

Chapter 3

Section 3.04

Emergency Management in Ontario

1.0 Summary

The focus of emergency management in Ontario is on protecting lives, infrastructure, property and the environment, and helping to ensure the continuity of government operations and critical assets. Having effective emergency management programs in place is important to ensure that the Province is ready to respond to an emergency in order to minimize the harm or damage that may result.

Because of its large and complex society and economy, Ontario faces the challenge of preparing for and responding to many different kinds of emergencies. Ontario has the largest and, in places, the most concentrated population in Canada, with approximately 14 million residents. In addition, it has the highest nuclear power generating capacity of any province or state in North America.

Emergency management in Ontario is based on five interdependent components: prevention, mitigation (risk and damage reduction), preparedness, response and recovery. To determine the priorities for emergency management and identify the activities to undertake within these five components, the following must first be identified: potential hazards, critical infrastructure and time-critical government services. The potential hazards facing Ontario include floods, forest fires, severe weather events, damage to the electrical grid, nuclear events,

public health crises and others. Once hazards are identified, their risks to the province are assessed to determine their priority for attention. Critical infrastructure is infrastructure that needs to be protected and restored quickly in the event of an emergency, such as roads and telecommunications. Time-critical government services are those that need to remain operational during an emergency or be restored quickly afterwards.

For an emergency management program to be effective, the first step is to determine which hazards can be prevented, followed by which can be mitigated at a reasonable cost. The hazards that can neither be prevented nor mitigated inform what emergency management needs to prepare for and respond to in the event of an emergency. Recovery from damage incurred during an emergency may require financial assistance from the government.

The Provincial Emergency Management Office (EMO) is a branch within the Office of the Fire Marshal and Emergency Management division of the Ministry of Community Safety and Correctional Services. It is responsible for overseeing and coordinating the Province's emergency management program as well as overseeing the emergency management programs of the various ministries and municipalities in Ontario.

The *Emergency Management and Civil Protection Act* (Act) requires all ministries to have an emergency management program in place, including

an emergency response plan and a continuity of government operations plan. The Government of Ontario, through an Order in Council, has assigned 13 ministries and their ministers responsibility for preparing emergency management programs for specific types of emergencies and/or specific emergency services (functions), as shown in **Appendix 1** and **Appendix 2**.

In addition, each of the 444 municipalities in the province must have an emergency management program in place. Ontario generally uses a bottom-up approach to emergency response: municipalities manage and are mainly involved with local emergencies, but they can request resources from the provincial government when needed.

Although the Province has some measures in place to prepare for and respond to emergencies, there are weaknesses in the emergency management programs across the province and in EMO's oversight and co-ordination of emergency management programs, potentially making Ontario vulnerable if a large-scale emergency were to occur. For example, certain activities and tools that are needed to prepare ministries and municipalities for an emergency are not in place or are not being carried out effectively, such as updating risk assessments and emergency response plans, conducting practice tests of the emergency response plans, and making improvements to emergency management programs based on the results of past events and practice tests.

The following are some of our significant observations:

- **The current governance structure for emergency management in Ontario is not effective for overseeing a province-wide program.** Oversight of emergency management in Ontario is the responsibility of the Cabinet Committee on Emergency Management. However, this committee has not met for several years. Concerns about the overall oversight of emergency management in the province were brought to the government's attention as far back as 2005 in an internal review report,

Emergency Management Processes in the Ontario Public Service. The report concluded: "At the enterprise level, processes are not currently sufficient to ensure that Ontarians and the resources of the Province are adequately protected against emergencies and disasters." It suggested that emergency management be regularly discussed at the executive level, by being included as a standing agenda item at meetings of the Deputy Ministers' Council. However, this has not been done.

- **Lower than expected priority given to emergency management.** EMO is located within the Ministry of Community Safety and Correctional Services. As a result, EMO competes with other Ministry priorities, such as those pertaining to policing, fire and correctional facilities. Over the past years, it has not fared well in this environment and has experienced significant staffing, budget and program cuts. We also noted that EMO's top two leadership positions, the Commissioner and the Chief, have experienced frequent turnover and vacancies at times over the past five years. The lack of continuity in leadership has resulted in a lower priority and importance given to the provincial emergency management program and has affected the level of services EMO provides, including its ability to co-ordinate with ministries and municipalities.
- **Risk identification and assessment processes are not sufficient to ensure that the provincial emergency management program includes all areas of concern.** The latest overall provincial risk assessment was done in 2012 based on emergencies experienced in Ontario up to 2009. Therefore, the current provincial emergency management program has not considered emergencies that have occurred over the past eight years, or the latest information on the effects of climate change and other developing risks such as cyberattacks and terrorism. Also, the current approach is that EMO, ministries and

municipalities all undertake risk assessment independently of each other. The best practices identified by our expert on emergency management programs suggest that risk assessments should be done collaboratively to fully understand risks at both the local and provincial levels.

- **The Province does not have a co-ordinated information technology (IT) system in place for emergency management.** In 2009, EMO attempted to develop and implement a province-wide IT system for emergency management. After extensive delays and user dissatisfaction, it discontinued the project in 2015, having spent about \$7.5 million without it ever going live. A province-wide system can let ministries and municipalities co-ordinate and share information both during emergencies and on an ongoing basis, and can store information that may be needed during an emergency such as the latest emergency response plans and the location of critical infrastructure such as hospitals. With no province-wide co-ordinated IT system, the ministries we visited had to find solutions to address their own needs; thus, one of the ministries visited has supported the procurement of an IT system to be used by the ministry and its stakeholders to assist with information sharing and to store documentation relating to emergencies, while others use a simple database or do not currently have an IT system for emergency management.
- **The provincial emergency management program does not focus on all five components of emergency management: prevention, mitigation, preparedness, response and recovery.** Currently, the focus of the emergency management program in Ontario is mainly on only two of the five components—preparedness and response—with the Ministry of Municipal Affairs also undertaking activities related to recovery through the disaster financial assistance programs. When the

emergency management program began in 2003, it started at the first level, the essential level, of a three-level program, with a plan to progress to the third level, the comprehensive level, by 2006. The first level includes only the preparedness and response components, while the comprehensive level includes all five components. Fourteen years later, the Province's emergency management program remains at the first level.

- **Emergency response plans have not been updated to reflect current events or operations.** The two provincial emergency response plans that are prepared by EMO—the Provincial Emergency Response Plan and the Provincial Nuclear Response Plan—have not been updated since 2008 and 2009. We noted that many of the response plans at the ministries we visited had not been updated for several years. Plans need to be regularly updated with current information and to reflect the best approach to respond to emergencies so they can be used as a step-by-step guide during a response. Since many of the emergency response plans we reviewed had not been recently updated, these plans may not reflect current operations or incorporate program changes. They also may not include current information on best practices and lessons learned from past emergencies, practice tests of the response plans and recent worldwide events. This could result in confusion or delays during the response to an emergency.
- **The approach to practising for emergencies does not ensure that the Province is prepared to respond to emergencies.** An important aspect of preparing for emergencies is to perform practice tests for a simulated emergency with all relevant parties. None of the ministries we visited had a multi-year strategy for practice tests to ensure that a variety of different hazards are tested over time. Further, approximately 80% of the practice tests undertaken over the past five years were

basic tests—discussions, seminars, workshops to familiarize participants with current plans, agreements and procedures—and generally did not include a simulation of an actual emergency requiring the movement of personnel and equipment. While we recognize that a comprehensive simulation exercise would require significant resources, it should be included in a multi-year strategy to highlight areas requiring further development or improvement and determine whether specific goals of the plan have been met.

- **The Province’s overall state of readiness to respond to emergencies needs significant improvement.** An effective and efficient response to an emergency includes timely and accurate communication, understanding of roles and responsibilities, awareness of the situation as it develops, information sharing and identification of the needed resources. We have noted the following concerns with regard to Ontario’s state of readiness to respond to potential emergencies:
 - **Numbers of trained staff are not sufficient for a lengthy emergency.** EMO has not identified enough trained staff to maintain the Provincial Emergency Operations Centre around the clock during a lengthy large-scale emergency (longer than two weeks) or multiple simultaneous emergencies. This shortage of staffing resources was noted as a concern during the 2017 floods in Ontario.
 - **A standardized approach for emergency response has not been mandated after eight years in development.** The use of a standardized approach to respond to emergencies can help avoid problems and confusion that can occur when multiple organizations are working together, which can delay response efforts. Such an approach helps provide a common understanding of the situation being responded to, such as who is in control and who the

decision-makers are. However, Ontario has not mandated such an approach. The need to mandate a standardized approach was noted during a public inquiry into the 2011 mall collapse in Elliot Lake.

