Patient Safety in Manitoba

2007 to 2010

Manitoba

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Introduction

Research from the United States, Canada, United Kingdom, Australia and other countries shows that errors can affect between three to 10 per cent of hospital patients (Institute of Medicine, Baker and Norton). Many errors are detected before they harm the patient or result in minor injuries. Unfortunately, some errors lead to major injuries and are called "critical incidents."

In the past, medical errors were seen as the responsibility of an individual working in the health care system. Now they are seen as part of any complex work environment or system. Health care delivery is complex and the complexities often contribute to errors. Patient safety is improved by gathering information about errors and using it to develop and implement improvements to the health care system.

In 2004, the World Health Organization recognized patient safety as a global health issue and launched a patient safety program to help improve the quality of health services.

The Canadian Adverse Events Study, published in 2004, found that 7.5 per cent of those admitted to hospital experience an adverse event. The researchers estimated that between 9,250 and 23,750 Canadians died from a preventable incident in 2000. A 2006 study by the Manitoba Centre for Health Policy on patient safety in Manitoba found the "frequency of adverse events reported in Manitoba is quite low," ranging from 0.10 per cent to 2.96 per cent.

Manitoba Experience

The interest in patient safety in Manitoba grew after the discovery in 1994 of 12 potentially preventable infant deaths in the pediatric cardiac program in Winnipeg at the Health Sciences Centre (HSC). An inquest was held and a report was released in 2000.

A review and implementation committee was established after the release of *The Pediatric Cardiac Surgery Inquest Report*. Led by Professor Paul Thomas, the committee developed 53 recommendations to improve patient safety. All of the recommendations have since been implemented, including changes such as establishing systems to facilitate learning from medical errors, creating a guide to Manitoba health services, and developing publicly accessible physician profiles.

> "What was clearly missing at the HSC in 1994, therefore, was a process that allowed team members to comfortably and collectively assess and evaluate the events that occurred in the operating room in a manner that contributed to improvements in the way that the patients were treated."
>
> *(The Pediatric Cardiac Surgery Inquest Report, p. 491)*

In 2004, the Manitoba government established the Manitoba Institute for Patient Safety. This independent, non-profit organization promotes and co-ordinates activities to improve patient safety and the quality of health care for Manitobans

As early as 2003, Manitoba Health encouraged the voluntary reporting of critical clinical occurrences (now called "critical incidents") where learning might occur from seemingly isolated errors. In 2006, legislation was introduced for mandatory no-blame critical incident reporting across the health system to support a culture of learning and openness. Manitoba was the second province to introduce mandatory reporting and investigation of critical incidents.

Reporting Critical Incidents in Manitoba

Manitoba Health recognizes that gathering information about errors during the delivery of health care can result in targeted efforts to improve patient safety.

Critical incidents are not reported to lay blame on individuals. The purpose of reporting is to look at what can be done differently and what improvements can be made to the way health care providers work. This process does not replace other disciplinary investigations such as reviews by employers, complaints to professional regulatory bodies or civil law suits. Instead, investigating critical incidents complements these processes.

> "Error can be handled in two very different ways. One way is to seek out and identify the one who committed the error in order to hold him or her, or the institution that employs the 'culprit,' responsible for it. The other way is to analyze the error in order to learn from it and to improve things so as to reduce the probability that the error will not be made again."
>
> *(The Pediatric Cardiac Surgery Inquest Report, p. 488)*

Manitoba's legislation defines a critical incident as "an unintended event that occurs when health services are provided to an individual and results in a consequence to him or her that is serious and undesired." This can include death, injury and disability, and "does not result from the individual's underlying health condition or from a risk inherent in providing the health services." The legislation applies to regional health authorities, hospitals, personal care homes, all licensed, land and air ambulances, the Selkirk Mental Health Centre, CancerCare Manitoba and Diagnostic Services Manitoba.

