Ministry of Health

Acute-Care Hospital Patient Safety and Drug Administration

1.0 Summary

Although patients visit hospitals in order to address health concerns and receive health-care services, there are some instances where patients can be unintentionally harmed as a result of the care provided during their visit.

Patient safety refers to reducing the risk of patient harm through policies and procedures that hospitals design, implement and follow. Patient safety incidents—such as hospital-acquired infections and medication errors—can be caused by poorly designed systems and processes and unsafe human acts in the delivery of hospital care.

As of April 1, 2019, there were 141 public hospitals in Ontario, operating on a total of 224 sites. These include 123 acute-care hospitals, where patients primarily receive active short-term treatment; eight chronic-care and rehabilitation hospitals for patients with long-term needs; four specialty psychiatric hospitals; and six hospitals that provide a variety of out-patient and rehabilitation services. In this report we focused on patient safety in acute-care hospitals, and we use the word "hospitals" to refer only to acute-care hospitals.

Under the *Public Hospitals Act, 1990*, hospitals are required to investigate patient safety incidents and to take steps to prevent similar incidents from occurring in the future. Non-governmental organizations, such as Accreditation Canada, also inspect and accredit hospitals to assess whether they comply with standards that focus on patient safety.

Public hospitals in Ontario are corporations accountable to their own boards and directly responsible for their own day-to-day management. Hospitals are required by law to monitor and report on various patient safety indicators, and to comply with relevant standards and legislation.

Hospital data collected by the Canadian Institute for Health Information shows that each year, among the more than 1 million patient discharges from Ontario acute-care hospitals, on average approximately 67,000 patients were harmed during the hospital stay. Between 2014/15 and 2017/18, nearly six of every 100 patients experienced harm while in hospital. This is the second-highest rate of hospital patient harm in Canada, after Nova Scotia.

Public concern with the safety of health care has increased in recent years due to growing research on the impact that medical errors and hospital-acquired infections have on patients and on the health-care system.

While the vast majority of patients in Ontario receive safe care in hospital, and the acute-care hospitals we visited are committed to patient safety, our audit found that more can be done to improve patient safety. Current laws and practices in Ontario make it difficult for hospitals to address concerns with the safety of care provided by some nurses and doctors. Staff survey results at Ontario

hospitals varied significantly, rating Ontario hospital patient safety practices from excellent to poor and failing, and many hospitals did not fully comply with required patient safety practices.

Among our significant findings:

- **Current practices in Ontario put confidentiality about nurses' poor performance ahead of patient safety.** Non-disclosure arrangements negotiated by unions with hospitals can result in potential new employers not being made aware of a nurses' poor past performance. Because of concerns about potential civil legal actions, during an employment reference check hospitals may not freely share with potential employers a nurse's complete and truthful employment and performance history. We found that such practices can mislead hiring hospitals and pose an increased risk to patient safety. For instance, on October 16, 2018, one hospital fired a nurse for a very serious breach of mandatory patient care standards resulting in a patient's death. The hospital reported the termination a few days later to the College of Nurses of Ontario. However, as of July 31, 2019, the College had not yet completed its investigation. The termination was treated as a resignation and the nurse currently works for another hospital. Some jurisdictions in the United States have specific legislation in place that protects hospitals from liability associated with any civil legal action for disclosing a complete and truthful record about a current or former nurse to a prospective employer.
- **Nurses who hospitals have found lack competence and who have been terminated or banned continue to pose a risk to patient safety.** We reviewed a sample of nurses who were terminated for lack of competence and/or inappropriate conduct, and agency nurses that were banned, in the past seven years in nine of the 13 hospitals we visited. (Agency nurses who are found incompetent may be banned by a hospital.) After their first termination or banning, 15 of the nurses subsequently worked at another hospital or for another agency. We noted that four of them were either subsequently terminated or banned again for lack of competence. For example, one nurse who currently works as an agency nurse was, between May 2016 and March 2019, terminated from two hospitals and also banned from a third hospital for lack of competence.
- **Information about nurses available to prospective employers limits the employers' ability to assess past performance issues.** The *Regulated Health Professions Act* limits the information the College of Nurses of Ontario is able to share with hospitals and with any other member of the public with respect to reports received about nurses terminated by other hospitals. Hospitals have also informed us that if they contact the College to obtain information about a prospective nurse employee, they are usually referred to the nurse's public profile, which does not have information on ongoing investigations and may have incomplete information. Therefore, when hospitals or agencies hire these nurses they do not have access to a complete record of their past employment history and performance issues.
- **As noted in our 2016 audit of Large Community Hospital Operations, hospitals are not able to quickly and cost-effectively terminate physicians who hospitals have found lack competence.** In our 2016 audit, we recommended that the Ministry evaluate this problem. However, in our current audit, we found that this problem still persists. For instance, the disciplining of one physician who a hospital found to have practice issues took about four years and cost the hospital over $560,000. An ongoing disciplinary process against this same physician at a second and third hospital,

where the physician currently works, has so far cost the two hospitals over $1 million. In defending themselves, physicians mostly do not personally incur legal fees; rather, their legal costs are indirectly paid by taxpayers through the liability insurance reimbursement program through which the Ministry reimburses physicians for enrolling in the Canadian Medical Protective Association that provides lawyers to represent physicians. We noted that in 2016/17, the Ministry of Health reimbursed physicians $256 million for costs of the Medical Liability Protection Reimbursement Program. In 2017/18, the amount was $326.4 million, an increase of $70.4 million, or 27.5%.

- **Patient safety culture at different hospitals varies significantly, from excellent to poor and failing.** We obtained the most recent staff survey results from all 123 acute-care hospitals in Ontario, completed between 2014 and 2019, and found that as many as nine in 10 staff at some hospitals graded their hospital as "very good" or "excellent" with respect to patient safety. However, at other hospitals, as many as one in three staff graded their hospital as "poor" or "failing."
- **Patient safety "never-events" have occurred at six of the hospitals we visited.** Health Quality Ontario and the Canadian Patient Safety Institute have identified 15 patient safety "never-events"—incidents that could cause serious patient harm or death and that are preventable using organizational checks and balances. According to these organizations, these events should never occur in hospitals. Yet we found that since 2015, 10 out of the 15 never-events have occurred a total of 214 times in six out of the 13 hospitals that we audited. However, we found that none of the six hospitals set any targets in their quality improvement plans to eliminate the occurrence of these events. One hospital we audited, Humber River Hospital, estimated that by reducing the occurrence of pressure ulcers—including serious pressure ulcers, one of the most common never-events—by about half, the hospital could save between $1.8 million to $3.7 million over two years. We also found that unlike hospitals in Saskatchewan and Nova Scotia, which are required to report never-events to their health ministries, Ontario hospitals are not required to track or report never-events to Health Quality Ontario, Local Health Integration Networks or the Ministry.
- **Between 2014 and 2019, over half of hospitals did not fully comply with required patient safety practices.** We obtained from 114 acute-care hospitals their most recent Accreditation Canada report between 2014 and 2019 and found that 18 hospitals did not comply with five or more required practices that are central to quality and patient safety. For example, Accreditation Canada found that some hospitals did not have strategies in place to help prevent patient falls and pressure injuries, while other hospitals did not meet the required communication practice to ensure that information is transferred when patients move between care units within the hospital. Washing and sterilization of reusable surgical tools and medical devices is an area where hospitals did not fully meet a significant number of high-priority criteria for infection prevention. If these practices are not complied with, a hospital is required to submit evidence of corrective actions to Accreditation Canada. Nevertheless, as Accreditation Canada conducts its visits every four years, it is unknown for how long prior to the visit hospitals did not have these required patient safety practices in place.
- **Hospital pharmacies do not fully comply with their own standards for the sterile preparation and mixing of hazardous chemotherapy and non-hazardous intravenous medications, but compliance is**

improving. In 2013, 1,202 hospital patients at four hospitals in Ontario—Windsor, London, Lakeridge and Peterborough—were infused with the wrong concentration of chemotherapy medication. In response to this incident, the College started annual inspections of hospital pharmacies in 2014 to assess their compliance with standards aimed at ensuring patient safety. Yet in 2018, hospital pharmacies on average fully met less than half of the 50 standards, which relate to the sterile preparation and mixing of intravenous medications. In response to the College's requirement for improvement, early inspection results from 2019 shared with us by the College showed that pharmacies' compliance has improved. However, on our visits to five hospitals, we found that some hospitals are not properly cleaning and disinfecting their sterile-rooms and the equipment used in the preparation and mixing of intravenous medications.

- **Hospitals do not always follow best practices for medication administration.** From 2012 to 2018, hospitals in Ontario reported to the Canadian Institute for Health Information 154 critical patient safety incidents involving administration of medications. Thirty-nine of these incidents resulted in a patient's death. We found that three of the hospitals we visited did not always comply with best practices for the administration of high-risk medications, such as using an independent double-check to verify medication and dosage, witnessing patients taking and swallowing medications, or confirming the identities of patients. Our expert told us that not following these best practices increases the likelihood of patient harm and/or death.
- **Hospitals do not always follow best practices for nursing shift changes that could reduce the risk of medication errors.** We found that six out of the 13 hospitals we visited did not always follow patient safety best practices for nursing shift changes, which recommends, if possible, conducting shift changes at the patient's bedside and involving the patient and the family (with the consent of the patient) in the process. In this way, the patient and/or family can identify any missing information or miscommunication between the nurses during shift change that could, for example, lead to medication administration errors causing patient harm.
- **Hospital staff may not be washing their hands as frequently as reported.** Although in 2018/19, hand-washing compliance before patient contact and after patient contact reported by hospitals was about 90% and 93%, respectively, we found that these results may be inflated due to the way they are observed and recorded. One hospital study found that hospital staff washed their hands 2.5 times more often when they saw an auditor observing and recording their hand-washing rate than when an auditor was not identifiable. Another study found that while the hand-washing compliance rate as observed by the auditor was 84%, the rate as observed by covert observation auditors was actually 50%. Hospital-acquired infections such as *C. difficile* are commonly spread via the hands of health-care workers. One hospital estimated that patients who acquired *C. difficile* while in its hospital required additional treatment costing an average of $9,000 per patient, or $1.6 million overall. In the past five years, 12,208 hospital-acquired *C. difficile* infections were reported in Ontario, an average of about 2,440 people each year. This suggests the additional treatment costs to the provincial health-care system as a result of these infections are substantial.

This report contains 22 recommendations, with 38 action items, to address our audit findings. **Appendix 8** lists our recommendations, and shows the stakeholders they are addressed to.

Overall Conclusion

Our audit concluded that the hospitals we visited have effective processes in place to investigate and learn from patient safety incidents. However, the Ministry and hospitals are not doing all that could be done to improve patient safety. Nurses that hospitals have found lack competence and who have been terminated or banned are rehired at other hospitals and/or agencies and continue to pose a risk to patient safety, because confidentiality about nurses' poor performance is put ahead of patient safety. Hospitals are not able to quickly and cost-effectively deal with physicians who hospitals find lack competence and harm patients. Hospitals do not always comply with some required patient safety practices and standards. For example, staff do not wash their hands as frequently as required, which contributes to the spread of hospital-acquired infections among patients, and best practices are not always followed when medications are administered to patients and during nurse shift changes, which contributes to medication administration errors. Hospital pharmacies also do not fully comply with their own standards for the sterile preparation and mixing of hazardous chemotherapy and non-hazardous intravenous medications.

OVERALL RESPONSE FROM OHA

The Ontario Hospital Association (OHA) appreciates the Auditor General's work to enhance patient safety. Patient safety remains the most important priority for Ontario hospitals, and every effort is made to ensure that patients and clients receive the highest-quality care possible.

Over the past decade, Ontario hospitals have been seeking to embed a culture of safety and quality within their organizations. Hospitals have worked closely with Accreditation Canada and others to implement best practices on quality and safety. This includes making required changes to high-priority areas like organizational culture, incident disclosure and management, medication reconciliation, surgery checklists, infection control and risk assessment.

Hospitals are also required to create and share an annual Quality Improvement Plan that provides measurable targets and have a Quality Committee at the board level, making a strong statement about the permanence of quality as an organizational strategy. Most importantly, hospitals routinely undertake comprehensive reviews of patient safety and critical incidents, which is an important part of quality improvement efforts in hospitals. While significant foundational progress has been made, Ontario hospitals recognize that there is still more to do.

The recommendations included in the Auditor General's 2019 report provide an opportunity for hospital leadership to reflect on what's needed within their organizations to further improve patient safety. In addition to existing work, the OHA will continue to share best practices, support hospital boards as they work to identify areas of improvement within their organizations, and work closely with the Ministry of Health and other patient safety stakeholder organizations as changes are made to improve safety and quality system-wide.

OVERALL MINISTRY RESPONSE

The Ministry of Health (Ministry) appreciates the comprehensive audit conducted by the Auditor General and welcomes the recommendations in the report. The safety of Ontario's patients is of utmost concern to the Ministry, and it is committed to a safe and reliable publicly funded hospital system.

The safety of Ontario's patients is a responsibility shared by providers, organizations, health system associations and the Ministry. Although the Ministry recognizes that there continues to be a need for improvements, steps have been taken to strengthen patient safety in health-care institutions across the province.

Ontario Health has a clear mandate to provide leadership on patient safety, through the public reporting of patient safety data and the development of clinical and quality standards for patient care and safety.

Key investments in quality improvement have also led to the delivery of safer, more reliable care in hospitals across the province. For instance, the Ministry has supported the implementation of the National Surgical Quality Improvement Program—Ontario.

Ontario hospitals that participated in the program reported better outcomes, shorter patient hospital stays and fewer surgical complications. As of March 2019, the province saw a 27% reduction in post-surgical infections among participating hospitals. This program also led to a 51% reduction in the rate of post-surgical urinary tract infections.

Performance on key patient safety indicators has also improved. According to 2017/18 data published by the Canadian Institute for Health Information, Ontario performs as well or better than the Canadian average on obstetric trauma, worsened pressure ulcers in long-term care, falls in the last 30 days in long-term care, and potentially inappropriate medication prescribed to seniors.

The Ministry will continue to identify opportunities for improvement in partnership with front-line providers and support institutions across the province as they work to deliver safe and reliable to care.

2.0 Background

2.1. Overview of Hospital Patient Safety

Patient safety practices are the set of policies and procedures hospitals have in place to reduce the risk of patient harm. Incidents of patient harm can be organized into the four types listed in **Figure 1**.

2.1.1 Hospital Patient Harm Statistics

Canada

Conducted in 2004, the *Canadian Adverse Events Study* remains the most comprehensive study of patient safety in Canada to date. This foundational study of patient safety across 20 hospitals in Canada, four of which are located in Ontario, found that 7.5% (187,500) of all (2.5 million) hospital patients admitted annually to hospitals in Canada were unintentionally harmed by the care

Figure 1: Four Types of Patient Harm Incidents and Examples of Each

Source of data: Canadian Institute for Health Information and Canadian Patient Safety Institute

Type	Example
1. **Health-Care/Medication-Related Incidents** Harm related to general care provided and/or medication administered during a hospital stay.	A nurse administers the wrong medication to a patient.
2. **Hospital-Acquired Infections** Infections acquired during a hospital stay, including those related to or following a medical or surgical procedure.	A patient acquires a blood infection while receiving medication intravenously (directly into the vein).
3. **Patient Accidents** In-hospital injuries (e.g., fractures, dislocations, burns) due to an accident, not directly related to medical or surgical procedures.	An elderly patient slips and falls in the hallway, resulting in a hip fracture.
4. **Procedure-Related Incidents** Surgical and medical procedure errors and abnormal reactions to or complications from, surgical or medical procedures.	A sponge or instrument is mistakenly left inside the patient following a surgery.

Figure 2: Hospital Patient Harm Rate in International Jurisdictions and Canada
Prepared by the Office of the Auditor General of Ontario

Country	Patient Harm Rate (%)	Year Study Published
United States	7.7	2013
United States	13.5	2010
Spain	8.4	2006
Australia	8.3	2006
Canada	7.5	2004

they received in hospitals. The result for these patients was longer hospital stays and, in some cases, disability. The study also found that in one year, between 9,000 and 24,000 deaths caused by patient safety incidents could have been prevented. A more recent 2016 study, *Measuring Patient Harm in Canadian Hospitals*, found that on any given day, more than 1,600 hospital beds across Canada are occupied by a patient who suffered harm that extended their hospital stay. As seen in **Figure 2**, Canada's patient harm rate is similar to the rates reported in other international jurisdictions, such as the United States, Australia and Spain.

Ontario

Between April 2014 and March 2018, Ontario acute-care hospitals reported to the Canadian Institute for Health Information, a not-for-profit organization that provides essential information on Canada's health systems and the health of Canadians, almost 270,000 individual preventable patient harm incidents. One of the most common types of incidents is infections. In **Figures 3** and **4** we compare Ontario's results to the other provinces' and territories' results for the years 2014/15–2016/17. **Figure 3** compares the average number of hospital discharges per year with at least one occurrence of patient harm, and **Figure 4** shows the annual rate of occurrences of patient harm per 100 hospital discharges.

Ontario has the highest average number of discharges with at least one occurrence of harm in Canada. Comparatively, the province's 5.8% rate of hospital harm is the second-highest in Canada.

2.1.2 Hospital Patient Safety Governance Structure

Ontario hospitals are corporations accountable to their own boards and directly responsible for their own day-to-day management. Under the *Excellent Care for All Act, 2010* (Act), hospitals are required to:

- establish a service quality committee of the board, responsible for monitoring and reporting to the board on the overall quality of services and safety of care provided;
- develop annual quality improvement plans, which outline how a hospital will improve the quality of care it provides in the coming year;
- conduct regular surveys of patients and staff to assess patient safety and quality of care culture; and
- investigate all patient safety incidents and take steps to prevent similar incidents from occurring in the future.

Governance

Under the *Public Hospitals Act, 1990*, and the *Excellent Care for All Act, 2010*, hospitals must establish governance and reporting structures to monitor and address patient safety concerns. **Appendix 1** shows an example of the governance structure and required committees for Ontario hospitals, and describes their key responsibilities.

Depending on the hospital's size, the complexity of offered care services and the hospital's resources, hospitals could establish additional internal subcommittees and working groups to address patient safety issues.

