IMSAFE: An Initiative for Medication Safety

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CAHO
Committed to Safer Healthcare

World Patient Safety Day 17 September

BACKGROUND

- The bed side staff is expected to be a multitasker with an exhaustive list of accountabilities and responsibilities, which do often compromise the patient care and results in unhappy and dissatisfied customers.
- The safe drug administration consumes 25%of shift time.
- We observed the ever-increasing incidence of medication errors as per the audits/prescription appropriateness review by our clinical pharmacists.
- Adverse drug events have been known to increase the length of stay; which would mean additional financial burden to family and financial loss to the hospital (fewer new admissions) and collateral risk of litigation due to adverse events.
- We made a presumption that if we could somehow decongest the responsibility of the bedside staff by splitting the drug delivery process, we may be able to reduce medication related errors and hence the adverse drug events and simultaneously improve the quality of care at the bed side

INTRODUCTION

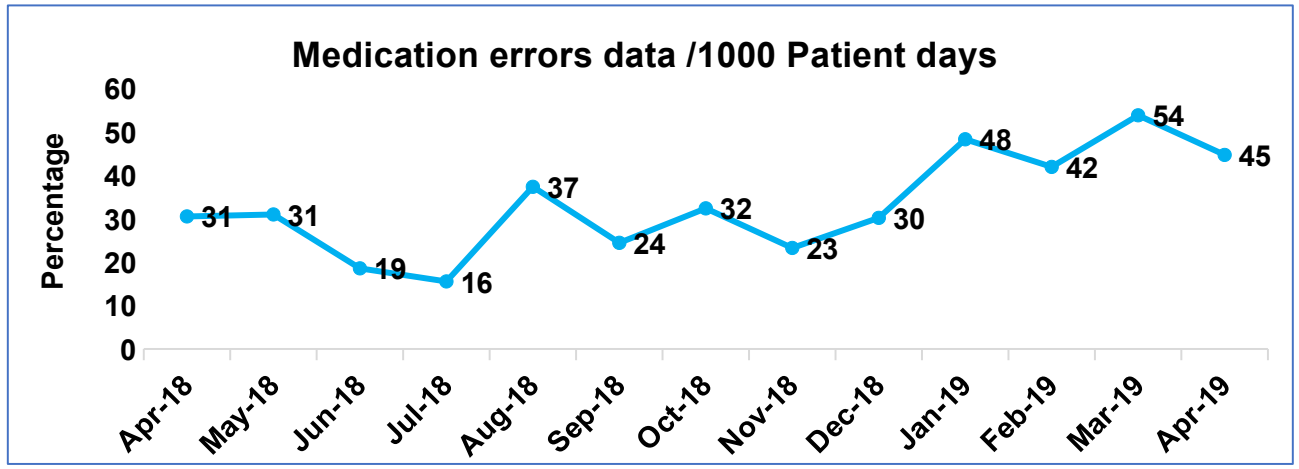
- The medication errors had been troubling our unit and we were completely aware about the negative impacts of these events for us, our patients & the organization. We, therefore contemplated at creating a system or a process flow which could work as a checkpoint and at the same time help in decreasing/reducing the medication errors.
- After initial brainstorming, we decided to centralize the drug delivery process by creating of a “Medication Bay” with in an empty zone in our ICU.
- All the buffer medications, high risk medications, and patient medications were relocated to this area and placed in neatly defined, labelled and secure compartments.
- A clean, sterile drug preparation area was fabricated. We created necessary protocols and process flows and the dry run of the entire process (drug preparation in the bay area followed by hand over to bedside staff for administration) was shepherded by joint collaboration of nurses, clinical pharmacists and clinical team. Simultaneous training sessions were conducted, observations and challenges identified and the gaps were plugged.
- After, nearly a month of trials, the responsibility of the medication delivery was handed over to newly designated “Medication Nurse”.
- We launched our project with initial focus on dispensing the antibiotics, intravenous infusions, and high risk medications. The Medication nurse took daily rounds along with Clinical Pharmacist at the start of shift and updated the prescription for all ICU patients in her daily diary.
- Apart form drug dispensing, her role was extended to drug reconciliation with stamping of ‘stopped’ and ‘revised’ medications and maintenance of ICU drug inventory.
- The clinical pharmacists have been the back bone of our project since the inception of the idea and the main reason for the viability and sustainability of the project.

