Improving Patient Safety and Quality of Care: The P&T Society’s Response to the Challenges of Medication Errors

Joseph Eichenholz

This article summarizes the report of a Task Force that was established in the fall of 2003 by the Pharmacy & Therapeutics Society (PTS) in support of the initiatives undertaken by the Institute of Medicine (IOM) regarding the cost and burden of medical and medication errors in the U.S. health care system. The IOM’s interests and initiatives are documented in a series of reports that have been issued in recent years.1–4 The Task Force report was presented on April 22, 2004, at the fourth annual PTS conference in Washington, DC.

INTRODUCTION

The P&T Society is a multidisciplinary organization dedicated to enhancing formulary development and implementation across all practice settings. Its Task Force on Medication Errors included clinicians, researchers, and others with an interest in the P&T process. Membership reflects inpatient and outpatient settings and includes health plans, medical groups, pharmacy benefit managers (PBMs), long-term care facilities, employers, and correctional institutions.

Lyle Bootman, PhD, President of the PTS, charged the Task Force to:

1. identify problem areas in medication management that members have observed or experienced that might lead to errors such as those highlighted in the IOM reports
2. describe existing processes for addressing such problems
3. cite examples of “practices of excellence” that address these critical challenges and concerns in medication management
4. illustrate how health care institutions and professionals might adapt this information in developing and implementing drug formularies

The Task Force report took the form of the following series:

• opportunities for improvement
• practices of excellence
• PTS perspectives

The Task Force sought to identify key areas in which many organizations and institutions would face a particular challenge and to highlight an approach to address the challenge, often identified with the Task Force member contributing that approach.

Finally, the Task Force discussed the implications of these challenges for the P&T community. P&T committee resources were also discussed. One of the Task Force’s objectives was to support the efforts of the committees to increase their resources and level of activity to influence the implementation of formulary decisions within the clinical practice setting and with health care providers and patients.

FINDINGS

Chronic Disease Management

Opportunity for Improvement. The complex nature of chronic diseases such as diabetes, hypertension, heart failure, asthma, and their many comorbidities raise special challenges in medication selection and management. Poor patient compliance and adherence can also contribute to ineffective treatment or unanticipated negative results.

Practice of Excellence. Ensuring clear and consistent treatment pathways is now the goal of P&T committees. Recognizing and accounting for actual patient use patterns (as in the case of blood glucose monitoring by diabetes patients) are important steps in P&T committees’ decisions. P&T committees are also encouraged to take an active role in developing oversight programs that ensure appropriate formulary access and insurance coverage.

PTS Perspective. P&T committees are in a position to influence patient compliance through provider education and by identifying programs to support provider–patient interactions. These programs have the potential to improve compliance, appropriate medication use, and control of long-term complications related to failures with patient adherence.

Risk of Drug–Drug Interactions

Opportunity for Improvement. Drug–drug interactions may diminish a treatment’s effectiveness or may produce harmful or life-threatening conditions. The risk is particularly troublesome in elderly patients, who are more likely to have multiple conditions and to be taking multiple drugs. Lack of coordination at the pharmacy or at the caregiver level can also contribute to the problem.

Practice of Excellence. P&T committees can serve as an information resource and as a forum for discussion and commentary on particular drugs and their interactions with other drugs. The committees should educate providers, focusing on those drugs that are most important in treating the conditions most commonly presented by the institution’s patient population. P&T committees should also indicate to providers when the issue of drug–drug interactions is a factor in formulary decisions.

PTS Perspective. Additional protection against drug–drug interactions would result from P&T committee sponsorship of
eductional initiatives for patients and their families. A checklist for providers would include questions about medications and possible interactions, and data-based systems would be created to collect, store, and retrieve patients’ medication histories.

The Drug-Dispensing Process

Opportunity for Improvement. Sometimes patients receive a wrong medication or an incorrect dose when a drug distribution protocol is not in place.

Practice of Excellence. Avoiding delays in deliveries from institutional pharmacies as well as ensuring a clear separation of medications for individual patients may help to avoid lapses in dispensing protocols. Implementing such safeguards would decrease the risk of a patient receiving a medication intended for another patient, or the chances of a medication or dose not being replaced in a timely manner, in the case of a late delivery of the medication from the pharmacy. Targeted education on dispensing protocols has reduced the incidence of these types of errors, has improved patient safety, and has addressed concerns about timeliness.

PTS Perspective. The P&T Society recommends the use of standardized tools to evaluate dispensing protocols. Staff evaluation and training—or retraining, as necessary—would receive high priority within institutions. Institutions should also seek to develop and implement objective data systems that allow benchmarking and comparisons of staff performance. In early 2004, the Task Force noted an announcement by the U.S. Department of Health and Human Services that bar codes would be required for drugs and biological products to enable benchmarking and comparisons of staff performance. In early 2004, the Task Force noted an announcement by the U.S. Department of Health and Human Services that bar codes would be required for drugs and biological products to enable benchmarking and comparisons of staff performance.