- **Agreements are not in place for resources that may be needed in an emergency response.** The efficiency of the response to emergencies can be greatly enhanced and expenses reduced if agreements are in place at pre-established rates for the resources anticipated to be required, along with mutual aid agreements with different parties expected to work together and arrangements for having specialized teams available to assist. However, we found that EMO and the ministries we visited have few such agreements and arrangements in place. This was noted during the 2013 southern Ontario ice storm when municipalities required debris removal and requested assistance from EMO, but contracts were not in place. As a result, wide variations were noted in the rates paid by municipalities for these services.

Overall Conclusion

The Provincial Emergency Management Office (EMO) and the selected ministries need to improve their policies and procedures to ensure that fully effective emergency management programs would be able to respond quickly if needed to protect the public and sustain provincial and municipal operations. We noted that emergency management in Ontario has been negatively impacted by the placement of EMO within a ministry with its own priorities, and by high turnover in leadership positions. We also noted that there has been a lack of province-wide oversight by the Cabinet Committee on Emergency Management.

EMO needs to better co-ordinate the provincial emergency management program by providing tools and resources to ministries and municipalities. EMO

and the ministries also did not have effective processes to measure, evaluate and publicly report on the emergency management program's objectives.

In addition, we found that emergency management operations at EMO and the ministries, including the disaster financial assistance programs, are not always carried out with due regard for economy and efficiency.

This report contains 14 recommendations with 39 action items.

OVERALL MINISTRY RESPONSE

The Ministry of Community Safety and Correctional Services (Ministry), along with partner ministries (Ministry of Health and Long-Term Care, Ministry of Transportation, Ministry of Municipal Affairs, and Ministry of Natural Resources and Forestry), appreciates the Auditor General's findings.

Ontario's emergency management system helps keep Ontarians safe and lessens the impact of disasters. Dedicated emergency management professionals across the province play a key role in protecting Ontarians from harm and helping our communities in times of crisis.

Ensuring Ontario is better prepared and able to respond to any emergency is a priority for the government. In the 2014 Mandate Letter from the Premier, the Ministry was asked to conduct a review of Ontario's emergency management system. The external review is now complete and a final report has been presented to the Ministry.

We know there are opportunities to improve and we are committed to building a system that is collaborative, proactive, based on national and international best practices, and able to adapt to the unique circumstances of communities across the province.

We are pleased to see that the findings from the Auditor General's report are consistent with those of the review. We have already begun to address issues by:

- reviewing best practices from other jurisdictions and consulting with stakeholders on how to transform emergency management governance;
- developing an enhanced framework of requirements in order to establish clear expectations of all emergency management programs in Ontario; and
- working to enhance the existing compliance process to ensure that ministries and municipalities meet their requirements under the *Emergency Management and Civil Protection Act*.

The Auditor General's recommendations, along with those in the review, will help guide the changes under way to improve Ontario's ability to respond to existing and evolving risks. We will continue to work with our stakeholders to build a better emergency management system for Ontarians.

2.0 Background

2.1 What Is an Emergency?

According to the *Emergency Management and Civil Protection Act* (Act), an emergency is a situation or an impending situation that constitutes a danger of major proportions and could result in serious harm to persons or substantial damage to property. An emergency may be caused by hazards such as forces of nature, diseases or other health risks, an accident, or an act, whether intentional or otherwise.

A formal declaration of an emergency may be made if conditions in a municipality or in the province meet certain criteria, such as when a ministry's existing resources are not sufficient to address the emergency or they cannot be relied upon without the risk of serious delay. At the municipal level, the head of council (typically, the mayor) declares an emergency and must notify the Province. At the provincial level, the Premier of Ontario and

Lieutenant Governor in Council have the power to declare a provincial emergency. Even without a declaration, however, one level of government can request assistance from the next higher level.

2.2 Importance of Emergency Management

The focus of emergency management is on protecting lives, infrastructure, property and the environment, helping to ensure the continuity of government operations and critical assets, and recovery (assisting individuals, businesses and communities to return to a state of normalcy).

As a large and complex society and economy, Ontario faces the challenge of preparing for and responding to many different kinds of emergencies. Ontario has the largest and, in places, the most concentrated population in Canada, with approximately 14 million residents. In addition, it has the highest nuclear power generating capacity of any province or state in North America.

Growing research about the impact of climate change has focused attention on the increasing likelihood of more frequent and extreme natural hazards. In addition, there are growing threats from terrorism and an increased dependency on technology, which is vulnerable to cyberattacks.