OBJECTIVE

- To substantially decrease the medication errors
- To enhance the safety of High Alert Medications
- To ensure safe medication environment in the intensive care unit
- To decentralize the medication delivery process
- To avoid delay administration of vital drugs
- To increase the knowledge of Nursing staff regarding medication use
- To improve patient care services

GAP ANALYSIS

Pre intervention medication errors data

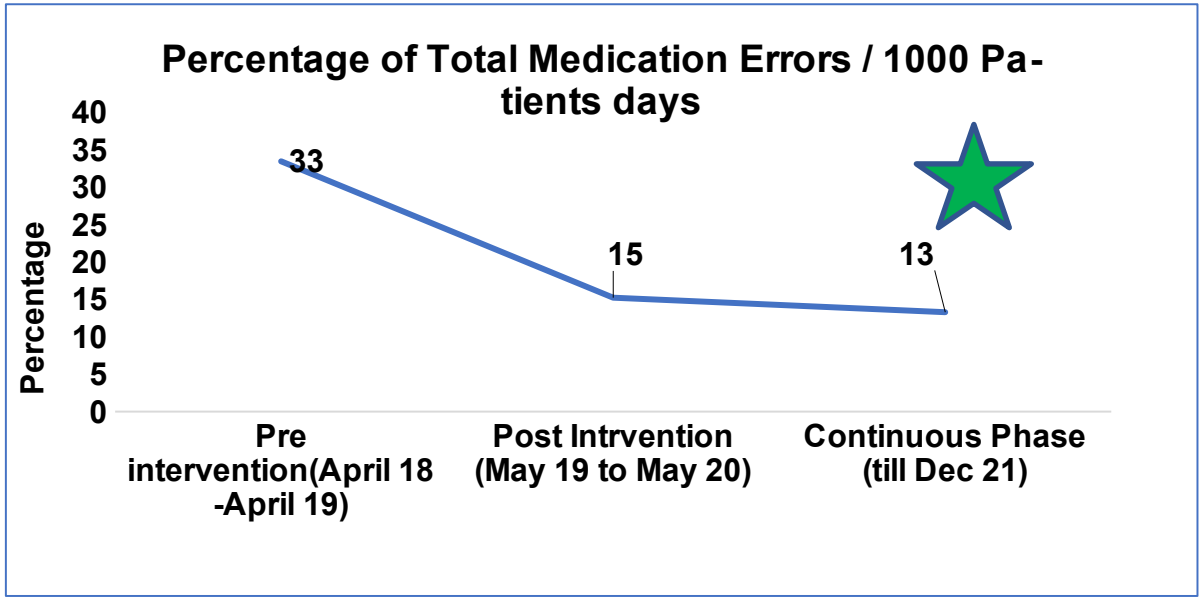


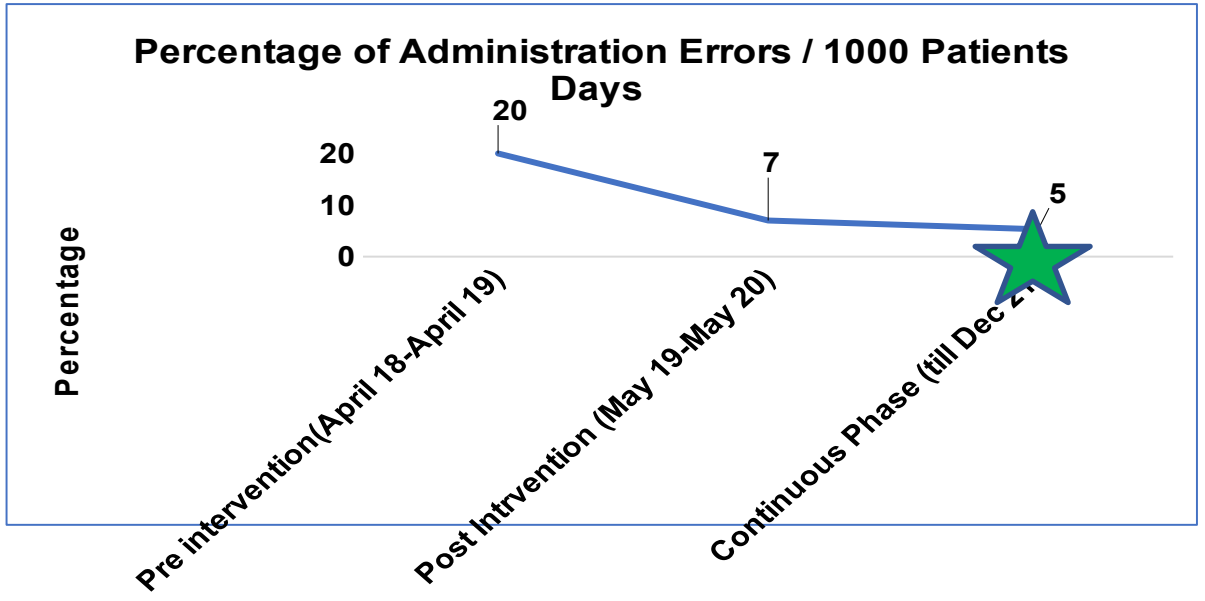
- **In Pre intervention Phase from April 2018 to April 2019 total medication errors per 1000 Patients days was 33%(26% actual errors & 7% Potential errors)**
- Most of the errors was administration errors
- Multiple location of medicine inventory
- Breach in safe medication practice
- Multiple responsibilities of bed side staff
- Medication workload in ICU

