Los Angeles General
Medical Center

MEDICATION SAFETY PLAN
2023 - 2024

I. Overview/Background

The Los Angeles General Medical Center provides a full spectrum of emergency, inpatient, and outpatient services. The Medical Center's mission is to provide accessible, affordable, and culturally sensitive health care, one person at a time. Our vision is to be a fully integrated health care delivery system providing high quality and cost-effective clinical services that meet the needs of our communities. The success of the Los Angeles General Medical Center is dependent upon the following organizational values:

- Providing a continuity of quality health care.
- Providing services regardless of an individual's economic status.
- Providing services in a customer-oriented, professional, and courteous manner.
- Being responsive to the needs of the community and people served.
- Respecting and appreciating our patients, families, volunteers, and fellow employees.
- Providing cost-effective quality care.
- Using resources effectively and in the best interest of our patients and communities.
- Continuously improving the quality of services provided to our external and internal customers.
- Contributing and supporting ongoing education and research.
- Partnering with the community and schools of medicine, nursing and allied health.

Los Angeles General Medical Center is a Los Angeles County government facility, located at 1200 North State Street, in East Los Angeles. The Los Angeles General Medical Center is one of the nation's largest teaching centers, with a national reputation for excellence through its affiliation with the Keck School of Medicine and the USC School of Pharmacy.

The Los Angeles General Medical Center functions as a Level 1 trauma center while providing a variety of emergency, medical, surgical, obstetrical, gynecological, and pediatric and specialty services. Psychiatric services are offered for mental disorders in adults, adolescents, and children. The Medical Center is licensed for 676 beds and is one of the leading resources in the United States for health training of physicians, nurses, and allied health care personnel. Annual workload statistics for the Medical Center for Fiscal Year 2022-2023 are:

- Admissions: 29,406
- Patient days: 170940
  - Average Operational Length of Stay of 5.79
  - Average Daily Census of 468.33
- Patient Discharge: 29,731
- Outpatient Room Visits: 453,497
- Emergency Room Visits: 591,259
- Births: 1,150

Safe and effective use of medications is an important issue for all DHS facilities. The Medical Center has embraced the SB 1875 legislation mandating institutions to develop a process driven approach to improved medication safety. Medication safety is a component of the Medical Center's overall quality improvement program and is an important part of our overall commitment to patient safety. The SB

1875 plan is intended to provide an overview of actions demonstrating the Medical Center's focus to increase tracking and reducing medication-related errors.

II. Objectives of the Medication Safety Plan

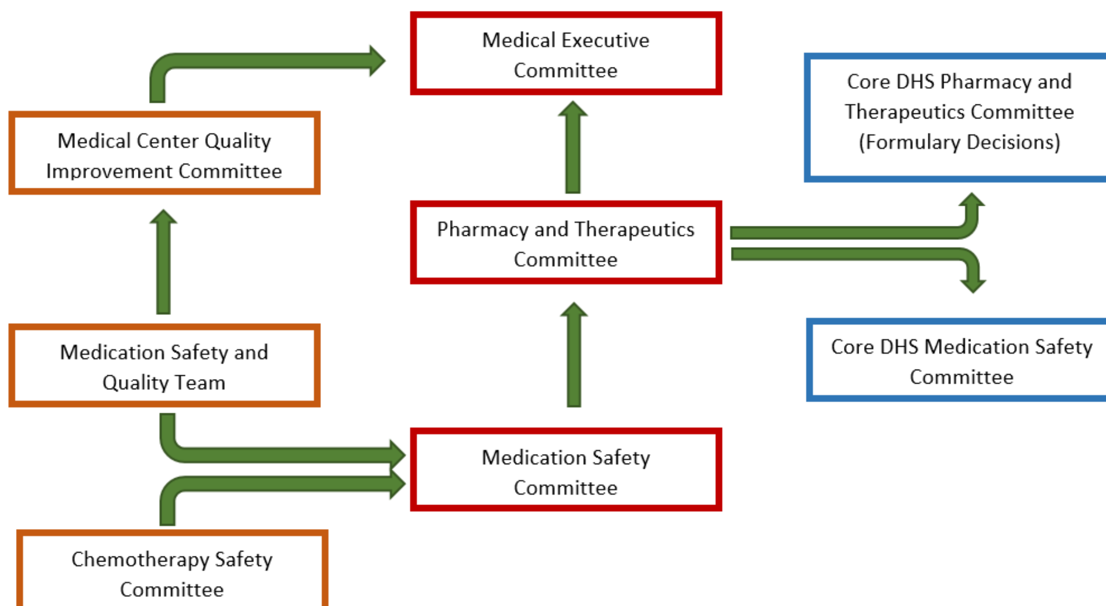
The primary objective of the Los Angeles General Medical Center Medication Safety Plan is to promote the fact that medication safety is a critical component to the hospital's overall strategic plan. The plan is designed to facilitate a culture of safety and strategize proactive steps to effectively eliminate or substantially reduce medication-related errors.
The overall goals of this plan relate to:

1- Medication Effectiveness
2- Medication Safety
3- Multi-Disciplinary Coordination
4- Data Collection

III. Organization/Governance Los Angeles General Medical Center

The Medication Safety Subcommittee is chaired by a physician and members by a multi-disciplinary team. The Medication Safety Subcommittee is chartered by the Pharmacy & Therapeutics Committee with the explicit charge to evaluate and recommend process improvements for adverse drug events. The Pharmacy & Therapeutics Committee will approve corrective actions and report to the Medical Executive Committee for final approval and implementation.

- The Pharmacy Department has an extensive quality assurance review process and provides reports to the Medical Center Quality Improvement Committee which reports to the Medical Executive Committee.



IV. Reporting Systems and Monitoring

- Medication error surveillance consists of a multi-pronged approach to identify medication errors, utilizing the following components:
  - Voluntary incident reporting system (Datix: Safety Intelligence) and documentation of pharmacy interventions, through the electronic health record, called "ORCHID". These reporting mechanisms are of particular importance for potential medication-related events (e.g., near misses and harm score), which are not documented in the patient medical record.
  - Pharmacists review electronic medical records, and medication administration records utilizing "Triggers" to identify potential medication related events.
  - Review of pharmacy automation medication cabinet data trends to identify potential areas for medication diversion in areas that utilize automated dispensing cabinets.
  - Pharmacist review of anesthesiology records and dispense records to identify potential diversion trends.
  - Review of smart pump alert data to identify potential areas for improvement of smart pump programming, dosing parameters, and other quality areas to improve safety.

- Analysis of Medication-Related Events:

  - Medication Safety Subcommittee reviews all documented medication error events from surveillance tracking activities, as well as the result of data trending of automated systems. The analysis is trended for severity, medication type, system breakdown point, location, and shift, to identify opportunities for systems improvement.
  - Medication Safety Subcommittee forwards a summary of the analysis to the Pharmacy & Therapeutics Committee, with recommended corrective actions.
  - The Pharmacy & Therapeutics Committee develops a system or procedural improvements with final approval or unresolved issues being the responsibility of the Medical Executive Committee.

V. Process

- The Medication Safety Plan was developed through the interdisciplinary efforts of the Medication Safety Committee, consisting of physician, nursing, pharmacy, information systems, hospital administration, and risk management staff. To develop this plan, the following reviews occurred, prompting revision of the plan as appropriate:

  - Reviewed Institute for Safe Medication Practices (ISMP) medication safety survey tools: Best Practice Guidelines and Action Agenda Items.[1]
  - Reviewed current literature regarding medication error tracking, trending, and system tools to improve medication safety.
  - Reviewed current facility reporting procedures and number/type of medication-related errors currently reported.
  - Collaborated with other Pharmacy Directors within the Los Angeles County Department of Health Service with involvement in medication error educational efforts through the California Society of Health Systems Pharmacists and the American Society of Health Systems Pharmacists.
  - Reviewed medication safety guidelines published by the California Hospital Association Medication Safety Committee
  - Reviewed Failure Mode Effect Analysis outcomes for opportunities for system

improvement.

- Review publications related to medication safety from external sources. Sources include, but not limited to:
  - CDC, FDA, IHI, ISMP, NAN, Pharmacy Times and TJC.
- Reviewed DHS Expected Practice Recommendations

1. Institute for Safe Medication Practices (ISMP) and outside evidence-based tools

(California Hospital Association Medication Safety guidelines, CDPH AFL) are used to evaluate current medication use practices for system improvement. Based on the findings of the survey results and facility comparisons specific actions were targeted to reduce the incidence of medication errors and are included in the Medical Center's medication safety plan. The plan will be reviewed annually and modified as a result of trending data. During the annual review, the plan effectiveness will be reassessed, to determine the status in reducing medication-related errors.

