Medication Error and Patient Safety

COMMENTARY

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ABSTRACT
A number of barriers to the enhancement of patient safety through a reduction of medication errors have been identified. These include a blame culture; lack of leadership; lack of peer-review protection; and the absence of a collaborative voluntary national reporting system. The latter would provide oversight and help healthcare providers avoid recurrence of these adverse drug events stemming from human error.

A voluntary practitioner’s reporting system similar to that promoted by the Institute for Safe Medication Practices Canada (ISMP Canada) has been shown to be successful in the United States in achieving the goal of enhancing patient safety. ISMP Canada needs collaboration with other reporting systems to gain more insight and knowledge of the causal factors underlying medication errors. This collaborative mode fits into the conceptual model of the medication incident reporting and prevention program currently being developed by a coalition of key stakeholders including Health Canada, ISMP Canada and the other health care professional organizations.

The model for a successful patient safety enhancement strategy as proposed by Baker and Norton in their lead paper is a valid one. In the meantime, there is enough knowledge and information about medication errors to permit our putting prevention strategies into practice.
IN THE LEAD PAPER “Making Patients Safer! Reducing Error in Canadian Healthcare” by G. Ross Baker and Peter Norton, medication errors were cited in many instances as a major component of the medical error problem. The Institute of Medicine (IOM) report also focused on medication errors, identifying them as a large proportion of medical errors (Kohn et al. 2000). The Harvard Medical Practice Study (Brennan, Leape et al. 1991) cited a 19% rate of adverse events due to medication complications. A recent study conducted in two U.S. teaching hospitals also revealed a 2% rate of preventable adverse drug events for all hospital admissions, resulting in an increased cost of $4700 per admission, or about $2.8 million annually for a 700-bed hospital (Bates et al. 1997).

Although there are no comparable and reliable Canadian statistics, extrapolation of the U.S. data based on the IOM report released in November 1999 suggests an approximate 700 deaths in Canada, per year, from preventable adverse drug events (10% of U.S. deaths). The statistics are frightening, and yet very limited attention has been paid to this important patient safety issue. Even more limited is the implementation of system-wide improvement strategies to ensure corrective actions.

Courtney Braund of Nova Scotia died from the inadvertent intrathecal administration of vincristine. Jeffrey Brown of Ontario died when concentrated potassium chloride solution instead of furosemide was injected. Such mishaps have occurred elsewhere in Canada, although information of their occurrence and advice on how to prevent them has not been systematically disseminated to all healthcare facilities. A few years after Braund’s death, a child in British Columbia died of the identical medication error. The same error – death due to incorrect vincristine administration – occurred only a few weeks ago in the United Kingdom.

Why do such medication errors recur? There are a number of barriers and issues that have impeded the process of system improvements. These include the culture of blame, a lack of leadership, and a lack of peer review with statutory protection. There is a need for a collaborative national medication error reporting program in Canada. To achieve the ultimate goal of improved patient safety, policy-makers, healthcare executives and healthcare providers must make patient safety a top priority issue.

Culture of Blame
By and large, we still find ourselves in a culture that tends to blame the individual closest to the error, resulting in a tendency to “hide errors” when they occur. Such a “sharp end” focused approach will suppress error reporting. The contributing factors and the latent errors that are ignored in this blame culture most often originate at the “blunt end” in the form of organization policies, procedures and resource allocation decisions. The lack of constructive feedback to individuals who do report errors has further deterred medication error reporting. The culture must be changed. We need to recognize the value of reported errors and of front-line staff input in the identification of risk factors for error. We need to recognize that blaming individual practitioners will not reduce medication errors. Instead, we must make every effort
to examine the processes and designs of the total medication system in order to minimize its vulnerability to inevitable human error. Importantly, creating a culture of safety and “error-proofing” requires education and “buy-in” at all levels and participation of all practitioners in the quest for safer patient care.

Leadership
The creation of a patient safety culture requires leadership from government, professional bodies and institutional organizational leaders. Many practitioners, including physicians, pharmacists and nurses, have recognized the need for change and have begun the process of culture and system improvements. However, in order to achieve broader system-wide changes, government and organizational leaders must be committed to patient safety and must facilitate the changes by providing clear mandates, direction, support and resources. The Institute for Safe Medication Practices Canada (ISMP Canada) has taken a step towards national leadership and commitment to make a difference. Its mandate is to promote safe medication practices by working closely with practitioners and institutions to analyze medication errors and hazardous situations and to disseminate the information to reduce the chance of recurrence of these adverse drug events. Events, near-misses and errors, and possible hazards and suggested improvements are reported, confidentially, to ISMP Canada. The information is reviewed in light of existing data and system information and is disseminated to healthcare institutions so that the same error can be guarded against.

ISMP Canada will be launching a major initiative to study the impact of interventions for improvement of medication use in Ontario hospitals. A comprehensive Medication Safety Self-Assessment tool, originally developed by ISMP, will be used to measure the level of medication safety in Ontario hospitals, to identify areas for system improvements, and to measure the impact of specific medication safety initiatives. The project will be funded by the Ontario Ministry of Health. The Ministry has been supportive of the vision and mandate of ISMP Canada. It is hoped that this project can also be made available to healthcare communities in the other provinces.

Peer Review Protection
Presently, most Canadian provinces do not have statutory protection or peer review protection for organizations collecting medication errors (or medical errors of any kind). This lack of protection has created a fear of legal discoverability of information and increased liability. This is unquestionably a deterrent, for practitioners and hospitals alike, to the detecting and reporting of errors, both internally and externally. Canada needs a “legislative push” for peer review protection, similar to the recommendation of the IOM in the United States, in order to create an environment that will encourage practitioners and healthcare organizations to identify, analyze and report errors with the goal of improving patient safety. The following recommendation by the IOM requests the U.S. Congress to extend peer review protections to the information included in voluntary error reporting systems: “Congress should pass legislation to extend peer review protections to data
related to patient safety and quality improvement that are collected and analyzed by health care organizations for internal use or shared with others solely for the purpose of improving safety and quality” (Kohn et al. 2000).

