



UNIVERSITY *of* CALIFORNIA  
SAN DIEGO

---

MEDICAL CENTER

---

# **Overview of eMAR**

## **Electronic Medication Administration Record**

**March 2006**

# WHAT IS eMAR?

---

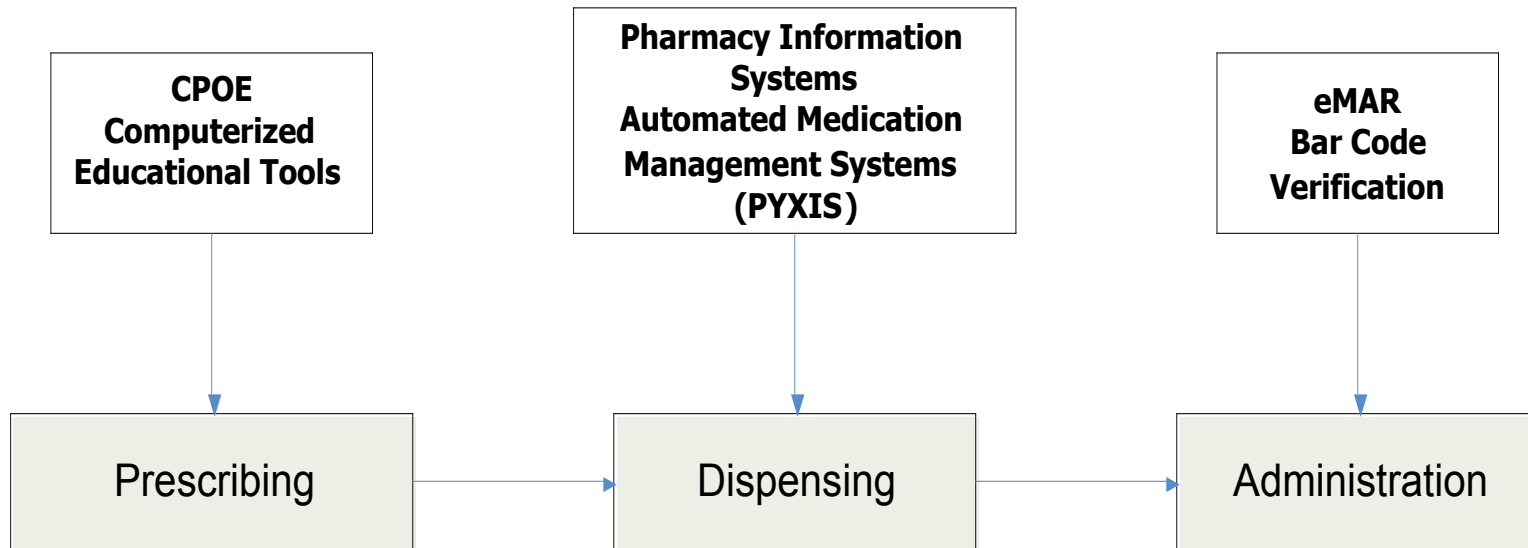


- eMAR – Electronic Medication Administration Record -  
Replaces the paper MAR
- MAK – Medication Administration Check (Siemens)
- Main Components:
  - **Bar-coding of medication;**
  - **Bar-coding of patient wrist band;**
  - **Bar-coding of employee;**
  - **Scanning all of the above into the MAK system to ensure the “6 Rights” of Medication Administration are met.**

# MEDICATION PROCESS FLOW WITH TECHNOLOGY APPLICATIONS



UNIVERSITY of CALIFORNIA  
SAN DIEGO  
MEDICAL CENTER



# INDUSTRY DRIVERS

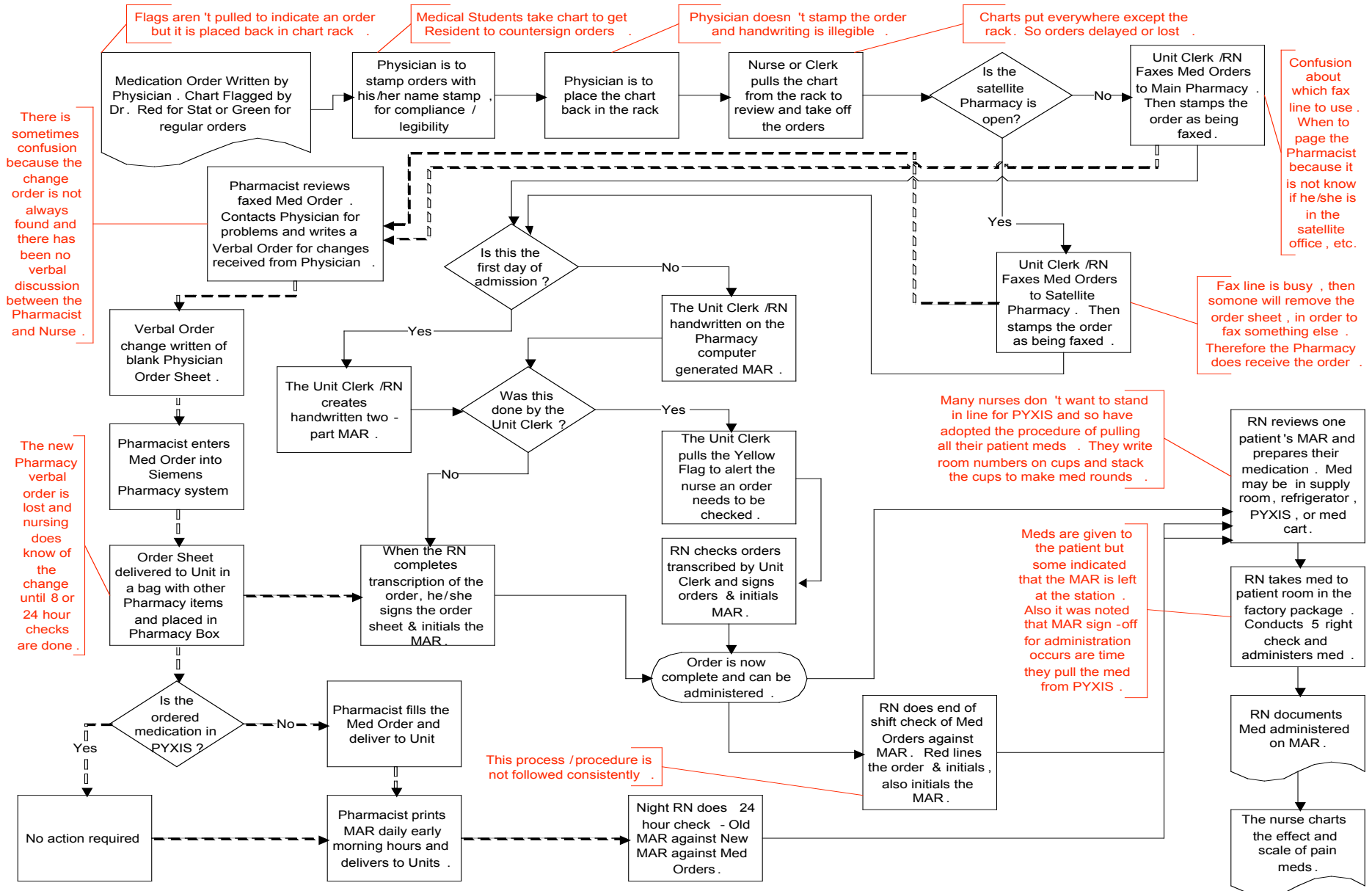
---



UNIVERSITY of CALIFORNIA  
SAN DIEGO  
MEDICAL CENTER

- To Err is Human, Institute of Medicine
- The Leapfrog Group
- Crossing the Quality Chasm, Institute of Medicine
- Reducing and Preventing Adverse Drug Events
- Hospital Costs, AHRQ
- Patient Safety Act of 2001
- JCAHO Patient Safety Standards

# MANUAL MEDICATION MANAGEMENT PROCESS



# HIGH LEVEL MEDICATION ADMINISTRATION PROCESS WITH eMAR



UNIVERSITY of CALIFORNIA  
SAN DIEGO



**Nurse Prepares  
Meds**

- **Process redesign**
- **Software supports clinical workflow**
- **Bar-code ID at administration**
- **Online documentation**



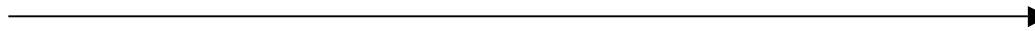
**Nurse Goes  
to Bedside**



**Nurse Scans ID, Patient  
and Meds  
(6 Rights Checked)**



**Medication Administration  
Automatically Documented**





## Patient Safety:

- Verifies that the **RIGHT Drug**, is being administered to the **RIGHT Patient**, at the **RIGHT Dose**, by the **RIGHT Route**, at the **RIGHT Time**.
- Medication Administration is automatically documented.  
**(6<sup>th</sup> RIGHT)**
- Online MAR is likely to be more accurate than traditional MARs generated manually.
- Real-time orders on eMAR.

# REQUIREMENTS FOR A SUCCESSFUL PROJECT

---



UNIVERSITY of CALIFORNIA  
SAN DIEGO  
MEDICAL CENTER

- Strong clinical leadership
- Nursing, Pharmacy and IT must work together along with Physicians, Respiratory Therapy and Admissions
- Unit specific work flow analysis with Nursing and Pharmacy
- Reporting to Patient Safety Committee
- Staff must own the process:
  - Nursing: Medication Administration
  - Pharmacy: Bar Coding.



# REQUIREMENTS FOR A SUCCESSFUL PROJECT...

---



UNIVERSITY of CALIFORNIA  
SAN DIEGO  
MEDICAL CENTER

- **Committed Steering Committee Representation:**
  - **Administration**
  - **Nursing**
  - **Physicians**
  - **Education, Development and Research**
  - **Performance Improvement / Patient Safety**
  - **Pharmacy**
  - **Respiratory Therapy**
  - **Health Information Services**
  - **Information Technology**
  - **Other Clinicians**

# MEDICATION ADMINISTRATION PROCESS RE-ENGINEERING TEAM

---



- **Team includes:**
  - Key Nursing Leaders
  - Key Pharmacy Leader and IS Pharmacist
  - Director of Nursing Informatics
- **Goals:**
  - Review and revise medication policies, procedures and processes;
  - Impact analysis to Nursing productivity;
  - Review of Medication distribution process, i.e. Pyxis.



- **Various Bar Code Symbologies Available:**
  - Scanners that can read multiple symbologies are key!
  - Patient and staff bar coding solutions can enable safer:
    - Specimen collection
    - Tissue tracking
    - Blood product administration



# **Final Thoughts from the Institute for Safe Medication Practice (ISMP)**

“Technology is just one tool, among many, that needs to be consistently and effectively used by organizations striving for fail-safe medication use”