2.3 Emergency Management in Ontario

Ontario's current emergency management program dates back to 2003. Its formation was prompted in part by events such as the 1998 eastern Ontario ice storm, preparations for the possible disruption of electronic communications in the year 2000 (Y2K), and the 9/11 attacks. **Appendix 3** shows the history of emergency management in Ontario and significant events that have influenced the program and its delivery, beginning in the 1950s. The last two declared provincial emergencies were the severe acute respiratory syndrome (SARS) outbreak of March to July 2003 and the electrical blackout

of August 2003. SARS caused a total of 44 deaths in Ontario and left 375 others with serious lung disease. The blackout in 2003 left approximately 10 million Ontarians without power for periods ranging from a few hours to several days.

2.4 Ontario's Emergency Management Program

Ontario's emergency management program is composed of five interdependent components. These are prevention, mitigation, preparedness, response and recovery. The Provincial Emergency Management Office (which we will abbreviate as EMO, which is the same acronym that was used when the office went by the name "Emergency Management Ontario") is the provincial co-ordinating office for emergency management. Its Emergency Management Doctrine for Ontario, which describes the concepts and key principles of emergency management, outlines how these five components interact and what each represents (**Figure 1**).

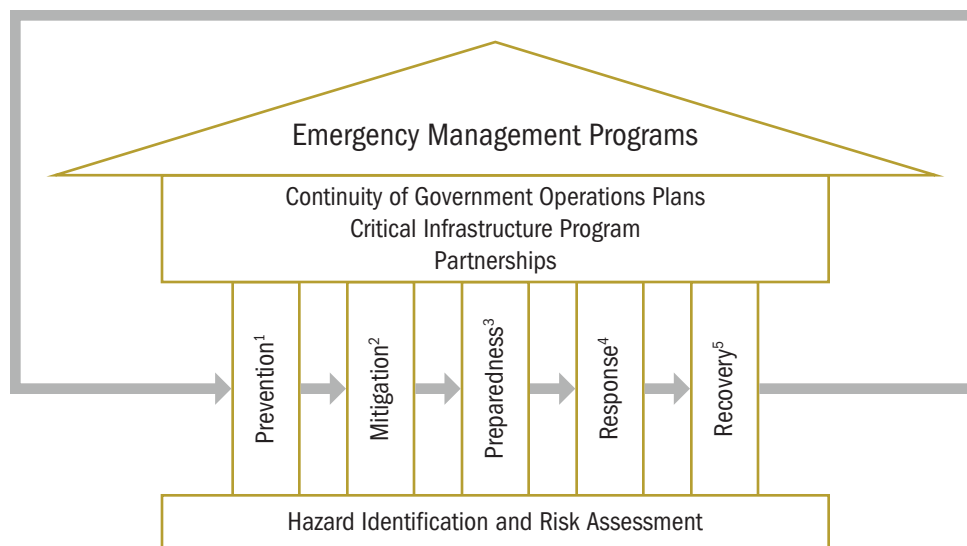
The first step in building an effective emergency management program is to identify hazards that have occurred or have the potential to occur, and assess their risks. After that is done, the results provide the basis for the development of the emergency management program. Ontario has identified 39 types of hazards and has assigned each hazard a level of risk and a ministry responsible for that hazard (see **Appendix 1**). **Appendix 2** shows other types of emergencies that do not relate to a specific hazard; each has been assigned to the ministry whose responsibilities most closely relate to it (for example, the Ministry of Labour has been assigned responsibility for any emergency that affects worker health and safety).

Other important elements of emergency management in Ontario include:

- continuity of government operations plans—to help ensure that the government will be able to provide time-critical functions and services during an emergency and to identify which ones need to be recovered quickly afterwards;

Figure 1: The Five Components of Emergency Management in Ontario

Prepared by the Office of the Auditor General of Ontario using data from the Ministry of Community Safety and Correctional Services



1. Prevention: Actions taken to prevent an emergency or disaster.
2. Mitigation: Actions taken to reduce the effects of an emergency or disaster. This may include structural or non-structural improvements to buildings and infrastructure.
3. Preparedness: Actions taken prior to an emergency or disaster to ensure an effective response. This may include implementing standards and plans, practice tests, public education and public alerts.
4. Response: Actions taken to respond to an emergency or disaster. This includes ensuring that a controlled, co-ordinated, effective and rapid response is undertaken.
5. Recovery: Actions taken to recover from an emergency or disaster and to assist individuals, businesses and communities to return to a state of normalcy. This may include environmental clean-up, return of evacuees, or financial assistance.

