

## **University of Michigan Health System A Unified and Supportive Approach Towards Medication Safety**

The University of Michigan Health System has taken a proactive role in addressing issues regarding medication safety. The Medication Safety Committee is specifically charged with the responsibility of assessing the medication safety needs of our hospital community. The Pharmacy and Therapeutics Committee (P&T Committee) oversees the activities of the Medication Safety Committee and provides assistance with policy and procedural changes as needed. Quarterly reports are provided to hospital administration. These reports include trends on the number of overall medication errors, number of harmful medication errors, data on adverse drug reactions, and progress on corrective action plans.

### **Pharmacy and Therapeutics Committee**

The P&T Committee, as in most hospitals, is charged with determining which drugs may be used in the hospital and develops policies and procedures for the appropriate use and control of these drugs. As stated above, the Medication Safety Committee reports directly to the P&T Committee. The physician chair of the P&T Committee also serves as a member of the Medication Safety Committee. Besides being an enthusiastic advocate for patient safety, this physician provides valuable input to committee members relative to other hospital-related, patient safety initiatives that may impact the action plans of the Medication Safety Committee. The Medication Safety Committee is largely advisory in nature. At times, the committee proposes adoption and acceptance of new policies and procedures. When this occurs, the P&T Committee provides the Medication Safety Committee with a conduit to the Executive Committee, which ultimately approves policies and procedures for the medical staff.

### **Medication Safety Committee**

Because medication errors are among the most frequent errors reported in hospitals, the University of Michigan Health System (UMHS) established a medication safety committee to specifically address medication-related issues of safety. The Committee is co-chaired by a pharmacist (the medication safety coordinator) and a nurse appointed by the Department of Nursing. Together, these individuals work with 15-20 dedicated healthcare employees who represent pharmacy, nursing, medical staff, risk management, and quality improvement. Monthly meetings of the Committee consist of agenda items, which correlate with the charges of the Committee.

- *Key medication process review:* One specific medication class is selected yearly for review using a process similar to a failure-mode and effect analysis (FMEA). In 2002, the Committee elected to review insulin because more collective errors are reported with this class of drugs than any other. To accomplish this goal, a subcommittee was established, which reports its activities monthly to the full Committee.
- *Internal medication reviews:* This portion of each meeting highlights issues that are specific to the UMHS inpatient population. Items selected for this agenda item may represent trends observed during review of medication incident reports, serious near-misses, policies under consideration for proper prescription writing, or initiatives stimulated by the Patient Safety Committee.
- *External medication reviews:* Recognizing that medication errors reported in the literature may have the potential for occurrence at UMHS, the medication safety coordinator brings items of concern to the Committee for their review. For example, deaths related to colchicine toxicity prompted an action plan to prevent similar occurrences at our hospital. *Adverse drug reactions:* The Committee reviews all reported and observed (using E codes) adverse drug reactions (ADRs) and evaluates each to determine if the ADR was preventable. If an ADR is preventable, the Committee determines the appropriate plan of action.

- *Medication safety culture:* In keeping with the overall goal of UMHS to instill a patient safety culture among its employees, the medication safety committee recognizes extraordinary efforts by employees whose activities promote medication safety. These employees are nominated by the Committee for a “You’re Super” award, which recognizes employees for special accomplishments.

## Analysis and Reporting of Medication Errors

All medication errors are reviewed weekly in a meeting with the medication safety coordinator and a representative from Risk Management. Codes that indicate the type of error and severity codes that help to grade the level of patient harm are assigned for each error. These codes are helpful when analyzing overall trends and sources of error. The list of medication errors and their assigned codes is then sent to a subcommittee of the Medication Safety Committee for review and comment. The table below provides a sample of the error code types.

Sample of Codes Used to Describe Sources of Medication Errors

Type code	Type description
300A	wrong dose ordered
300B	wrong dose – transcription error
300C	wrong dose prepared/dispensed
300D	wrong dose administered
300M	wrong dose – near miss

The Medication Safety Committee assists in the preparation of a key indicator report relative to medication errors and adverse drug effects. This report is reviewed at several levels within the hospital including the Continuous Quality Improvement Lead Team, the Executive Committee on Clinical Affairs, and the Hospital and Health Centers Executive Board. Data-driven graphics provide administrators with a snap shot of trends that reflect the success of our reporting systems, incidence of medication errors that cause patient harm, and specific activity directed at known, error-prone medications. For example, a trend suggested an increased incidence of harmful or potentially harmful errors related to hydromorphone (Dilaudid®) given via patient-controlled analgesia. As a result, an analysis of this specific drug is conducted quarterly and a narrative is prepared indicating success or failure of attempted process improvements.

Reporting statistical information may be important, but an action plan to improve safety is ultimately the goal of every reporting system. The Medication Safety Committee utilizes medication error reports to determine the types of error that require action plans. Several factors might trigger the need for such a plan. High rate of frequency is one such trigger. For example, the Committee decided to concentrate on insulin-related errors due to the number of times such errors were reported. Though the number of errors may be low, some drugs carry with them a high potential for patient harm should an error occur. An example is the drug tacrolimus, which is used to prevent rejection of transplanted organs. Mistakes in dosing or administration of this medication may precipitate serious problems with infection or changes in the patient’s blood counts. Additionally, incidents thought to be unrelated to medications may prompt review by the Committee. Patient falls prompted such a review of hypnotic medications and it was determined that this class of drugs may be contributory toward an increased risk of falling in the elderly. As a result, the Medication Safety and P&T Committees worked together to provide geriatric dosing guidelines for hypnotic medications.

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