Medication Safety Alerts

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This column draws on US and Canadian experience and includes, with permission, material from the *ISMP Medication Safety Alert!*, a biweekly bulletin published by the Institute for Safe Medication Practices (ISMP), Huntingdon Valley, Pennsylvania.

NEWS

Michael Cohen of ISMP spoke at the CSHP's Professional Practice Conference on Thursday, February 3, 2000. The timely topic of "Safe Medication Practices and the Canadian Reality" drew a standing-room-only crowd. In his presentation Cohen gave the audience crucial and timely information needed to address many of the most challenging issues related to implementing a system for safe medication use. Cohen also discussed system-based causes of medication errors and the need for a voluntary, nonpunitive national reporting system for Canadians.

The recent Health Care Error Conference in Toronto, hosted by the University of Toronto Joint Centre for Bioethics, focussed on a number of important patient safety issues, including disclosure of adverse events and errors and a heightened need for awareness of health-care errors. These topics were addressed from the perspectives of the patient, the legal profession, physicians, and other health-care providers. Participants at the well-attended conference included quite a number of pharmacists.

ROLE OF HOSPITAL RISK MANAGEMENT

Risk management by hospitals has been undergoing a paradigm shift from protection of the hospital from potentially costly lawsuits due to medical errors to protection of the patient from harm. Risk managers can help in establishing a nonpunitive environment to encourage reporting of medication errors by front-line practitioners. Risk managers also recognize that reporting medication errors must go beyond counting errors to focus instead on learning from the events and developing and disseminating solutions. A number of Canadian hospitals report that they already have a safe medication practices committee or council in place. Moreover, each committee or council includes a representative from the hospital's risk management office. Pharmacy managers are encouraged to work closely with their hospital's quality and risk management staff in all continuous quality improvement projects that promote safe medication use in their institutions.

SAFETY BRIEFS

The following special feature was contributed by Sylvia Hyland, Pharmacy Coordinator, The Scarborough Hospital — Grace Division, Toronto, Ontario.

Caution — Yellow Highlighting Can Have an Unintended Effect!

One of our hospital projects to reduce costs, decrease nursing time, and optimize drug delivery was to provide IV doses of metronidazole 500 mg and cefazolin 1 g in a single IV admixture bag. This idea appears in the literature[1] and was accepted by our pharmacy and nursing departments as an enhancement to our IV admixture services.

Notice of the change was sent to the nurses. More importantly, both drug names were highlighted in yellow on the IV bag labels. Surprisingly, on the first day of implementation, the IV pharmacist received calls from 3

nurses asking for the "cefazolin dose" for the patients receiving the metronidazole–cefazolin combination!

Clearly, "failed communication" was the cause of the problem, but how had the failure occurred? It was evident that many nurses were not yet aware of the change, nor had they read the notice posted in the nursing units. However, how could 3 nurses have missed the information highlighted on the label? A discussion with the nurses revealed the answer. Because hospital procedure is to use a yellow highlighter to identify any discontinued medication on the medication administration record, the nurses had developed the habit of not paying attention to information highlighted in yellow. Their eyes had been "trained" to not see information highlighted this way! Sure enough, once we switched to a pink highlighter to mark the 2 drug names on the IV label, the problem was resolved.

To prevent similar failed communication in the future we have removed all yellow highlighters from the pharmacy, ensured that yellow highlighters will not be purchased for use in the pharmacy, and included in our orientation program for new pharmacists recommendations about flagging information for nursing staff.

Many Canadian and US hospitals use yellow highlighting to indicate discontinued drugs on the medication administration record. This method, instead of crossing out, is used to maintain legibility of the information. The implications of nurses becoming trained to not see information highlighted in yellow could be far-reaching. For example, some manufacturers use yellow to highlight important information on drug labels.

The textbook *Medication Errors*, edited by Michael Cohen,[2] notes that there is no research-based evidence on which to make decisions about the use of colour to differentiate products. The textbook also advises that, when properly used, colour can be helpful. Efforts to use colour need to be carefully thought through and followed-up.