- a critical infrastructure program—to identify and protect assets (processes, systems, facilities, technologies, networks and services) that are essential to the health, safety, security and economic well-being of people and the effective functioning of government; and
- partnerships—establishing relationships between major stakeholders such as municipalities, ministries and key individuals.

2.4.1 Roles and Responsibilities

Ontario uses a bottom-up approach to emergency response, as outlined in the Emergency Management Doctrine for Ontario, which is consistent with the approach used by Canada's federal government and other provinces. Municipalities are responsible for managing most emergencies, although they can request resources and assistance from the provincial government when needed; some exceptions to

this approach are noted below. (Refer to **Figure 2** and **Appendix 4** for a summary of the roles and responsibilities of the parties involved in emergency management in Ontario.)

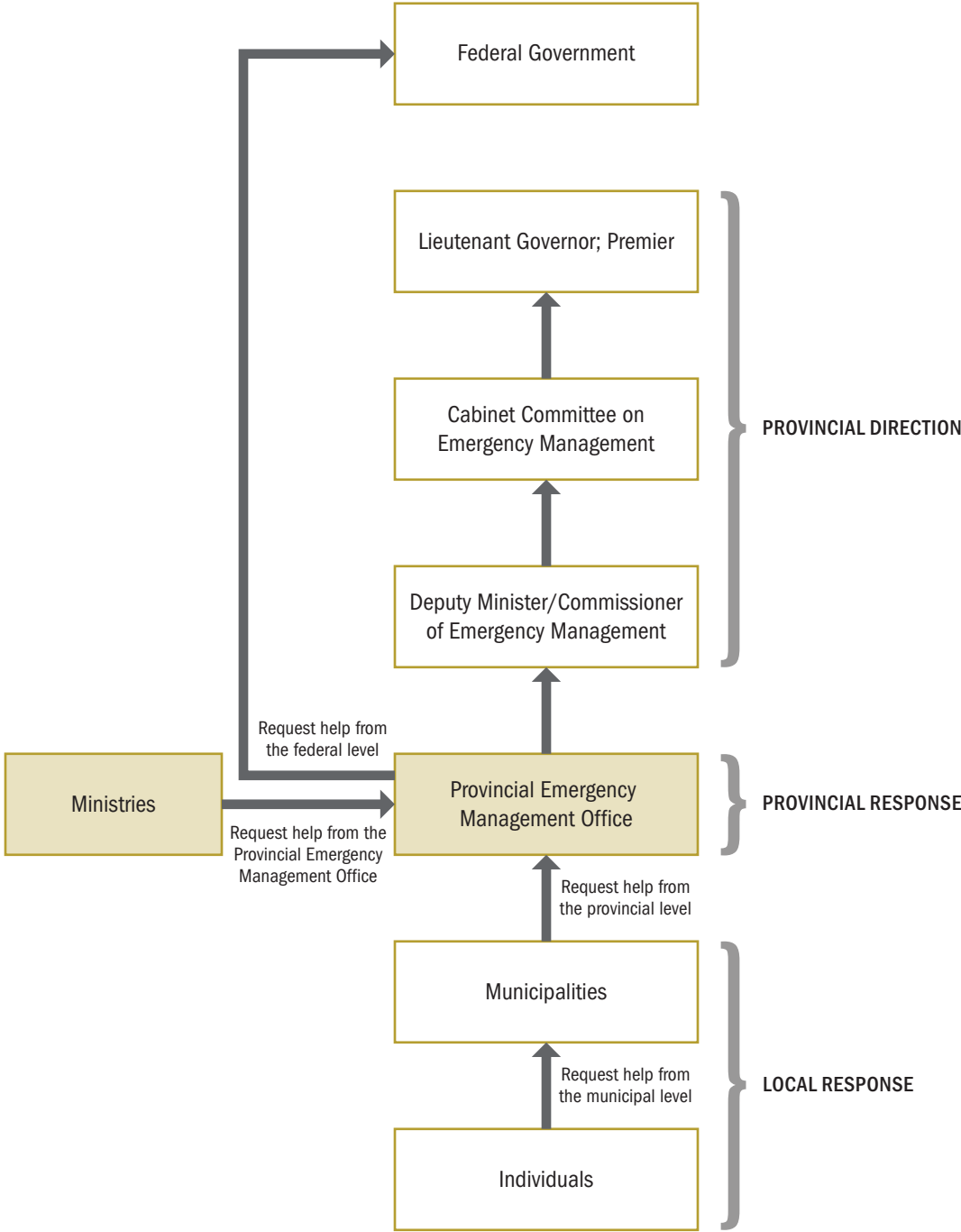
The responses to the floods in southern and eastern parts of the province in 2017 and to the ice storm in 2013 are examples of the bottom-up approach. These emergencies were handled at the municipal level for the majority of the communities affected. The Province provided assistance as requested by the municipalities.

Municipalities are subject to a series of provincially legislated responsibilities. Some of these are creating community emergency management programs and plans, having a community emergency management co-ordinator, and establishing emergency operations centres.

At the provincial level, the lead ministry for emergency management is the Ministry of Community Safety and Correctional Services, which is

Figure 2: Roles and Responsibilities in Emergency Management for Ontario

Prepared by the Office of the Auditor General of Ontario



Notes:

- See **Appendix 4** for descriptions of the roles and responsibilities of the parties in this figure.
- Provincial response structure is different for nuclear and radiological emergencies and response to First Nations events. The federal government has a fiduciary responsibility for First Nations events and the Provincial Emergency Management Office is responsible for the overall provincial off-site response to nuclear emergencies.

where EMO resides. The Province has created two emergency response plans—the Provincial Emergency Response Plan and the Provincial Nuclear Emergency Response Plan—which are used to co-ordinate the overall provincial emergency response. The Province is responsible for the response to a nuclear emergency affecting the area outside of the nuclear power facility. Under a cost recovery agreement with the federal government, the Province co-ordinates the response for First Nations communities experiencing emergencies on behalf of the federal government. Emergencies arising from these two areas for which Province has the overall responsibility to respond are exceptions to the bottom-up approach to emergency management.

The federal government can provide assistance to the Province if an emergency requires a level of support or resources that go beyond what these levels of government are capable of providing. The federal government is responsible for emergencies such as war, international situations and emergencies in international waters, and has specific responsibilities in nuclear emergencies.

2.4.2 The Provincial Emergency Operations Centre

The new Provincial Emergency Operations Centre, a large, state-of-the-art facility that opened in 2015, is located in Toronto. The facility includes an 82-seat operations room with a 21-metre-wide wall display—the largest in Canada when it opened—that can provide a real-time view of developing emergencies. The operations centre’s purpose is to centrally co-ordinate the provincial response to emergencies and work with its partners: ministries, municipalities and the federal government, jurisdictions outside of Ontario, and others.

A duty officer staffs the operations centre around the clock and monitors situations around the province and in neighbouring areas that may have an impact on the province. If a situation warrants, the level of monitoring escalates to enhanced monitoring and then to activation if the situation

continues to escalate. The duty officer is the main provincial contact for municipalities and others, including First Nations, needing assistance from the Province during an emergency.

Since it opened, the Provincial Emergency Operations Centre has mainly been used to respond to First Nations emergencies such as flooding, to provide assistance to municipalities during emergencies, and to host meetings.

2.4.3 Provincial Disaster Financial Assistance Programs

The Ministry of Municipal Affairs is responsible for Ontario’s disaster financial assistance programs, which are intended for homeowners, tenants, small businesses, farms, not-for-profit organizations and municipalities. These programs are claims-based and are meant to assist with a sudden and unexpected natural event with costly and widespread impacts. They apply to essential expenses (for necessary furnishings and appliances) and the repairs needed to return infrastructure to pre-disaster conditions. They are not intended as a replacement for private insurance claims or coverage, although individuals with no coverage or without full coverage may be eligible for assistance.

The Province pays the claims for disaster financial assistance out of its contingency fund. In some circumstances, such as when costs exceed a certain amount (based on a dollar amount times the population), Ontario may be eligible for the federal government’s disaster financial assistance. With its large population, however, it is very unusual for Ontario’s costs to exceed this amount.

2.4.4 Governing Legislation and Standards

The *Emergency Management and Civil Protection Act* (Act) and its regulation establish the legal basis and framework for managing emergencies that fall within the responsibility of the Ontario Government and the municipalities. For this purpose it defines the Province’s authority and responsibility

over ministries and municipalities. Specific provisions in the Act establish criteria for declaring a provincial or municipal emergency and developing and implementing a municipal or ministry emergency management program, including the requirement to identify hazards and assess risks, and to identify elements of critical infrastructure. Some ministries have additional legislated requirements that they are expected to comply with. For example, the *Forest Fires Prevention Act* mandates the Minister of Natural Resources and Forestry to declare a “forest fire emergency area” if necessary, and the *Health Protection and Promotion Act* gives the Chief Medical Officer of Health broad powers to investigate and respond to medical risks.