Each hospital is required to enter into a Service Accountability Agreement with its Local Health Integration Network. This agreement outlines a hospital's accountability and performance expectations and includes measurement and

Figure 3: Provincial and Territorial Average Acute-Care Hospital Discharges per Year with at Least One Occurrence of Harm, 2014/15–2016/17

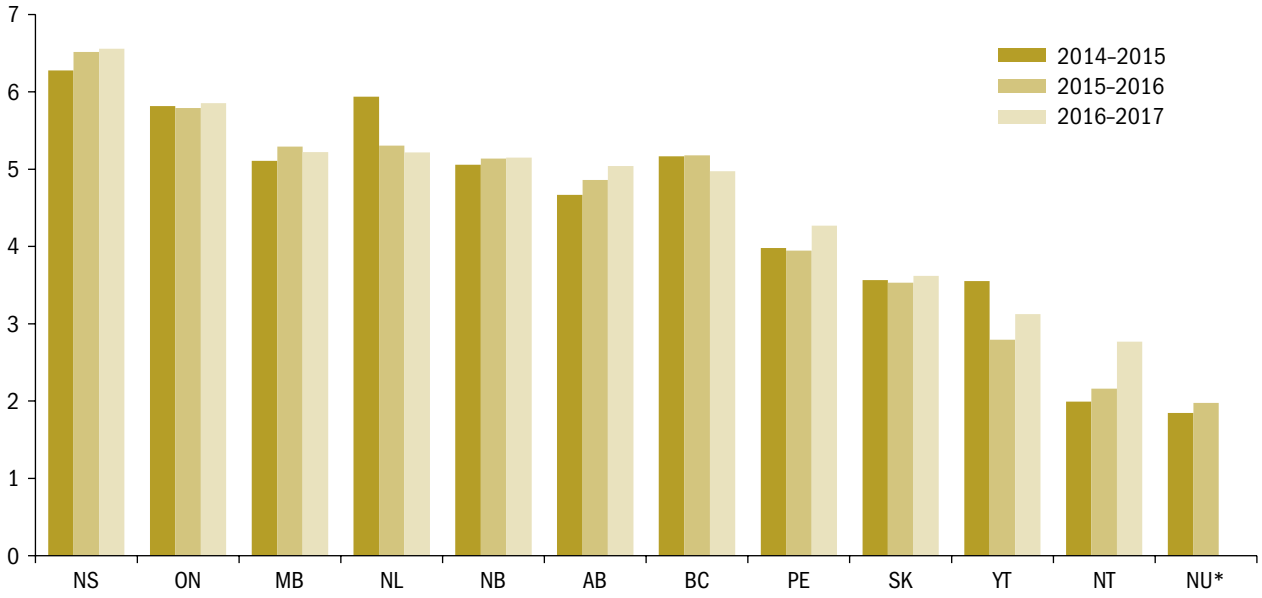
Source of data: Canadian Institute for Health Information

Province/Territory*	Average # of Discharges per Year	Average # of Discharges per Year with at Least 1 Occurrence of Harm	Rate of Discharges with Harm (%)
Nova Scotia	89,458	5,770	6.5
Ontario	**1,150,194**	**66,951**	**5.8**
Newfoundland and Labrador	52,165	2,861	5.5
Manitoba	125,868	6,554	5.2
British Columbia	412,049	21,033	5.1
New Brunswick	80,817	4,133	5.1
Alberta	384,487	18,666	4.9
Prince Edward Island	14,243	579	4.1
Saskatchewan	134,338	4,798	3.6
Yukon	3,170	100	3.2
Northwest Territories	4,804	111	2.3
Nunavut	1,754	34	1.9

* Data from Quebec is excluded due to methodological issues.

Figure 4: Provincial and Territorial Annual Rate of Occurrences of Harm per 100 Acute-Care Hospital Discharges, 2014/15–2016/17

Source of data: Canadian Institute for Health Information



* Patient harm data is not available for Nunavut for 2016/17.

evaluation requirements for the health services that it provides. On February 26, 2019, the Ontario Minister of Health announced the creation of a central agency called Ontario Health to oversee the province's health-care system. The 14 Local Health Integration Networks and six provincial health agencies, including Cancer Care Ontario and eHealth Ontario, will be integrated into Ontario Health. Transition to Ontario Health began in spring 2019 and will continue until full integration is reached. In this report, our recommendations are addressed to the Ministry of Health. Ontario Health may take on responsibility for implementation of these recommendations in the near future.

2.1.3 Patient Safety Standards and Best Practices

To support the overall objective of promoting patient safety and preventing patient harm, hospitals follow patient safety standards and best practices developed by several different federal, provincial and not-for-profit organizations. Some standards and best practices pertain to specific areas of care, such as surgery, or to specific departments within the hospital, such as the hospital pharmacy. Other risk areas pertain to the hospital as a whole, such as infection prevention and control. These risk-specific standards and best practices are shown in **Appendix 2**. Other legislated requirements apply to the hospital as a whole, such as establishing a quality committee to monitor the overall quality of services provided, and surveying staff and patients with respect to the quality of care. These organization-wide requirements are shown in **Appendix 3**.

One of the main organizations that promotes patient safety best practices is Accreditation Canada. Every four years, this non-governmental, not-for-profit organization visits and accredits all 141 (123 acute-care) hospitals in Ontario, as well as other health-care facilities, against national standards. The visits are conducted to assess hospitals' compliance with all applicable standards and the required practices in six patient safety areas. The required practices in these six patient safety areas are summarized in **Appendix 4**.

Depending on the size and complexity of the hospital, Accreditation Canada's on-site visit at an Ontario hospital may last from two to six days, with an average visit of four days. During the visit, surveyors use direct observation and interaction with patients, families and health-care providers to gather evidence about the quality and safety of care and services.

In **Appendix 5,** we list other key organizations involved in setting and promoting patient safety best practices and standards.

2.1.4 Reporting on Hospital Patient Harm

Hospitals report various patient safety statistics to different organizations, both government and not-for-profit. Some of the reporting is mandatory, whereas other information is reported voluntarily. **Figure 5** lists the mandatory reporting of patient safety information by hospitals. **Figure 6** lists the voluntary reporting of patient safety information by hospitals.

2.1.5 Nurses Deliver Most Hospital Patient Care

About 182,000 nurses provide care in Ontario, of whom about 89,000 work in hospitals (74,000 in acute-care hospitals). Nurses comprise the largest single component of hospital staff and provide hands-on care to patients at their bedside by administering medications, managing intravenous lines, observing and monitoring patients' conditions and behaviour, maintaining patient records and communicating with other members of the health-care team.

Most nurses are employees of the hospital. However, at times of nurse shortages, some hospitals recruit additional temporary nurses from external agencies. These nurses are not employees of the hospital, and the hospital pays the agencies for the

Figure 5: Mandatory Reporting of Patient Safety Information by Hospitals

Prepared by the Office of the Auditor General of Ontario

Reported To	Required By	Information Reported
Ministry of Health/Health Quality Ontario	*Public Hospitals Act, 1990* (Regulation 965)	**Publicly Reportable Patient Safety Indicators** • Hospital-acquired *Clostridium difficile* rate • Rate of ventilator-associated pneumonia • Central-line infection rate • Rate of hospital-acquired Methicillin-resistant *Staphylococcus aureus* bacteremia • Vancomycin-resistant *Enterococci* infection rate • Hospital Standardized Mortality Ratio: actual deaths compared to expected deaths • Surgical Site Infection Prevention for hip and knee joint replacement surgeries • Hand Hygiene Compliance • Surgical Checklist Compliance
Local Health Integration Network/ Ministry of Health	Hospital Service Accountability Agreement	**Contractual Performance Obligations** • Hospital-acquired *Clostridium difficile* rate • Hospital Standardized Mortality Ratio • Rate of ventilator-associated pneumonia • Central-line infection rate • Rate of hospital-acquired Methicillin-resistant *Staphylococcus aureus* bacteremia
Health Quality Ontario	*Excellent Care for All Act, 2010*	**Quality Improvement Plans (QIPs)** Annual plans include mandatory, recommended and other indicators, including: • workplace violence incidents • medication reconciliation at discharge • medication reconciliation at admission • physical restraints in mental health • antimicrobial-free days
Local Health Integration Network/ Ministry of Health	Hospital Service Accountability Agreement	**Quality-Based Procedures** • Cataract surgery complications • Mortality rate from chronic obstructive pulmonary disease • Mortality rate and hospital readmission associated with congestive heart failure • Post–hip fracture surgery re-fractures and mortality rate • Post–hip/knee replacement readmission and morality rate • Stroke patient rate of readmission
Public Health Ontario	*Health Protection and Promotion Act, 1990*	**Hospital Infections** Statistics on various infections
Health Canada	Bill C-17, Protecting Canadians from *Unsafe Drugs Act* (Vanessa's Law)	**Drug Reactions** Serious adverse drug reaction (e.g., allergies) that involves a therapeutic product, or a medical device incident that involves a therapeutic product
Canadian Institute for Health Information	Ministry of Health directive	**Critical Incident Reporting** Medication and intravenous errors that result in death or serious harm
Canadian Institute for Health Information	*Public Hospitals Act, 1990*	**Hospital Harm** Reported as part of Discharge Abstract Database. Number of occurrences of patient harm—31 types of harm (infections, bed sores, objects left inside patients, etc.)

Figure 6: Voluntary Reporting of Patient Safety Information by Hospitals
Prepared by the Office of the Auditor General of Ontario

Report To	Description (Current Reporting)
American College of Surgeons and Health Quality Ontario	**National Surgical Quality Improvement Program—Ontario*** Surgical safety: Statistics on surgical problems such as site infections, leaving items inside the patient, post-operative complications and death and other surgery-related incidents
Institute for Safe Medication Practices Canada	**Canadian Medication Incident Reporting and Prevention System** Medication incidents
Canadian Institute for Health Information	**National System for Incident Reporting** Medication and radiation treatment incidents
Healthcare Insurance Reciprocal of Canada	**Incidents Resulting in Litigation** As hospital's insurance provider, has access to incident cases. Develops and distributes risk mitigation strategy plans
Canadian Patient Safety Institute (CPSI)	**Patient Safety Incidents** Hospitals may share patient safety incident information with the CPSI so they can develop best practices and other documents

* The program is made up of 46 Ontario hospital sites representing up to 80% of all adult surgeries in the province.

hours worked by the agency nurses. Nursing agencies are unregulated, and many agencies operate in Ontario. In 2017 (the latest available information), they employed about 4,600 nurses.

Personal support workers also provide hands-on care to hospital patients; however, this care is restricted to assisting patients with activities of daily living such as feeding, changing, bathing and mobility assistance. Under specific conditions, personal support workers are allowed to administer medications, but the procedure must be delegated and overseen by a nurse and/or be a routine activity for the patient.

2.1.6 College of Nurses of Ontario

Nurses working in Ontario must be registered by the College of Nurses of Ontario. The College regulates the nursing profession in Ontario and is responsible for disciplining nurses who are found to have committed an act of professional misconduct. Between 2014 and 2018, the College revoked the licences of 37 nurses. The College maintains a publicly available database that contains disciplinary decisions posted by the College and information self-reported by nurses, such as their place of employment.

2.1.7 Physicians

There are about 37,000 physicians in Ontario. To practise medicine in Ontario, physicians must be members of the College of Physicians and Surgeons of Ontario, which regulates the practice of medicine to protect and serve the public interest. In a hospital, physicians are generally responsible for diagnosing diseases and health conditions, prescribing medication, performing medical procedures, including surgeries, and monitoring patients' health. Physicians report to the hospital's Chief of Staff. Hospitals consider physicians to be independent contractors, and grant them hospital privileges that give them the right to use hospital facilities and equipment to treat patients, without being hospital employees. A hospital's Board of Directors is responsible for appointing, disciplining and terminating physicians.

3.0 Audit Objective and Scope

The objective of our audit was to assess whether acute-care hospitals achieve patient safety by:

- ensuring that staff have processes in place that support the safe and appropriate use of equipment, procedures and medication in delivering medical care to patients;
- implementing effective processes and systems to identify and reduce the risk of patient harm; and
- identifying, reporting and responding to incidents of patient harm (including learning from past incidents and taking steps to prevent them from recurring).

In planning for our work, we identified the audit criteria (see **Appendix 6**) we would use to address our audit objective. These criteria were established based on a review of applicable legislation, policies and procedures, internal and external studies, and best practices. Senior management at the Ministry of Health and the hospitals we visited reviewed and agreed with the suitability of our objectives and associated criteria.

We conducted our audit between December 2018 and September 2019. We obtained written representation from the Ministry of Health (Ministry) and hospital management that, effective November 14, 2019, they had provided us with all the information they were aware of that could significantly affect the findings or the conclusions of this report.

Our audit work was conducted at hospitals of various sizes in regions across the province. See **Appendix 7** for a list of the hospitals we visited as part of the audit, and the areas of the hospitals we focused on during the visits.

To gain a fuller perspective of patient safety, we also consulted with many stakeholders, and reviewed relevant journals, reports and other related documentation. In addition to visiting the hospitals described above, our audit team:

- interviewed relevant stakeholder groups, including Public Health Ontario, Health Quality Ontario, the Canadian Patient Safety Institute, the Institute for Safe Medication Practices Canada, the Ontario Nurses Association, the Ontario Hospital Association, the Patient Ombudsman and Accreditation Canada;
- met with Dr. Ross Baker, lead researcher of the landmark 2004 *Canadian Adverse Events Study: the incidence of adverse events among hospital patients in Canada*;
- met with the Deputy Chief Coroner of Ontario, Dr. Reuven Jhirad, to discuss provincial perspectives and statistics on deaths resulting from patient harm incidents;
- performed multiple walkthroughs at one Toronto-area hospital and at two Peel-area hospitals to gain an understanding of relevant hospital departments and processes in advance of our fieldwork;
- reviewed many patient safety journal articles and research papers from several jurisdictions, including Canada, the United States and the United Kingdom;
- reviewed all publicly available statistics on patient harm in Ontario and co-ordinated a request through the Canadian Institute for Health Information for additional non-public statistics; and
- obtained and reviewed the most recent safety reports from all Ontario hospitals, including:
  - hospital accreditation (assessment against required patient safety practices);
  - patient safety staff survey (staff feedback on how safe the care is at their hospital);
  - risk assessment (high-risk areas based on liability claims against the hospital);
  - hospital pharmacy inspection (annual assessment against standards); and
  - other third-party assessments of hospital laboratories, medical testing facilities and medical equipment sterilization facilities.

During our hospitals visits, we reviewed patient files, medication documentation, hospital policies, incident investigation files, human resource files, and board and committee meeting minutes. Our audit work on nurses related to only the nine hospitals we visited with respect to human resources. We also engaged a consultant with expertise in the field of medication safety and nursing patient safety best practices to assist us on this audit.

4.0 Detailed Audit Observations

Our audit focused on five areas relating to patient safety, as shown in **Figure 7**. Our findings address these areas.

4.1 Focus on Patient Safety Not Consistent between Hospitals

As defined by the World Health Organization, "quality of care" is "the extent to which health-care services provided to individuals and patient populations improve desired health outcomes. In order to achieve this, health care must be safe, effective, timely, efficient, equitable and people-centred." Patient safety is therefore included as a dimension in quality of care.

We found that "patient safety" is not explicitly stated in the mission, vision and core values for most hospitals that we visited in a way that would foreground the phrase as the foundation for the organizational culture of these hospitals.

We expected that patient safety and quality of care would be one of the key priorities that would be clearly stated in each hospital's mission, vision and core values. However, when we reviewed the mission, vision and core values of the 13 hospitals we audited, we found that not all of them made a clear and direct reference to patient safety and quality of care. The other hospitals mention quality, excellence and compassion—but not specifically patient safety.

We also found that Ontario hospital survey results show that staff ratings on overall patient safety at hospitals vary significantly, from excellent to poor and failing.

4.1.1 Staff Survey Results Show Patient Safety Culture at Different Hospitals Varies from Excellent to Poor

According to the Canadian Patient Safety Institute, workplace culture influences patient safety both directly by determining accepted practice and indirectly by acting as a barrier or enabler to the adoption of behaviours that promote patient safety.

Under the *Excellent Care for All Act, 2010*, hospitals are required to survey staff and patients with respect to the quality and safety of care provided at the hospital. As part of their four-year accreditation cycle, hospitals use the mandatory patient safety culture survey provided by Accreditation Canada.

We obtained the most recent surveys results from all 123 acute-care hospitals in Ontario, completed between 2014 and 2019, and found that as many as nine in 10 staff at some hospitals graded their hospital as "very good" or "excellent" with respect to patient safety. However, at other hospitals, as many as one in three staff graded their hospital as "poor" or "failing."

Figure 8 lists the five hospitals where staff gave the best overall assessment of patient safety culture at their hospital and the five hospitals with the highest proportion of surveyed staff who graded their hospital as poor or failing with respect to patient safety. The five hospitals with the best overall patient safety culture were all smaller hospitals with less than 250 surveyed staff. **Figure 9** shows five large hospitals (those with 499 or more surveyed staff) with the best overall staff assessment of patient safety. In **Appendix 9,** we include the survey results for all 123 acute-care hospitals.

Figure 7: Five Patient Safety Areas of Audit Focus

Prepared by the Office of the Auditor General of Ontario

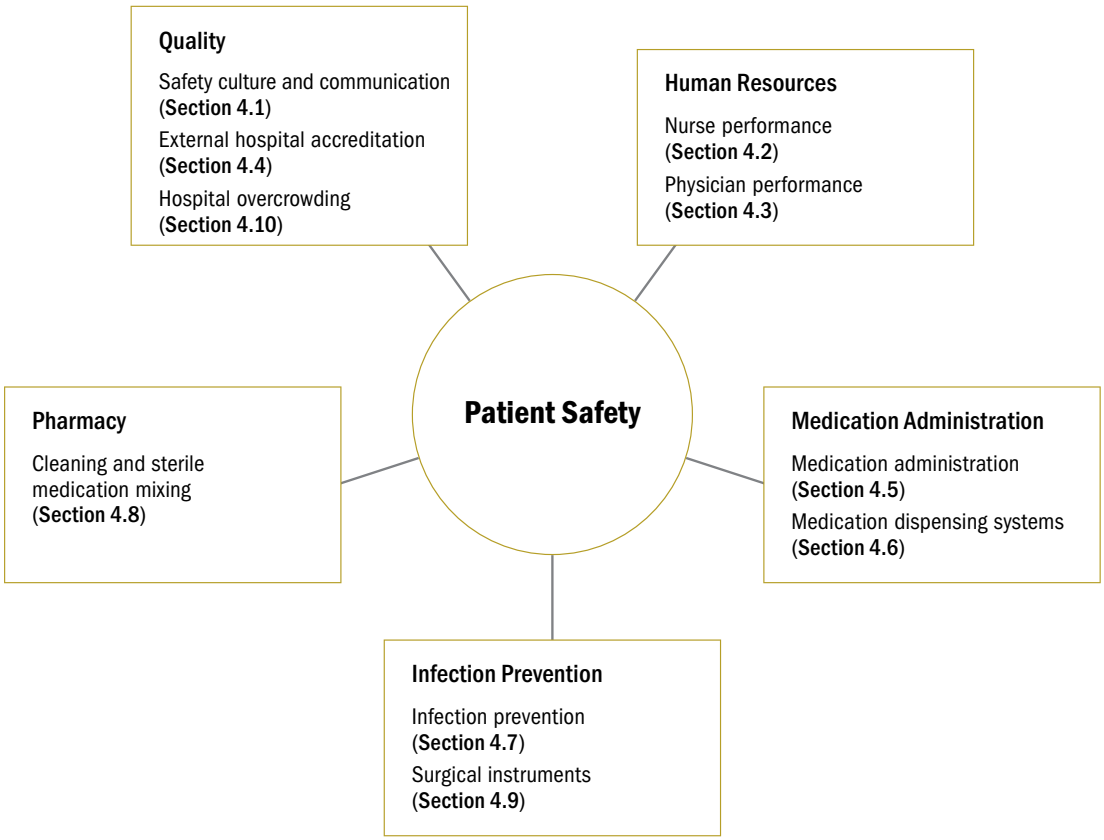


Figure 8: Five Acute-Care Hospitals with Best Overall and Worst Overall Patient Safety Culture Staff Survey Results, 2014–2019

Source of data: Ontario Hospitals

Hospital	Survey Year	# of Staff Surveyed	Overall Grade on Patient Safety (%)			
			Excellent or Very Good	Acceptable	Poor or Failing	Total
Best						
Services de Santé de Chapleau Health Services	2016	74	89	8	3	**100**
Hanover and District Hospital	2017	113	81	16	3	**100**
St. Francis Memorial Hospital	2016	82	84	14	2	**100**
Renfrew Victoria Hospital	2017	228	80	18	2	**100**
Hôpital Notre-Dame Hospital	2017	60	82	15	3	**100**
Worst						
Brant Community Healthcare System	2017	462	28	39	33	**100**
London Health Sciences Centre	2016	502	38	38	24	**100**
Southlake Regional Health Centre	2014	503	42	34	24	**100**
Joseph Brant Hospital	2018	530	36	42	22	**100**
Humber River Hospital	2016	995	41	38	21	**100**

Note: Survey results based on staff perceptions at a point in time.

