

Improving Medication Safety Through Emergency Drug Administration Preparedness

OBJECTIVE:

1. To enable nursing staff to rapidly and correctly prepare and administer medications in emergency situations.
2. To decrease nursing stress in high-pressure situations.
3. To provide correct medication dosing to critically ill patients.

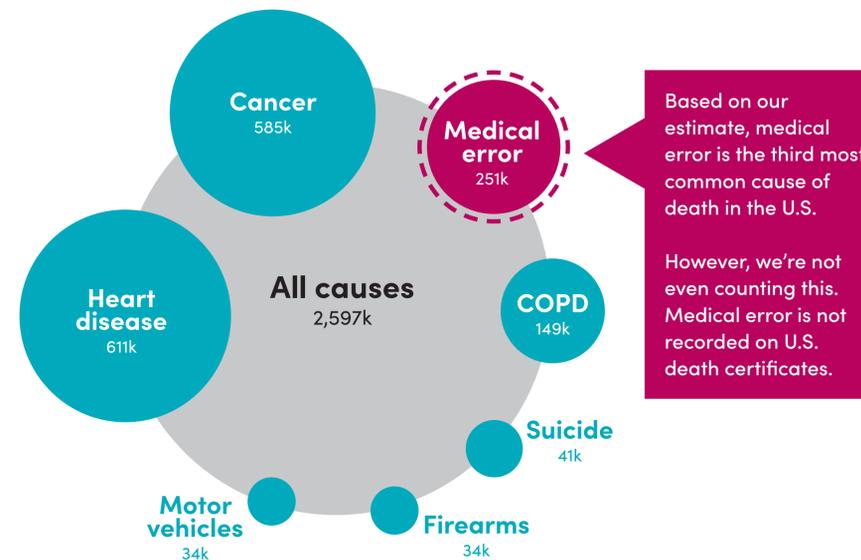
BACKGROUND:

The five "rights" of nursing medication administration include right patient, medication, time, dose, and route. Historically speaking, high-pressure situations (such as those occurring when caring for a critically ill patient) require nursing to administer medications with increased frequency. This faster administration time often results in difficulties following the five rights as carefully as is generally desirable. Additionally, in critical situations medications are often prescribed with weight-based dosing. This requires math calculations to be done rapidly prior to administration. According to studies, the most common medication error nurses make is a drug overdose. Implementing multiple safe-guards into the medication administration system is proven to help decrease the incidence of nursing medication administration errors. Finally, we have an increasing amount of younger nurses working in critical care settings, with less experience at medication calculations, again increasing the risk for a medication error.

ACTIONS TAKEN:

1. We obtained a manual that MercyOne Des Moines Medical Center has previously placed in their emergency departments, detailing how and when to order emergency medications.
2. We formed a multidisciplinary team consisting of the ED nurse manager, the ED trauma coordinator, two pharmacists, and the quality RN. We reviewed the book, adjusted the formatting, ensured that the book listed only the concentrations that we have available at our facility, and pre-figured the dosing to reflect accurate amounts and IV rates for weight ranges from 3-160kg.

Causes of death in the U.S. (2013)



ACTIONS TAKEN: (cont.)

3. We made a separate book for pediatric doses, as pediatric patients often require doses for different indications and/or at different prescribed levels than adults.
4. Dosing calculations were verified by two registered nurses, one pharmacist, and one physician.

METRICS:

- Causes of death
- Wrong-patient errors by node

ANALYSIS:

There are many methods of verifying medications prior to administration, all of which are generally very effective at preventing administration errors. However, we have some system limitations impacting our ability to immediately implement some of these safety measures. To overcome some of these issues, we decided to proceed with designing a comprehensive dosage book to assist nursing staff in safely administering medications in high pressure situations.

NEXT STEPS:

1. Present to med staff and P&T committee for final approval.
2. Continuously review drug shortages with pharmacy to ensure we are not ordering medications in concentrations other than what is listed in the Emergency Drug Book.
3. Educate staff on the contents of the book so they may use it to its full effectiveness.
4. Educate new staff to leverage the dosing in this book rather than trying to calculate themselves.
5. Ensure that drugs are orderable in the EMAR in the same doses and rates that are in this book.
6. Update IV pumps to reflect the same doses and rates that are in this book.

Wrong patient errors by node

(July-Dec. 2011)