Methodology

- After an initial brain-storming, we decided to centralize the drug delivery process away from the bedside and conceptualized creation of a “Medication Bay” with in our ICU.
- We assigned the entire drug delivery responsibility of our ICU to “Medication Nurse” identified from among the pool of nursing staff.
- We created necessary protocols and workflows.
- After exhaustive dry runs, training sessions with medical team, nursing and pharmacist team we opened the project with initial focus on intravenous and high alert medications.
- The “Medication nurse” was given the responsibility for procurement of medicines and dispensing of the formulation and delivery to the bed side staff in a ready to administer formula.
- The bed side nurse could thus deviate the time required for drug delivery process towards focused patient care.

Tangible Results/Outcomes





- Total Medication errors rate was decreased by 60
- % from pre intervention Phase
- Post intervention Phase from May 2019 to June 2021 total medication errors per 1000 Patients days were 15%(12% actual errors & 3% Potential errors)
- In continuous Phase June20- Dec 21 total medication errors per 1000 Patients days were 13%(11% actual errors & 2% Potential errors)

75% reduction in Nursing administration errors from Pre intervention Phase

Other Achievements

- Well organized drug inventory management including high risk medications
- Improved efficiency of bed side staff and improvement in service delivery
- Prompt replication of the medication delivery model during covid-19 pandemic
- Contemplated with existing manpower and infrastructure
- Optimization of core process of medication delivery
- Empowerment to Nursing Staff and Clinical Pharmacist
- Being replicated in other areas of the hospital including wards
- Assures safety of our customers and our healthcare providers
- No delay administration of vital drugs

Intangible Results

- After COVID Sustainability of medication bay in other units except MICU
- More focus require for oral medication errors
- Resistance in nursing staff to take the responsibility of Medication Nurse
- Reinforcement to replace the medicines in buffer inventory
- Focused training is also required for bed side staff for safe medication practice

Conclusion

- The project has been validated by us to have successfully reduced the medication errors. We now have a better organized drug inventories in our ICU and safely placed high risk medications. There is improved efficiency of the bed side staff with more focus on patient care.
- Knowledge enhancement for nurses regarding medication use
- The proposition connects with philosophy of providing exemplary care to promote safe healthcare delivery for our patients
- The clinical pharmacists have been the back bone of our project since the inception of the idea and the main reason for the viability and sustainability of the project
- Our model is a viable and self sustaining model with minimal recurring cost and has a definitive value proposition for all stakeholders- patients, healthcare staff and organization.
- The project does raise the bar in clinical, operational and service excellence
- The experience, and the gains achieved during this phase helped us to quickly create “medication bays” outside the COVID zones during the pandemic and helped in smooth drug delivery process. The uniqueness of the project is ascertained from the fact that we utilized the existing manpower and infrastructure for creation of safe zones. The project has helped us to improve service quality, process integration and patient safety. Our project has gradually been adopted in other areas of our hospital
- We are now focusing on Medication Nurse certification training program in Critical care for our nurses
- We are successfully running our Medication bay in ICU

Medication Bay in ICU and other units of Hospital

Medication bays in our ICU and other units in our hospital

Thank You!

MICU Team