> "There is a need for a new professional ethos in the health field. It would consist of an acceptance of human fallibility and the inevitability therefore of error. It would involve the recognition that learning occurs not only from our successes, but also from our mistakes and failures... if the attitude persists that error is unacceptable and that the acknowledgement of mistakes is an admission of incompetence, the opportunity to learn from negative or even disappointing results will be lost."
>
> *(Review and Implementation Committee for the Report of the Manitoba Pediatric Cardiac Surgery Inquest (Thomas Report), p. 127)*

To encourage reporting and full, open participation in the investigation by health care providers, some parts of the investigation process, including opinions, speculations and advice, are confidential and privileged under law. This is intended to support providers and encourage them to speak frankly and openly about what occurred. This allows health providers to learn from the incidents that do occur and make changes to prevent their recurrence. This approach is used in several jurisdictions around the world.

> "A process must be put into place that emphasizes the need to gather and consider all of the relevant facts in an honest and candid manner, without regard to any individual or institutional consequences that might flow from the errors."
>
> *(The Pediatric Cardiac Surgery Inquest Report, p. 488)*

Once a critical incident is reported, an investigation takes place to determine the facts of the situation and to identify possible system changes. The critical incident legislation also requires disclosure to the patient and/or family that an incident occurred, the facts about what happened and what is being done to address it. As part of the investigation, recommendations for improvements are made to reduce the chances of the error happening again.

To further support disclosure, the *Apology Act* was passed in 2007, which allows health professionals to make an apology without it constituting an admission of legal liability.

In 2009, Manitoba Health partnered with the Manitoba Institute for Patient Safety to develop materials to support patients and families who experience a critical incident. These materials are designed to help patients and families understand the critical incident reporting process and support open communication and disclosure between health care providers, administrators, patients and families.

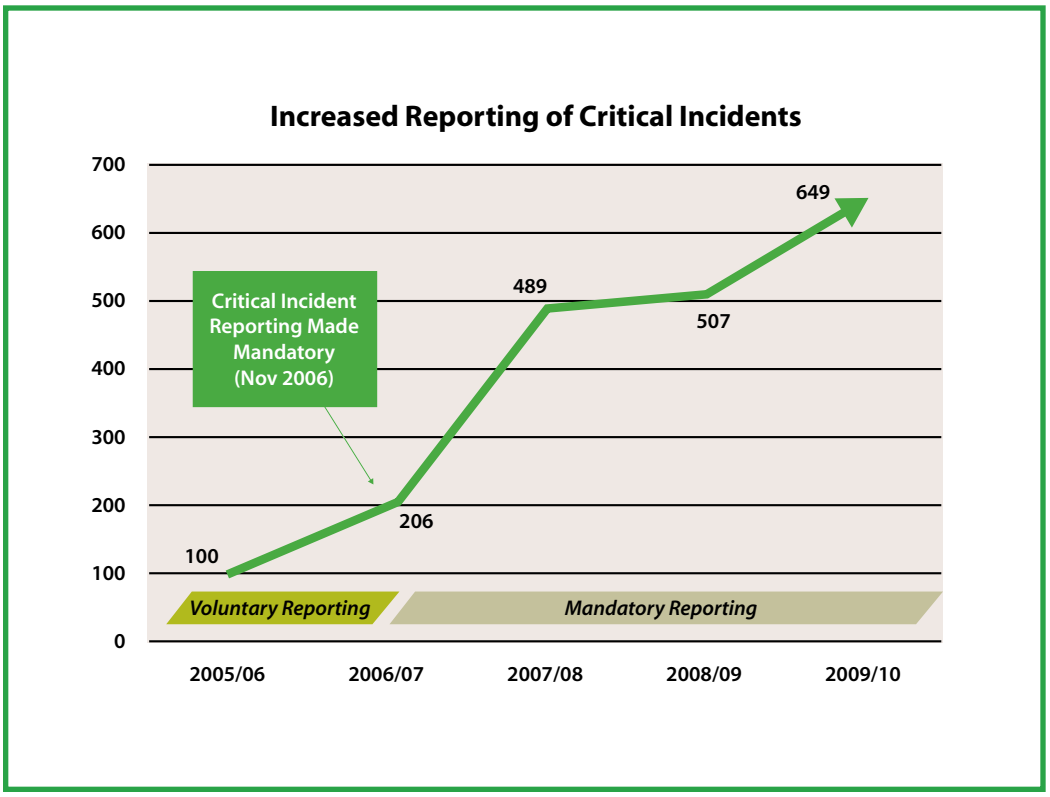
Manitoba Health collects information related to each critical incident reported. Collecting data about multiple events provides information that can be used to make improvements in the system.

