Medication Errors

Medication errors remain one of the most common causes of unintended harm to patients. They contribute to adverse events that compromise patient safety and result in a large financial burden to the health service. The prevention of medication errors, which can happen at every stage of the medication preparation and distribution process, is essential to maintain a safe healthcare system. One third of the errors that harm patients occur during the nurse administration phase: administering medication to patients is therefore a high-risk activity.

The National Coordinating Council for Medication Error Reporting and Prevention defines a medication error as “any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the health care professional, patient, or consumer”. The council, a group of more than 25 national and international organizations, including the FDA, examines and evaluates medication errors and recommends strategies for error prevention.

Medication Processes are complex in nature, involving multiple interactions, and are high risk activities. Although errors occur at every stage of the preparation and distribution process, one third of those that harm the patients are attributed to the administration phase. Most medication administrators are nurses, and therefore when errors occur, nurses are often deemed accountable. Medication administrators can provide a safeguard against errors made by prescribers or pharmacists. Therefore, nurses provide a safety defense against medication errors but at the same time, have the potential to place patients at risk.

The types of medication errors include:

- Wrong time of administration or delayed administration
- Medication omission without acceptable clinical reason
- Unauthorized medication administration
- Wrong dose administered
- Extra unauthorized dose administered
- Medication administered via incorrect route
- Medication administered via incorrect rate
- Medication administered in incompatible fluid or in conjunction with another incompatible medication
- Medication calculation error
- Medication administered to the incorrect patient
- Allergy-related error

Patient Factors that increase the risk of medication errors:

**Multiple Medication Use**
- Complex disease process
- Multiple medical problems
- More than one prescribing doctor

**Poor Communication**
- Children and babies
- Confused or unconscious state
- Language difficulties

**Passive Environment**
- Culturally determined passive relationship towards health professionals
- Lack of interest in being informed about health and medications

**Complicated drug calculation requirement**
- Titrated medications
- Weight-based medications (children and babies)
Effective Communication is a key element of the safety culture in an organization, particularly communication between and within multidisciplinary teams in relation to medication processes. Nurses are directly involved in preventing errors at administration level and are often integral to prompting prescriptions, advising on dosages during the prescription writing phase, informing pharmacy about incorrectly dispensed medications, detecting errors and taking corrective action in medication preparation before administration.

Communicating with and educating patients about their medications during the administration process can result in individuals being better informed about and more involved with their medications.

Higher medication error rates are associated with greater levels of interruption. The most common source of interruption is from another nurse requiring face-to-face communication. Such interruptions frequently occur during direct patient care activities, and the activity interrupted most often is that of medication administration. Other sources of interruption include patients, technical sources and operational failure. Any intervention that leads to fewer distractions could ultimately enable nurses to focus more on the task that they are performing and create less work-related stress and greater job satisfaction.

A safe reporting environment that encourages staff engagement to identify contributory factors as well as possible solutions must also be fostered. Extensive organizational resources are required to enhance communication, to reduce confusion, to improve knowledge, skill and compliance with policies and guidelines.

Regulatory approach
The public took notice in 1999 when the Institute of medicine (IOM) released a report that between 44,000 and 98,000 deaths may result each year from medical errors in hospitals alone, and more that 7,000 deaths each year are related to medications. In response to the IOM’s report, all parts of the U.S health system put error medication strategies into high-gear by re-evaluating and strengthening checks and balances to prevent errors.

In addition, the U.S. Department of Health and Human Services (HHS) and other federal agencies formed the Quality Interagency Coordination Task Force in 2000 and issued an action plan for reducing medical errors. In 2001, former HHS Secretary Tommy G. Thompson announced a Patient Safety Task Force to coordinate a joint effort to improve data collection on patient safety. The lead agencies are the FDA, the Centers for Disease Control and Prevention, the Centers for Medicare and Medicaid Services, and the Agency for Healthcare Research and Quality.

The FDA enhanced its efforts to reduce medication errors by dedicating more resources to drug safety, which included forming a new division on medication errors at the agency in 2002.

Patient Safety Proposals
In March 2003, the Department of Health and Human Services announced two new FDA strategies that will use state-of-the-art technology to improve patient safety.

- **Bar codes:** Just as the technology is used in retail and other industries, required bar codes would contain unique identifying information about drugs. When used with bar code scanners and computerized patient information systems, bar code technology can prevent many medication errors, including administering the wrong drug or dose, or administering a drug to a patient with a known allergy. The requirement took effect in April 2004.

- **Safety reporting:** A proposed revamping of safety reporting requirements aims to enhance the FDA’s ability to monitor and improve the safe use of drugs and biologics.

Who Tracks Medication Errors?
The Food and Drug Administration
Accepts reports from consumers and health professionals about products regulated by the FDA, including drugs and medical devices, through MedWatch, the FDA’s safety information and adverse event reporting program.
(800) 332-1088
www.fda.gov/medwatch.htm
Institute for Safe Medication Practices (ISMP)
Accepts reports from consumers and health professionals related to medication. Publishes Safe Medicine, a consumer newsletter on medication errors.
1800 Byberry Road, Suite 810 Huntingdon Valley, PA 19006-3520
(215) 947-7797
www.ismp.org

U.S. Pharmacopeia
The Medication Errors Reporting (MER) Program, in cooperation with the Institute for Safe Medication Practices, is a voluntary national medication error reporting program.
12601 Twinbrook Parkway
Rockville, MD 20852 (800) 23-ERROR (233-7767)
www.usp.org

MedMARX
USP's anonymous medication error reporting program used by hospitals. These data are not submitted to the FDA.
www.medmarx.com

Hospital Strategies
Hospitals and other health care organizations work to reduce medication errors by using technology, improving processes, zeroing in on errors that cause harm, and building a culture of safety.

The contents from this newsletter were derived from the following sources:

1.) Article authored by Cloete L (2015) entitled Reducing Medication Errors in Nursing Practice, pp. 50-59
   http://journals.rcni.com/doi/abs/10.7748/ns.29.20.50.e9507?journalCode=ns

2.) Strategies to Reduce Medication Errors: Working to Improve Medication Safety