It is our hope that both the United States and Canada will give due consideration to this recommendation.

A National Reporting and Prevention Program
One of the contributing factors to recurrence of errors, as exemplified by the deaths of Courtney Braund and Jeffery Brown, is the lack of a national organization to collect medication errors, analyze them, develop prevention strategies and disseminate the information to the other healthcare organizations. In an Ontario coroner’s inquest that reviewed the death of a patient from morphine overdose, one of the recommendations was “establishment of a properly funded non-profit organization similar to the American Institute for Safe Medication Practices whose role will be to collect information on medication errors and disseminate to the health care stakeholder(s) such information” (Flynn 1999).

Following that call, the Institute for Safe Medication Practices Canada (ISMP Canada) was founded, with the assistance of Michael Cohen, President of ISMP in the United States. ISMP Canada has taken as its mandate the creation of a national voluntary practitioner’s reporting system embodying the same principles as those of ISMP in the United States. Although there have been recommendations in the past to implement mandatory reporting systems, there is evidence that voluntary reporting is more effective in achieving the ultimate goal of enhancing patient safety. A comparison between mandatory and voluntary reporting is eloquently expressed by Michael Cohen: “To stimulate participation in reporting programs, voluntary, non-punitive reporting has proven to be an effective method for obtaining needed information about errors. Existing mandatory reporting systems, which are inherently punitive in nature, have suppressed reporting and discouraged the open discussion of errors, which is necessary to develop and disseminate appropriate safety strategies. Conversely, voluntary reporting has been far more successful at garnering a sufficient representative sampling of error reports, providing expert analysis, and disseminating high-leverage safety strategies effectively” (Cohen 2000).

Voluntary error reporting is at the heart of any safety improvement strategy. It is recognized that the vast majority of errors result in no harm, or have only minimum temporary effects. However, these errors represent important opportunities for the identification of system weaknesses and opportunities for consideration of improvement strategies and “error-proofing” before serious harm occurs (Medscape 2000).

Not surprisingly, in the invitational workshop co-sponsored by Health Canada and the Canadian Society of Hospital Pharmacists to explore “Medication Incidents Reporting and Prevention: A Shared Responsibility,” there was unanimous support from all stakeholders for a voluntary reporting system (TPP-Health Canada 2000). The outcome of the workshop was the creation of a coalition of key stakeholders to work on a collaborative medication
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incident reporting and prevention program. The stakeholders included: Health Canada, the Canadian Society of Hospital Pharmacists, the Canadian Pharmacists Association, the Canadian Healthcare Association, the Canadian Medical Association, the Canadian Nurses Association, Canada’s Research-Based Pharmaceutical Companies, the Canadian Drug Manufacturers Association, the Canadian Consumer Association, and the Institute for Safe Medication Practices Canada.

It will be important that all error-reporting programs be committed to working together on a national and international basis with links to healthcare agencies and professional organizations in order to share knowledge and information on medication errors and to facilitate reporting and prevention programs. It is encouraging to see the interest and the acceptance of a shared responsibility for a reporting and prevention program by the coalition of Canadian healthcare stakeholders. As part of this collaborative effort, it is also hoped that there will be mechanisms to share risk-reduction strategies with Health Canada as they deal with product-related and medical-device-related medication errors.

Importantly, it will also be necessary to encourage reporting of medication errors and patient safety issues in healthcare settings other than the hospital. It is recognized that the large majority of drug use is in the community and long-term care facilities. Unfortunately, only limited data are available about this large segment of medication users and their potential risk for medication errors. Research efforts must be focused on this virtually untouched territory.

The strategies for making healthcare safer proposed by Baker and Norton include the need for a reliable measurement to identify the weaknesses; the need for the culture to change; and the need for effective system tools to make improvements. The components are interdependent, and data are needed to demonstrate to government policy-makers and healthcare executives the magnitude of the problem we are facing. According to Leape and Berwick (2000), although continued research is needed to elucidate medication errors and to learn about how to make our systems safer, we already know far more than we put into practice. This same opinion is expressed by Michael Cohen: “There are many medication error prevention strategies we can implement now, while waiting for more research and data” (Cohen 2001). Without doubt, there is a need for focused research in Canada. There is also an urgent need to communicate to the healthcare communities the lessons already learned, and to communicate the need to implement proven safeguards in our systems, now.

Have we not learned that a unit dose system is a safer system for patient care in hospitals? Do we not know that limiting the storage of concentrated potassium chloride solution to pharmacy areas will provide a physical barrier and will minimize risk of more patient deaths from inadvertent administration of the potassium chloride? These are just two of many safe medication practice strategies that have been studied, developed and published by many, including the Institute for Safe Medication Practices.

This is the time to act! Many lessons have already been learned; we must
acknowledge the seriousness of medication errors and make implementation of system safeguards a priority. Government agencies, policy-makers and healthcare organizational leaders need to make patient safety initiatives a top priority in their strategic planning processes. They must make a commitment to apply resources to support new initiatives on patient safety. Resources and financial assistance are also needed to expand existing programs and to augment error prevention efforts. The time for a greater focus on safety in healthcare is now. The time to address the issues and implement safeguards learned from previous errors is now. The public will demand improvements, and rightly so. We owe them nothing less.

References:


