What Is Patient Safety?

Patient safety is increasingly recognized as one of the most significant issues facing health systems around the world. In its seminal report *To Err is Human*, the Institute of Medicine estimated that as many as 98,000 hospitalized Americans die each year as a result of errors in their care.

In 2004, Canada completed its first national study on adverse events in acute care hospitals. This retrospective study estimated that 7.5% of patients admitted to acute care settings experience adverse events, and that 9,000 to 24,000 patients die annually following a preventable adverse event in hospital.

This high volume of health care errors has received attention from policy makers and health care stakeholders. In December 2003, the Canadian Patient Safety Institute (CPSI) was established. It provides leadership and a national focal point for patient safety and quality improvement by promoting best practices, and developing strategies, frameworks, standards, tools and guidelines.

Since it began, CPSI has taken a systems approach to improving patient safety, while moving away from the culture of blame. This is in keeping with research conducted on error, which shows that most quality failures result from the complexity of systems, not from poor, incompetent, or purposefully harmful individual performance.

But the changes necessary to improve patient safety are as much cultural as technical: “Creating a culture of safety requires attention over the past decade, research has focused on many aspects of the working conditions of nurses and their impact on patient safety. The results have shown that increasing workloads, extended working hours and decreased job satisfaction are significantly affecting patient outcomes. This article examines the research and underscores the importance of fostering effective communication between nurses and other members of the health care team.

Over the past decade, research has focused on many aspects of the working conditions of nurses and their impact on patient safety. The results have shown that increasing workloads, extended working hours and decreased job satisfaction are significantly affecting patient outcomes. This article examines the research and underscores the importance of fostering effective communication between nurses and other members of the health care team.
not only to the design of our tasks and processes, but to the conditions under which we work—hours, schedules and workloads; how we interact with one another; and, perhaps, most importantly, how we train every member of the health care team to participate in the quest for safer patient care."

The Canadian Council on Health Services Accreditation (CCHSA) recognizes the importance of a safety culture in the accreditation decision process. In 2005, CCHSA released its Patient Safety Goals and Required Organization Practices organized under five categories: Culture; Communication; Medication Use; Work Force/Work Life; and Infection Control. The Work Force/Work Life goal focuses on creating a work life and physical environment that supports the safe delivery of care/service, and is supported by a number of required practices—for example, to deliver to all staff (at least annually) education or training on patient/client safety.

Clearly, the systems approach to reducing error acknowledges the significant impact that working conditions have on patient safety.

### Working Conditions and Patient Safety

Over the past decade, Canadian and international studies have focused on many aspects of the working conditions of nurses and their impact on patient safety. Reflecting the challenges highlighted in previous articles, research has found that increased workload, extended working hours and overtime, level of education and work experience significantly affect patient outcomes.

### Increased workload

One study showed that with each additional patient in an average nursing workload, there was an average 7% increase in failure-to-rescue. If a nurse's workload went from four to six patients, the odds of patient mortality increased by 14%. Conversely, higher staffing levels have been linked to improved quality of care and patient outcomes. The research shows that low nurse-to-patient ratios are associated with complications and poorer patient outcomes, increased rates of mortality and failure-to-rescue among surgical patients, and nurse burnout and job dissatisfaction.

### Extended working hours and overtime

The risk of an error significantly increases when nurses’ shifts are longer than the standard 12 hours, or when they work overtime or more than 40 hours per week. Moreover, working overtime increases the odds of a nurse making at least one error, regardless of how long the shift was originally scheduled.

### Nursing staff mix

The higher the proportion of professional nursing staff in a health unit or hospital, the fewer reported adverse events. Results of a study of Ontario teaching hospitals show that the lower the proportion of professional nursing staff employed on medical and surgical units, the higher the number of medication errors and wound infections. A greater proportion or number of hours of nursing care provided by registered nurses (RNs) was associated with better care for hospitalized patients and fewer adverse events, such as falls.

A similar study by the American Nurses Association found that higher levels of professional nurse staffing were related to shorter patient stays and fewer preventable adverse events, including pressure ulcers, pneumonia, urinary tract infections and postoperative infections. Although some research has found that a higher ratio of RNs is associated with lower mortality, results are conflicting.

### Work experience and level of education

Levels of education and work experience are also correlated with better patient outcomes. Several studies found that nurses with a baccalaureate are more likely to solve problems, communicate effectively, and perform complex functions and behaviours critical to improved patient safety. Moreover, hospitals with a higher proportion of nurses with a baccalaureate had decreased patient mortality.