Figure 9: Five Large Acute-Care Hospitals with Best Overall Patient Safety Culture Staff Survey Results, 2014–2019

Source of data: Ontario Hospitals

Hospital	Survey Year	#of Staff Surveyed	Overall Grade on Patient Safety (%)			
			Excellent or Very Good	Acceptable	Poor or Failing	Total
Woodstock Hospital	2016	499	70	26	4	**100**
The Hospital For Sick Children	2016	2,014	70	27	3	**100**
Sinai Health System	2015	751	68	29	3	**100**
University of Ottawa Heart Institute	2017	658	66	30	4	**100**
Sunnybrook Health Sciences Centre	2016	1,434	66	30	4	**100**

Note: Survey results based on staff perceptions at a point in time.

RECOMMENDATION 1

To further emphasize patient safety as a foundation for hospitals' organizational culture, we recommend that hospitals explicitly incorporate the words "patient safety" in their mission, vision, and/or as one of their core values, and communicate this to their staff, ensuring that related actions demonstrate this emphasis.

RESPONSE FROM OHA

Ontario hospitals are governed by independent hospital boards, which provide guidance on an organization's mission, vision and values. Ontario hospitals will review this recommendation at the board level to determine whether improvements are needed to elevate the culture of safety within their organization.

4.1.2 Patient Safety "Never-Events" Occurred at Six Hospitals We Visited

In 2015, Health Quality Ontario (HQO) and the Canadian Patient Safety Institute identified 15 patient safety "never-events," which are defined as patient safety incidents that result in serious patient harm or death and that are preventable using organizational checks and balances. Identifying and preventing these safety events was identified as a priority by a patient safety consortium of more than 50 Canadian health-care organizations in 2014. According to broad stakeholder consensus, "never events" are preventable and should never occur in hospitals. An organizational culture that minimizes or eliminates never-events could foster a reduction in other preventable patient harms.

Between the 2015/16 and 2018/19 fiscal years, 10 out of the 15 never-events occurred a total of 214 times in six of the 13 hospitals we visited that tracked these incidents. **Figure 10** describes the never-events and their overall frequency of occurrence at these six hospitals. Data was not available or never-events did not occur at the other seven hospitals we visited. **Figure 11** shows our compilation and summary of the number of never-events that occurred at each of the six hospitals we visited where never-events occurred between 2015/16 and 2018/19.

4.1.3 Patient Safety Never-Events Not Included in Quality Improvement Plans and Hospitals Have Not Set Targets to Eliminate Them

Preventing never-events has been identified by Health Quality Ontario and the Canadian Patient Safety Institute as a patient safety priority because these incidents are preventable and can have serious consequences for patients. For instance, at one

Figure 10: Never-Events and Their Frequency of Occurrence at Six Visited Acute-Care Hospitals, 2015/16–2018/19

Source of data: Ontario Hospitals

	Patient Safety Never-Events	Frequency
1.	Serious pressure ulcer acquired after admission to hospital	111
2.	Patient under strict observation leaves a secured area without the knowledge of staff	26
3.	Unintended foreign object left in a patient following a procedure	26
4.	Wrong tissue, biological implant or blood product given to a patient	24
5.	Patient suicide, or attempted suicide that resulted in serious harm, while a patient was under suicide-prevention watch	11
6.	Surgery on the wrong body part or the wrong patient, or conducting the wrong surgical procedure	10
7.	Patient death or serious harm due to a failure to inquire whether a patient has a known allergy to medication, or due to administration of a medication where a patient's allergy was known	2
8.	Patient death or serious harm as a result of failure to identify and treat metabolic disturbances[1]	2
9.	Patient death or serious harm as a result of one of five pharmaceutical events[2]	1
10.	Patient death or serious harm as a result of transport of a frail patient, or patient with dementia, where patient was left in an unsafe environment	1
Total		**214**

Note: The hospitals visited did not report any of these five never-events:
- patient death or serious harm arising from the use of improperly sterilized instruments or equipment provided by the health care facility;
- patient death or serious harm due to the administration of the wrong inhalation or insufflation gas;
- patient death or serious harm due to uncontrolled movement of a ferromagnetic object in an MRI area;
- patient death or serious harm due to an accidental burn; or
- infant abducted, or discharged to the wrong person.

1. Metabolic disturbances are changes in the body's chemical processes that can cause serious life-threatening health problems.
2. The five pharmaceutical never-events:
   - wrong-route administration of chemotherapy agents;
   - intravenous administration of a concentrated potassium solution;
   - inadvertent injection of epinephrine intended for topical use;
   - overdose of hydromorphone by administration of a higher-concentration solution than intended; and
   - neuromuscular blockage without sedation, airway control and ventilation capability (this was the type of event which occurred at one of the hospitals we visited (Hamilton); the patient was given the wrong drug and needed to be resuscitated).

hospital, a surgery was performed on the wrong knee, and in another hospital, a sponge was left inside the patient after a surgery.

We found that none of the six hospitals set targets in their Quality Improvement Plans to minimize or eliminate the occurrence of these events. Two other hospitals we visited included one of the never-events—serious pressure ulcer acquired after admission to hospital—in their Quality Improvement Plans for 2018/19. No never-events were reported at these hospitals.

Figure 11: Occurrence of Never-Events at Six Visited Acute-Care Hospitals, 2015/16–2018/19

Source of data: Ontario Hospitals

Hospital	# of Never-Events
Hospital 1	71
Hospital 2	66
Hospital 3	37
Hospital 4	18
Hospital 5	17
Hospital 6	5
Total	**214**

4.1.4 Hospitals Not Required to Track and Report Patient Safety Never-Events

We found that hospitals are not required to track or report never-events to Health Quality Ontario or the Ministry of Health. Such information could be analyzed to determine the reasons for these events in Ontario, the cost that these events add to the health-care system and the systemic best practices to adopt to avoid these events. For instance, one hospital we audited (Humber River Hospital) estimated that by reducing the occurrence of pressure ulcers—including serious pressure ulcers, one of the most common never-events—by about half, the hospital could save between $1.8 million to $3.7 million over two years.

We noted that hospitals in Saskatchewan and Nova Scotia are required to track and report never-events to their respective health ministries.

RECOMMENDATION 2

To determine and reduce the impact of never-events on patient safety and the health-care system, we recommend that the Ministry of Health:

- work with internal and external partners to leverage an existing system that can accumulate and track hospital never-event data;
- upon implementation and rollout completion of this system, analyze the frequency of never-events occurring at Ontario hospitals, estimating their cost to the health-care system; and
- partner with hospitals and best practice organizations/stakeholder groups to develop a plan to prevent them from happening.

MINISTRY RESPONSE

The Ministry welcomes this recommendation as it supports patient safety across the health system. The Ministry will assess opportunities to leverage existing data collection tools to support the capture of hospital never-events and identify evidence-based approaches to address frequency of never events and assess the health-care system cost impacts.

RECOMMENDATION 3

To minimize the occurrence of serious preventable patient safety incidents, we recommend that hospitals:

- enhance patient safety practices to eliminate the occurrence of never-events;
- set a formal target to eliminate the occurrence of never-events and include this target in their Quality Improvement Plans; and
- track and report never-events to the Ministry of Health.

RESPONSE FROM OHA

Ontario hospitals are committed to enhancing patient safety practices and will work with their boards to determine whether never-events should be added to future Quality Improvement Plans.

4.1.5 Lessons Learned from Patient Safety Incidents Are Not Shared between Hospitals

Under the P*ublic Hospitals Act, 1990*, hospitals are required to investigate patient safety incidents and take steps to prevent similar incidents from occurring in the future. Overall, we found that the hospitals we visited were committed to the objective of learning from incidents occurring at their own sites and improving the safety and quality of patient care.

We noted that the Ontario Hospital Association provides patient safety resources and facilitates peer learning among its members, and that stakeholder groups, such as the Institute for Safe Medication Practices Canada, issue safety bulletins to flag new risk areas and identified best practices.

Currently, hospitals do not share lessons learned from investigating specific patient safety incidents. This increases the risk that a patient could experience an incident at Hospital A, and another patient could subsequently experience a similar incident

at a neighbouring Hospital B. Hospital A does not share lessons learned with Hospital B in order to help prevent the same type of incident.

RECOMMENDATION 4

To better enable hospitals to prevent similar patient safety incidents, including never-events from recurring at different hospitals, we recommend that the Ministry of Health work with the Ontario Hospital Association and applicable stakeholder groups to establish a forum where hospitals can share their knowledge and lessons learned from patient safety incident investigations.

MINISTRY RESPONSE

All health-care providers have a role in improving patient safety. The Ministry of Health supports this recommendation and will work with the Ontario Hospital Association and other health system partners like Ontario Health, the Canadian Patient Safety Institute, and the Canadian Medical Protective Association to examine the feasibility of having a shared knowledge platform for patient safety incident investigations.

4.2 Some Nurses Found by Hospitals to Lack Competence Pose an Ongoing Risk to Patient Safety

Nursing is a profession that requires a high level of trust. For most hospital patients, the nursing staff are the main providers of direct care. Although the vast majority of nurses provide safe care to their patients, there are rare exceptions that can impact patient safety. As nurses are the hospitals' front-line caregivers, with responsibility for vulnerable patients, including the old and the very young, a lack of competence in nurses can lead to serious harm. Yet the laws and regulations that protect nurses' professional status in these instances could limit hospitals' ability to know when they are hiring a nurse with a history of serious professional incompetence and/or misconduct. These limitations are discussed further in **Section 4.2.2**.

Recent events in Ontario demonstrate the risk to patient safety when a health-care facility hires a nurse without having access to their relevant work history. A former nurse who between 2007 and 2014 killed eight of her long-term care patients was terminated twice for poor performance, but long-term-care facilities and nursing agencies kept rehiring her. She was enabled to keep working and harming her patients because the current system, a combination of laws, institutional practices and employer-employee arrangements, protects the personal and professional interests of health-care professionals.

If a hospital finds that a nurse's lack of competence has caused a patient harm, as part of the progressive disciplinary process the nurse would first be provided with an opportunity to address the competence issues by completing and passing a learning plan. Only if the nurse fails to complete the plan would the hospital then consider termination. In some cases, the nurse would have more than one chance to successfully complete the learning plan. Hospitals and other organizations that employ nurses are required to report all terminated nurses to the College of Nurses of Ontario when the termination is for reasons of professional misconduct, incompetence or incapacity (for example, intoxication).

We noted that some nurses found to lack competence and who have been terminated by hospitals have been associated with repeated incidents impacting patient safety. Hospitals that rehire them are limited in the information regarding past poor performance that they can obtain from the College of Nurses of Ontario and from past employers.

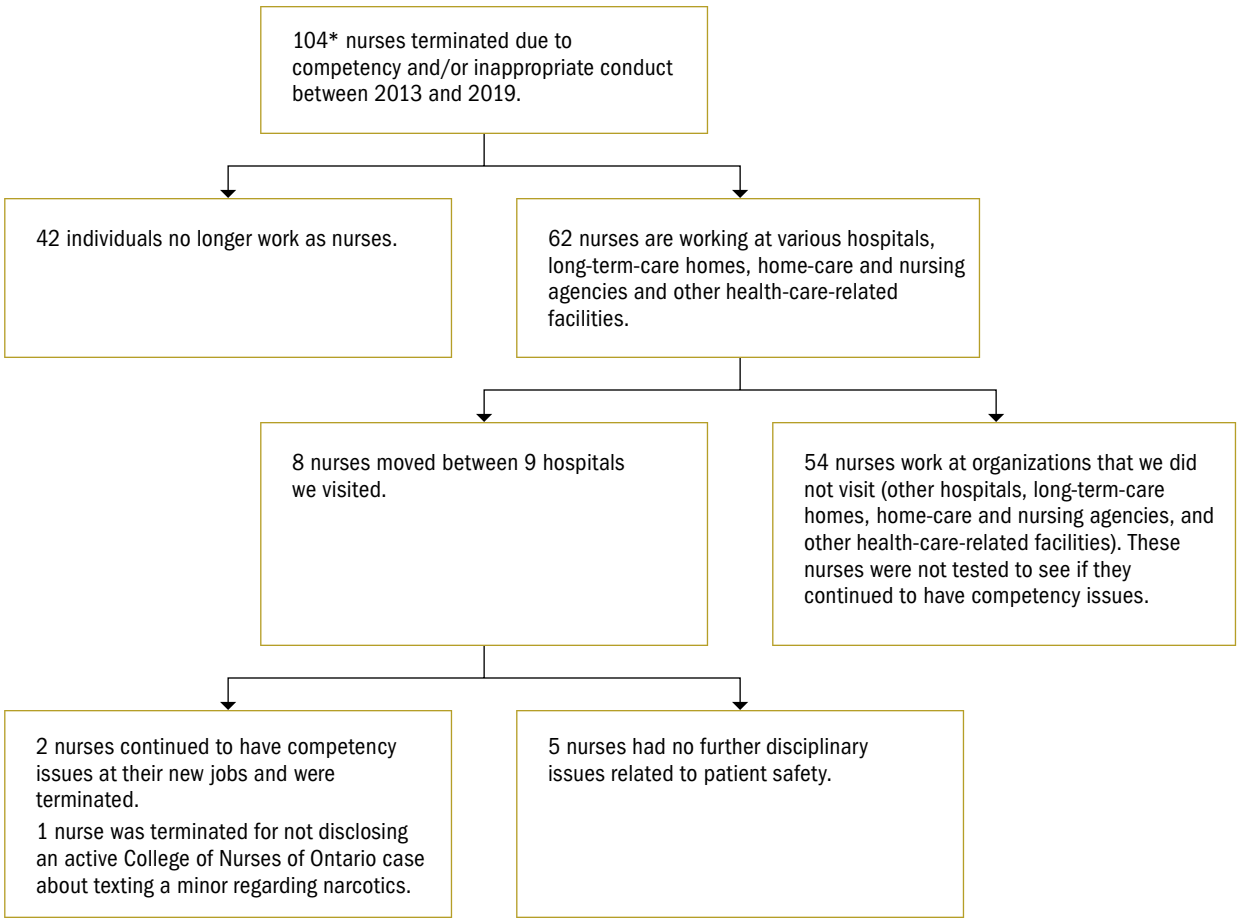
4.2.1 Hospitals We Visited Rehired Nurses Terminated Elsewhere Who Continued to Show Incompetence

Although the great majority of nurses at the hospitals that we visited have not faced any disciplinary actions, the hospitals have terminated some nurses for lack of competence and/or misconduct. As mentioned in **Section 2.1.5**, there are about 74,000 nurses working in acute-care hospitals in Ontario. Of more than 17,000 nurses employed at the nine hospitals where we conducted our work, we found that 104 nurses were terminated for lack of competence and/or inappropriate conduct over the past seven years. Of these 104 nurses, we found 62 who are still active and working (see **Figure 12**). The remaining 42 no longer practise as nurses, are not employed, have retired, work in another industry or have let their licences lapse. We also obtained from the three hospitals we visited that use agency nurses the names of 82 agency nurses who were banned from these hospitals.

We cross-referenced the names of the 62 terminated nurses between the hospitals that we visited. Eight of these nurses were subsequently rehired or worked through an agency at one of the hospitals we visited. The other 54 nurses continue to work as nurses elsewhere. We found that two of the eight nurses continued to harm patients and were again terminated or banned for lack of competence. For instance, one nurse made multiple errors, and a hospital terminated her after finding that she

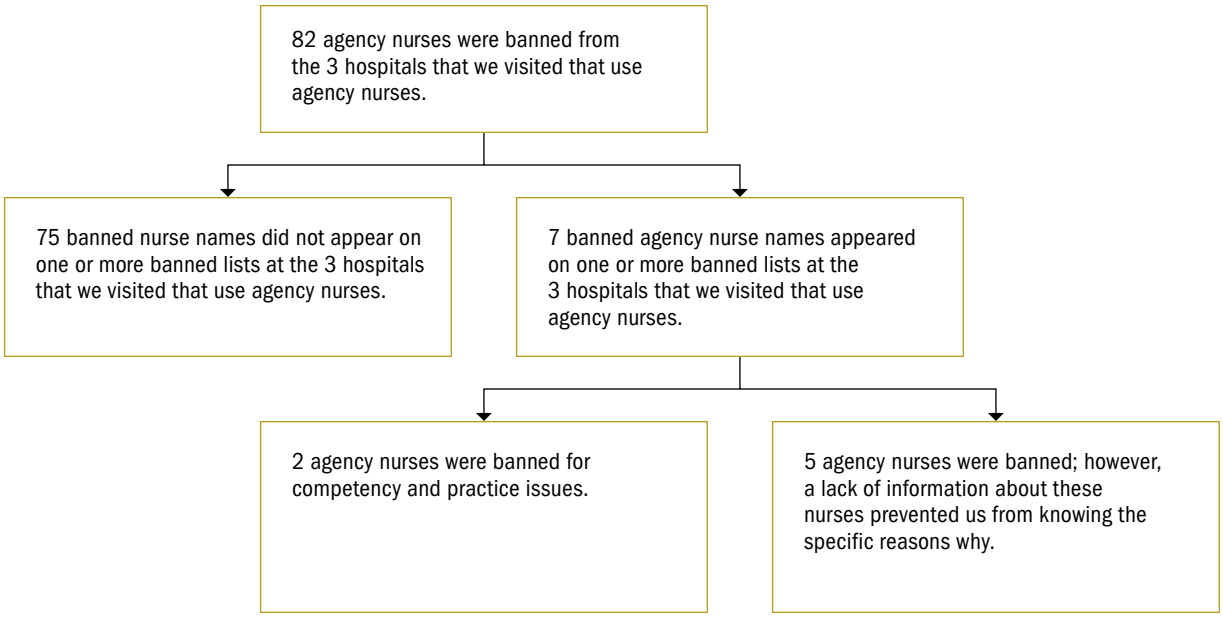
Figure 12: Testing of Nurse Termination Cases Related to Competency and Practice Issues

Prepared by the Office of the Auditor General of Ontario



* The number of cases may be incomplete due to lack of tracking of these cases—most hospitals rely on manual processes and store information in hard copies, some of which are archived.

Figure 13: Testing of Banned Agency Nurse Cases
Prepared by the Office of the Auditor General of Ontario



lacked basic nursing skills and knowledge, as well as critical thinking. This nurse then was hired by another hospital after not disclosing that she was terminated from the first hospital. The hospital then noted that this nurse lacked critical thinking skills, failed to recognize unsafe practices, failed to recognize or respond appropriately to a serious change in a patient's condition and lacked understanding of medication administration (including insulin). This nurse was then terminated by the second hospital. Currently, this nurse works as a nurse at a long-term-care home.

We also cross-referenced the names of the 82 banned agency nurses (see **Figure 13**) from the three hospitals that we visited that use agency nurses. We found that the names of seven banned agency nurses appeared on multiple lists or were terminated by the hospitals we visited. We found that two of the seven banned agency nurses were banned for lack of competence at multiple hospitals. This illustrates that when one hospital banned an agency nurse, this did not prevent the nurse from working at other hospitals, and this information was not shared by the agencies or the hospitals involved.

Figure 14 presents our observations on the work history of four nurses working at agencies or in a long-term-care home who have been terminated or banned by hospitals more than two times for lack of competence but continue to work.

4.2.2 Limited Information Available to Prospective Employers of Nurses Impacts Their Ability to be Aware of Past Performance Issues

We inquired why terminated nurses who continued to show incompetence were able to be rehired, either as employees or as agency nurses, by some of the hospitals we visited. The College of Nurses of Ontario informed us that the *Regulated Health Professions Act* limits the information it is able to share with hospitals and any member of the public with respect to nurses terminated and reported by other hospitals to the College. Hospitals also informed us that if they contact the College to obtain information about a prospective nurse employee, they are usually referred to the nurse's public profile, which does not have information on ongoing investigations

Figure 14: Work History Examples of Nurses Terminated or Banned by Acute-Care Hospitals for Lack of Competence Who Were Still Working in Hospitals

Prepared by the Office of the Auditor General of Ontario

Nurse (Current Employer)	Disciplinary Action (Employer)	Date	Cause for Termination/Banning
Nurse 1 (Agency)	Fired (Hospital)	May 2016	Medication administration and clinical decision-making errors. Over four months, failed to complete and pass a learning plan.
	Banned (Agency)	Dec 2018	Lack of critical thinking and knowledge gaps.
	Fired (Hospital)	Mar 2019	Medication administration errors. Lack of critical thinking and knowledge gaps. Over three months, failed to complete a learning plan.
Nurse 2 (Long-term-care home)	Fired (Hospital)	May 2016	Unsafe delivery of care and lack of basic nursing skills.
	Fired (Hospital)	Sep 2016	Unsafe delivery of care and lack of basic nursing skills.
Nurse 3* (Agency)	Banned (Agency)	Aug 2018	Medication administration errors.
	Banned (Agency)	Jan 2019	Medication administration errors.
Nurse 4* (Agency)	Banned (Agency)	Sep 2015	Medication administration errors.
	Banned (Agency)	Aug 2018	Practice issues (refused to help surgical patients resulting in understaffing of the surgical unit, which could lead to unsafe delivery of care for surgical patient).

Note: Agency nurses are not hospital employees, and therefore hospitals cannot discipline them. Instead, hospitals request that agencies not send them specific nurses. The names of these nurses are tracked on informal lists that hospitals refer to as "banned lists." Hospitals do not share these lists among themselves, and therefore a nurse banned in one hospital could work in other hospitals.

Hospitals store very limited information on agency nurses, as most of the information, including formal documents, is kept at the staffing agency. As a result, we reviewed only a list of agency nurses banned from the three hospitals that actively use agency nurses and the reasons for which these agency nurses were placed on the banned lists. We did not review agency records.

* These nurses were banned by two different hospitals.

and may have incomplete information. Therefore, when hospitals or agencies hire these nurses they do not have access to a complete record of their poor past employment history.

The College informed us that over the past five years, on average, organizations that employ nurses in Ontario have submitted to the College each year about 730 reports about nurses' professional misconduct, incompetence or incapacity (for example, intoxication). About 350 of the reports submitted each year (48%) pertain to nurses employed by hospitals. The other 52% have been submitted by other organizations that employ nurses, such as long-term-care homes.

Reports received by the College are individually screened for risk and are responded to in one or more ways, including meeting with the nurse, providing a written notice directing the nurse to take remedial action and, in some cases, initiating a formal investigation. From 2014 to 2018, between 26% and 47% of all reports received in the year resulted in a formal investigation. Depending on the nature and/or public risk of the reported issue, some investigations can take months or even years to resolve.

We found that the hospitals we visited reported all of the 62 terminated nurses in our sample to the College. As of July 31, 2019, there were no records publicly posted by the College relating to these nurses. There are several reasons why issues reported to the College do not appear on a nurse's public profile. For example, there may be an ongoing investigation, as was the case for Nurse 1 in **Figure 14**, or the College may take another corrective action, such as meeting with the nurse to arrange remedial steps, as occurred with Nurse 2.

In another example, one of the fired nurses failed on three separate occasions to complete and pass a learning plan; this nurse was found by the hospital to be unfit to practise and lacking the ability to perform a nurse's responsibilities, after the nurses was found to not know how to provide competent care during childbirth. This nurse currently works through an agency. The College of Nurses informed us that it is investigating this incident and assessing this nurse's competency gaps. However, none of this information is available online for prospective employers, and throughout the process, this nurse is able to continue working. We checked this individual's College profile, and it only indicated the timeline of their employment with no mention of termination or any performance issues.

RECOMMENDATION 5

To enable nurses' prospective employers to obtain a more complete record of nurses' employment history and performance and make well-informed hiring decisions, we recommend that the Ministry of Health have the Ontario Hospital Association work with the College of Nurses of Ontario and other regulatory stakeholders to:

- identify gaps in the current information available to prospective employers regarding past performance issues and terminations; and
- take steps to address gaps identified.

MINISTRY RESPONSE

The Ministry of Health is working with the health sector to address gaps in information-sharing between colleges and health system partners.

As part of continuing to improve transparency and increase information-sharing between employers and the health regulatory colleges, the College of Nurses of Ontario (College) and the Ministry have worked to add information about a nurse's employers from the past three years on the College's public register so that employers have a reliable way to obtain employment information about nurses.

The College has also worked to include all current employers on the public register. Since many nurses have more than one employer, this will provide a more accurate picture of a nurse's employment.

Work is currently under way to link information in better ways. The College has proactively partnered with nurse employers to establish an Employer Reference Group to identify areas to support employers' needs relating to nursing regulation.

4.2.3 Nurses' Self-Reported Employment History on the College of Nurses of Ontario Public Database Not Complete

Nurses can be licensed and can practise in multiple jurisdictions. However, we found that in Canada, there is currently no centralized system to which all provincial nursing regulatory bodies like the College of Nurses of Ontario can report their disciplinary actions. In the United States, regulatory bodies from each state are required to report all their disciplinary actions within 30 days to the National Practitioner Data Bank, a hospital-accessible database operated by the federal government. Hospitals in the United States can check whether nurses they hire are listed in this database for disciplinary actions. There is also a second public database operated by the National Council of State Boards of Nursing (NCSBN), which tracks disciplinary actions from every state (except Michigan) and also shows the jurisdictions where each nurse holds or has held a licence. Hospitals from around the world can check whether nurses they hire are listed in this database for disciplinary action.

In Ontario, nurses are required to self-report to the College of Nurses of Ontario any nursing licence they hold in any other jurisdiction, other professional designations they hold, their place(s) of employment, whether they have been investigated by a regulatory body for any misconduct in other

jurisdictions and whether they have been convicted of (or charged with) a crime.

We took a sample of 200 nurses from the 182,000 registered in Ontario and matched the information found in the College database with the US National Council of State Boards of Nursing database and the Michigan Board of Nursing. Five of the 200 nurses reported that Ontario was the only place where they held a licence; however, we found that these five nurses were also licensed in other jurisdictions, such as Michigan. Another four nurses reported that they held a licence in Ontario and one US state, but we found that these four nurses also held licences in at least one additional state. The College's public profile for these nurses therefore is incomplete.

For example, one Ontario hospital was unaware of the work history of one nurse who we found was involved in a number of errors relating to medication administration and delivery of patient care, and who, on April 2, 2019, resigned in the midst of disciplinary proceedings at the hospital. This nurse previously had a licence revoked in 2018 in Texas after the hospital filed a report to the nursing board that the nurse was "lacking fitness to practice nursing with reasonable skill and safety." This same nurse was arrested in 2015 in Texas and pleaded guilty to charges in January 2017. When the Ontario hospital hired this nurse, it was unaware of any of these things. Disclosure to the college of registration of disciplinary actions in other jurisdictions remains a self-reporting duty for nurses.

Hospital and agency hiring decisions are mostly based on information found in resumés. The Long-Term Care Homes Public Inquiry found that nurse Elizabeth Wettlaufer, who subsequently confessed and was convicted in the deaths of eight patients, did not include in her resumé her employment at Geraldton District Hospital in 1995, from which she was fired for stealing narcotics for herself. Her College of Nurses of Ontario public record was also clean when on April 21, 2014, another employer, a long-term-care home, conducted a search. This employer found her acceptable and hired her. In 2014, the College of Nurses would post only current employer information on the nurse's profile. So, even though the long-term-care home checked the profile for the employee it was considering, it could locate only the current employer: there was no employment history to be seen.

We have noted that the College tried to resolve this issue before the public inquiry into the safety of long-term-care residents in Ontario published its report on July 31, 2019. In March 2019, the College changed the nurse profile template to show not only a nurse's current employer, but a nurse's employment history as well. However, the College left it up to each individual nurse to update their own employment history. Despite these changes, we have noted that there are nurses in our sample whose self-reported employment history on their College profile omits hospitals where they were terminated for patient safety reasons.

RECOMMENDATION 6

In order for hospitals that hire nurses to have access to the complete record of nurses' past places of employment and disciplinary history, we recommend that hospitals:

- use the National Council of State Boards of Nursing public database to determine whether nurses they hire and employ have faced disciplinary actions in the United States; and
- if the hospital uses agency nurses, require nursing agencies to confirm these nurses have been screened through this database.

RESPONSE FROM OHA

Ontario hospitals will review this recommendation and are committed to working with the Ontario Hospital Association and the College of Nurses of Ontario to identify opportunities to enhance the information available to employers in making hiring decisions.

RECOMMENDATION 7

To help ensure that when hospitals hire nurses they have access to their full disciplinary record, we recommend that the Ministry of Health request that the Ontario Hospital Association and the College of Nurses of Ontario work together with their provincial and territorial counterparts to:

- explore a national system for provincial and territorial nursing regulatory bodies to report their disciplinary actions; and
- put in place an effective process that will ensure that all places of past employment and disciplinary records from other jurisdictions for each nurse are in its database, including records from US nursing databases.

MINISTRY RESPONSE

The *Regulated Health Professions Act, 1991*, requires every Ontario nurse to file a report in writing with the Executive Director of the College of Nurses of Ontario if there has been a finding of professional misconduct or incompetence made against the nurse by another body that governs a profession *inside or outside of Ontario* unless doing so would violate a publication ban. The report must be filed as soon as reasonably practical after the nurse receives notice of the finding made against her or him. The Ministry will work with the College of Nurses of Ontario to ensure that this requirement is communicated to nurses and will work with the College to explore best practices involving the sharing of information between provincial and territorial nursing regulators.

4.2.4 Nurses' Past Poor Performance Not Shared with Potential New Employers

We found that the potential risk of civil legal actions could prevent hospitals from disclosing a complete employment history record of a nurse to their potential new employer. As a result, during an employment reference check, hospitals may not freely share with potential employers a nurse's detailed work history record—for instance, that a nurse lacked competence and failed to complete a learning plan on several attempts. Only information about employment dates, hours worked and the role the employee held or holds in the hospital is usually shared with potential employers. Other important performance information remains confidential.

We found that jurisdictions in the United States, such as New Jersey, have specific legislation in place that protects hospitals and other health-care providers from liability associated with any civil legal action for disclosing a complete and truthful record about a current or former nurse to a prospective employer.

This legislation was enacted after these jurisdictions faced a similar situation to Elizabeth Wettlaufer's murders. After Charles Cullen was convicted of murdering at least 29 patients in multiple facilities, lack of transparency and information-sharing between health-care providers was identified as a weakness in the system. As a response, in 2005, New Jersey enacted this law to protect hospitals from liability for providing honest job evaluations and work histories to prospective employers.

Similar legislation does not exist in any Canadian jurisdiction. We have noted as well that other US states, such as Pennsylvania, North Carolina and Texas, have similar laws that extend legal protection to all employers and not just health-care providers.

RECOMMENDATION 8

To better inform employers in their hiring decisions and protect patients from the risk of harm, we recommend that the Ministry of Health assess for applicability in Ontario the actions taken by US states to protect hospitals and other health-care providers from liability associated with any civil action for disclosing a complete and truthful record about a current or former nurse to a prospective employer.

MINISTRY RESPONSE

The Ministry will assess the actions taken by US states and Canadian provinces to protect hospitals and other health-care providers from any civil action for disclosing a complete and truthful record about a current or former nurse to a prospective employer for applicability in Ontario.

4.2.5 Non-disclosure Arrangements Can Conceal Nurses' Poor Performance Records from Potential Employers

Almost all Ontario nurses are unionized, although agency nurses are not unionized. A nurse facing disciplinary action can approach his or her union for help. The union would then represent the nurse and try to negotiate with the hospital the most favourable disciplinary outcome for the nurse. For instance, the union could ask the hospital to treat the termination as a resignation or negotiate a non-disclosure arrangement; the nurse's disciplinary history would then be kept hidden in the confidential records of the hospital the nurse has departed from until the College of Nurses of Ontario completes its disciplinary investigation, if the College chooses to undertake one.

We found that this practice can prevent hospitals from knowing about a nurse's past performance to use in their hiring decisions in order to minimize potential harm to patients.

For instance, on October 16, 2018, one hospital fired a nurse for a very serious breach of mandatory patient care standards, which resulted in a patient death. The union negotiated that the firing be treated as a resignation, and this nurse currently works for another hospital. The hospital that fired this nurse reported the termination a few days later to the College. However, as of July 31, 2019, this nurse's College public record was clean. As explained in **Section 4.2.2**, there could be several reasons why a reported nurse may have a clean College public record.

In another case in October 2015, another hospital terminated a nurse for texting a young patient, treated by the nurse in the emergency department, about illegal substances, and reported the nurse to the College. The union, however, negotiated that the termination be treated as a resignation. In January 2017, after working for just over a year through a nursing agency, the nurse was hired by another hospital. Had the hospital that terminated the nurse provided a truthful reference, the second hospital, which hired the nurse, would have known that the nurse falsely stated on the job application that they had never been reported to the College and that there was not a pending College investigation. The second hospital terminated the nurse in December 2017, about 11 months later, when it found out that the College had suspended the nurse's licence for three months after completing its disciplinary process. This disciplinary process took just over two years while the nurse continued to work.

RECOMMENDATION 9

In the interest of patient safety and in order for hospitals and agencies to hire nurses fully aware of their past employment and performance history, we recommend that the Ministry of Health explore means to:

- enable hospitals and agencies to provide and receive truthful references and information to make informed nursing hiring decisions; and
- require these organizations to disclose such information when it is requested by a prospective employer.

MINISTRY RESPONSE

While the recommendation pertains to labour relations between the employer and unions, the *Regulated Health Professions Act, 1991*, may have a supportive role in enabling sharing of information between the College of Nurses of Ontario and employers. The Act provides a regulation that permits the government to prescribe purposes

for which disclosures can be made under clauses 36(1)(d.1) and (d.2) from the College of Nurses of Ontario to public hospitals or other named/described persons of certain information stemming from its investigations. The Ministry will examine this opportunity.

4.2.6 In Most Cases Hospitals Do Not Conduct Periodic Criminal Record Checks of Currently Employed Nurses

Our 2018 follow-up report found that only three hospitals that we audited as part of our 2016 Large Community Hospital Operations audit (Trillium Health Partners, Windsor Regional Hospital and Rouge Valley Health System) currently conduct, or will soon start conducting, periodic criminal record checks of their nurses. The other hospitals that we visited as part of this audit do not. Our 2016 audit of Large Community Hospital Operations found that some hospitals did not conduct initial and/or periodic background checks. We noted that the Ontario Hospital Association produced a document in July 2017 to guide hospitals when developing a criminal reference check program or enhancing an existing program.

RECOMMENDATION 10

So that hospitals can make optimally informed hiring and staffing decisions, we recommend that the Ministry of Health require all hospitals in Ontario to:

- perform criminal record checks before hiring nurses and other health-care employees; and
- periodically update checks for existing staff.

MINISTRY RESPONSE

Under the *Long-Term Care Homes Act* and its regulations, the Ministry outlines criminal record check requirements for long-term-care home employees. The Ministry will explore the possibility of similar requirements for hospital employees.

4.3 Disciplining Physicians Is Difficult and Costly—Legal Costs Are Indirectly Subsidized by Taxpayers

The *Public Hospitals Act, 1990* (Act) governs important elements of the physician-hospital relationship. In our 2016 audit of Large Community Hospital Operations, we reported that hospitals were not able to resolve human resources issues with physicians quickly because of the comprehensive legal process that the hospitals are required to follow under the Act. We recommended that the Ministry evaluate this problem. However, we found that hospitals still are not able to quickly and cost-effectively deal with physicians that hospitals find may have practice issues, lack competence and may pose patient safety concerns.

Once a competency and/or practice issue has been identified, hospitals must work through a lengthy process to determine whether the physician's privileges can be revoked, restricted or not renewed. While the disciplinary process is ongoing, physicians can continue to work, even at multiple hospitals, unless the hospital puts an emergency stop to a physician's work due to an immediate risk to patient safety. As part of our audit, we reviewed a sample of disciplinary proceedings to determine their duration and cost to the hospitals. We present our findings in **Figure 15**.

In defending themselves, physicians mostly do not personally incur legal fees; rather, their legal costs are indirectly paid by taxpayers through a liability insurance reimbursement program. Through this program, the Ministry reimburses physicians for enrolling either in the Canadian Medical Protective Association, a not-for-profit association that provides lawyers to represent physicians, or in any other organization they choose to purchase medical liability protection from. Disciplinary cases can take several years and cost hospitals hundreds of thousands of dollars in their own legal fees and other costs.

