

Medication Safety Alerts

David U

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.

HOSPITAL PHARMACISTS AND SAFE MEDICATION USE

I would like to outline here the highlights of my presentation at the CSHP 2003 Professional Practice Conference, entitled “Hospital Pharmacists Can Take Charge to Make Medication Use Safer”.¹ Although the presentation was very well attended, I hope that this column will help those who were not there to recognize pharmacists’ important role in medication safety.

First, it is important to understand the relationship between medication errors and adverse drug events. Medication errors are events that occur in the use of medication, producing an unintended and usually undesirable outcome. But not all medication errors cause harm. Medication errors that have caused patient harm can be termed adverse drug events. Medication errors usually represent human errors, and we must accept that such errors are inevitable. However, many errors occur because of system issues which are called “latent failure” or “blunt failure”. A number of these key latent or blunt failures were described at the conference. The Institute of Medicine has stated, “Preventing errors means designing the health care system at all levels to make it safer. Building safety into processes of care is a more effective way to reduce errors than blaming individuals”.² That is, examining system failures and looking for system improvements would be a more effective way to prevent recurrence of medication mishaps.

Medication use spans multiple stages: prescribing and ordering, dispensing, transcribing, administering, and monitoring. Bates and colleagues³ showed that 56% of adverse drug events occurred during the prescribing stage and 34% during the administration stage; only 4% occurred at the dispensing stage. Hospital

pharmacists can play an important role at all of these stages. The possible activities of the pharmacist at each stage are listed below. These should help reduce the potential for error.

Prescribing Stage

- Clarify and verify if not sure or not clear.
- Overcome authority gradient (the physician intimidation factor).
- Gain the trust and confidence of prescribing physicians.
- Establish protocols and order sets.
- Monitor all medication profiles.
- Maintain open communication channels with physicians.
- Educate physicians about dangerous abbreviations.
- Have clinical pharmacists present on patient care units.
- Provide input to patients’ medication regimens.
- Encourage physicians to use protocols and preprinted order forms.
- Support and facilitate implementation of computerized physician order entry systems.
- Support use of a personal digital assistant for clinical information resources.

Dispensing Stage

The top 3 types of dispensing errors are dispensing the incorrect medication, incorrect dosage strength, or incorrect dosage form; dosage miscalculations; and failure to identify drug interactions or contraindications.⁴ Pharmacists can take the following actions during dispensing:



- Automate dispensing.
- Reorganize drug storage and shelving to separate drugs with similar names.
- Redesign workflow to achieve efficiency and to facilitate safety checking.
- Make use of computerized clinical information.
- Be more vigilant with high-risk medications and high-risk patients, e.g., establish a system of double-checks.
- Communicate clearly with nurses and patients.

Transcribing and Administering Stages

Although transcription and medication administration are performed by nurses, pharmacists can contribute significantly to the associated processes:

- Support and facilitate use of electronic medication administration records (MARs).
- Ensure that each patient's MAR is updated in a timely manner when pharmacy service is not available.
- Check and compare each patient's MAR at least daily to ensure that orders are interpreted correctly and carried out.
- Support the use of point-of-care dispensing cabinets.
- Support the use of bar coding for patients, orders, and drugs for administration.

Monitoring Stage

Finally, the hospital pharmacist can make medication use safer in the monitoring stage:

- Follow up laboratory results and/or blood level monitoring.
- Screen automatic stop orders for drugs that require reactivation.
- Perform daily review of drug profiles to spot potential problems.
- Establish rapport and effective communication with nurses.
- Engage patients.

Conclusions

In summary, hospital pharmacists have a key leadership role to play, in terms of medication safety, among their colleagues in the hospital. In addition to the actions outlined above, pharmacists can ensure that the *ISMP Medication Safety Alert!* and the *Safety Alert Bulletin* are distributed and read by health care professionals throughout the hospital.

Encouraging the reporting of medication errors and near-misses is challenging, but pharmacists can lead the way in changing the culture from one of blame to one of safety. Furthermore, by taking a leading role in safe medication committees, they can provide guidance and

direction to achieve desired facility-wide short-term and long-term medication safety goals.

In closing, I would like to quote Don Berwick, who said, "Technically the biggest safety system in healthcare is the minds and hearts of the workers who keep intercepting the flaws in the system and prevent patients from being hurt. They are the safety net, not the cause of injury."⁵

Hospital pharmacists are the leaders in intercepting flaws in our medication system, because we believe that optimum patient outcome and patient safety are our primary goals in delivering pharmaceutical care.

