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NOTICE: Improving PICU Practices for High-Risk Medications

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Background

The Pediatric Intensive Care Unit (PICU) is a 7-bed unit that provides care to the critically ill child ages 0 to 21 yrs. In Fall 2021, there were two near miss incidences involving high risk medications.

High risk or high alert medications, are those medications that pose an increased risk of patient harm if not prescribed, dispensed, administered, or monitored correctly. These medications require increased awareness and procedures to reduce the risk of errors. Some examples of these high-risk medications include neuromuscular blocking agents, opiates, anticoagulants, insulins, chemotherapeutics and electrolytes. The organization adopted "Take NOTICE of Baystate Health High Alert Medications" practice.

Introduction to the Problem

The Nursing Leadership Team and the unit based Clinical Practice Committee, met and discussed the need to change practice on the unit. PICU practice was changed to include several different double check systems, education and audits to ensure sustainability. Medications currently requiring a double check include opiate infusions, TPA, heparin drips, insulin drips, chemotherapy infusions, and concentrated electrolytes. The Institute for Safe Medication Practices (ISMP) recommends using the double check system judiciously and not for every medication as it will lose its effectiveness.



Interventions

The following interventions were implemented to decrease the risk of high-risk medication errors and/or near misses.

- Unit wide staff education on NOTICE.
- RN second nurse verification for all high-risk medications.
- NOTICE med audits including documentation in the electronic health record (EHR). Questions on the audit tool included:
 1. Did the order match the infusion pump?
 2. Was there a drip sheet at the bedside, signed by 2 RNs.
 3. Was there documentation of the 2nd RN name in the EHR?
 4. Was re-education provided if any items missing?

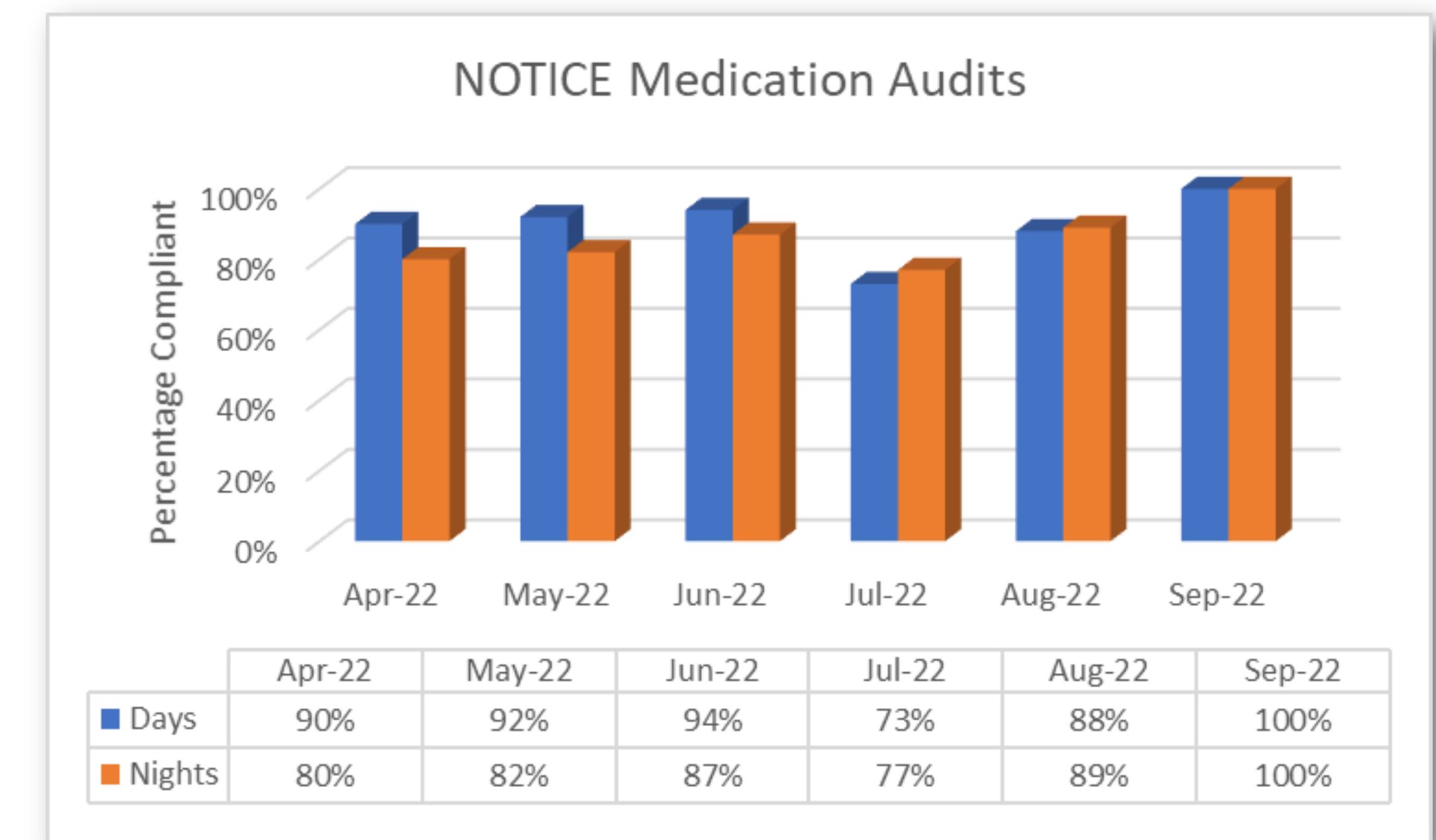
Take NOTICE of Baystate Health High Alert Medications

