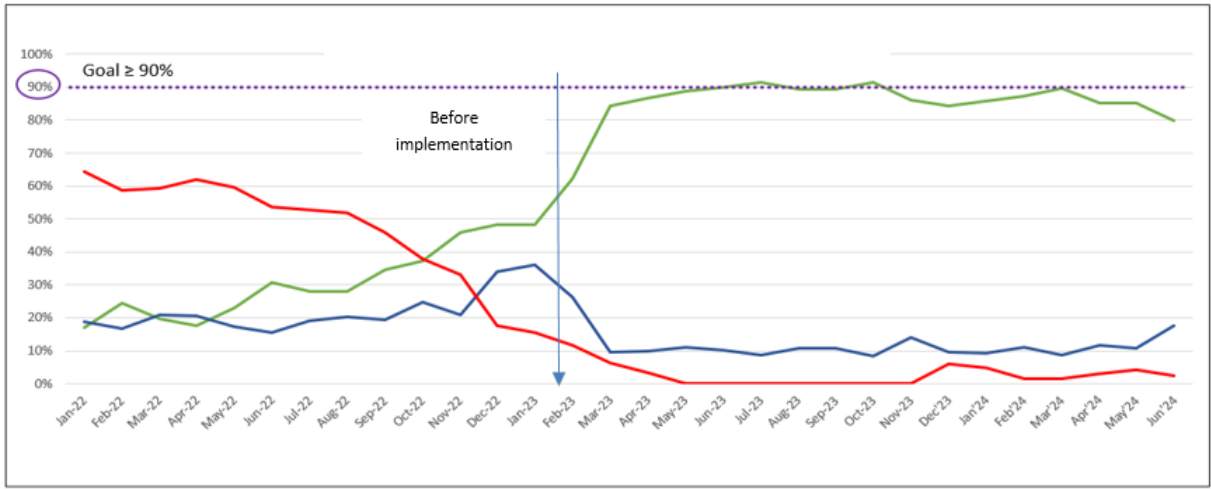
- Determine new metric goals, as applicable
- Outline areas of focus for targeted actions
- Outline priority actions
- Determine a new proactive risk assessment
- Decide on metrics/ audits for monitoring medication safety with initiation of new services/ devices/ etc.



# Top Medication in Reports



# Trends Before & After Project Implementation



## Appendices (examples)

**Medication X Event Breakdown – FY 2024**

Type of Dose	Event Type	# of Events*
X Doses	Event description	X (Y)
	Total X Dose Events	X (Y)
Y Doses	Event description	X (Y)
	Total Y Dose Events	Y (Y)

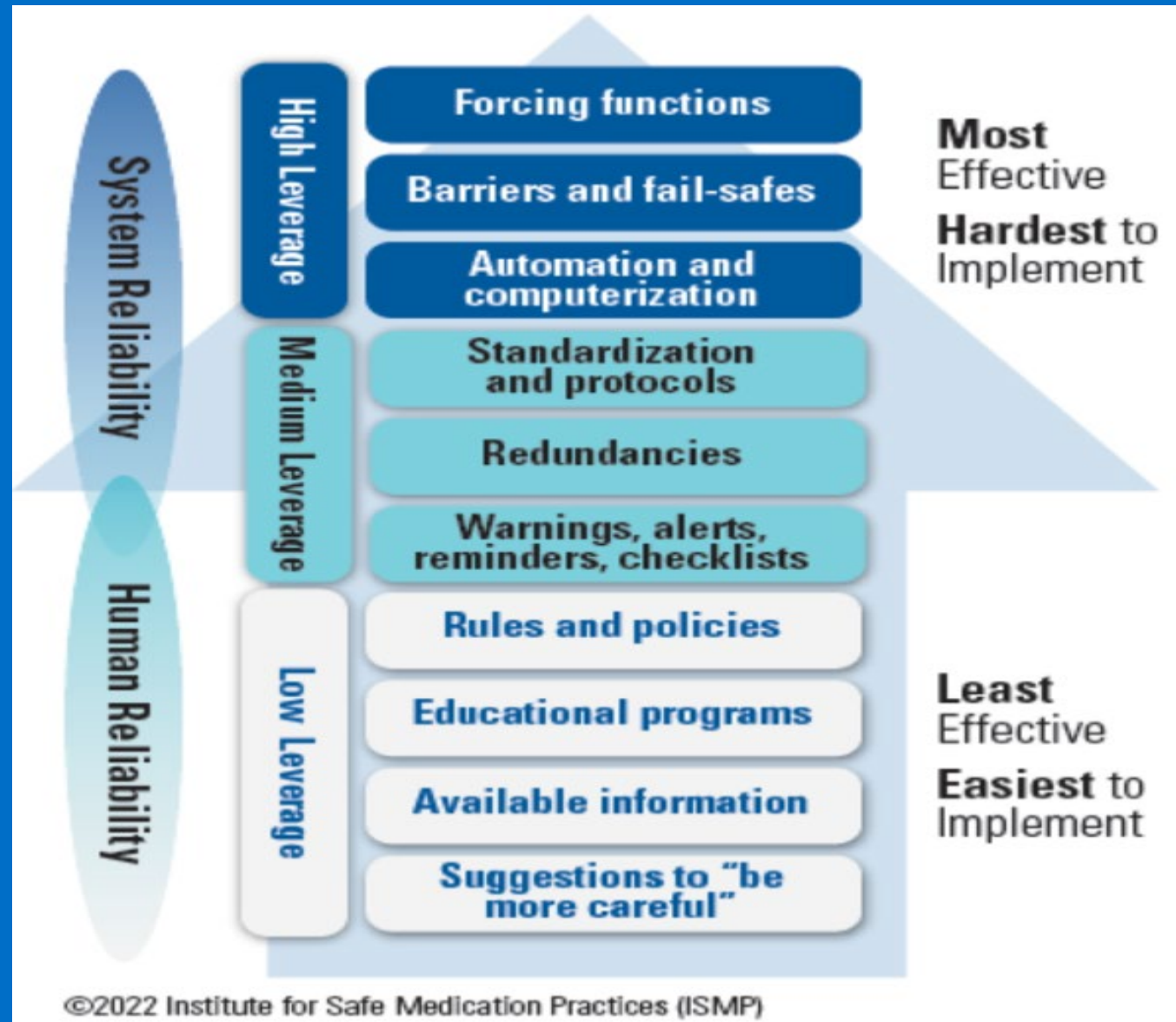
\*In parenthesis - # of events in prior FY (FY 2023)

## Proactive Assessment Actions

Action Item	Status
	completed
	completed
	completed
	pending
	ongoing
	completed
	in progress
	pending
	ongoing
	completed
	in progress
	completed









# Living MERP

## MAC ACTION ITEMS – MARCH 2025

DATE	ACTION ITEMS	RESPONSIBLE	STATUS
2/13/25	<b>Issue / Action Title</b> - Brief event/ issue summary - Actions	XX YY	<input checked="" type="checkbox"/> IN PROGRESS <input type="checkbox"/> PENDING APPROVAL <input type="checkbox"/> CLOSED

## MERP ACTION ITEMS – MARCH 2025

DATE	ACTION ITEMS	RESPONSIBLE	STATUS
1/13/25	<b>Issue / Action Title</b> - Brief event/ issue summary - Actions - Progress notes with actions in-progress, communication with dates, screenshots	YY XX	<input checked="" type="checkbox"/> IN PROGRESS <input type="checkbox"/> PENDING APPROVAL <input type="checkbox"/> CLOSED

## CLOSED ACTION ITEMS FY 2025

DATE INITIATED	ACTION ITEM	RESPONSIBLE	STATUS
12/13/24	<b>Issue /Action Title</b> - Brief event/ issue summary - Completed actions - Screenshots / Inserted document	AA	<input type="checkbox"/> IN PROGRESS <input type="checkbox"/> PENDING APPROVAL <input checked="" type="checkbox"/> CLOSED (3/8/25)