Figure 15: Costs Incurred by Hospitals to Discipline Physicians and Duration of Process
Prepared by the Office of the Auditor General of Ontario

Physician	Duration of Disciplinary Process (Years)	Cost Incurred by Hospital ($)	Outcome	Cause
Physician 1*	3.5	567,000	Privileges not renewed	Multiple complaints about patient treatment and misdiagnosis.
	3	901,000	Ongoing	Failed to disclose privileges not renewed at another hospital. Numerous staff and patient complaints about patient treatment including patients in critical condition within the emergency department.
	1	145,000	Ongoing	Between 2009 and 2019, numerous complaints about patient treatment including refusal to treat a patient; delayed diagnosis led to patient paralysis.
Physician 2	4	310,000	Privileges revoked	Interacted with patients in an inappropriate manner. Concerns due to prolonged absence from clinical work.
Physician 3	4.5	202,000	Privileges restricted	Hospital concerns that there were quality of care and patient safety issues related to physician performing complex surgical procedures. A review identified that the physician committed serious errors in judgment during three surgeries.

* One hospital did not renew Physician 1's privileges. Physician 1 is also involved in two separate ongoing disciplinary proceedings at two other hospitals.

We noted that in 2016/17, the Ministry of Health reimbursed physicians $256 million for costs of the Medical Liability Protection Reimbursement Program. In 2017/18, the amount was $326.4 million, an increase of $70.4 million, or 27.5%.

RECOMMENDATION 11

To enable hospitals to take timely action to improve patient safety, we recommend that the Ministry of Health explore means to make it easier and less costly for hospitals and ultimately the taxpayer to address physician human resources issues, especially in cases when doctors may have harmed patients.

MINISTRY RESPONSE

When harm to a patient occurs, hospitals, employers and health regulatory colleges have mechanisms in place to address concerns and to take action in a timely manner. Disciplinary action against health-care providers is but one way of preventing reoccurrence and is often an extreme measure that is linked to risk of harm. There are other less costly and more timely ways of addressing concerns, which may include mediation and alternative dispute mechanisms among others.

Following the release of the 2019 Arbitration Award regarding the dispute over physician compensation between the provincial government and the Ontario Medical Association (OMA), the Ministry is committed to investigating the recommendation from the Auditor General of Ontario's 2016 Large Community Hospital Operations audit to review the physician appointment and appeal processes for hospitals and physicians under the *Public Hospitals Act*.

As part of this review, the Ministry will also explore opportunities to make it easier and less costly for hospitals to address physician human resource issues, especially in cases when doctors may have harmed patients.

4.4 Hospital Accreditation Reports Highlight Gaps in Compliance

4.4.1 Eighteen Hospitals Did Not Fully Comply with Five or More Required Patient Safety Practices

We obtained the most recent Accreditation Canada report from 114 acute-care hospitals. Some of these reports include the inspection and accreditation results for more than one hospital. We found that, between 2014 and 2019, 18 hospitals did not comply with five or more required practices that are central to quality and patient safety. The required six practice areas against which Accreditation Canada assesses each hospital are listed in **Appendix 4**. As shown in **Figure 16**, 148 practices in the six practice areas deemed central to the quality and safety of care were not complied with at 18 out of 114 hospitals. For example, in the area of risk assessment, some hospitals did not have strategies in place to help prevent patient falls and pressure injuries, which increases the risk of these types of patient harm. Other hospitals did not meet the communication area required practice to ensure that information is transferred when patients move between care units within the hospital, increasing the risk of unsafe transitions of care. If these practices are not complied with, a hospital is required to submit evidence of corrective actions to Accreditation Canada. We noted that Accreditation Canada conducts its visits every four years, so it is unknown for how long prior to the visit hospitals did not have these required practices in place.

4.4.2 13 Hospitals Did Not Meet between 5% and 11% of High-Priority Patient Safety Criteria

We found that 13 out of the 114 hospitals did not meet between 5% and 11% of their high-priority patient safety criteria when assessed. Accreditation Canada assesses each hospital against a number of criteria that it uses to measure the hospital's compliance with standards that contribute to high-quality, safe and effectively managed care.

The number of applicable criteria varies according to the size of the hospital and the range and complexity of health services it provides. For instance, about 700 high-priority criteria in total could be used to assess a small rural hospital, whereas 1,200 or more could be used to assess a large hospital.

Figure 16: Unmet Required Practices in Six Patient Safety Areas at 18 Acute-Care Hospitals, 2014–2018
Source of data: Ontario Hospitals

Patient Safety Area	Examples of Required Practices	Instances of Required Practices Unmet
Safety Culture	• Patient safety incident management • Reporting and analysis of patient safety	4
Effective Communication	• Medication reconciliation as a strategic priority • Use of two identifiers to identify patients	78
Safe Use and Storage of Medication	• Infusion pumps training and safety • Monitoring and responsible usage of antibiotic medication	16
Safe Environment	• Management of patient flow to help prevent overcrowding in emergency department • Preventative maintenance program	5
Infection Prevention	• Hand hygiene compliance	3
Assessment of Patient Safety Risks	• Falls prevention strategy • Pressure ulcer prevention strategy	42
Total		**148**

High-priority criteria relate to safety, ethics, risk management and quality improvement, and have an impact on patient safety. These criteria weigh heavily in determining whether a hospital meets the accreditation standards.

Figure 17 shows the number of unmet criteria at each of the 13 hospitals, as well as some of the key patient safety concerns identified by Accreditation Canada. If high-priority criteria are not met, a hospital is required to submit evidence of corrective actions to Accreditation Canada.

4.4.3 Highest Rate of Patient Safety Concerns with Medication Management and Emergency Services

Accreditation Canada groups the various criteria into two main categories of patient safety standards against which it assesses hospitals' compliance:

- hospital-wide standards, which address patient safety throughout the hospital—these include governance, leadership, infection-prevention-and-control medication management; and
- service-specific standards, which apply to specific services provided, such as the emergency department and diagnostic imaging.

We found that as a group, the 114 hospitals did not meet 1,707 high-priority criteria relating to patient safety standards in the above two categories. **Figure 18** shows the instances when the 114 hospitals did not comply with the hospital-wide and service-specific standards that make up the high-priority criteria. Most of the instances when the 114 hospitals did not meet the criteria were in the areas of medication management, leadership, emergency department operations and reprocessing of reusable medical devices, which are also referred to in this report as "reusable surgical tools and medical devices."

4.4.4 Prevention of Falls an Ongoing Patient Safety Concern

We found that all of the 13 hospitals we visited had processes in place to assess patients who are admitted to hospital for their risk of falling. Assessing this risk is an important patient safety practice, since a patient fall could result in a hip fracture, a head injury, and in some cases, death.

Depending on a patient's identified risk of falling while in hospital, staff use additional measures to reduce this risk, such as bed exit alarms, which notify the nurse when a patient leaves the bed. Hospitals informed us that although these additional measures reduce the risk of patient falls, patient falls can still occur. For example, even when a hospital has a falls prevention process in place, a patient could still choose to leave their bed without notifying their nurse and be at increased risk of falling.

RECOMMENDATION 12

To improve patient safety, we recommend that the Ministry of Health:

- review the Accreditation Canada hospital reports and identify areas where hospitals may consistently not be meeting required patient safety practices and high-priority criteria; and
- follow up with hospitals in respect of problem areas to confirm that actions are taken to correct deficiencies.

MINISTRY RESPONSE

Patient safety is an important dimension of quality. Ontario Health's mandate includes holding health-care providers accountable for health system performance and quality. Moving forward, the Ministry will request that Ontario Health address this recommendation as part of its mandate.

Figure 17: Unmet High-Priority Accreditation Criteria at 13 Acute Ontario Hospitals

Source of data: Ontario Hospitals

Hospital	# of Unmet High-Priority Criteria	% of All High-Priority Criteria	Accreditation Date	Patient Safety Concerns
Hôpital Notre-Dame Hospital	76	11	Dec 10, 2015	• Medication storage and administration, including chemotherapy storage and preparation • Medical equipment stored in dirty areas
Haliburton Highlands Health Services	39	10	May 28, 2015	• No analysis or trends of patient safety incidents • No action plans to prevent/reduce patient safety incidents
Hornepayne Community Hospital	45	7	Nov 29, 2018	• No Quality Committee • Outdated safety plan • Private rooms not secure and unsafe
Kirkland and District Hospital	51	7	Jul 20, 2016	• Separation of similar-sounding medication names not consistently done
Lady Dunn Health Centre	41	6	Nov 30, 2017	• Pressure ulcers (bedsores) prevention not formalized and not tracked • Lessons learned from patient safety investigations not shared with front-line staff
St. Joseph's General Hospital Elliot Lake	60	6	Oct 23, 2017	• Lack of integrated Quality Improvement Plan
The Alexandra Hospital	35	5	Sep 30, 2015	• High risk of contamination of sterilized medical instruments: decontamination area not sufficiently isolated from clean storage area • No quality management program in place for cleaning and sterilization of medical and surgical tools
Riverside Health Care Facilities	41	5	Oct 23, 2015	• Chemotherapeutic intravenous medication storage and preparation concerns
North Shore Health Network	36	5	Jul 5, 2018	• No patient safety benchmarks and set goals to measure success toward targets
Englehart and District Hospital	26	5	Jun 26, 2015	• Unsafe storage of medical supplies
Campbellford Memorial Hospital	37	5	Dec 20, 2017	• Lack of proper area to clean medical equipment, dirty equipment is washed next to sterile and clean area • Quality Improvement Plan initiatives not communicated to front-line staff
North of Superior Healthcare Group	42	5	Oct 4, 2016	• No proactive approach to identify risks to patient safety in emergency department • No falls prevention strategy in place
MICs Group of Health Services	41	5	Mar 16, 2018	• Quality Improvement Plan initiatives not communicated to front-line staff • No monitoring of patients who are receiving a new dosage of narcotics or sedatives

Figure 18: Total Instances of Unmet High-Priority Criteria at 114 Ontario Acute-Care Hospitals, 2014–2019

Source of data: Ontario Hospitals

	Unmet Instances
Hospital-Wide Standards	
Medication management	181
Leadership	127
Infection prevention and control	51
Governance	120
Service-Specific Standards*	
Emergency department	209
Reprocessing of reusable medical devices	173
Perioperative services and invasive procedures	169
Medicine services	115
Diagnostic imaging services	110
Ambulatory care services	59
Obstetric services	72
Mental health services	50
In-patient services	62
Critical care	45
Community-based mental health services and supports	29
21 other service categories	135
Total	**1,707**

* Not all services are provided by every hospital.

4.5 Best Practices Not Always Followed for Medication Administration

4.5.1 Hospitals Not Always Following Best Practices to Prevent Medication-Related Patient Safety Incidents

According to the Canadian Patient Safety Institute, more than 50% of hospital patients have at least one discrepancy between the medications they take at home and those ordered for them on admission to the hospital. Many of these discrepancies in the medications patients are given have the potential to harm them.

Medication reconciliation is a patient safety best practice, to ensure that medications that were added, changed or discontinued while a patient was in a hospital are carefully evaluated against the medication that the patient was already taking at home. This reduces the possibility that medications the patient is on will be omitted, duplicated or ordered incorrectly when the patient is admitted or discharged from a hospital.

For instance, two weeks before being admitted to a hospital, a patient received from a family doctor a prescription for a narcotic pain medication. On discharge, the hospital prescribed the same narcotic, but the patient now had access to and started to take more than what was required. Shortly after that, the patient was readmitted to the hospital for a narcotic overdose.

Research by the Canadian Patient Safety Institute indicates that medication reconciliation is the most cost-effective way to prevent potential medication-related patient safety incidents, which, if not prevented, result in an average of $4,000 in additional health-care costs per incident and endanger lives.

For 2018/19, Health Quality Ontario recommended that hospitals focus on conducting medication reconciliation for patients that they discharge and add this to their Quality Improvement Plans. This is not a mandatory requirement, and only 78 hospitals included it in their 2018/19 Quality Improvement Plans. Based on information reported by these 78 hospitals to Health Quality Ontario, on average they completed medication reconciliation for only 76 out of every 100 patients where reconciliation at discharge was required. This means that, on average, about 24 out of every 100 patients discharged from the hospital did not have a medication reconciliation completed at discharge.

Hospitals that we visited informed us that medication reconciliation is a labour-intensive process and that is why sometimes they are not able to complete all the required reconciliations. Reconciling medication for patients who take a large number of medications and purchase them from several

pharmacies can take more than 24 hours, as the hospital has to contact each pharmacy to compile the patient's medication history.

We also found that some important information was not recorded during the medication reconciliation process at each of the five hospitals we visited, and that some hospitals do not report their compliance rate because they have outdated computer systems that do not allow them to track the compliance rate.

We visited five hospitals to review their medication reconciliation process. Three of the hospitals report their compliance rate to Health Quality Ontario and two do not. The compliance rates at discharge for the three reporting hospitals were 100%, 95% and only 20%.

At each of the five hospitals, we reviewed 10 completed medication reconciliations to assess how they are performed and documented. We found that each hospital documents the reconciliations differently, and at four of the five hospitals we found at least one reconciliation that was missing some important information. In total, 20 out of the 50 completed medication reconciliations we reviewed were missing information such as patients' medication history, medication dosage and quantity prescribed on discharge, and the time of the last dose taken. Without this information, on release from hospital patients may not be instructed to take their medication appropriately in order to prevent harm.

RECOMMENDATION 13

So that hospitals fully complete medication reconciliation to reduce the risk to discharged patients and that they have all the necessary patient information to properly investigate any incidents with patients' dosages or drug interactions that might occur and trigger hospital readmission, we recommend that hospitals reinforce with staff the importance of the medication reconciliation documentation processes so that all the necessary information is consistently documented.

RESPONSE FROM OHA

Ontario hospitals support documentation of medication reconciliation being consistently more complete, comprehensive and accurate.

RECOMMENDATION 14

To reduce the risk of medication errors and readmissions to hospital, we recommend that the Ministry of Health:

- require hospitals to complete medication reconciliation for all patients;
- require hospitals to include medication reconciliation in their Quality Improvement Plans; and
- in conjunction with relevant hospitals, review their IT system needs to be able to track necessary medication reconciliation information and take action for improvement where needed.

MINISTRY RESPONSE

The Ministry of Health supports this recommendation and will support:

- Ontario Health in reviewing and assessing how medication errors are reported in hospitals and explore ways to strengthen reporting mechanisms;
- Ontario Health in evaluating how to make medication incident reporting within hospitals part of their Quality Improvement Plans; and
- hospitals with their review of their IT systems and help explore opportunities to enhance tracking systems for medication reconciliation.

4.5.2 Best Practices for Safe Administration of Medication Not Consistently Followed at Some Hospitals

We found that some hospitals do not always comply with policies and best practices for the administration of high-risk medications, such as using an

Figure 19: Reported Critical Patient Safety Incidents Involving Medication in All Ontario Hospitals Occurring between October 2011 and December 2018

Source of data: Canadian Institute for Healthcare Information National System for Incident Reporting

Category	2012[1]	2013	2014	2015	2016	2017	2018	Total	% Total
Severe Harm	27	23	24	10	12	6	13	**115**	75
Death	10	7	4	7	5	0	6	**39**	25
Total	**37**	**30**	**28**	**17**	**17**	**6**	**19[2]**	**154**	**100**

1. Year 2012 includes data hospitals started to report in October 2011.
2. The rise in incidents in 2018 is due to an increase both in incidents occurring in 2018 and in incidents that occurred earlier but were not reported until 2018.

independent double-check to verify medication and dosage; witnessing patients taking and swallowing medications; or confirming the identities of patients.

According to the Canadian Institute for Health Information, events associated with medication are among the most frequent of all harmful events possible in a hospital. Medication errors can be classified into prescribing errors; dispensing errors; and administration errors, when what the patient actually received differs from what was intended. Medication errors that are discovered only after the patient has taken the medication are typically the most serious of the three types of errors. The 2004 Canadian patient safety study estimated that one out of nine adults will potentially be given the wrong medication or wrong medication dosage in hospitals.

In 2011, the Ministry of Health began requiring hospitals to report patient safety incidents causing serious harm or death involving medications to the Canadian Institute for Health Information. **Figure 19** shows the list of these incidents compiled from late 2011 through to the end of 2018.

Our expert told us that it is leading practice (and an Accreditation Canada requirement) for hospitals to implement a policy where designated high-risk medications require an independent double-check before they are administered to the patient, as errors involving high-risk medications increase the likelihood of patient harm or death.

At three hospitals, we observed nine instances where nurses did not comply with medication administration best practices in 15 situations observed. There are usually four times during the day when patients could receive their scheduled medication: morning, afternoon, evening/dinner and bedtime. At each hospital we visited, we observed a nurse administering medication to five patients during one of the scheduled times. At two hospitals on five occasions, the nurses did not request another nurse to double-check the name and amount of high-risk medication given to the patients. At one hospital, in two instances, the nurse did not wait to witness the patients actually take and swallow their medications. In one of those instances, the medication was a narcotic that could be pocketed in the mouth to be then taken out, stored and used later to overdose. At another hospital, the nurse did not confirm the identification of two patients before administering medications to them.

RECOMMENDATION 15

To improve patient safety, we recommend that hospitals reinforce with nurses necessary medication administration processes to ensure that:

- independent double-checks of high-risk medications are done to verify that correct medication and dosage are administered;
- nurses witness patients taking and swallowing high-risk medications; and
- nurses use two unique identifiers to confirm the identity of patients before administering medication to them.

RESPONSE FROM OHA

Ontario hospitals will review existing policies and processes for the administration of all medications to determine whether best practices are being followed to improve patient safety.

4.5.3 Best Practices Not Always Followed for Nursing Shift Changes

We found that six out of the 13 hospitals we visited did not always follow patient safety best practices for nursing shift changes at the patient's bedside. Nursing shift changes were not assessed at Women's College Hospital, as it is an ambulatory care facility that does not provide in-patient care, so nurses work day shifts only at this hospital.

Nurses usually work 12-hour shifts, although shifts can also be shorter. During shift changes, which usually occur at 7 a.m. and 7 p.m., the nurse whose shift is ending provides the incoming nurse with an update on the patient's condition, medication and/or treatment, as well as other patient-care specifics.

According to our expert, the best practice, if possible—based on the patient's condition—is to conduct nurse shift changes at the patient's bedside and involve the patient and the family, with the consent of the patient, in the process, rather than completing the shift change away from the patient at the nurses' station. In this way, the patient and possibly family are engaged in the care process and can identify any missing information or miscommunication between the nurses during shift change that could lead to patient safety incidents. We found, however, that this practice was followed by only six out of the 13 hospitals we observed for nursing shift changes.

