



Nursing Education: A Catalyst for the Patient Safety Movement

Kim Neudorf, Netha Dyck, Darlene Scott and Diana Davidson Dick

Abstract

Creating a culture of safety in healthcare systems is a goal of leaders in the patient safety movement. Commitment of leadership to safety in the Saskatchewan Institute of Applied Science and Technology (SIASST) Nursing Division has resulted in the development of the Patient Safety Project Team (PSPT) and a steady shift in the culture of the organization toward a systems approach to patient safety. Graduates prepared with the competencies necessary to be diligent about their practice and skilled in determining the root causes of system error in healthcare will become leaders in shifting the healthcare culture to strengthen patient safety. The PSPT believes this cultural shift begins with the education system. It involves modifications to curricula content, facilitation of multidisciplinary processes, and inclusion of theory and practice that reflect critical inquiry into healthcare and nursing education systems to ensure patient safety.

In this paper the practical approaches and initiatives of the PSPT are reviewed. The integration of Patient Safety Core Curriculum modules for competency development is described. The policy for reporting adverse events and near misses is outlined. In addition, the student-focused reporting tool, the results and the implications for teaching in the clinical setting are discussed. Processes used to engage faculty are also addressed.

A call for “a healthcare education and professional development program at the under-graduate, graduate and post graduate levels” of healthcare provider education was set forth in the landmark document *Building a Safer System: A National Integrated Strategy for Improving Patient Safety in Canadian Healthcare* (National Steering Committee on Patient Safety 2002: 20). This call served as the catalyst to begin the process of education and integration of the systems approach to patient safety at the Nursing Division of the Saskatchewan Institute of Applied Science and Technology (SIASST).

Nursing students can be involved in events that contribute to the harm of a patient. Adverse events involving medications are common during students’ clinical learning experiences (Affonso et al. 2003), as in the other areas of practice (Anderson and Webster 2001; Baker et al. 2004). Students may experience a “failure to rescue” event (Silber et al. 1992: 67, cited in Clarke 2004) where the student, faculty and other healthcare providers fail to recognize the downward spiral of a patient as he or she succumbs to complications of surgery or disease. Beginning students are surprised to learn that the healthcare system is experiencing a “vulnerable system syndrome” (Reason et al. 2001) – students expect that illness and injury will be alleviated, not introduced, in healthcare settings.

The nursing education system has a responsibility to alert nursing students to the realities of healthcare systems and to prepare them to practise with the competencies necessary to make surveillance, reporting and analyzing common practice.

The patient safety literature focuses predominantly on healthcare systems where patients receive care from healthcare providers. This report identifies processes adopted by a nursing education system to prepare students and faculty with the requisite competencies for patient safety.

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Patient Safety Project

The SIAST Nursing Division delivers 14 different nursing and other health-related programs across Saskatchewan. The Patient Safety Project was launched in 2004 with a plan for the incremental development of a culture of safety within the Nursing Division through curriculum revision, faculty education and data analysis.

Curriculum Enhancements

First-year students of a four-year baccalaureate nursing program are introduced to the topic of safety in their first clinical course. They are exposed to the language, key patient safety research, authentic cases and poignant multimedia presentations. Examination questions relevant to patient safety are included, recognizing that the curriculum does not change until the tests are changed.