**Thank You**

# MERP Panel Discussion

Loriann DeMartini, PharmD, MPH,  
BCGP

Chief Executive Officer  
California Society of Health  
System Pharmacists

Abhi Mehta, PharmD, MS, MBA

Medication Safety Officer  
Salinas Valley Health

Viktoriya Ingram, Pharm D, FISMP

Medication Safety Officer  
Washington Health

Mara Miller, PharmD, BCPS  
Medication Safety Coordinator  
Kaweah Health

Shannon Bertagnoli, PharmD  
Medication Safety Specialist ISMP  
Former Medication Safety &  
Quality Specialist, Children's  
Hospital of Orange County  
(CHOC)

Rita K. Jew, PharmD, MBA, FASHP  
President ISMP  
Former Director of Pharmacy,  
University of California San  
Francisco and former Executive  
Director, CHOC





# ISMP Update MSOS Briefing March 2025

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**Rita K. Jew, PharmD, MBA, BCPPS, FASHP**  
President  
Institute for Safe Medication Practices

# Another Case of Nursing Criminalization

February 13, 2025 | Volume 30 ■ Issue 3

## Acute Care

# ISMP Medication Safety Alert!®

Educating the Healthcare Community About Safe Medication Practices



## Another case of nursing criminalization—LTC must improve systems, not blame nurses—Part I



**PROBLEM:** We recently heard about a series of latent and active system failures, which contributed to a licensed practical nurse (LPN) administering another resident's opioid infusion to a patient in a long-term care (LTC) facility instead of the prescribed antibiotic infusion. The patient died, and first and foremost, our heartfelt condolences go out to the patient's family for their tragic loss. This event occurred in 2017, at which time the nurse voluntarily surrendered her license but was indicted on second-degree reckless manslaughter in 2022. Unlike the [2022 conviction of RaDonna Vaught](#) for criminally negligent homicide and gross neglect of an impaired adult following the 2017 death of Charlene Murphey, this event did not gain national attention.

[conviction of RaDonna Vaught](#) for criminally negligent homicide and gross neglect of an impaired adult following the 2017 death of Charlene Murphey, this event did not gain national attention.

February 27, 2025 | Volume 30 ■ Issue 4

## Acute Care

# ISMP Medication Safety Alert!®

Educating the Healthcare Community About Safe Medication Practices



## A deeper dive into active failures and accountability using Just Culture principles—Part II



**PROBLEM:** In our last newsletter, in the main article, [Another case of nursing criminalization—Long-term care facilities must improve systems, not blame nurses—Part I](#), we discussed how a series of organizational latent system failures and practitioners' active failures contributed to a patient in a long-term care (LTC) facility receiving an opioid infusion instead of the prescribed antibiotic infusion. A nurse attempted to place a **HYDROMORPHONE** infusion bag for a hospice patient in the locked compartment of a medication refrigerator. When it would not fit, the nursing supervisor instructed her to place it on a refrigerator shelf. The only other patient on the unit receiving a medication infusion was a post-operative (post-op) patient who was prescribed cef**T**azidime. The

## SAFETY brief



**Magnesium almost administered instead of heparin.** A nurse obtained a bag of what she thought was heparin sodium injection (25,000 units/250 mL) from an automated dispensing cabinet (ADC). Right before the nurse hung the bag on the patient's intravenous (IV) pole, she identified it was actually a bag of magnesium sulfate injection (20 g/500 mL). A pharmacy technician mistakenly stocked the magnesium bag in the heparin bin in the ADC. Both products by Hospira are supplied in clear bags

# Ochsner Children's & ISMP Safe Medication Management Fellowship

- One-year program beginning in the summer of 2025
- Unparalleled opportunity to learn from and work with some of the nation's top experts in medication safety, while supporting medication safety initiatives and error prevention strategies in pediatrics
- This fellowship requires working on site at Ochsner Health in New Orleans, LA, with additional remote work with ISMP



# CA Board of Pharmacy Medication Error Reporting Program

STATE OF CALIFORNIA - STATE AND CONSUMER SERVICES AGENCY

GOVERNOR Gavin Newsom.