RECOMMENDATION 16

To minimize patient safety incidents due to missing information or miscommunication, we recommend hospitals adopt, based on patient condition, the practice of making nursing shift changes at the patients' bedside and where possible involving the patients and their families, with the consent of the patients, in the process.

RESPONSE FROM OHA

Ontario hospitals support the review of current practices to ensure safe transfer of information between care providers. Ontario hospitals will determine what supports are needed to engage patients, where possible, to enhance nursing shift changes.

4.6 Hospital Systems for Dispensing Medication Vary from Fully Manual to Fully Automated

After a medication is prescribed for a patient, the order must be reviewed by a pharmacist, prepared and dispensed at the pharmacy, and then delivered to the patient's unit to be administered by a nurse. While all hospitals we visited have controls in place over this process, we noted that hospitals vary widely in the level of automation in this process. See **Appendix 10** for elements of automation that can impact medication dispensing and administration.

We noted that hospitals in Ontario are moving toward automating medication management but are at different stages of implementation, from fully manual to fully automated systems.

Two of the hospitals we visited have fully manual systems in at least one of their hospital sites. Two other hospitals we visited had fully automated systems. The remaining hospitals are at varying stages of implementation between manual and automated systems.

Pharmacy Staff Performing Manual Processes Could Be Better Utilized

One hospital we visited was facing a shortage of pharmacy technicians, and its pharmacy department operated with manual processes. This hospital

informed us that its pharmacy technicians were doing manual tasks that could be automated such as labelling and packaging medication and drawing medication into syringes for a single use.

With pharmacy technicians occupied by these tasks, this hospital assigned medication reconciliation to nurses, who are already busy with patient assignments. Best practice confirms that medication reconciliation can be safely and effectively performed by pharmacy technicians and pharmacists in collaboration with the prescriber. This hospital reported that in 2016, as many as 20% of all reported medication incidents in a month were due to medication reconciliation errors.

RECOMMENDATION 17

To improve patient safety with respect to medication administration and where a compelling business case for cost-effectiveness can be made, we recommend that the Ministry work with hospitals toward the automation of pharmacy-related tasks.

MINISTRY RESPONSE

The Ministry acknowledges that there may be opportunities to improve how hospitals use automation to drive efficiency and safety in their local pharmacy operations. The Ministry will encourage hospitals, as part of their annual capital planning process, to consider the cost-effectiveness of moving toward the automation of pharmacy-related tasks.

4.7 Some Hospitals Have Poor Compliance with Infection Prevention Best Practices and Standards

4.7.1 Infection Outbreak Investigations Found Key Prevention Practices Lacking at 10 Hospitals

We found that some hospitals have not consistently followed infection prevention best practices and standards. Ten hospitals contacted Public Health Ontario to help them deal with recent or recurring infection outbreaks. We obtained the resulting Public Health Ontario reports, for 2016 to 2018, from each hospital detailing the type and extent of each outbreak.

Outbreaks ranged from a large-scale outbreak affecting over 100 patients at one hospital, to repeated smaller outbreaks at another hospital with a consistently higher infection rate than peer hospitals.

In reports prepared for each hospital between 2016 and 2018, Public Health Ontario identified that the 10 hospitals had low compliance with a number of infection prevention best practices established by the Provincial Infectious Diseases Advisory Committee described in **Appendix 5**. For example:

- Eight of the 10 hospitals had either cluttered rooms, making them more difficult to clean; damaged furniture that served as a reservoir for microorganisms; or damaged equipment that was corroded, leaking fluids and visibly soiled.
- Eight of the 10 hospitals had limited screening of patients for specific resistant bacteria.
- Five of the 10 hospitals did not have sufficient processes in place to monitor and prevent the spread of infections or did not have enough dedicated staff to support infection prevention processes according to best practices.
- Common observations in the affected areas at all 10 hospitals included poor hand hygiene, use of incorrect cleaning solutions and inadequate protective equipment.

Two of the 10 hospitals had outbreaks of *Clostridium difficile* (*C. difficile*), a bacterium that can cause diarrhea, severe abdominal pain and potentially life-threatening infections.

In two studies on *C. difficile*, The Ottawa Hospital found that the average length of stay for patients who acquired *C. difficile* while in hospital was 34 days, more than four times longer than for patients who did not acquire this infection (eight days). The hospital also estimated that patients who acquired *C. difficile* while in hospital required additional treatment costing an average of $9,000 per patient. In the past five years, 12,208 hospital-acquired *C. difficile* infections were reported in Ontario, an average of about 2,440 people each year.

This suggests the additional treatment costs to the provincial health-care system as a result of these infections are substantial.

In its reports to the 10 hospitals, Public Health Ontario made recommendations on how to improve infection prevention processes. We followed up with these 10 hospitals and found that these hospitals have not yet fully implemented all of the recommendations.

As of May 31, 2019, 191 (73%) of the 263 recommendations to the hospitals had been fully implemented. The hospitals are still working toward implementing the remaining 71 (27%) recommendations such as to update their policies and procedures, provide training to staff, evaluate processes for infection prevention, and allocate resources (money and staffing) more effectively.

4.7.2 Reported Frequency of Handwashing by Hospital Staff Could Be Overstated

As previously discussed, Public Health Ontario identified poor hand hygiene compliance as a contributing factor when reviewing infection outbreaks. Hospital-acquired infections such as *C. difficile* are commonly spread by the contact route via the hands of health-care workers. Therefore, hand hygiene, either through the use of alcohol-based hand rub or soap and water, is one of the main preventive measures used to prevent and control the spread of these infections. As handwashing is a simple, quick and low-cost action to do, the prevalence of handwashing in a hospital speaks to the strength of the patient safety culture in that hospital.

Best practices developed by the Provincial Infectious Diseases Advisory Committee require hospital staff to wash their hands at several key moments when caring for patients, including before initial contact with the patient and the patient's environment; before putting on gloves when performing an invasive procedure; before administering medication to a patient; immediately after removing gloves; and after contact with a patient and the patient's environment.

As part of our special audit report *Prevention and Control of Hospital-acquired Infections* (2008), we examined the Ministry's hand hygiene pilot program. The objective of this program was to observe hospital staff to assess how often they followed hand hygiene best practices by washing their hands before and after patient contact.

In our 2008 audit we found that handwashing compliance of hospital staff ranged from only 40% to 75% at the 10 participating hospitals. Physician compliance increased from only 18% at the start of the pilot to 28% by the end. Nurse compliance rose from only 44% to 60%.

Since 2008, as reported by Health Quality Ontario, hospitals have reported improvement in hand hygiene compliance rates. Hand hygiene compliance before patient contact rose from 53.3% in 2008/09 to 89.7% in 2018/19. Hand hygiene compliance after patient contact rose from 69.0% to 92.8% over the same period.

Although reported rates have increased over this period, some hospitals have indicated that reported hand hygiene compliance is likely overstated, due to the method used to assess compliance. Since hospital staff are physically observed by a hand hygiene auditor who records whether or not they wash their hands, staff are often aware they are being observed and wash their hands more often when the auditor is present. For example:

- In 2014, the University Health Network published a study that found that hospital staff washed their hands 2.5 times more often when an auditor was visible (3.75 times per hour) than when an auditor was not visible (1.48 times per hour). The study found that the compliance rate increased after the auditor's arrival, suggesting that the presence of the auditor triggered the increase in hand hygiene.
- In 2016, Sunnybrook Hospital published a study and found that while the hand hygiene compliance rate as observed by the auditor was 84%, the rate as observed by covert observation auditors was actually 50%. The study also found that handwashing by medical residents (trainees) dropped from 79.5% to 18.9% when their supervising physician did not wash his or her hands.

The Sunnybrook residents' study, in particular, demonstrates how modelling desirable behaviour can encourage and sustain patient safety culture down the line among the people working at a hospital.

We note that some hospitals have introduced additional methods of assessing and encouraging hand hygiene compliance:

- Sunnybrook Hospital has started using electronically monitored hand hygiene pumps in some units. These pumps are equipped with a sensor that counts hand hygiene events and gives each unit a compliance rate against a predetermined number of hand hygiene opportunities based on the type of unit, and the number of care providers, visitors and patients.
- University Health Network has introduced electronic monitoring systems in some units, which use electronic badges worn by staff to produce real-time prompts for staff to use soap or alcohol-based hand rub dispensers when they move in and out of rooms in the hospital.
- Women's College Hospital has distributed survey cards to patients and asked them to observe and record the hand hygiene compliance of their health-care providers. The results are forwarded to providers on a regular basis; this process allowed patients to play a more active role in their own health care.

RECOMMENDATION 18

To improve the accuracy of reported hand hygiene compliance, while at the same time encouraging hand hygiene, we recommend that the Ontario Hospital Association work with hospitals to evaluate and further the adoption of additional methods to assess and monitor hand hygiene, such as electronically monitored hand hygiene pumps and monitoring systems, and asking patients to observe and record the hand hygiene compliance of their health-care providers.

RESPONSE FROM OHA

Ontario hospitals take hand hygiene compliance very seriously as it is the single most effective way to reduce the risk of health care–associated infections. Ontario hospitals agree with enhancing observation and monitoring methods and will examine strategies to improve hand hygiene compliance within their organizations.

4.8 Some Hospital Pharmacies Did Not Fully Comply with Training and Cleaning Standards for Sterile-Rooms

Some patients receive their medications, such as antibiotics, chemotherapeutic agents and pain medication, by injection directly into their veins. Hospital pharmacies have restricted access areas, called "sterile-rooms," where intravenous medication is prepared and mixed using clean and disinfected equipment.

Air in sterile-rooms is continuously filtered to remove particles. Pharmacy staff who work in sterile-rooms must wear masks, gloves and gowns. Cleaning and disinfecting personnel are responsible for cleaning the equipment used in the mixing and preparation of intravenous medications, and for cleaning floors and walls in sterile-rooms.

4.8.1 Sterile Preparation and Mixing of Hazardous (Chemotherapy) and Non-hazardous Intravenous Medications

We found that hospital pharmacies do not always fully comply with standards pertaining to the sterile preparation and mixing of hazardous (chemotherapy) and non-hazardous intravenous medications.

The Ontario College of Pharmacists is the registering and regulatory body for the profession of pharmacy in Ontario. In 2013, 1,202 hospital patients at four hospitals in Ontario (Windsor, London, Lakeridge and Peterborough) were infused with the wrong concentration of chemotherapy medication. Following this chemotherapy underdosing incident, in 2014 the College started annual inspections of hospital pharmacies to assess their compliance with 102 standards aimed at ensuring patient safety. Fifty of the 102 standards relate directly to the sterile preparation of injectable medications such as for chemotherapy and antibiotics.

The National Association of Pharmacy Regulatory Authorities, a voluntary association of provincial and territorial pharmacy regulatory bodies, developed these standards, which were adopted by the Ontario College of Pharmacists.

We analyzed all 163 inspections completed by the College in 2018, including 122 inspections of sterile preparation and mixing of medications, and found that hospital pharmacies on average fully met less than half of the 50 standards relating to the sterile preparation and mixing of intravenous medications such as for chemotherapy and antibiotics. On average, hospital pharmacies did not comply at all with about 10% of the 50 standards. For instance, 10% of the 122 hospital pharmacies did not train staff on how to prepare and mix intravenous medications correctly, and 26% of the 122 hospitals did not train their staff on how to clean and disinfect the sterile-room and the equipment used in preparing and mixing intravenous medications. **Figure 20** shows how many of the 102 standards relate to the eight main hospital pharmacy operating areas, and the pharmacies' 2018 average compliance rate with the standards pertaining to each area.

Our expert told us that sterile preparation and mixing of intravenous medications is a high-risk activity. For instance, patients can be harmed or even die if their intravenous medication has been contaminated with bacteria during mixing and preparation or if the medication has been mixed incorrectly and,

Figure 20: Hospital Pharmacies, Average Compliance Rate with Standards, 2018

Source of data: Ontario College of Pharmacists

Standard Categories	# of Standards (Out of 102)	Average Compliance Rate of All 163 Hospital Pharmacies* (%)		
		Met	Partially Met	Not Met
Sterile preparation and mixing of hazardous intravenous medications (chemotherapy)	25	43	45	12
Sterile preparation and mixing of non-hazardous intravenous medications (antibiotics, narcotics, etc.)	25	48	43	9
Safe and secure medication storage (including narcotics) throughout the hospital	10	80.3	19.2	0.5
Safe packaging handling, storage, distribution and monitoring of medications	17	79	21	–
Medication physician prescription review and processing	8	85	15	–
Safe and secure storage of narcotics within the pharmacy	5	68	32	–
Non-sterile preparation and mixing of medication	4	61	39	–
Other areas (record retention, auditability and traceability)	8	57	43	–
Total	**102**			

* Ontario hospitals may have more than one site; however, not all sites have a pharmacy.

for example, is the wrong dose or has the wrong ingredients.

In September 2016, the College mandated that by January 1, 2019, hospital pharmacies must be in full compliance with all 50 standards pertaining to the sterile preparation and mixing of intravenous medications. Inspection results from 91 hospital pharmacies completed by July 1, 2019, shared with us by the College, showed that pharmacies' compliance with the standards has improved. Sixty-four percent of the 91 inspected pharmacies met the standards pertaining to the sterile preparation and mixing of intravenous hazardous medications, such as for chemotherapy, and 70% of the 91 pharmacies met the standards pertaining to the sterile preparation and mixing of intravenous non-hazardous medications, such as antibiotics.

4.8.2 Sterile-Rooms Are Not Cleaned in Accordance with Best Practices

As mentioned, hospital pharmacies have restricted access areas, called "sterile-rooms," where intravenous medications are prepared and mixed using clean and disinfected equipment.

We visited five hospitals between May and July 2019 and observed that in four hospitals, pharmacy and housekeeping staff did not follow standards and best practices when cleaning sterile-rooms and the equipment used in the preparation of intravenous medications. For example, one hospital was using the wrong cleaning agent to disinfect the equipment. At another hospital, housekeeping staff did not properly gown prior to entering the sterile restricted area, and they cleaned the floors using the same mops used to clean other areas. (Mops should be for restricted use in only the sterile-room.) By January 1, 2019, hospitals were supposed to have trained all of their cleaning and disinfecting personnel on how to properly clean sterile-rooms. However, we found that two hospitals we visited had not yet conducted the required training.

RECOMMENDATION 19

So that sterile-rooms and the equipment used in the mixing and preparation of intravenous medications are cleaned according to required standards, we recommend that hospitals:

- provide their pharmacy and housekeeping staff with proper training on how to conduct the cleaning; and
- monitor the cleaning to ensure proper processes are being followed.

RESPONSE FROM OHA

Ontario hospitals will continue to work with the Ontario College of Pharmacists to implement strategies to ensure proper practices are put in place for cleaning of sterile-rooms and equipment.

4.9 Inspection Process for Cleaning Reusable Surgical Tools Not Optimal

4.9.1 Improper Cleaning of Reusable Surgical Tools Can Delay Surgeries and Impact Patients

Hospitals commonly reuse surgical tools, such as scalpels, and medical equipment, such as colonoscopy scopes, on patients, after they have been thoroughly washed and sterilized. When cleaning and sterilizing reusable surgical tools and medical equipment, hospitals are required to follow standards developed by the Canadian Standards Association (CSA) and Manufacturer's Instructions for USE (MIFU). Proper washing and sterilization of surgical tools and medical equipment ensures that they can be safely reused on other patients.

As shown in **Figure 18**, washing and sterilization of reusable surgical tools and medical devices is the second-highest service area of hospitals' non-compliance with high-priority criteria for patient safety, according to Accreditation Canada.

Improper cleaning and sterilization can potentially result in surgical-site infections for patients. It can also cause delays or cancellations of surgeries, as the surgical team waits for a complete set of properly washed and sterilized surgical tools to arrive. For example, in spring 2019, over a two-month period, one hospital cancelled and rescheduled 62 surgeries (elective complex orthopedic surgeries) after becoming aware that specialized surgical tools that are used for some complex orthopedic surgeries may not have achieved sterilization.

Approximately every four years, as part of its hospital visits, Accreditation Canada reviews the processes hospitals have in place to clean and sterilize reusable surgical tools and equipment. Hospitals' compliance with patient safety best practices or the CSA standards in this area is not verified by any other organization. In contrast, the Ontario College of Pharmacists inspects hospital pharmacies annually to assess compliance with relevant standards from the National Association of Pharmacy Regulatory Authorities.

Each hospital is therefore responsible to monitor its own compliance with cleaning and sterilization standards. Some hospitals hire experts to do this work. We compared the expert reports from three hospitals with Accreditation Canada reports and found that the experts identified more instances of non-compliance with Accreditation Canada criteria.

For example, between April 30 and May 5, 2017, Accreditation Canada identified that one hospital did not comply with four criteria. Nine months later, the expert found that this hospital did not comply with 10 Accreditation Canada criteria and two CSA standards. We noted that during hospital visits Accreditation Canada assesses hospitals' policies and procedures in many areas, including cleaning and sterilization, but it does not perform detailed checks for compliance with CSA standards.

RECOMMENDATION 20

To improve hospitals' compliance with the Canadian Standards Association's standards pertaining to the washing and sterilization of surgical tools and medical equipment, we recommend that hospitals have their washing and sterilization of surgical tools and medical equipment inspected internally on an annual basis.

RESPONSE FROM OHA

Ontario hospitals will review strategies to improve compliance with the Canadian Standards Association's standards pertaining to the washing and sterilization of surgical tools and medical equipment.

4.9.2 Management of Outsourcing Contracts for Sterilization of Reusable Surgical Tools and Medical Equipment Has Improved

Most hospitals in Ontario wash and sterilize their own reusable surgical tools and medical equipment in-house. Four hospitals have outsourced this work to a private company, SteriPro. The company is the only private company in Canada that offers washing and sterilization services of this kind.

Three hospitals we visited contracted with this third-party provider for sterilizing medical equipment. We found that the three hospitals did not have processes in place to ensure the contract was managed effectively. Specifically, the lack of key performance indicators prevented the hospitals from reliably assessing the third-party provider's performance. For example:

- One hospital entered into a contract with the third-party provider in 2011. The contract included key performance indicators such as requirements for availability of instruments and timely delivery. These indicators were not enforced until 2014.

- Another hospital entered into an agreement in 2012, although the key performance indicators were not put in place until 2015.
- The third hospital entered into a contract with the third-party provider in 2015. The hospital has informally used key performance indicators to track performance and quality issues; however, we noted that the agreement does not include specific indicators. This hospital informed us that it will negotiate indicators to be included in the next contract, due as a renewal in 2020.

A fourth hospital that entered into an agreement with a third-party provider in 2011 decided in 2015 to bring sterilization back in-house. This hospital noted that due to the lack of published key performance measures and industry benchmarks, it is difficult to evaluate sterilization practices and drive improvement. The hospital developed a framework that built on established guidelines and included service standards, key performance indicators and targets to evaluate surgical tools and medical device cleaning and sterilization processes. The framework, published in a health-related journal, includes 25 service standards and 10 key performance indicators.