Some health system changes that have been made as a result of critical incident reporting include:

- the use of a checklist before a surgery to ensure it is safe and appropriate to proceed
- the implementation of "smart" infusion pumps with built-in safety checks to ensure high risk medications are safely delivered
- the use of more formal communications protocols to relay pertinent patient information during shift changes between health care providers

Critical incidents are reported by facilities to regional health authorities and provincial organizations. These incidents are investigated by the facilities in consultation with regional health authorities and provincial organizations to support local investigation and learning. The incidents and investigations are also reported to Manitoba Health to support provincial monitoring, analysis and system-wide learning. Collecting data about multiple events provides information that can be used to make improvements in the system.

Since legislation was introduced in 2006, the reporting of critical incidents has increased. In 2009/10, 649 incidents were reported, up from 100 in 2005/06. This is believed to reflect increased reporting, and not an increase in the number of critical incidents occurring.



It is important to remember that not all incidents are preventable. An example of an incident that is not preventable could be an ambulance being involved in a car crash while transporting a patient. Because this happened while a patient was receiving care, it is considered a critical incident.

The 2004 *Canadian Adverse Event Study* found that less than four in 10 adverse events were preventable.

Types of Critical Incidents

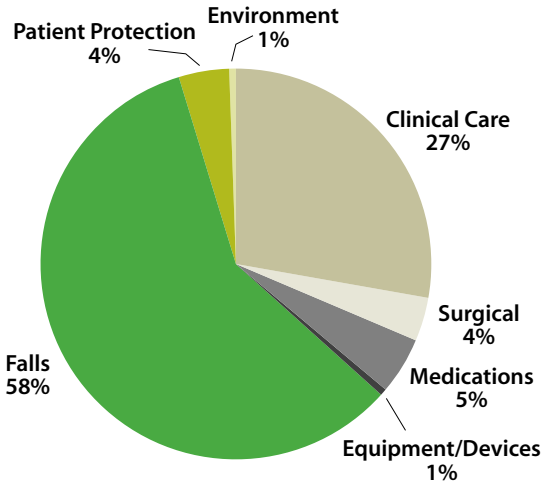
Critical incidents are classified in eight different categories:

1. Falls: Falls that result in serious patient injury such as fractures or death.
2. Clinical Care: Incidents that occur while providing patient care. They may include concerns about the assessment, diagnosis, or treatment of a patient, including a delay in providing care.
3. Medications: Incidents concerning the five rights of medication administration:
    a. right medication
    b. right dose
    c. right patient
    d. right time
    e. right preparation or route of administration.
4. Patient Protection: Incidents involving situations where caregivers are entrusted with the protection of a vulnerable patient such as the suicide of an inpatient or the discharge of an infant to the wrong parents.
5. Surgical: Examples of incidents involving surgery might include the wrong surgery performed on the patient, surgery performed on the wrong patient or the unintended retention of a foreign object in a patient after surgery.
6. Equipment/Devices: This refers to incidents associated with the use or malfunction of medical devices and equipment including surgical instruments, patient lifts, infusion pumps, restraints or diagnostic equipment.
7. Emergency Medical Services: This refers to incidents that occur while care is provided in all licensed land and air ambulances.
8. Environment: These incidents are associated with factors in the health care environment such as electric shock, burns or the delivery of gases such as oxygen and anesthetics.

As reporting has increased, further work has clarified definitions, standardized reporting mechanisms and improved consistency in data collection. The proportion of the incidents by type has changed, because critical incident reporting has increased across the system, reflecting a growing awareness in different parts of the system.

Manitoba Health has supported training to provide accepted and standardized approaches to the investigation such as Root Cause Analysis and Failure Mode Effects Analysis. This has allowed consistent, meaningful information to be reported from all health authorities. As a result of these efforts, Manitoba Health expects to see a trend towards receiving more critical incident reports related to complex clinical care issues in the future.