[Note: References appear on p. 123.]

The following is taken directly from *ISMP Medication Safety Alert!* volume 5, issue 2, January 26, 2000.

Optimizing the Use of Computer System Clinical Alerts

Problem: Many of today's computerized pharmacy systems provide vendor-defined and user-defined alerts that remind or warn staff about potential drug-related problems during order entry. Research shows that adverse drug events are vastly reduced where such systems are employed.[3] ISMP often recommends computerized alerts as a way to remind staff about potential problems. However, clinicians and managers have expressed concern that the sheer number of warnings that appear on the screen during order entry can be overwhelming and [can] slow order entry. In many cases, clinically insignificant warnings are as likely to appear as those that are vital. As a result, staff may inadvertently bypass even critical warnings, especially when the workload is high. This is easy to do with many systems. As noted in [a previous ISMP] survey on computer systems, all too often it simply requires striking the "enter" key. If the system forces a response to the warning, practitioners who feel pressured to speed order entry may select the first reason listed on the screen for bypassing the alert, instead of appropriately addressing the issue. Even when practitioners are properly alerted to a potential allergic reaction or harmful drug interaction, they may erroneously assume that the prescriber is already aware of the problem and fail to alert him/her directly.

Safe Practice Recommendation: When practitioners become accustomed to unimportant or clinically irrelevant warnings, they often ignore these "false alarms," or turn them off — at least mentally. Fortunately, there are strategies that can be used to optimize the effectiveness of alerts and minimize the possibility of overlooking the more significant ones. First, a tiered system for interactive warnings should be used to allow staff to view and easily bypass less serious issues if appropriate, but require staff to make a text entry to describe the response to more significant alerts. A regularly updated list of significant alerts that require direct prescriber notification can help guide the most appropriate response. Consider asking pharmacists who enter orders to note warnings that they feel are not clinically significant. Then, evaluate the safety of altering the severity level of these less significant warnings to minimize potential for overlooking more clinically significant warnings. Some organizations have adjusted their systems so that only high severity level drug interaction warnings appear. However, the drug interaction leveling system used by one information vendor is based upon the volume of clinically documented cases, rather than the potential for patient harm. Therefore, vendors should be contacted before such a change is made. More significant alerts should be as visible as possible. Some systems may allow large screen fonts in a contrasting color, flashing messages, or other means of

distinguishing the alert. Also review non-interactive pop-up messages on an ongoing basis, such as the ones [that ISMP suggests] for avoiding drug name mix-ups. Delete any that are no longer applicable. Consider applying auxiliary labels to drug packages and storage bins to warn about unclear or confusing labeling and packaging, instead of using messages in the computer system. Also consider printing warnings on drug labels and MARs [medication administration records] instead of building alerts into the order entry process. For example, print "IM Use Only" warnings on drug labels and MARs for all drugs that can be administered safely by this route only (see a list of commonly-used "IM Use Only" drugs on [the ISMP] web site [http://www.ismp.org]). Many systems are capable of providing reports about all warnings that have been overridden. Assign a clinician or manager to review the report daily to identify any problems. Consider focussing on one or two common but critically important warnings to monitor the effectiveness of the computer's alert system and the response to the alert. [ISMP is] interested in learning about any other strategies that have been taken in your facility to optimize the use of your computer warning system. Please contact [ISMP] by e-mail (ismpinfo@ismp.org) with your suggestions so [they can be shared] with others.

References

1. Pavan MA, Mlyuk DE. A cost-effective approach to surgical antibiotic prophylaxis. *Can J Hosp Pharm* 1992;45:151-6.
2. Cohen M, editor. *Medication errors*. Washington (DC): American Pharmaceutical Association; 1999.
3. Bates DW, Leape LL, Cullen DJ, Laird N, Petersen LA, Teich JM, et al. Effect of computerized physician order entry and a team intervention on prevention of serious medication errors. *JAMA* 1998;280:1311-6.

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