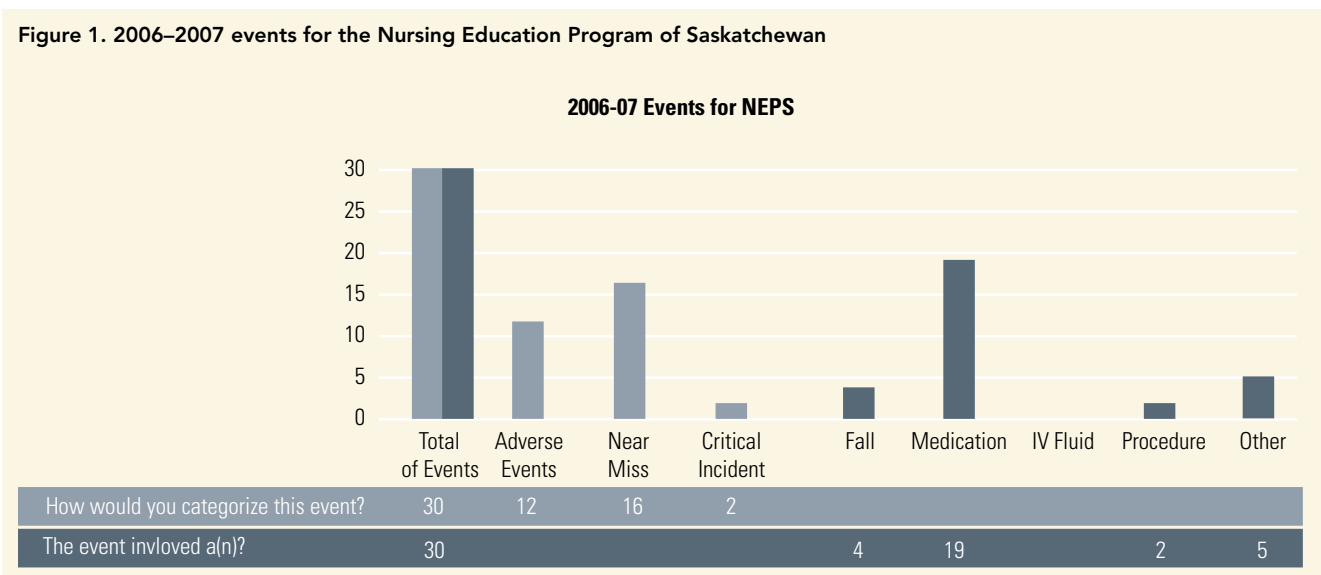
With funding from SIAST, SIAST Nursing Division Core Curriculum in Patient Safety (SIAST 2006b) was developed, which includes seven modules that can be incorporated into any

program in the nursing division. The competencies developed by the Canadian Association of Schools of Nursing Patient Safety Task Force (2006) served as a benchmark for curriculum validation. The modules include the following learning outcomes relevant to patient safety:

1. Examine key elements from a contemporary perspective
2. Explore current trends from local, provincial, national and global perspectives
3. Analyze contemporary models used to improve safety and reduce harm
4. Explore the concept of a systems approach
5. Analyze theories of change, transformation theory and transformation learning
6. Examine the relationship between culture and patient outcomes
7. Analyze medication administration practices, standards and policies that contribute to harm

Each module incorporates a variety of teaching and learning strategies such as reading assignments, media clip reviews, case discussions, web searches, compare-and-contrast activities, collaborative learning activities and activities suitable for health-care settings. The modules and the learning steps can be applied sequentially, but the instructional design strategy enables any module or learning step within the module to stand alone. For example, from SIAST’s 2006 module Analyze Contemporary Models Used to Improve Patient Safety and Reduce Harm, a faculty member may involve first-year students in the learning step that illustrates the Swiss Cheese model (Reason 2000), while another may choose to post an online case study and ask nurse practitioner students to consider the situation of an

Figure 1. 2006–2007 events for the Nursing Education Program of Saskatchewan



elderly client with three prescriptions for a beta-blocker, each with a different method of delivery. The modules serve as a suite of resources to assist faculty in integrating the concepts of systems and safety throughout curricula.

To our knowledge, no other nursing program in Canada has developed their patient safety curriculum to this degree. In the United States, the Faculty Leadership in Interprofessional Education to Promote Patient Safety developed the 2004 Best Practices in Patient Safety Education module handbook, which was designed as a train-the-trainer approach to developing leaders who can influence education change. The Canadian Patient Safety Institute (CPSI 2007b) is currently developing a competency framework that will become a useful standard to evaluate the core curriculum in patient safety.

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Reporting Tool and Database

Previous reporting policies within the Nursing Division were outdated and in contravention with reporting guidelines established by the provincial regional health authorities. The division could no longer rely on incident reports retrieved from health-care facilities to provide the information necessary to understand factors that contribute to an adverse event and to subsequently determine where change is needed. Furthermore, the Nursing Division did not have a consistent means of collecting, aggregating and analyzing the data, rendering data uninformative and not useful for guiding change.