[Note: References are listed on page 99.]

SPECIAL FEATURE

The special feature presented below is taken directly from *ISMP Medication Safety Alert!* volume 8, issue 1, January 9, 2003.

Success with New Year's Resolutions Requires More than Personal Resolve

Most people make at least one New Year's resolution. Frustrations with personal and job related habits lead to a familiar vow — "I'm going to do things differently next year." Unfortunately, total faith in our personal resolve to change may be unwarranted. Depending upon the problem, 25% of New Year's resolutions will be abandoned by the end of the first week with the majority of them falling by the wayside after six weeks.

In spite of this, people are rather resilient when faced with a setback. Sixty percent of those who fail this year will make the same resolution next year.⁶ They believe that failures are far from inevitable and, with a few adjustments, successes will eventually occur. Thus, the same pledge is made anywhere from five to ten years before a positive outcome is achieved. So personal resolve over time, despite setbacks, is one factor related to success.

Three additional elements are needed to convert personal resolve into constructive actions on the job: a) perceiving ourselves as having an important role in identifying what needs to be improved; b) having a process or set of procedures in place that will guide and direct the change; and c) obtaining positive support and feedback from others in the workplace. These help reduce the stress associated with personal efforts to change.

A recent study illustrates how these three elements can help drive change to improve medication safety.⁷ Over a four week period, pharmacists were given time



each week to self-monitor their work and document the mistakes they found and corrected in a small booklet they kept near their workspaces. After two weeks, study investigators provided anonymous written feedback to each participant on how other participants performed as a group. Using the feedback, participants were asked to set a goal to either maintain their current performance or improve their ability to identify mistakes. Compared with a control group where no feedback or goal setting occurred, even those who just wanted to maintain their current performance increased their error detection by 22%. Even more impressive, pharmacists who established goals to enhance error detection were able to improve their ability to detect and prevent errors by 103%.

What brought about such improvement? In the study, the self-monitoring process allowed pharmacists to initiate and take control over areas of their work and identify where improvements were needed. It also provided a set of procedures to help facilitate change. Finally, sharing what was learned collectively among pharmacists encouraged the team to support each other's attempts to change. It also widened the scope of possible improvements by raising a broad range of issues for consideration. Interestingly, pharmacists ranked this type of feedback, support, and goal setting among the most effective medication error reduction strategies investigated by the researchers.

So take heart and make those New Year's resolutions! Then, perhaps small workgroups could meet to share their resolutions related to patient safety with each other to foster team support, feedback and guidance with the desired changes. Who knows? Maybe someone's personal resolve to change will spark the interest of others on the team to follow suit. But remember, converting personal resolve into effective

action cannot be jumpstarted easily by others. People resist change when they feel coerced or believe they are doing it for someone else.

Acknowledgment

ISMP thanks Anthony F. Grasha, PhD, Professor of Psychology, University of Cincinnati, Cincinnati, Ohio, for contributing to this article.

References

1. U D. Hospital pharmacists can take charge in making medication use safer [presentation]. 34th Professional Practice Conference of the Canadian Society of Hospital Pharmacists; Toronto (ON); 2003 Feb 1-5.
2. Kohn LT, Corrigan JM, Donaldson MS, editors. *To err is human: building a safer health system*. Washington (DC): National Academy Press, Institute of Medicine; 2000. p. 4.
3. Bates DW, Cullen DJ, Laird N, Petersen LA, Small SD, Servi D, et al. Incidence of adverse drug events and potential adverse drug events. Implications for prevention. ADE Prevention Study Group. *JAMA* 1995;274:29-34.
4. Cohen MR. Preventing dispensing errors. In: Cohen MR, editor. *Medication errors*. Washington (DC): American Pharmaceutical Association; 1999. p. 9.1.
5. Berwick DM. Crossing the quality chasm: health care for the 21st century [presentation]. Quality in Healthcare 2002: Conference of the Canadian College of Health Service Executives; Toronto (ON); 2002 Feb 14-15.
6. Polivy J, Herman CP. If at first you don't succeed. *Am Psychol* 2002;57:677-89.
7. Grasha AF. Tools for the reflective practitioner: use of self-monitoring, personal feedback, and goal setting to reduce error. *Health Notes Qual Assur* 2002;1(6):19-24.

David U, MScPhm, is President and CEO, Institute for Safe Medication Practices Canada (ISMP Canada).

e-mail: davidu@ismp-canada.org

ISMP Canada home page: www.ismp-canada.org