Critical Incidents by Type – 2009/10

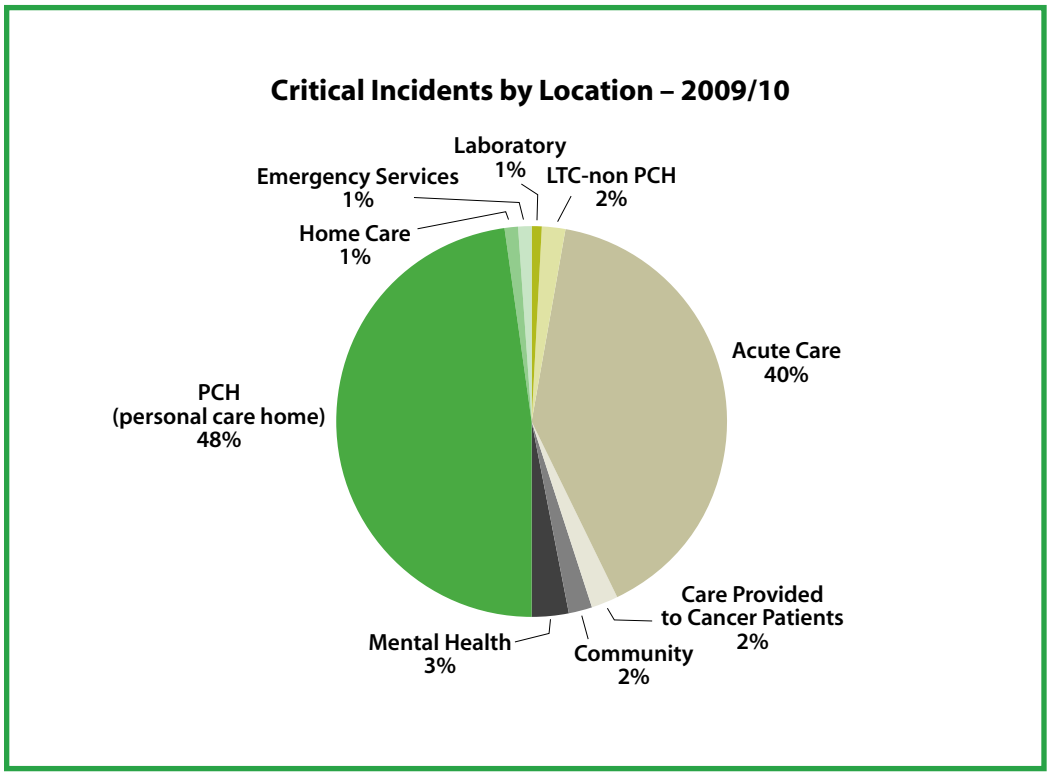


Location of Critical Incidents

Critical incident reporting includes all regional health authorities, CancerCare Manitoba, Selkirk Mental Health Centre, Diagnostic Services Manitoba and emergency medical services, including all air and land ambulance providers.

The majority of incidents occur in acute care settings and personal care homes, but several other care settings are also reporting critical incidents, including community health programs and emergency medical services.

