


SINI 2016
26th Summer Institute in Nursing Informatics
Informatics at the Crossroads of Care Coordination
July 20-22, 2016
University of Maryland School of Nursing, Baltimore, Maryland




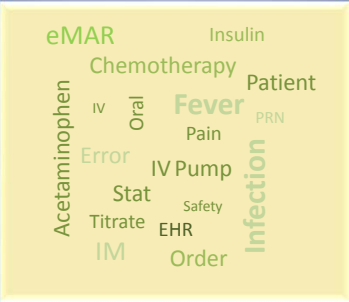
Smart Pump Interoperability

Tightening the Loop on Medication Administration


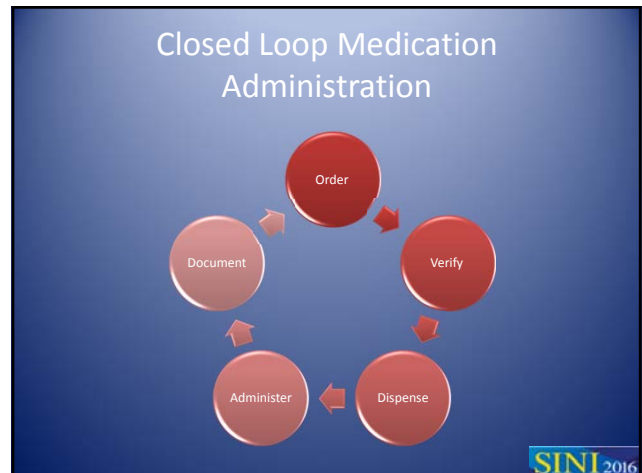
Stephanie Lenz-Norman, RN, MSN
Director, Nursing Informatics
Children's of Alabama
Stephanie.Lenz-Norman@Childrensal.org

Objectives

- Define closed loop medication delivery system and specific technological components currently being used
- Acquire a general overview of smart pump interoperability
- Identify proposed benefits of smart pump interoperability
- Explore potential risks associated with smart pump interoperability

Word cloud terms: eMAR, Insulin, Chemotherapy, Patient, Fever, Pain, PRN, IV, Oral, Acetaminophen, Error, IV Pump, Safety, Infection, Stat, EHR, Titrate, IM, Order.

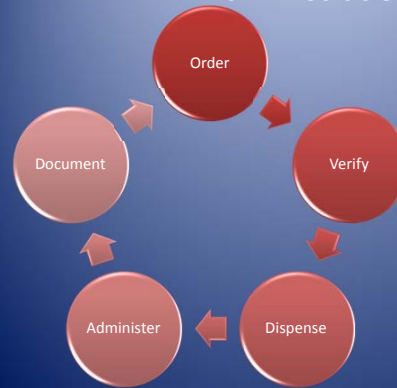



Complimenting Process with Technology

- Prescribing
 - Using CPOE with embedded clinical decision support to prescribe medications
- Pharmacy Verification and Dispensing
 - Electronic verification by pharmacy and proper handling and delivery
- Administering
 - Automated 5 rights of medication administration with BCMA
- Documenting
 - Automated documentation (facilitating RTD) with BCMA



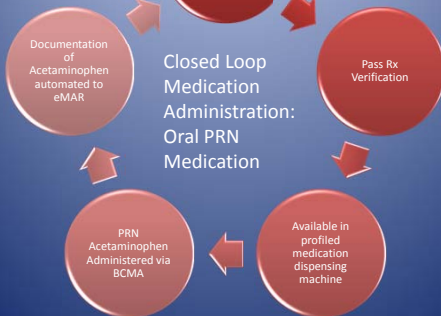
Closed Loop Medication Administration



- Improve process standardization
- Decrease process variability
- Reduce manual steps



Acetaminophen
325 mg PO Every
4 hours PRN for
mild pain or fever
greater than 101



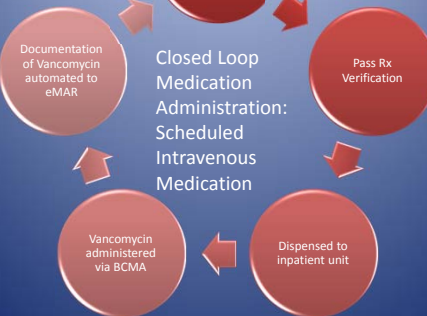
Closed Loop Medication Administration: Oral PRN Medication



Pump Programming

Documentation of Fluid Volume

Vancomycin
450mg IV Every
6 Hours



Closed Loop Medication Administration: Scheduled Intravenous Medication



Smart Infusion Pumps



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Errors Associated with Smart Infusion Pumps

- Selecting the wrong library
- Overriding soft alerts
- Non-intercepted errors
- Administering the drug to the incorrect patient
- Infusing the incorrect drug

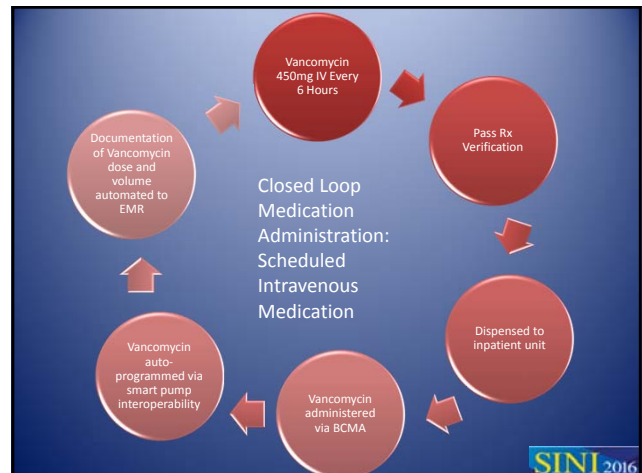
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? Smart Pump Interoperability ?

Communication between the smart intravenous pump and the hospitals information system which allows for auto-programming of infusion parameters from the corresponding EMR to the smart pump using the health information system's BCMA system

Carefusion

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Potential Benefits

- Decrease the number of intravenous preventable medication errors
- Increase healthcare quality
- Increase RN productivity



Potential Risks



The Therac-25



Potential Risks

- System failure
- Design flaws
- Bypassing system
- Introduction of new errors



Pearls of Success

- Reliable and secure wireless connectivity
- CPOE orders containing all of the necessary infusion parameters
- BCMA adherence
- Use of eMAR
- Reliable way for the pump to associate to the patient and medication order

AAMi's Healthcare and Safety Institute, 2012



Questions

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