Department of Consumer Affairs  
Business Services Office - Contracts  
1625 N. Market Blvd., Suite S-103  
Sacramento, CA 95834



September 13, 2024

## **NOTICE OF INTENT TO AWARD**

It is the intent of the Department of Consumer Affairs to award RFP No. PHARMACY-24-02 Medication Error Reporting to:

**Institute for Safe Medication Practices dba ISMP  
5200 Butler Pike, Plymouth Meeting, PA 19462**

# Membership Website Enhancement

☰

ECRI

Rita Jew

🔍

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My ECRI / General / ISMP Medication Safety Alert! Community/Ambulatory Care Newsletter Library

ISMP Medication Safety Alert! Community/Ambulatory Care Newsletter Library

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Community/Ambulatory Care

ISMP Medication Safety Alert!

Educating the Healthcare Community About Safe Medication Practices

ISMP

March 2025

Advise Patients to Beware of Desiccants in CRESEMBA Unit-Dose Blisters

Hazard: Unmet technology support needs for home care patients

Alert! InFLIXimab-dyyb is the nonproprietary name for both INFLECTRA and ZYMFENTRA

Safety Brief: HIBERIX diluent syringe administered as vaccine

Safety Brief: Look-alike amiodarone and tramadol bottles

Full issue PDF

Rita Jew

🔍

← Go back

My ECRI / Article / Advise Patients to Beware of Desiccants in Cresemba Unit-Dose Blisters

Advise Patients to Beware of Desiccants in Cresemba Unit-Dose Blisters

ISMP Publication

Published Date: March 17, 2025

Article ISMP

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**Problem:** Astellas Pharma manufactures **CRESEMBA** (isavuconazonium sulfate) in blister packs containing 74.5 mg or 186 mg capsules. It is an antifungal agent indicated for the treatment of invasive aspergillus and mucormycosis in adults and pediatric patients 6 years of age and older who weigh at least 16 kg. The 74.5 mg strength is packaged in a carton of 7 blister packs. Each blister pack contains five capsule sheets; each capsule is packaged with a corresponding desiccant. The 186 mg strength is packaged in a carton of 2 blister packs. Each sheet contains seven capsules, and again, each capsule is packaged corresponding desiccant (**Figure 1**).

Each desiccant blister is labeled with "Contains desiccant to protect from moisture. Do not open. Do not eat." However, this warning may be missed as it is only printed on one side of the blister and is in a small size. The warning "DO NOT EAT" is also included on the desiccant itself but it may also be difficult to read and be missed. Because a desiccant-containing blister could be easily mistaken for a medication-containing blister (**Figure 2**), there is a risk that a patient may accidentally ingest a desiccant.





Figure 1. Individual blister containing one desiccant (rectangular well on left) and one Cresemba 186 mg capsule (oval well on right).





# LIVE ISMP Symposia at State Pharmacy Meetings

## Applying Best Practices for Injection Safety: A “How To” Roadmap

### — TSHP Seminar 2025

- Thursday, April 3, 2025
- 11:30 am - 1:00 pm
- Irving Convention Center at Las Colinas, Irving, TX

### — NYSCHP 2025 Annual Assembly

- Saturday, April 5, 2025
- 12:30 pm - 2:00 pm
- Saratoga Springs Hilton and City Center, Saratoga Springs, NY

# Upcoming Educational Programs

<https://home.ecri.org/products/medication-safety-intensive-workshop>

- Medication Safety Intensive Workshops (Virtual)
  - May 8 & 9
  - August 14 & 15
  - October 16 & 17
  - December 4 & 5
- Medication Safety Intensive Workshops for Community & Specialty Pharmacies
  - Apr 25 & May 2
  - Sep 26 & Oct 3

# Questions?



- A copy of today's slides will be posted on our website.
  - Next MSOS Briefing date – **May 22<sup>nd</sup>, 2025.**