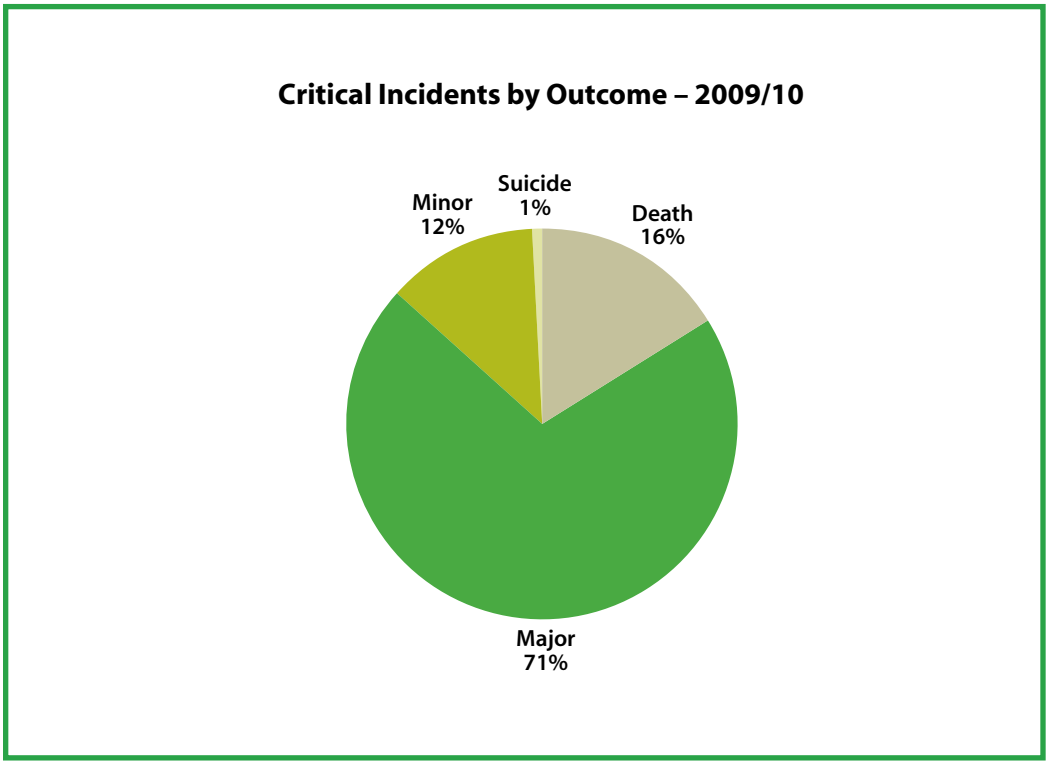
Occasionally, incidents may cross two organizations (ex: two regions or a region and Diagnostic Services Manitoba) and be reported separately by each organization. These are generally investigated jointly and Manitoba Health has developed a process to link these incidents to ensure provincial reporting does not include duplicate incidents.



Patient Outcome

The outcome for the patients who experience a critical incident is also reported, including minor injuries, major injuries, death and suicide. An example of a minor injury might be the need to remain in hospital for a few additional days for observation. A major injury could be a fracture that results in the need for rehabilitation.

Evaluating patient outcomes is complex. Often, a critical incident may occur during treatment but not contribute to the outcome. For example, a patient could miss a dose of medication, and later die from an unrelated fall. In other situations, there may be other contributing factors to the patient outcome that are unavoidable, such as the patient's condition.



Trends and Analysis

The majority of critical incident reports fall into three categories: falls, clinical care or medications. From the investigations of these events, one can begin to see patterns in the factors that contribute to these events.

Falls

The majority of reported falls occur in long-term care settings. Many individuals living in long-term care facilities have chronic illnesses that affect their abilities and they often need some form of assistance with their daily activities. Reports show that while a number of residents experience falls, it seems many falls have little or no lasting effects.

In these settings, it is important to assess the risk of a fall, and manage this risk as much as possible. However, an increase in falls or change in events associated with the fall should be considered an indication that something is changing with the patient's overall condition.

Preventing falls in long-term care settings is especially challenging because providers have to balance the risk of a fall with the desire/need for patients to remain active and maintain quality of life.

Critical incident reports on falls show there is value in examining factors contributing to falls, the importance of the environment and systems design and the development of strategies to prevent/manage the risk of falls. These include:

- falls risk assessments for all patients/residents
- the identification of those at high risk of falling
- the use of strategies to prevent falls, including supporting appropriate mobility for patients, the use of equipment such as falls mats, bed/chair alarms and beds with the lowest possible height from the floor
- the appropriate transfer and handling techniques based on characteristics of the patient
- an awareness of the effects of the environment on the occurrence of falls
- ongoing training and education on falls risk assessment tools and falls prevention strategies

Clinical Care

Critical incidents related to clinical care vary depending upon the care setting. Some common themes included:

- lack of awareness of current treatments and care protocols
- breakdown in communication between health care providers

- lack of appreciation of the co-ordination needed in the health care system to ensure that needed care is received across the province
- lack of understanding of the constraints under which health care providers work, especially in rural health care settings

Patients often have a variety of chronic health conditions that require ongoing management, so medical and health care practices are constantly changing and evolving. It can be challenging to keep up with the amount of information and the changes that occur as a result.

Knowing about and adopting best practices is one way to ensure that patients receive appropriate quality care. Gaps in knowledge may be addressed by providing continuing education and ensuring that health care professionals are accountable for maintaining the skills needed in their practice. This includes providing information about new and improved treatments, medications and management of specific conditions.