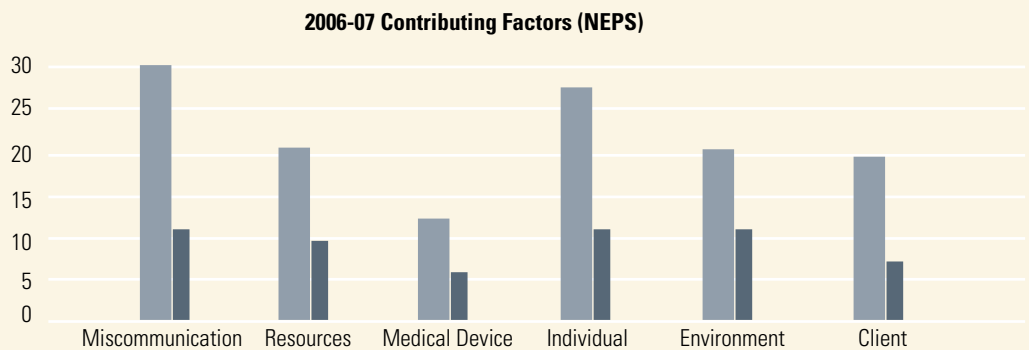
To this end, a student-focused, anonymous reporting form was developed. The Adverse Event, Near Miss and Critical Incident Report Form (SIAST 2006a) is currently paper based and uses a simple check-box approach. Designed to be blame free, it serves as a learning tool that assists students to consider factors that contributed to a near miss, adverse event or critical incident. The data are entered into a customized Microsoft Access database for report generation and data analysis.

Results for first and second year students in the Nursing Education Program of Saskatchewan (NEPS) for the 2006–2007 academic year indicated that most of the reported events were near misses (53%) and most involved medications (63%) (Figure 1). Students were not directly involved in the two critical incidents that resulted in harm not death; however, reporting did result in action taken by the SIAST Nursing Division. Although students practise in acute medicine, surgery and mental health settings, most events occurred in long-term care facilities (70%).

Miscommunication was significantly the most frequently reported contributing factor, influencing most events reported (Figure 2). Miscommunication has been reported previously in the literature as a leading contributing factor (Sanford-Ring 2006; Woolf et al. 2004). Contributing factors are chosen from six primary categories and subcategorized to capture more specific information. Respondents may choose multiple factors including “other”; this option allows for the provision of data that might otherwise be missed.

Several interesting questions arose from the analysis of data. For example, should the learning environment be modified

Figure 2. 2006–2007 contributing factors to events for the Nursing Education Program of Saskatchewan



Total of Factors	29	20	12	27	20	19
Most commonly selected subcategory	Student and Health Team Member	Inadequate Information	Lack of Availability/Product Labelling Confusion	Feel pressured to perform task quickly	Environment prone to distractions and interruptions	Unsteady or weak

to improve learning and reduce harm, or should strategies be deployed to prepare students for the dynamic environments they will practise in? For example, should a “zone of silence” (Agenda for Health Research Quality 2007) be created near medication carts in acute care settings to reduce distractions that contribute to error? Further analysis and dissemination of this data to faculty and students will help improve the understanding of the learning environment and foster improvements to structures and processes within education and practice settings.

An encouraging number of reports were received in the first year of data collection, but some programs and clinical sites report more frequently than do others. Despite the inconsistencies, a reporting system is effective when processes are improved and harm is prevented.

Designed to be blame free, the reporting form serves as a learning tool that assists students to consider factors that contributed to a near miss, adverse event or critical incident.

Shifting the Culture

Leadership is crucial in establishing a culture that leads to quality programming. Our existing policy was revised to incorporate contemporary language and processes to reflect the responsibility of the individual, the system and shared practice when a near miss, adverse event or critical incident occurs (Benner et al. 2002). In formalizing processes, faculty members’ attention was drawn to the changes in philosophy and mandatory reporting. This resulted in significant data collection and improved program quality and risk management.

Curricular enhancements are ongoing. Patient safety education has been provided to four key groups: administration, faculty, students and the curriculum development committee. A team is reviewing the use of the modules in course delivery to ensure key concepts are embedded in curricula and that duplication of content is avoided.

Other important leadership strategies include placing patient safety on the leadership team’s monthly agenda, providing annual presentations to faculty on results from the reporting system, circulating an annual newsletter authored by the Patient Safety Project team and disseminating key readings. A state-of-the-art inter-professional learning centre using low-, intermediate- and high-fidelity simulations has recently been launched to assist students with communication, critical thinking and skill acquisition. There is an enhanced recognition of information competence as fundamental to safe nursing practice; this has resulted in the purchase of personal digital assistants for clinical faculty. The latest project involves a multi-media presentation for new faculty to introduce key concepts, resources and

respective policy. Cultural shifts occur in increments, and these approaches provide the impetus needed to keep patient safety robust within the division.

Conclusion

Nursing education can act as a catalyst by providing leadership to improve health education systems and patient safety. Graduates who have the foundational competencies relevant to the systems approach to patient safety will make a difference to the quality of patient care. The SIAST Nursing Division has made changes to several of its structures and processes and looks forward to the realization of “patient safety curricula for all disciplines involved in patient care, healthcare administration and health policy development” (CPSI 2007a). **HQ**

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The Adverse Event, Near Miss and Critical Incident Report Form can be requested from and any correspondence sent to Netha Dyck, Dean of Nursing, SIAST, Box 1520, 1130 Idylwyld Drive, Saskatoon, SK S7K 3R5 or netha.dyck@siast.sk.ca.