Medication Errors Related to Illegible Writing

Opportunity for Improvement. Medication errors occur in both inpatient and outpatient settings. Negative consequences may include administration of the wrong medication, incorrect dosing, or the wrong route or frequency of dosing.

Practice of Excellence. A computerized physician order entry (CPOE) system can be used to address this problem. With this system, prescribers use a secure, hand-held personal digital assistant (PDA) to select the appropriate drugs and their instructions for use from a drop-down menu. Information on the system will have been validated and can be made consistent with P&T committee decisions.

PTS Perspective. The P&T Society acknowledges the efforts of the National Council for Prescription Drug Programs (NCPDP) in developing standards related to electronic prescribing. These standards are designed to facilitate communication of prescription information between prescribers and pharmacists (the SCRIPT Standard) and between pharmacies and payers (the Telecommunication Standard).

The PTS believes that studies of these technologies and the use of these standards will demonstrate their value and will encourage their use in increasing numbers of institutions and organizations. The PTS also acknowledges that in the interim, additional safeguard processes and staff reviews of prescriptions can minimize the risk of medication errors.

Look-alike, Sound-alike Medications

Opportunity for Improvement. Patients may receive the wrong medication because of look-alike or sound-alike drug product nomenclature or packaging.

Practice of Excellence. Using a “check-box” counting method, a large urban medical center discovered that look-alike, sound-alike medications were often involved in “near-miss” situations and that the problem had a strong impact on clinical pharmacists, technicians, and nurses. The pharmacy pursued three steps to bring about changes:

1. Instead of conducting an inventory of all drugs in alphabetical order, the pharmacy reshelved medications by therapeutic class. Liquids and solids were further grouped and then organized alphabetically according to their therapeutic class.
2. A two-person read-back system was required for all medications in tablet form.
3. Read-back systems were implemented before certain medications—those that were likely to be confused with each other—were given to patients.

PTS Perspective. It is important to examine the extent to which “low-tech,” cost-effective solutions can be employed. These approaches rely on pharmacy leadership and robust team involvement.

Communication Between Pharmacists and Physicians in Critical-Care Settings

Opportunity for Improvement. Patient outcomes in critical-care settings can be optimized through greater pharmacist involvement in therapy selection.

Practice of Excellence. Communication and coordination may be improved with the participation of pharmacists in critical-care settings, such as patient rounds, wherein medication management might be complex. Ongoing communication between pharmacists and the nursing staff is particularly beneficial in assisting with drug administration in these cases.

PTS Perspective. Although the Society is sensitive to staffing and budget considerations in institutions, it believes that improved communications, as described here, would be in the interest of high-quality, cost-effective care, especially for critical-care patients with multiple medical conditions, such as an older cardiac surgery patient who also has diabetes.

Medication Management in Assisted-Living Facilities

Opportunity for Improvement. Many individual assisted-living facilities do not provide enough information regarding patients’ conditions and medications to guide residents and their families. This deficiency carries the potential for significant unintended medical consequences for health care providers, patients, and their families; as a result, such facilities cannot achieve their potential to meet the needs of their residents.

Practice of Excellence. Some facilities have developed medication-management systems available to nursing staff, consulting physicians, the patients’ own physicians, and the residents themselves. The system accumulates medication information, currently held by different health care entities,
and the information is made available to the facility, the health care providers, and the patients as needed.

**PTS Perspective.** The Society recognizes the increasing complexity of medication management in a growing variety of long-term care and alternate-care residential settings. Standards and systems for medication management should be developed at the highest possible level within health care chains and networks. These systems should provide for consistency as well as ease of training and use. As a first step, P&T committees at the corporate level could issue guidance regarding medication processes used at each facility.

**Standardized Process and Quality of Care**

**Opportunity for Improvement:** The lack of uniform standards for medication management complicates care, and differences in formularies even within the same integrated health system may complicate efforts to ensure high-quality, cost-effective care.

**Practice of Excellence:** Organizations preparing for accreditation and review surveys can use the process to generate enthusiasm within the organization for mock reviews, simulations, and other programs that help evaluate performance and improve policies, procedures, and individual practices.

**PTS Perspective:** The P&T Society recognizes the value of guidelines such as those of the Joint Commission on the Accreditation of Healthcare Organizations and encourages P&T committees to use these opportunities to improve pharmacy practice throughout individual organizations and institutions.

**CONCLUSION**

The PTS engaged in an effort to help P&T committees identify areas with significant potential for improvement and areas in which their efforts could make a difference in institutions’ or organizations’ performance, often in a short period of time. The Task Force report was supported during the annual conference by presentations by Harvey Fineberg, MD, President of the IOM, and by Greg Belden, Senior Associate at the Leapfrog Group.

The PTS intends to continue this effort as a part of its 2004–2005 agenda by soliciting and disseminating practice of excellence case studies in medication management and by highlighting efforts to reduce medication errors.

To view a copy of the full Task Force report or to request copies of PTS annual conference presentations, please log onto www.PTSociety.org.

**REFERENCES**