It is particularly important to ensure that the communication between health care providers is clear and complete. The adoption of techniques to ensure clear and appropriate communication between all health care providers in one setting, as well as health care providers in different settings is key, so everyone is understood and important information is passed from one health care provider to the next.

The situation, background, assessment and recommendations method (SBAR) is a standard communication technique widely used and taught in professional programs of study, regardless of the health care discipline. This communication method is considered a best practice of health care in Manitoba.

Medications

Medication errors can be serious or may have little effect on a patient. In critical incidents reports about medications, several factors were found to contribute to errors, including:

- unclear abbreviations, symbols and dose designations
- unclear physician's writing, causing medication transcription errors
- similarities in medication naming, packaging and labelling
- poor team communication and processes between units and facilities
- lack of standard doses and preparation of high alert medications

According to the Institute for HealthCare Improvement, 46 per cent of medication errors occur at the intersections of care. This means admission to the hospital, a transfer between units and discharge from the hospital. Medication reconciliation, a process to verify the patient's list of medications at these points of contact, has been introduced to reduce errors. Other initiatives to improve medication safety include:

- standard dosing formats
- improved safety in medication dispensing areas

- technological safeguards such as computerized physician order entry
- clear labels on medications and safe ways for doctors to hand-write medication orders

Strong consumer and health care provider partnerships are also important to prevent medication errors. The first phase of the *It's Safe to Ask* campaign (2006), spearheaded by the Manitoba Institute for Patient Safety, encouraged clear communication between patients and health care providers about medication and treatment.

Building relationships between patients and health care providers improves communication and patients' participation in their care, contributing to better health outcomes.

The second phase of the *It's Safe to Ask* campaign uses a medication card to track names of medications, time given and special alerts. The information encourages patients to take responsibility for their own health and well-being by knowing the names of all their medications, the reasons they are taking them and the possible side effects.

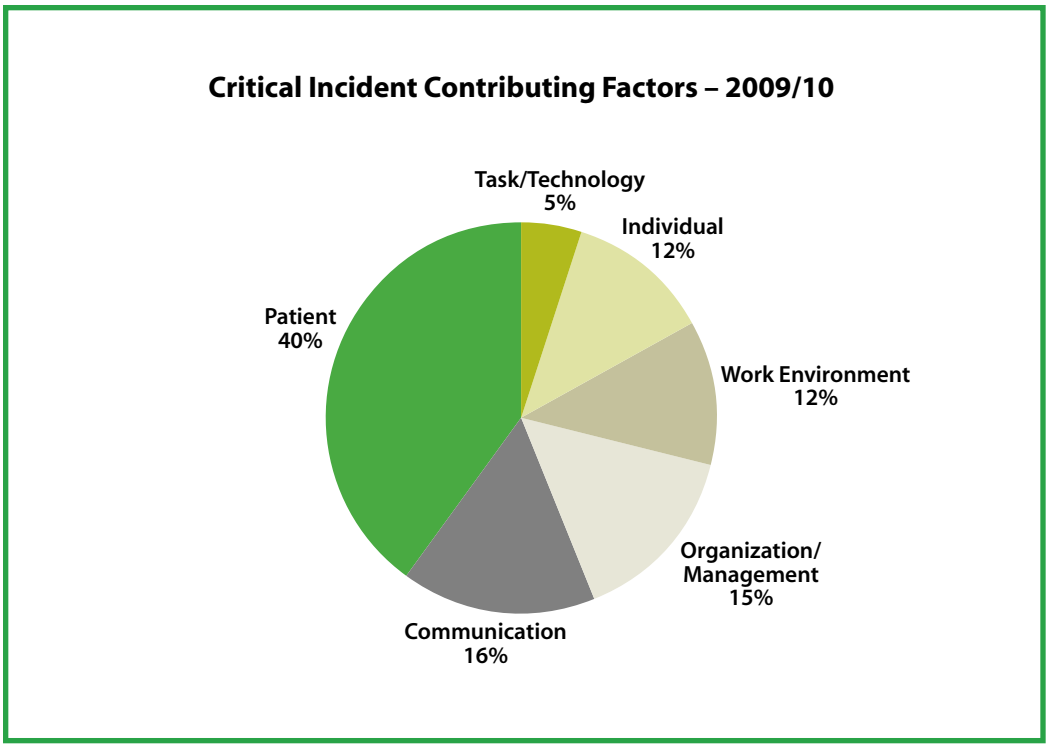
Identifying drugs that are particularly high risk for adverse effects and addressing their safe administration also helps ensure patient safety. The Institute for Safe Medication Practices (ISMP) issues alerts about high-risk medication errors and addresses the use of safe medication practices. For more information, visit the Manitoba Institute for Patient Safety website, www.mbips.ca.