An Order in Council from 2009 assigns responsibilities to 13 ministries based on specific types of emergencies and/or emergency services (functions). Their ministers are responsible for the preparation of the appropriate emergency programs and response plans for these emergencies (see **Appendix 1** and **Appendix 2**).

2.5 Ongoing Initiatives Affecting Emergency Management

In 2014, the Premier sent mandate letters requesting that EMO and the Ministry of Municipal Affairs undertake a review of their programs. At the time of our audit, several initiatives had been undertaken with the goal of transforming emergency management in Ontario, including the following:

- EMO recently engaged in a Provincial Emergency Management Review undertaken by a consultant. The scope of the review included a comprehensive program evaluation and identification of opportunities to improve emergency management, a review of legislation and policy, and a jurisdictional/environmental scan. The review began in November 2016, and a final report with recommendations was issued to the Ministry in August 2017. We reviewed the findings and noted that many of the issues identified were similar to

those we identified during our audit, such as the need for a better governance structure to promote effective oversight, the lack of support available from EMO for ministries and municipalities, and the need for a standardized approach for emergency response.

- In 2015, the Ministry of Municipal Affairs engaged a consultant in a review of the Ontario Disaster Relief Assistance Program to determine if it was addressing current needs and to build upon lessons learned from recent events, including the 2013 ice storm. The report for the review was finalized in February 2015. As a result of the review, in March 2016, the Ministry of Municipal Affairs announced two new disaster financial assistance programs to replace the Ontario Disaster Relief Assistance Program:
 - Disaster Recovery Assistance for Ontarians helps affected residents repair or replace essential property and cover eligible emergency costs.
 - Municipal Disaster Recovery Assistance reimburses municipalities for eligible extraordinary emergency response and repair costs.

3.0 Audit Objective and Scope

Our audit objective was to assess whether selected ministries have policies and procedures to ensure that:

- effective provincial emergency management programs are in place, including the co-ordination and oversight of ministries and municipalities, in order to protect the public and sustain provincial and municipal operations;
- emergency management operations are carried out with due regard for economy and efficiency; and

- emergency management program objectives are appropriately measured, evaluated for effectiveness and publicly reported.

Before starting our work, we identified the audit criteria we would use to address our audit objective (see **Appendix 5**). These criteria were established based on a review of applicable legislation, directives, policies and procedures, internal and external studies, and best practices. Senior management at each ministry we visited reviewed and agreed with the suitability of our objective and related criteria.

We conducted the audit between December 8, 2016, and August 31, 2017, and obtained written representation from each ministry's management that, effective November 17, 2017, it has provided us with all the information it was aware of that could significantly affect the findings or the conclusion of this report.

We conducted our work primarily at the Provincial Emergency Management Office (EMO) of the Office of the Fire Marshal and Emergency Management division, within the Ministry of Community Safety and Correctional Services. We also conducted work at the emergency management branches at the following ministries (ministries that had been assigned specific hazards): the Ministry of Community Safety and Correctional Services, the Ministry of Health and Long-Term Care, the Ministry of Transportation, and the Ministry of Natural Resources and Forestry. In addition, we reviewed the disaster financial assistance programs at the Ministry of Municipal Affairs. We selected these ministries based on the risk the hazards assigned to them pose to Ontarians, the frequency of occurrence of these hazards, and the components of emergency management that the ministries are involved with.

In conducting our audit work, we reviewed applicable legislation, regulations, ministry policies and relevant files, and interviewed ministry staff at the various locations visited. At the ministries whose emergency management branches we audited, we focused on the risk assessment process; continuity of government operations plan; emergency response plans; practice testing; public education; response

capabilities, including the emergency operations centre and use of information technology; lessons learned; and performance measures. In addition to these, at EMO we focused on the role of provincial co-ordination and oversight of emergency management for the Province. At the Ministry of Municipal Affairs, we focused on the provincial disaster financial assistance programs and financial assistance provided during the most recent special assistance program for the 2013 southern Ontario ice storm. Most of our work focused on the five-year period ending March 31, 2017.