Greater nursing experience has also been associated with fewer adverse events. A Canadian study found that as the years of nursing experience increased, patient deaths decreased.
A Question of Patient Safety

The Role of the Workplace Environment in Patient Outcomes

Communication is key
Communication between nurses and other members of the health care team is emerging as the single most important factor affecting quality of care. In a major U.S. study of just under 3,000 hospitals conducted over the period 1995–2004, communication failures among team members were the primary cause in 60% of sentinel or serious adverse events, with lack of communication on patient status at “hand-off” cited as the most common reason.\(^{17}\)

Nursing autonomy and improvements in team communication are positively correlated with quality of care and higher levels of job satisfaction.\(^ {19}\) Quality communication, interactions and coordination among health providers allow team members to influence improvements in the quality of care,\(^ {20,21}\) while also resulting in increased positive patient outcomes.\(^ {22,23}\)

Collaboration
Effective team collaboration has consistently been found to be significant in obtaining desired patient outcomes.\(^ {24}\) Nurse-physician collaboration has a positive effect on nurses’ caregiving decisions,\(^ {25}\) while decreasing the risk of negative outcomes such as readmissions and patient deaths.\(^ {26,27}\) Effective interaction, communication and conflict management abilities have been significantly associated with a shorter length of stay for patients and higher technical quality of care.\(^ {28}\)

Collaboration is especially important as the complexity of the patient-care situation increases.\(^ {29}\) Hospitals that achieved lower adverse events for surgical services used a greater number and variety of coordinating methods.\(^ {30}\) These hospitals had better perceived quality of care, less morbidity, reduced lengths of stay and fewer adverse events.

Other factors
Strong nursing leadership contributes to positive patient outcomes by developing staff expertise and stability.\(^ {31}\)

Results of a study of nursing homes identified that the longer the director’s tenure, the lower the prevalence of restraint use and complications of immobility.\(^ {32}\)

The demand for 24-hour medical care requires that all health care providers work in shifts. The shift change—when incoming and outgoing workers have to exchange information and hand over important duties—is a critical time. Research on “handovers” on internal medicine wards has found that medication errors are often attributed to poor transitions; however, other studies found that these transitions sometimes lead to recoveries from potential failures.\(^ {33}\)

In a one-year study in five emergency departments in Canada and the U.S., transitions sometimes led to patient reassessments due to questions from the incoming caregiver.\(^ {34}\)

New Initiatives Are Improving Patient Safety

While patient safety remains a challenging issue for nurses and health professionals, systemic changes have resulted in significant improvements, both in the working conditions of nurses and for patient outcomes. As noted earlier, improving nursing autonomy and staffing levels has reduced adverse events and patient mortality.

Two recent reports from the Canadian Health Services Research Foundation\(^ {15,35}\) evaluated research on nurse staffing and patient safety, and made several recommendations, including that patients should be cared for by highly educated, regulated and experienced nurses. They also recommended that standard nurse staffing definitions be created and used to help compare research findings and to build stronger evidence for policy and practice.\(^ {35}\)

Several recent initiatives involving nurses as part of a multidisciplinary team are resulting in significant improvements. Launched in April 2005, the “Safer Healthcare Now!” campaign has become a key component in the advancement of patient safety in Canada.\(^ {36}\) It has enrolled more than 170 organizations, including hospitals and health regions, as well as over 544 clinical teams. The campaign’s goal is to improve health care
A Question of Patient Safety

delivery by focusing on patients and their safety by promoting a collaborative effort among health care providers.

Several Canadian hospitals have begun using a communication technique called SBAR (Situation, Background, Assessment and Recommendation). The tool consists of standardized “prompt” questions to ensure that clear, consistent, relevant and focused information is conveyed among health professionals.

Recently, a group of Canadian hospitals in the Hamilton area piloted an initiative aimed at improving communication during shift changes and handovers. Nurses’ concerns led to a hospital-wide project implementing evidenced-based Transfer of Accountability (TOA) Guidelines and a bedside patient safety checklist. The standardized approach to handovers improves the effectiveness and coordination of communication among nurses at shift change, and fosters complete communication of patients’ needs.

Technology also plays an important role in improving patient safety. For example, some centres in Canada are combining simulations and telehealth to provide a safe environment for health professionals to practise procedures and engage in complex scenarios. These simulations allow nurses, physicians and other health care professionals to gain experience in handling and managing emergencies, unexpected events and difficult situations, and to make improvements in teamwork skills, communication techniques and the management of resources. The telehealth component allows health professionals to learn from a distance.

Nurses are the health care providers Canadians are most likely to spend time with at some of their most vulnerable moments. As front-line providers of care in many settings, nurses have always been champions for quality care. With patient safety emerging as a significant national and international health care system issue, nurses will continue to be at the forefront of campaigns and initiatives ensuring that patients receive safe, high quality care.


Patient Safety in Other Sectors

Patient safety research has focused on acute care hospitals, with few studies of other health care settings such as home, community and long-term care. Yet nurses provide patient care in all locations in which health care is delivered—hospitals; nursing homes; clinics and physicians’ offices; community health centres; private homes; nursing stations; schools; and workplaces. Emerging evidence indicates that there are safety issues unique to care settings—for example, in home care:

1. The environment is less controlled than in institutions, with much of the care provided by unregulated workers, family and caregivers in settings designed for daily living rather than providing health care.
2. The client, family, caregiver and provider are interlinked and must be included in the patient safety equation.
3. Communication and coordination issues are problematic among service sectors, providers, caregivers, family and clients.
4. There are challenges concerning the use of health care technology in an uncontrolled and unregulated home setting.