Contributing Factors

In addition to the facts found by the critical incident investigation, critical incident investigators are asked to identify factors that contributed to a critical incident.

Six broad categories of contributing factors have been identified:

- *individual* – sometimes known as human factors that influence decision making and the evaluation of a situation
- *communication* – sharing information between individuals involved in the patient's care, whether verbal or written
- *task and technology* – includes how the complexity of the task and the influence of technology affected the situation
- *patient factors* – includes individual characteristics related to the physical, mental, cognitive and emotional state of the patient that may have played a part in the event
- *organization and management* – includes situational and organizational factors that may contribute to performance, such as staffing levels, levels of experience, role descriptions and established lines of authority
- *work environment* – includes the constantly changing nature of competing demands on health care providers' time and attention, as well as team factors



In reviewing reported critical incidents, communication is a common theme. This applies to all exchanges of information between care providers as well as in the co-ordination of care plans among a variety of health care providers. Effective communication is essential to patient safety. Breakdown in communication or barriers to open communication can result in delays in diagnosis and treatment that may have negative patient outcomes. This highlights the need to develop an easy-to-remember, consistent way to organize communications among all health care professionals.

It is also important to examine the work of others in the field and determine best practices. Best practices are ways of providing care that produce the best possible results and prevent unnecessary complications. Examples include the timely use of clot-busting drugs in people having a heart attack or stroke and the consistent steps that ensure all surgical preparations are done safely, often using a checklist.

Improving Patient Safety

Many steps have been taken to improve patient safety, including improving medication safety, surgery practices, infection control and falls prevention. These are recent examples of recommendations from a Critical Incident Review Committee to improve patient safety.

- Creation and implementation of a safe surgery checklist. This is a standard written checklist completed before the beginning of a surgical procedure. It ensures all safety issues have been addressed and that the staff taking part in the surgery are appropriately aware of the proposed surgery and recovery plan for the patient.
- Introduction of Smart infusion pump technology. This technology reduces the likelihood of errors in the delivery of medications, especially with those with a possibility of severe adverse effects. These pumps are programmed to deliver medications and alert health care providers when the dose of medication delivered is outside usual dosage ranges.
- Improved awareness of proper hand hygiene and infection control procedures. Improved awareness reduces the risk of spreading infections. This includes using campaigns to promote increased awareness in health care providers and the public about standard infection control practices and the importance of correct handwashing techniques.
- Increased awareness and training in fall prevention and management. Further initiatives to reduce falls were introduced in hospitals, long-term care facilities and the community, including standard falls risk assessments and the use of proven ways to reduce or manage the risk of a fall.

In addition, Manitoba Health has had an active role in the promotion of patient safety activities, such as:

- sponsoring an annual provincial patient safety conference
- funding the Canadian Patient Safety Symposium, Halifax 8 (Winnipeg, 2008)
- funding and facilitating education sessions for the regional health authorities by the Canadian Patient Safety Institute (CPSI) on topics that will improve patient safety

In 2004, the province created the Manitoba Institute for Patient Safety (MIPS) in response to recommendations made by the Manitoba Patient Safety Steering Committee. The institute is an independent non-profit organization that receives core funding from a provincial government grant to cover operating costs. MIPS promotes, co-ordinates and facilitates activities that have a positive impact on patient safety throughout Manitoba while enhancing the quality of health care for all Manitobans. Since their creation, they have introduced a number of initiatives to improve patient safety, including:

- sponsoring the *Safer Healthcare Now!* program beginning in 2005
- supporting Manitoba-based patient safety research projects
- launching the first phase of the patient safety campaign *It's Safe to Ask* in 2006
- holding the first public forum *We Grieve, We Listen, We Learn* in 2007
- launching the *Patient Safety is in YOUR Hand* campaign and the *It's Safe to Ask Medication Card* in 2008

In 2006, Manitoba became the second province to require health care providers and facilities to report critical incidents. This has allowed health care providers to examine why a critical incident occurred and to learn how to do things safer and better.