RECOMMENDATION 21

In order for contracts with private providers of sterilization services to be managed effectively by hospitals, we recommend that hospitals:

- include all the necessary service standards and performance indicators in these contracts; and
- on a regular basis, assess the private service provider's compliance with all contract terms.

RESPONSE FROM OHA

Where the use of external providers for sterilization services exists, Ontario hospitals will closely review existing processes and contracts to ensure that the quality and safety of care is not compromised.

4.10 Hospital Overcrowding Limits Availability of Beds to Critically Ill Patients

Overall, between April 2003 and the end of March 2018, according to Statistics Canada and Ministry data, the number of acute-care hospital beds in Ontario decreased from 1.5 beds to 1.3 beds per 1,000 people.

We obtained data from the Ministry for the 25 acute-care hospitals with the highest overcrowding over the 12-month period ending February 2019. Over the year, these hospitals were at 110% of capacity on average, while on some days in winter months one hospital exceeded 120% of capacity.

Critically ill patients depend on receiving timely and appropriate care. In 2013, the Ministry issued a policy statement directing emergency medical services, hospitals and other stakeholders to work together to ensure that "no patient with a life or limb threatening condition shall be refused care."

CritiCall, a Ministry-funded organization, is a 24-hour medical emergency referral service that Ontario's hospital-based physicians can call when a critically ill patient requires an assessment and/or transfer to a more specialized facility with resources beyond what is available at their hospital to care for a life-or-limb patient. CritiCall, on behalf of the referring hospitals, co-ordinates inter-facility transport of a life-or-limb patient.

According to CritiCall, from April 2016 to the end of March 2019, 784 life-or-limb patients were denied inter-facility transfer to the closest hospital that could provide the appropriate level of care, because the hospital had no bed available to receive the patient. Some of these patients were denied inter-facility transfer more than once. Ten of these patients died while CritiCall was trying to facilitate inter-facility transfer to another hospital that could provide appropriate care, after at least one hospital had denied the patient's transfer because no beds were available.

In addition to these critically ill patients, we found that in the same period about 5,356 non-critically ill

patients were denied inter-facility transfers due to a lack of available beds (some multiple times). Given that these patients were not critically ill, there was less urgency for them to transfer to another hospital; however, these denied transfers further illustrate instances where available beds were lacking in the hospital system.

In August 2019, CritiCall issued a proposal for a province-wide "command centre" initiative, which would collect and analyze, in real-time, the patient bed flow of each acute-care hospital in Ontario. This would help CritiCall identify hospitals with free beds so that it could manage the transfer of life-or-limb, urgent and emergency patients more effectively. In recent years, hospitals such as Humber River Hospital have begun to create hospital-based command centres. Humber River Hospital feeds real-time data to artificial intelligence that analyzes the data and provides the command centre staff with information that they can use to monitor and manage patient flow in the hospital. In June 2018, Humber River Hospital found that since implementing the command centre, the information provided to staff has enabled rooms to be cleaned more quickly and beds to be managed more efficiently. As a result, the time a patient in the emergency department waits for a hospital bed had been reduced by 33%.

RECOMMENDATION 22

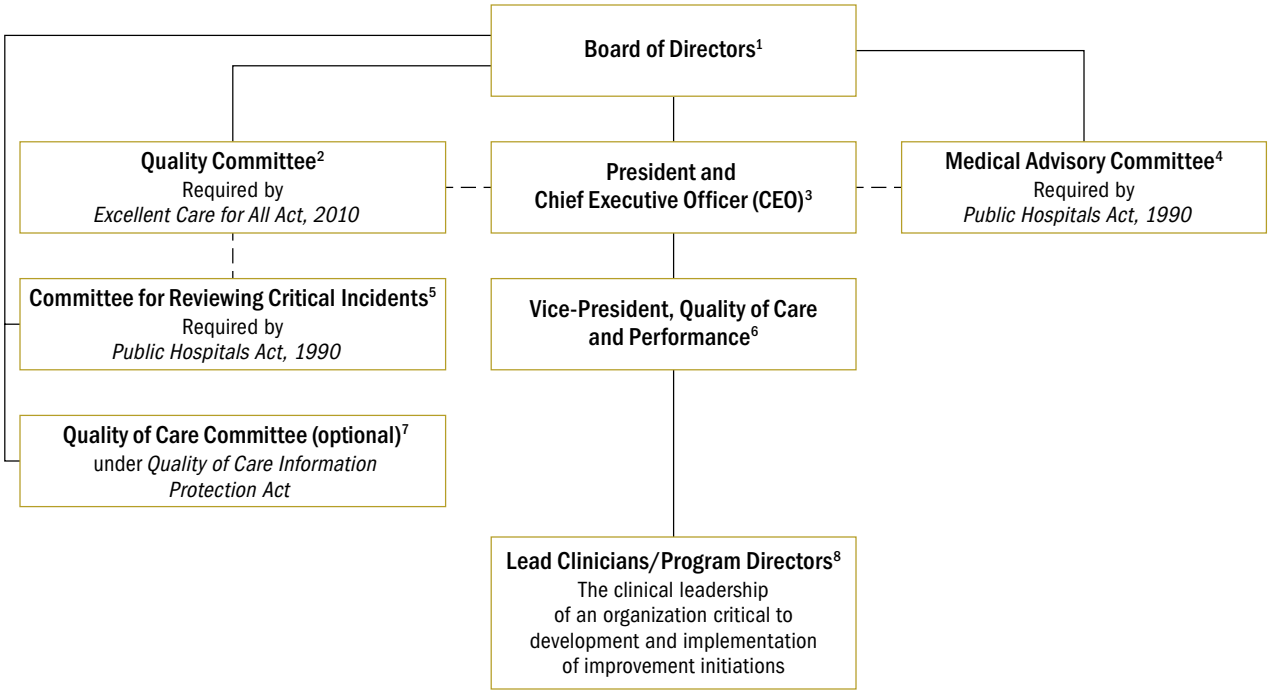
So that patients with a life- or limb-threatening condition receive timely care from the closest hospital, we recommend that the Ministry of Health leverage learned lessons from hospitals that utilize "command centres" and work with CritiCall toward the development of a provincial bed command centre.

MINISTRY RESPONSE

The Ministry will work with CritiCall to explore the potential of a provincial bed command centre, including lessons learned from Humber River Hospital Command Centre.

Appendix 1: Acute-Care Hospital Governance Structure for Patient Safety

Prepared by the Office of the Auditor General of Ontario



Note: This governance and reporting structure specifically pertains to the hospitals' patient safety responsibilities under the *Excellent Care for All Act, 2010*.

1. Board of Directors: Has the ultimate authority and responsibility for the administration of the hospital and is also responsible for overseeing quality of care within the hospital.
2. Quality Committee: Oversees preparation of the Hospital's annual Quality Improvement Plan (QIP), reports to the Board on quality of care issues at the hospital and on the implementation progress of the Quality Improvement Plan.
3. President and CEO: Responsible for putting in place systems to improve quality of care in the hospital. Must establish a system for reviewing and disclosing critical incidents in the hospital, for implementing measures to avoid or reduce the risk of recurrence and for providing aggregated critical incident data to the hospital's Quality Committee at least twice a year. The CEO is also responsible for reporting to the College of Physicians and Surgeons of Ontario any disciplinary action taken with respect to physicians. Ensures the Board has the information required to understand the QIP and develops and provides progress reports to the Board on QIP.
4. Medical Advisory Committee: Monitors and approves initiatives for improving the quality of care provided to patients and promotes the standards of medical care in the hospital. Assists and advises the Board and the CEO in appointment and granting of hospital privileges to the professional staff (physicians, dentistry and midwifery), and provides general supervision over the practice of professional staff. Reports to the Board and Quality Committee any systemic or recurring quality of care issues it identifies to the Board and the Quality Committee.
5. Committee for Reviewing Critical Incidents: Investigates critical incidents, and develops recommendations on how to improve and prevent future incidents.
6. Vice-President, of Quality of Care and Performance (VP of Quality): Responsible for the planning, development and implementation of programs and initiatives to enhance patient experience in the hospital.
7. Quality of Care Committee: A special committee established to evaluate the provision of health care, which may include conducting reviews of critical incidents and which includes restrictions on disclosures from legal proceedings and most other disclosures.
8. Lead Clinicians/Clinical Directors/Program Directors: Act as the link between front-line staff, Quality Committees and the VP of Quality by reporting on progress on quality and patient safety initiatives in the organization. Involved in QIP development and implementation.

Appendix 2: Risk-Specific Patient Safety Standards and Best Practices

Prepared by the Office of the Auditor General of Ontario

Hospital Department/ Risk Area	Patient Safety Standards and Best Practices	Organizations Following Standards/Practices
Medication administration	Best practices to guide nurses on how to safely administer medication to patients	College of Nurses of Ontario
	Best practices to prevent medication errors	Institute for Safe Medication Practices Canada
Cleaning and sterilizing surgical tools	To ensure the sterilization of surgical tools and medical equipment is done according to standards	Canadian Standards Association Provincial Infectious Disease Advisory Committee
	The sterilization department should meet certain standards for employees' safety	ISO9001 (facility standards)
Hospital pharmacy	Various standards to ensure the pharmacy department operates in a safe manner	Ontario College of Pharmacists
Housekeeping	Follow provincial standards on cleaning and disinfecting health-care facilities	Provincial Infectious Disease Advisory Committee
Infection prevention and control	Follow provincial standards on screening of, isolation of and surveillance processes for micro-organisms	Provincial Infectious Disease Advisory Committee Public Health Ontario
Surgical safety	Various best practices to prevent complications from surgeries, e.g., foreign body left inside patients and surgical site infections.	National Surgical Quality Improvement Program

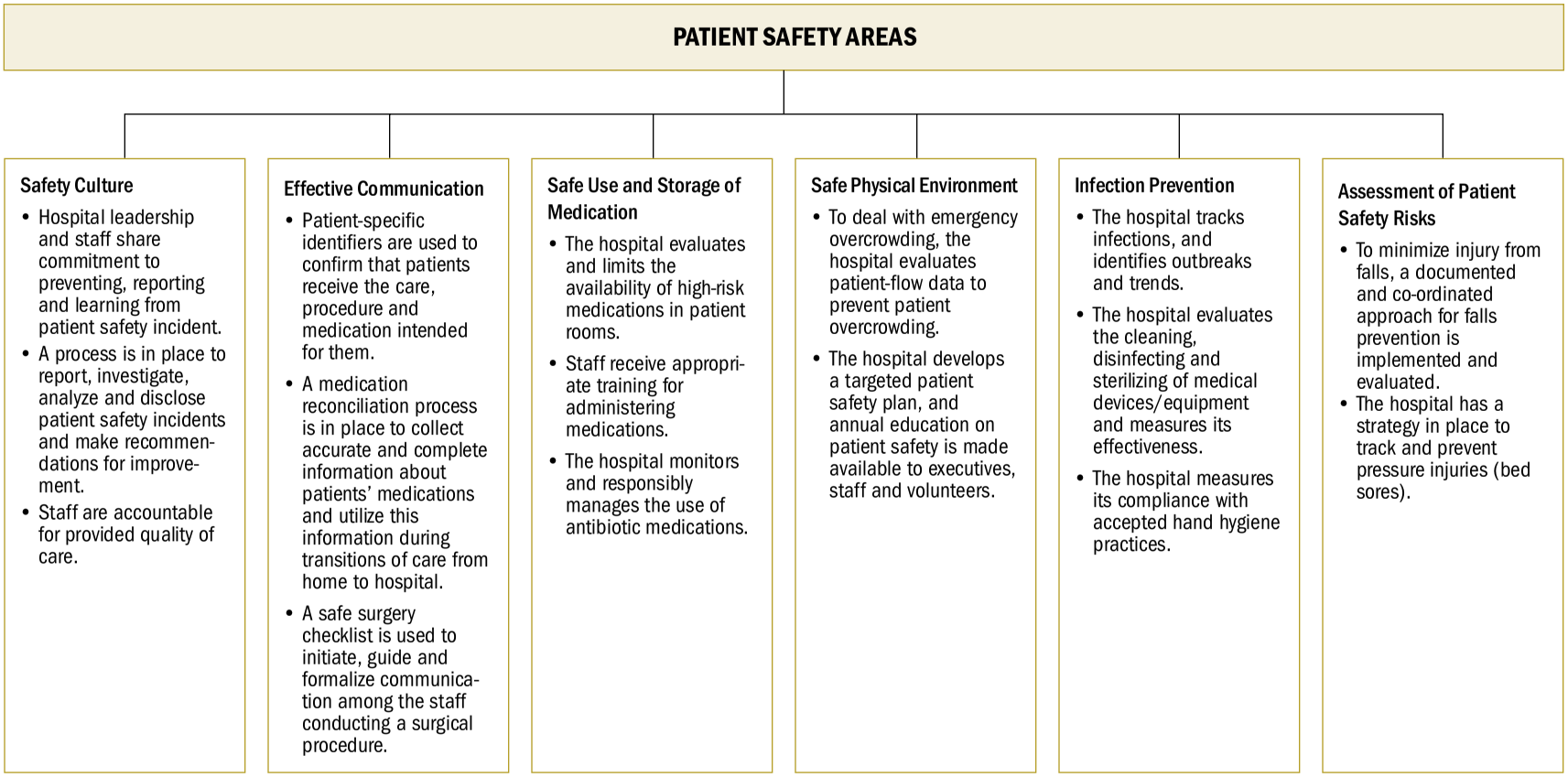
Appendix 3: Organization-Wide Patient Safety Requirements

Prepared by the Office of the Auditor General of Ontario

Organizational Focus	Patient Safety Requirements
Oversight of patient safety	The board of governors is required to have a Quality Committee, responsible for overseeing the quality and safety of care provided to patients.
Reporting patient safety incidents	Hospital staff are expected to report patient safety incidents so that they can be appropriately addressed, investigated and prevented in the future.
Survey of hospital staff and patients	Hospitals are required to survey patients and staff regularly to assess the quality and safety of care, and to incorporate survey results in annual Quality Improvement Plans.

Appendix 4: Key Required Practices for Hospital Patient Safety Reviewed for Compliance by Accreditation Canada

Source of data: Accreditation Canada



Note: Each required practice is assessed by Accreditation Canada using applicable standards.

Appendix 5: Other Patient Safety Stakeholder Organizations

Prepared by the Office of the Auditor General of Ontario

Organization	Function
Canadian Institute for Health Information	An independent not-for-profit organization that provides essential information on Canada's health systems and the health of Canadians.
Canadian Patient Safety Institute	A not-for-profit organization established by Health Canada in 2003. The Institute works with hospitals, governments and health-care providers to improve patient safety.
College of Nurses of Ontario	A regulating body for Registered Nurses (RNs), Registered Practical Nurses (RPNs) and Nurse Practitioners (NPs) in Ontario.
College of Physicians and Surgeons of Ontario	Registering and regulating body for physicians and surgeons practicing medicine in Ontario
Health Quality Ontario	A government of Ontario agency that advises the government and health-care providers on the evidence to support high-quality care and improvements in quality, and monitors and reports to the public on the quality of health care provided in Ontario.
Institute for Safe Medication Practices Canada	A national not-for-profit organization committed to the advancement of medication safety in all health-care settings.
Ontario College of Pharmacists	Registering and regulating body for the profession of pharmacy in Ontario. It ensures that pharmacies within the province meet certain standards of operation and are accredited by the College.
Ontario Hospital Association	A not-for-profit organization serving Ontario's hospitals to build a better health system.
Ontario Medical Association	A not-for-profit organization representing the political, clinical and economic interests of the province's medical profession.
Ontario Nurses Association	The union representing registered nurses and health-care professionals, as well as nursing student affiliates, across the province.
Provincial Infectious Disease Advisory Committee	A multidisciplinary committee of health-care professionals with expertise and experience in infection prevention and control.
Public Health Ontario	A government of Ontario agency that provides scientific evidence and technical advice on infection surveillance, prevention and controls in hospitals.

Appendix 6: Audit Criteria

Prepared by the Office of the Auditor General of Ontario

1.	Effective and cost-efficient hiring and disciplinary processes are in place to ensure that safe, competent care is delivered by doctors, nurses and hospital staff.
2.	Effective processes are in place to prevent, report, investigate, disclose and learn from patient safety incidents, including patient falls, medication errors, procedure-related errors and hospital-acquired infections.
3.	Effective and cost-efficient processes are in place to ensure that surgical tools and medical devices are properly cleaned, sterilized and handled, and are available when needed.
4.	Effective processes are in place to ensure that hospital areas are cleaned and disinfected properly.
5.	Effective processes are in place to ensure that patients receive the right dose of the right medication at the right time and by the right method.
6.	Effective processes are in place to ensure that high-risk medications are securely stored and accounted for, and safely administered to patients.

Appendix 7: Hospitals Visited and Patient Safety Areas Examined

Prepared by the Office of the Auditor General of Ontario

Hospital Name (Type)*	Patient Safety Area Examined				
	Human Resources	Infection Prevention	Medication Administration	Pharmacy	Quality
Halton Healthcare (large community)	✓	✓	✓	✓	✓
Hamilton Health Sciences (acute teaching)	✓	✓	✓	✓	✓
Humber River Hospital (large community)	✓	✓	✓	✓	✓
Nipigon Memorial Hospital (small community)	✓	✓	✓	✓	✓
Pembroke Regional (medium community)	✓	✓	✓	✓	✓
Thunder Bay Regional Health Sciences Centre (acute teaching)	✓	✓	✓	✓	✓
The Ottawa Hospital (acute teaching)	✓	✓	✓	✓	✓
Women's College Hospital – Ambulatory Care	✓	✓		✓	✓
Chatham-Kent Health Alliance (medium community)			✓	✓	
Grand River Hospital (large community)			✓	✓	
Northumberland Hills Hospital (medium community)			✓	✓	
Stratford General Hospital (medium community)			✓	✓	
St. Thomas Elgin General Hospital (medium community)			✓	✓	

Note: During the audit planning stage, we conducted walkthroughs at Trillium Health Partners (THP), which was one of the hospitals audited in our 2016 report on Large Hospital Operations. In this audit, we limited our audit work at Trillium to Human Resources.

* These are the funding categories for hospitals we visited:
- Acute teaching: Approved as a teaching hospital by the Ministry.
- Small community: Acute inpatient/day surgery activity <4,000 weighted cases per year. Weighted cases based on five years of data.
- Medium community: Acute inpatient/day surgery activity between 4,000 and 12,000 weighted cases per year.
- Large community: Acute inpatient/day surgery activity >12,000 weighted cases per year.