References

- Affonso, D., L. Jeffs, D. Doran and M. Ferguson-Pare. 2003. “Patient Safety to Frame and Reconcile Nursing Issues.” *Nursing Leadership* 16(4): 69–81.
- Agenda for Health Research Quality. 2007. *Ten Patient Safety Tips for Hospitals* (AHRQ Publication No. 0-7-P004). Rockville, MD: Author. Retrieved May 8, 2007. <<http://www.ahrq.gov/qual/10tips.htm>>.
- Anderson, D. and C. Webster. 2001. “A Systems Approach to the Reduction of Medication Error on the Hospital Ward.” *Journal of Advanced Nursing* 35(1): 34–41.
- Baker, G.R., P.G. Norton, V. Flintoft, R. Blais, A. Brown, J. Cox, E. Etchells, W.A. Ghali, P. Hébert, S.R. Majumdar, M. O’Beirne, L. Palacios-Derflinger, R.J. Reid, S. Sheps and R. Tamblyn. 2004. “The Canadian Adverse Events Study: The Incidence of Adverse Events among Hospital Patients in Canada.” *Canadian Medical Association Journal* 170(11): 1678–86.

Benner, P., V. Sheets, P. Oris, K. Malloch, K. Schwed and D. Jamison. 2002. "Individual Practice and System Causes of Errors in Nursing and Taxonomy." *Journal of Nursing Administration* 32(10): 509-23.

Canadian Association of Schools of Nursing. 2006. Position Statement: Patient Safety in Nursing Education, Appendix 2. Ottawa: Author.

Canadian Patient Safety Institute. 2007a. *Building the Foundation for a Safer Health System Strategic Business Plan 2004/2005-2007/2008*. Edmonton, AB: Author. Retrieved September 4, 2007. <<http://www.patientsafetyinstitute.ca>>.

Canadian Patient Safety Institute. 2007b. *The Safety Competencies: Enhancing Patient Safety Across the Health Professions*. Edmonton, AB: Author. Retrieved December 1, 2007. <<http://www.patientsafetyinstitute.ca/education/safetycompetencies.html>>.

Clarke, S.P. 2004. "Failure to Rescue: Lessons from Missed Opportunities in Care." *Nursing Inquiry* 11(2): 67-71.

Faculty Leadership in Interprofessional Education to Promote Patient Safety. 2004. *Best Practices in Patient Safety Education: Module Handbook*. University of Washington: Authors. Retrieved December 1, 2007. <http://interprofessional.washington.edu/ptsafety/files/Handbook_Jan_05.pdf>.

National Steering Committee on Patient Safety. 2002. *Building a Safer System: A National Integrated Strategy for Improving Patient Safety in Canadian Healthcare*. Retrieved September 4, 2007. <http://rcpsc.medical.org/publications/building_a_safer_system_e.pdf>.

Reason, J. 2000. "Human Error: Models and Management." *British Medical Journal* 320: 768-70.

Reason, J.T., J. Carthey and M.R. de Leval. 2001. "Diagnosing 'Vulnerable System Syndrome': An Essential Prerequisite to Effective Risk Management." *Quality in Health Care* 10(Suppl. 2): ii21-5.

Sanford-Ring, S. 2006. *Patient Safety*. Presented at the University of Wisconsin Hospital and Clinics, Coralville, IA. Retrieved Dec. 1, 2007. <<http://www.uihealthcare.com/depts/cqspi/newsevents/training/sanfordring.ppt>>.

Saskatchewan Institute of Applied Science and Technology. 2006a. *SIAST Nursing Division Adverse Event, Near Miss and Critical Incident Report Form*. Saskatoon, SK: Author.

Saskatchewan Institute of Applied Science and Technology. 2006b. *SIAST Nursing Division Core Curriculum in Patient Safety*. Saskatoon, SK: Author.

Wolf, S.H., A.J. Kuzel, S.M. Dovey and R.L. Phillips. 2004. "A String of Mistakes: The Importance of Cascade Analysis in Describing, Counting and Preventing Medical Errors." *Annals of Family Medicine* 2: 317-26. Retrieved December 12, 2007. <<http://annfammed.org/cgi/content/full/2/4/317>>.



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