In March 2009, MIPS and Manitoba Health brought together individuals from across the province at a forum to explore their experiences with critical incident reporting. This was to done to examine what further support was required by the regional health authorities in their legislated activities and to allow information sharing across the province.

This year, Manitoba Health made it mandatory to report on the implementation of recommendations in critical incident reviews. This will help Manitoba Health identify areas of concern for creating safer health care environments.

By learning from the mistakes, health care providers are then able to prevent errors before they occur. This will help make patient care even safer for all Manitobans.

Milestones in Patient Safety in Manitoba

2003/04
- voluntary reporting of critical clinical occurrences to Manitoba Health

2004/05
- establishment of the Manitoba Institute for Patient Safety (MIPS)

2005/06
- appointment of a Chief Patient Safety Officer (Dr. Rob Robson) at the Winnipeg Regional Health Authority
- participation in *Safer HealthCare Now!* initiatives to reduce preventable adverse effects

2006/07
- mandatory reporting of critical incidents (formerly critical clinical occurrences) to Manitoba Health as of November 6, 2006
- development of a Provincial Patient Safety Strategy to promote a culture of safety in health care delivery
- introduction of the Manitoba Institute for Patient Safety (MIPS) *It's Safe to Ask* campaign

2007/08
- proclamation of the first Canadian Patient Safety Week by the minister of Manitoba Health
- Royal assent of *The Apology Act* allowing health-care workers and other professionals to make an apology without it constituting an admission of legal liability

2008/09
- beginning work on a pan-Canadian adverse events reporting system (CAERLS)

2009/10
- endorsement by Manitoba Health of the Canadian Disclosure Guidelines from the Canadian Patient Safety Institute (CPSI)
- changes to Manitoba Health Critical Incident Management and Reporting Policy to include requirement for disclosure and report on progress of recommendations coming from the Critical Incident Review Committee (CIRC)

2010/11
- amendments to *The Personal Health Information Act* (PHIA) to give patients and their legal representatives more timely access to their health records so they can be more informed participants in their care

Patient Safety Websites

- Manitoba Patient Safety
  www.gov.mb.ca/health/patientsafety
- Manitoba Institute for Patient Safety (MIPS)
  www.mbips.ca/
- Manitoba Institute for Patient Safety (MIPS) - *It's Safe to Ask* campaign
  www.safetoask.ca
- Winnipeg Regional Health Authority Patient Safety Team
  www.wrha.mb.ca/healthinfo/patientsafety/index.php
- The Manitoba Courts website includes an index and texts of recent inquest reports issued by the Provincial Court of Manitoba under the provisions of *The Fatality Inquiries Act* of Manitoba. For a print copy of an inquest report on the list, or of an older inquest report, contact the Office of the Chief Medical Examiner at 945-2088; 1-800-282-8069 toll free.
  www.manitobacourts.mb.ca/inquest_reports.html
- The Canadian Patient Safety Institute (CPSI)
  This site provides close to 50 links to provincial, national and international quality and patient safety organization websites. It also has a shortlist of key articles and reports (website and/or PDF) on patient safety topics.
  www.patientsafetyinstitute.ca/index.html
- Accreditation Canada
  www.accreditation-canada.ca/
- Promoting Active Living (PAL): Best Practice Guidelines for Fall Prevention in Assisted Living
  www.publications.gov.bc.ca/search.aspx, click on Promoting Active Living or product code: 7610003388
- *Safer Healthcare Now!*
  www.saferhealthcarenow.ca
- The Institute for Safe Medications Practice (ISMP)
  www.ismp-canada.org/
- Canadian Standards Association
  www.csa.ca
- The Institute for Health Care Improvement (USA)
  www.ihi.org

International Websites

- The National Patient Safety Agency (England and Wales)
  www.npsa.nhs.uk/health/resources
- The Office of Safety and Quality in Health Care, Department of Health of the Western Australian Government
  www.safetyandquality.health.wa.gov.au/home/
- The Joint Commission (USA)
  www.jointcommission.org/
- The World Health Organization
  www.who.int/en/