- Neuromuscular Blocking Agents**
 - Refrigerated neuromuscular blocking agents (NMBAs) are stored separately on patient care units.
 - NMBAs and RSI kits, which include NMBAs, are labeled with a "high risk" stop sign sticker.
 - Concurrent use of benzodiazepines and analgesia are required with use of NMBAs.
- Opiates**
 - Check appropriate vital signs prior to administration, as ordered.
 - Equianalgesic dosing chart can be found on Pharmacy Home page.
 - If appropriate, ensure patient is prescribed a supportive bowel regimen while receiving an opiate.
 - Fentanyl patches should only be used in opiate-tolerant patients at an appropriate equianalgesic dose.
- Anticoagulants/Antiplatelets/Thrombolytics**
 - Check appropriate lab level(s) and/or vital signs prior to administration, as ordered.
 - The Pharmacy Department will stock only approved strengths/concentrations based on national and institutional safety data.
 - Whenever possible, order from pre-approved care sets and order sentences.
 - Oral dosage forms will be dispensed from ADMs.
 - CD alerts for:
 - o Duplicate Anticoagulant/Antiplatelet/Thrombolytic orders
 - o Epidurals + Anticoagulants/Antiplatelet/Thrombolytic orders
- Insulins**
 - Check appropriate lab level(s) prior to administration, as ordered.
 - Regular insulin infusion use is limited to specific care level areas (refer to CO 13.420 Administration of IV Medications by Nursing).
 - All orders for insulin contain "UNITS", no abbreviations accepted.
 - Insulin pump policy and power plans created to standardize order entry and coordinate endocrinology consult.
 - U-500 insulin pens utilized to mitigate risk.
 - NIOSH medications require appropriate PPE to ensure safe handling, see CO 13.127 for guidelines.
 - Refer to CO 13.182 - Procedure for Ordering Chemotherapy for chemotherapy ordering guidelines.
 - All Cytotoxic/Chemotherapy will be double checked by ONE pharmacist for standard regimens or TWO pharmacists for non-standard regimens entered outside of a powerplan prior to dispensing from the pharmacy department and double checked by TWO nurses prior to administration.
- Electrolytes**
 - Check appropriate lab level(s) and/or vital signs prior to administration, as ordered.
 - Commercially available pre-mixed solutions are used whenever possible.
 - Whenever possible, electrolytes are ordered from pre-approved care sets and order sentences.
- Epinephrine**
 - Check appropriate route prior to administration.
 - Review warning in adult/pediatric code carts and Pylxis machines prior to administration.
 - Whenever possible, order from Epinephrine pre-approved care set.

© ISMP. P&T Committee (ISMP, P&T/Clinical Operations Policies) NOTICE sign 2021

Results

With the medication audits, compliance over time improved. In the month of September, the unit was 100% compliant with the practice change.



Conclusion

In the future, PICU is hopeful that the second RN double check system will be the standard of practice throughout the organization. The team would also like to include vasopressors and sedation infusions to the NOTICE high alert medication list.

The 2nd RN double check system was easily adaptable in PICU and has become the standard of practice to ensure patient's safety.