Appendix 8: Recommendations and Responsible Organizations

Prepared by the Office of the Auditor General of Ontario

Recommendation	Ontario Hospitals	Ontario Hospital Association	College of Nurses of Ontario	Ministry of Health
1. To further emphasize patient safety as a foundation for hospitals' organizational culture, we recommend that hospitals explicitly incorporate the words "patient safety" in their mission, vision, and/or as one of their core values, and communicate this to their staff, ensuring that related actions demonstrate this emphasis.	✓	✓ (lead)		
2. To determine and reduce the impact of never-events on patient safety and the health-care system, we recommend that the Ministry of Health: • work with internal and external partners to leverage an existing system that can accumulate and track hospital never-event data; • upon implementation and rollout completion of this system, analyze the frequency of never-events occurring at Ontario hospitals, estimating their cost to the health-care system; and • partner with hospitals and best practice organizations/ stakeholder groups to develop a plan to prevent them from happening.	✓	✓		✓ (lead)
3. To minimize the occurrence of serious preventable patient safety incidents, we recommend that hospitals: • enhance patient safety practices to eliminate the occurrence of never-events; • set a formal target to eliminate the occurrence of never-events and include this target in their Quality Improvement Plans; and • track and report never-events to the Ministry of Health.	✓	✓ (lead)		✓
4. To better enable hospitals to prevent similar patient safety incidents, including never-events, from recurring at different hospitals, we recommend that the Ministry of Health work with the Ontario Hospital Association and applicable stakeholder groups to establish a forum where hospitals can share their knowledge and lessons learned from patient safety incident investigations.	✓	✓		✓ (lead)
5. To enable nurses' prospective employers to obtain a more complete record of nurses' employment history and performance and make well-informed hiring decisions, we recommend that the Ministry of Health have the Ontario Hospital Association work with the College of Nurses of Ontario and other regulatory stakeholders to: • identify gaps in the current information available to prospective employers regarding past performance issues and terminations; and • take steps to address gaps identified.	✓	✓	✓	✓ (lead)

Recommendation	Ontario Hospitals	Ontario Hospital Association	College of Nurses of Ontario	Ministry of Health
6. In order for hospitals that hire nurses to have access to the complete record of nurses' past places of employment and disciplinary history, we recommend that hospitals: • use the National Council of State Boards of Nursing public database to determine whether nurses they hire and employ have faced disciplinary actions in the United States; and • if the hospital uses agency nurses, require nursing agencies to confirm these nurses have been screened through this database.	✓	✓ (lead)		
7. To help ensure that when hospitals hire nurses they have access to their full disciplinary record, we recommend that the Ministry of Health request that the Ontario Hospital Association and the College of Nurses of Ontario work together with their provincial and territorial counterparts to: • explore a national system for provincial and territorial nursing regulatory bodies to report their disciplinary actions; and • put in place an effective process that will ensure that all places of past employment and disciplinary records from other jurisdictions for each nurse are in its database, including records from US nursing databases.	✓	✓	✓	✓ (lead)
8. To better inform employers in their hiring decisions and protect patients from the risk of harm, we recommend that the Ministry of Health assess for applicability in Ontario the actions taken by US states to protect hospitals and other health-care providers from liability associated with any civil action for disclosing a complete and truthful record about a current or former nurse to a prospective employer.				✓ (lead)
9. In the interest of patient safety and in order for hospitals and agencies to hire nurses fully aware of their past employment and performance history, we recommend that the Ministry of Health explore means to: • enable hospitals and agencies to provide and receive truthful references and information to make informed nursing hiring decisions; and • require these organizations to disclose such information when it is requested by a prospective employer.	✓	✓		✓ (lead)
10. So that hospitals can make optimally informed hiring and staffing decisions, we recommend that the Ministry of Health require all hospitals in Ontario to: • perform criminal record checks before hiring nurses and other health-care employees; and • periodically update checks for existing staff.	✓	✓		✓ (lead)

Recommendation	Ontario Hospitals	Ontario Hospital Association	College of Nurses of Ontario	Ministry of Health
11. To enable hospitals to take timely action to improve patient safety, we recommend that the Ministry of Health explore means to make it easier and less costly for hospitals and ultimately the taxpayer to address physician human resources issues, especially in cases when doctors may have harmed patients.	✓	✓		✓ (lead)
12. To improve patient safety, we recommend that the Ministry of Health: • review the Accreditation Canada hospital reports and identify areas where hospitals may consistently not be meeting required patient safety practices and high-priority criteria; and • follow up with hospitals in respect of problem areas to confirm that actions are taken to correct deficiencies.	✓	✓		✓ (lead)
13. So that hospitals fully complete medication reconciliation to reduce the risk to discharged patients and that they have all the necessary patient information to properly investigate any incidents with patients' dosages or drug interactions that might occur and trigger hospital readmission, we recommend that hospitals reinforce with staff the importance of the medication reconciliation documentation processes so that all the necessary information is consistently documented.	✓	✓ (lead)		
14. To reduce the risk of medication errors and readmissions to hospital, we recommend that the Ministry of Health: • require hospitals to complete medication reconciliation for all patients; • require hospitals to include medication reconciliation in their Quality Improvement Plans; and • in conjunction with relevant hospitals, review their IT system needs to be able to track necessary medication reconciliation information and take action for improvement where needed.	✓	✓		✓ (lead)
15. To improve patient safety, we recommend that hospitals reinforce with nurses necessary medication administration processes to ensure that: • independent double-checks of high-risk medications are done to verify that correct medication and dosage are administered; • nurses witness patients taking and swallowing high-risk medications; and • nurses use two unique identifiers to confirm the identity of patients before administering medication to them.	✓	✓ (lead)		
16. To minimize patient safety incidents due to missing information or miscommunication, we recommend hospitals adopt, based on patient condition, the practice of making nursing shift changes at the patients' bedside and where possible involving the patients and their families, with the consent of the patients, in the process.	✓	✓ (lead)		

Recommendation		Ontario Hospitals	Ontario Hospital Association	College of Nurses of Ontario	Ministry of Health
17.	To improve patient safety with respect to medication administration and where a compelling business case for cost-effectiveness can be made, we recommend that the Ministry work with hospitals toward the automation of pharmacy-related tasks.	✓	✓		✓ (lead)
18.	To improve the accuracy of reported hand hygiene compliance, while at the same time encouraging hand hygiene, we recommend that the Ontario Hospital Association work with hospitals to evaluate and further the adoption of additional methods to assess and monitor hand hygiene, such as electronically monitored hand hygiene pumps and monitoring systems, and asking patients to observe and record the hand hygiene compliance of their health-care providers.	✓	✓ (lead)		
19.	So that sterile-rooms and the equipment used in the mixing and preparation of intravenous medications are cleaned according to required standards, we recommend that hospitals: • provide their pharmacy and housekeeping staff with proper training on how to conduct the cleaning; and • monitor the cleaning to ensure proper processes are being followed.	✓	✓ (lead)		
20.	To improve hospitals' compliance with the Canadian Standards Association's standards pertaining to the washing and sterilization of surgical tools and medical equipment, we recommend that hospitals have their washing and sterilization of surgical tools and medical equipment inspected internally on an annual basis.	✓	✓ (lead)		
21.	In order for contracts with private providers of sterilization services to be managed effectively by hospitals, we recommend that hospitals: • include all the necessary service standards and performance indicators in these contracts; and • on a regular basis, assess the private service provider's compliance with all contract terms.	✓	✓ (lead)		
22.	So that patients with a life- or limb-threatening condition receive timely care from the closest hospital, we recommend the Ministry of Health leverage learned lessons from hospitals that utilize "command centres" and work with CritiCall toward the development of a provincial bed command centre.	✓	✓		✓ (lead)

Appendix 9: Overall Patient Safety Culture Staff Survey Results at 123 Acute-Care Hospitals, 2014–2019

Source of data: Ontario Hospitals

Hospital	Funding Category*	# of Staff Surveyed	Overall Grade on Patient Safety (%)			
			Excellent or Very Good	Acceptable	Poor or Failing	Total
Hamilton Health Sciences	Teaching	1,744	54	33	13	**100**
Health Sciences North	Teaching	580	41	39	20	**100**
Kingston Health Sciences Centre	Teaching	810	47	39	15	**100**
London Health Sciences Centre	Teaching	502	38	38	24	**100**
Montfort Hospital	Teaching	339	70	23	7	**100**
Sinai Health System	Teaching	751	68	29	3	**100**
St. Joseph's Health Care London	Teaching	n/a	n/a	n/a	n/a	**n/a**
St. Joseph's Healthcare Hamilton	Teaching	2,244	58	34	9	**100**
Sunnybrook Health Sciences Centre	Teaching	1,434	66	30	4	**100**
The Ottawa Hospital	Teaching	2,584	58	35	7	**100**
Thunder Bay Regional Health Sciences Centre	Teaching	461	48	39	13	**100**
Unity Health Toronto	Teaching	n/a	n/a	n/a	n/a	**n/a**
University Health Network	Teaching	n/a	n/a	n/a	n/a	**n/a**
University of Ottawa Heart Institute	Teaching	658	66	30	4	**100**
Bluewater Health	Large community	296	56	34	10	**100**
Brant Community Healthcare System	Large community	462	28	39	33	**100**
Grand River Hospital	Large community	968	56	35	10	**100**
Grey Bruce Health Services	Large community	503	63	31	6	**100**
Guelph General Hospital	Large community	474	56	34	10	**100**
Halton Healthcare Services	Large community	628	53	34	13	**100**
Humber River Hospital	Large community	995	41	38	21	**100**
Joseph Brant Hospital	Large community	530	36	42	22	**100**
Lakeridge Health	Large community	519	55	35	11	**100**
Mackenzie Health	Large community	359	52	35	13	**100**
Markham-Stouffville Hospital	Large community	515	58	34	8	**100**
Niagara Health System	Large community	883	53	34	13	**100**
North Bay Regional Health Centre	Large community	307	41	44	16	**100**
North York General Hospital	Large community	477	65	28	6	**100**
Peterborough Regional Health Centre	Large community	552	44	44	13	**100**
Queensway-Carleton Hospital	Large community	439	51	39	10	**100**
Quinte Healthcare Corporation	Large community	433	47	38	15	**100**
Royal Victoria Regional Health Centre	Large community	1,949	46	39	15	**100**
Sault Area Hospital	Large community	449	52	35	14	**100**
Southlake Regional Health Centre	Large community	503	42	34	24	**100**
St. Mary's General Hospital	Large community	295	42	31	27	**100**

Hospital	Funding Category*	# of Staff Surveyed	Overall Grade on Patient Safety (%)			
			Excellent or Very Good	Acceptable	Poor or Falling	Total
The Scarborough Network	Large community	n/a	n/a	n/a	n/a	**n/a**
Toronto East Health Network	Large community	578	53	30	17	**100**
Trillium Health Partners	Large community	3,392	61	34	5	**100**
William Osler Health System	Large community	715	52	38	10	**100**
Windsor Regional Hospital	Large community	589	61	33	5	**100**
Brockville General Hospital	Medium community	233	42	41	17	**100**
Cambridge Memorial Hospital	Medium community	364	49	40	11	**100**
Chatham-Kent Health Alliance	Medium community	364	37	46	17	**100**
Collingwood General and Marine Hospital	Medium community	203	49	37	14	**100**
Cornwall Community Hospital	Medium community	343	54	34	12	**100**
Georgian Bay General Hospital	Medium community	197	42	42	17	**100**
Headwaters Health Care Centre	Medium community	239	53	35	13	**100**
Muskoka Algonquin Healthcare	Medium community	224	49	38	13	**100**
Norfolk General Hospital	Medium community	181	46	39	14	**100**
Northumberland Hills Hospital	Medium community	252	59	33	9	**100**
Orillia Soldiers' Memorial Hospital	Medium community	n/a	n/a	n/a	n/a	**n/a**
Pembroke Regional Hospital	Medium community	223	52	40	9	**100**
Perth and Smiths Falls District Hospital	Medium community	219	79	20	1	**100**
Ross Memorial Hospital	Medium community	251	49	38	13	**100**
St Thomas-Elgin General Hospital	Medium community	203	59	28	13	**100**
Stratford General Hospital	Medium community	214	59	37	4	**100**
Strathroy Middlesex General Hospital	Medium community	146	64	31	5	**100**
Timmins and District Hospital	Medium community	352	49	39	12	**100**
West Parry Sound Health Centre	Medium community	165	60	30	10	**100**
Woodstock General Hospital Trust	Medium community	499	70	26	4	**100**
Alexandra Hospital	Small	29	79	17	3	**100**
Alexandra Marine and General Hospital	Small	n/a	n/a	n/a	n/a	**n/a**
Almonte General Hospital	Small	150	67	26	7	**100**
Anson General Hospital	Small	56	52	36	13	**100**
Arnprior Regional Health	Small	63	48	44	8	**100**
Atikokan General Hospital	Small	74	70	27	3	**100**
Bingham Memorial Hospital	Small	61	56	39	5	**100**
Campbellford Memorial Hospital	Small	74	59	31	10	**100**
Carleton Place and District Memorial Hospital	Small	65	63	29	8	**100**
Casey House Hospice	Small	n/a	n/a	n/a	n/a	**n/a**
Clinton Public Hospital	Small	28	50	43	7	**100**
Deep River and District Hospital	Small	49	51	16	33	**100**
Dryden Regional Health Centre	Small	93	68	27	5	**100**
Englehart and District Hospital	Small	31	77	19	3	**100**

Hospital	Funding Category*	# of Staff Surveyed	Overall Grade on Patient Safety (%)			
			Excellent or Very Good	Acceptable	Poor or Falling	Total
Erie Shores HealthCare	Small	196	50	31	11	**100**
Espanola General Hospital	Small	42	83	17	0	**100**
Four Counties Health Services Corporation	Small	37	57	35	8	**100**
Geraldton District Hospital	Small	84	70	25	5	**100**
Glengarry Memorial Hospital	Small	105	72	21	7	**100**
Groves Memorial Community Hospital	Small	129	43	44	13	**100**
Haldimand War Memorial Hospital	Small	122	76	20	4	**100**
Haliburton Highlands Health Services Corporation	Small	149	57	34	9	**100**
Hanover and District Hospital	Small	113	81	16	3	**100**
Hawkesbury and District General Hospital	Small	234	45	42	13	**100**
Hornepayne Community Hospital	Small	n/a	n/a	n/a	n/a	**n/a**
Kemptville District Hospital	Small	100	64	31	5	**100**
Kirkland and District Hospital	Small	73	77	22	1	**100**
Lady Dunn Health Centre	Small	43	60	33	7	**100**
Lady Minto Hospital	Small	88	48	43	9	**100**
Lake-of-the-Woods District Hospital	Small	153	40	45	15	**100**
Lennox and Addington County General Hospital	Small	110	77	16	6	**100**
Listowel Memorial Hospital	Small	n/a	n/a	n/a	n/a	**n/a**
Manitoulin Health Centre	Small	87	74	24	2	**100**
Mattawa General Hospital	Small	121	74	24	2	**100**
Nipigon District Memorial Hospital	Small	n/a	n/a	n/a	n/a	**n/a**
North of Superior Healthcare Group	Small	77	73	15	12	**100**
North Shore Health Network	Small	88	77	15	8	**100**
North Wellington Health Care	Small	111	67	31	3	**100**
Notre Dame Hospital	Small	60	82	15	3	**100**
Red Lake Margaret Cochenour Memorial Hospital	Small	50	72	26	2	**100**
Renfrew Victoria Hospital	Small	228	80	18	2	**100**
Riverside Health Care Facilities Inc	Small	107	47	43	10	**100**
Santé Manitouwadge Health	Small	n/a	n/a	n/a	n/a	**n/a**
Seaforth Community Hospital	Small	29	72	28	0	**100**
Sensenbrenner Hospital	Small	117	47	38	15	**100**
Services de Santé de Chapleau Health Services	Small	74	89	8	3	**100**
Sioux Lookout Meno Ya Win Health Centre	Small	174	66	29	5	**100**
Smooth Rock Falls Hospital	Small	54	80	19	2	**100**
South Bruce Grey Health Centre	Small	161	53	34	14	**100**

Hospital	Funding Category*	# of Staff Surveyed	Overall Grade on Patient Safety (%)			
			Excellent or Very Good	Acceptable	Poor or Falling	Total
South Huron Hospital	Small	61	39	41	20	**100**
St. Francis Memorial Hospital	Small	82	84	14	2	**100**
St. Joseph's General Hospital	Small	n/a	n/a	n/a	n/a	**n/a**
St. Marys Memorial Hospital	Small	29	62	31	7	**100**
Stevenson Memorial Hospital	Small	117	44	44	12	**100**
Temiskaming Hospital	Small	n/a	n/a	n/a	n/a	**n/a**
Tillsonburg District Memorial Hospital	Small	80	66	29	5	**100**
Weeneebayko Area Health Authority	Small	n/a	n/a	n/a	n/a	**n/a**
West Haldimand General Hospital	Small	95	43	43	14	**100**
West Nipissing General Hospital	Small	115	74	25	1	**100**
Winchester District Memorial Hospital	Small	163	67	24	9	**100**
Wingham and District Hospital	Small	n/a	n/a	n/a	n/a	**n/a**
Children's Hospital of Eastern Ontario – Ottawa Children's Treatment Centre	Specialty child	n/a	n/a	n/a	n/a	**n/a**
The Hospital For Sick Children	Specialty child	2,014	70	27	3	**100**
Average		**385**	**59**	**32**	**9**	**100**

Notes: Survey results based on staff perceptions at a point in time.
n/a—survey was provided in a format that was not comparable with other hospitals' survey format.

* Funding Category: This categorization applies to the hospital corporation and is used for the purposes of funding:
- Teaching: Approved as a teaching hospital by the Ministry.
- Small: Acute inpatient/day surgery activity <4,000 weighted cases per year. Weighted cases based on five years of data.
- Medium community: Acute inpatient/day surgery activity between 4,000 and 12,000 weighted cases per year.
- Large community: Acute inpatient/day surgery activity >12,000 weighted cases per year.
- Specialty child: Standalone hospital that primarily treats children.

Appendix 10: Elements of Automation in Hospitals and Impact on Medication Dispensing and Administration

Prepared by the Office of the Auditor General of Ontario

Element of Automation	Impact on Medication Dispensing and Administration
Computerized physician order entry	Allows prescribers to order medication electronically that is automatically sent to the patient's file and to the hospital pharmacy. This can prevent errors such as missing physician orders from patient files, allergy and drug interactions, because the system has warnings, and a transcription error when trying to decipher a physician's handwriting.
Electronic medication administration record	Provides an electronic record of a patient's medications, including dose and time of delivery. This reduces manual errors due to transcribing and/or re-copying this information.
Automated single dose packaging of medication	Provides an automated process for preparing and packaging medications by each single dose. This improves the accuracy of medication preparation and allows pharmacists/pharmacy technicians to focus on tasks such as medication reconciliation.
Automated dispensing cabinet	Password-protected medication cabinet that nurses use to dispense single-dose medication. The cabinet stores patient information and warns the nurse if the dispensing is not consistent with a patient's prescription. The cabinet also tracks narcotic dispensing and helps hospitals to identify whether narcotics are being diverted by health-care professionals.
Barcoded patient identifier bracelet and medication label	Provides a mechanism for health-care staff administering medication to match the medication and dose with the correct patient. The health-care staff is automatically warned if the patient or medication does not match.