VI. Implementation/Technology strategies

Los Angeles General Medical Center has implemented the following technology tools to reduce medication errors:

- An electronic drug formulary is available to all health professional staff through the LA General intranet. The formulary provides information regarding drug warnings, including black box warnings, and links to additional drug information through Micromedex

- Drug information is readily available in all patient care areas through the Medical Center intranet. Drug information sources include Micromedex, Medline Plus, OVID databases, Medwatch Drug Alerts, Up-to-Date, Drug Bulletins, Black Box warnings, SDS (Safety Data Sheets)

- Pyxis MedStation automation is available in most hospital medication storage areas, most with profile review. This system with pharmacist profile review is located in the inpatient areas of the hospital. The Medical Center strategy is to maximize Pyxis MedStation access throughout the hospital, including high risk ambulatory care areas.

- Implemented E-Script and new retail pharmacy system in both clinic tower and outpatient building pharmacies, facilitating transmission and processing of electronic ambulatory prescriptions.

- Implemented the use of Alaris smart pumps with Guardrails and Interoperability software between electronic health records (EHR) to reduce medication administration errors. This involved the standardization of infusion solutions and the creation of high and low dose alerts and hard stops. Data reports from this software are continually analyzed for medication safety improvement opportunities.

- Implemented the use of Cerner electronic health record system (ORCHID) as the Department of Health Services Computerized Physician Order Entry (CPOE), with ongoing monitoring of EHR to maximize medication safety Implemented a communication link between the Alaris Smart Pumps and Cerner to reduce transcription error of infusion rates and report actual pump volume / rate administration back to the patients' electronic charts.

- Improved communication efforts regarding discharge prescriptions through existing electronic system.

- In process of implementing a strategy for the use of CPOE order for antineoplastic medications.

- Identified options for access to outpatient-controlled substance prescription writing capability for residency staff.

- Implemented bedside bar-coding scanning for medication administration (BCMA), with ongoing monitoring of BMCA compliance.

VII. Review of 2022/2023

During the 2022/2023 year the Medication Safety Subcommittee worked on multiple projects that aligned with the goals of the Los Angeles General Medical Center Medication Safety Plan.
Among these were:

1. Standardizing Medication Order Sets
    a. Intravenous Amphotericin Products
        i. Due to errors related to providers choosing the incorrect formulation of Amphotericin for the indication
        ii. Providers not ordering the proper pre-medications
        iii. Errors with incorrect duration of infusion
    b. Intravenous Acetylcysteine
        i. In process to control correct dosing and administration
2. Malignant Hyperthermia Cart
    a. Updated to meet recent guidelines
    b. Implementing hospital wide mock drills
3. Anaphylaxis Treatment Improvement
    a. Resulted from errors in epinephrine administration for anaphylaxis
    b. Developed epinephrine dosing guide and anaphylaxis kits for high-risk areas
4. Crash Cart Tray Revision
    a. Incorporated epinephrine dosing guide into crash cart medication trays throughout hospital
    b. In process revising remainder of medication tray to make for a more user-friendly set up with clear areas for each medication vial and color-coded labeling
    c. Surveyed hospital staff to ensure safety and usability of modifications
5. Pain Management Order Set Update
    a. Involved in roll-out of new pain management order set created to optimize pain medication therapy and prevent duplicate indications
    b. Resulted from errors in opioid dosing and confusion related to pain medication administration
6. Data Collection
    a. Developed report that gives leadership better understanding of medication management process and areas that require more attention and improvements
7. ISMP Targeted Goals Achieved

VIII. Goals for 2023/2024

Specific goals for the 2023/2024 year include:

1. Medication Effectiveness
    a. Identify practices that require improvement and coordinate tactics to augment effectiveness.
        i. Standardizing Medication Order-Sets that are associated with high rates of medication errors. Finalize Intravenous Amphotericin Products and Intravenous Acetylcysteine order sets. Identify other medications with need for order-set.
    b. Expand Alaris intra-operability
8. Medication Safety
    a. Align efforts to attain compliance with ISMP Best Practice Guidelines for 2023-2024
        i. Safeguards against errors with oxytocin use
        ii. Maximize the use of barcode verification beyond inpatient care areas
        iii. Layer numerous strategies throughout the medication use process to improve safety with high-alert medications.
9. Multi-Disciplinary Coordination
    a. Align strategies in parallel with all different stakeholders
    b. Adhere to set protocol and procedures for development and implementation of improvement strategies
10. Data Collection
    a. Develop reports that give leadership better understanding of process steps of medication management that require attention and improvements
    b. Measure metrics on efficacy of projects i.e., epinephrine dosing
    c. Measure pyxis stock out rates to address room for improvement in delays of therapy due to stock outs
11. ISMP Targeted Goals
12. Completion of ongoing projects from 2022/2023
    a. Crash cart tray revision
    b. Malignant Hyperthermia Cart