In addition, we held meetings and interviews with numerous stakeholders to gain an understanding of their perspectives on emergency management in Ontario, and to identify areas of improvement and best practices. The stakeholders were as follows:

- Public Safety Canada;
- Indigenous and Northern Affairs Canada;
- Public Health Ontario;
- the Ontario Association of Emergency Managers;
- the Association of Municipalities of Ontario;
- Ontario Power Generation;
- Bruce Power;
- the Canadian Red Cross;
- the Insurance Bureau of Canada;
- Greenpeace;
- the Canadian Environmental Law Association; and
- nine municipalities, based on size, risk of hazards within these municipalities, and events that have occurred there: Ottawa, Toronto, Brampton, Durham, Sault Ste. Marie, Belleville, Kenora, Burlington and Amherstburg.

We also reviewed reports on audits completed by the Ontario Internal Audit Division and legislative audit offices in other provinces, at the federal level and in other countries, along with reports on best practices.

We engaged an independent consultant with expertise in the field of emergency management to assist us on this audit.

4.0 Detailed Audit Observations

4.1 Governance and Organization Structure Not Conducive to Effective Emergency Management

4.1.1 Governance of Emergency Management Is Not Effective for a Province-Wide Program

Overall strategic direction for the Province's emergency preparedness is the responsibility of the Cabinet Committee on Emergency Management (Committee), which consists of eight members of the Provincial Parliament and the Premier. The Committee has the significant mandate to provide strategic direction and ensure that the Province is prepared to address emergency situations. However, the Committee does not hold regular meetings and has not delegated responsibility to anyone else. We could find no evidence of its having held a formal meeting in the past five years. Without meeting regularly, the Committee cannot provide proper oversight and strategic direction for the Province or a government-wide focus for emergency management, and cannot demonstrate that the Province is prepared to address an emergency situation.

Members of the Committee did, however, receive updates on recent emergencies, such as the December 2013 southern Ontario ice storm, and

were prepared in the event that the Committee needed to respond.

Concerns about the overall oversight of emergency management were brought to the government's attention as far back as 2005 in an internal review report, *Emergency Management Processes in the Ontario Public Service*. The report concluded: "At the enterprise level, processes are not currently sufficient to ensure that Ontarians and the resources of the Province are adequately protected against emergencies and disasters." It suggested that emergency management be regularly discussed at the executive level, by being included as a standing agenda item at meetings of the Deputy Ministers' Council, which has not been done.

In looking for best practices, we found that Alberta and British Columbia both have active high-level government-wide committees overseeing emergency management in the province, as noted in **Figure 3**.

4.1.2 Province No Longer Has a Dedicated Office for Emergency Management

Concerns over Competing Priorities

The Provincial Emergency Management Office (EMO) is responsible for Ontario's provincial emergency management program. In addition, the *Emergency Management and Civil Protection Act* (Act) requires EMO's Chief of Emergency Management to co-ordinate, monitor and assist with the development and implementation of emergency

Figure 3: Comparison of Governance Structures for Emergency Management across Jurisdictions

Prepared by the Office of the Auditor General of Ontario

	Ontario	Alberta	British Columbia
Responsibility for overall governance of emergency management	<ul style="list-style-type: none"> Cabinet Committee (Ministers and the Premier) 	<ul style="list-style-type: none"> Deputy Minister Committee Assistant Deputy Minister Committee 	<ul style="list-style-type: none"> Deputy Minister Committee* Assistant Deputy Minister Committee* Executive Director Committee** (chaired by the minister overseeing emergency management)
Frequency of meetings	During emergencies	Every two months	* Monthly ** Quarterly

management programs for other ministries and municipalities. EMO's Chief reports to the Commissioner of Emergency Management, who is appointed by the Lieutenant Governor.

EMO is positioned within the Ministry of Community Safety and Correctional Services (Ministry). This results in EMO competing with other priorities of the Ministry, including urgent priorities pertaining to policing, fire and correctional facilities.

We noted that over the past several years, emergency management has not fared well in the Ministry and has not been given the priority needed to be an effective program for the Province.

Specifically, two divisions within the Ministry—Emergency Management Ontario (as EMO was known at the time) and the Office of the Fire Marshal—amalgamated in 2013. This resulted in a merger in leadership, moving from one chief for each office (an assistant deputy minister-level position) to one chief overall. The leadership of the Office of the Fire Marshal was retained, and priority has been given to this area of the new organization and not to emergency management.

Emergency management experienced the reductions in staffing and budgets after the amalgamation shown in **Figure 4**.

In addition, programs and activities were suspended or reduced:

- Key programs that were put on hold included the Ontario Critical Infrastructure Assurance Program (used to identify key infrastructure and identify ways to mitigate its vulnerabilities; see **Section 4.2.2**), the Surge Capacity Program (used to assist with resource

needs during an emergency by bringing in increased staff; see **Section 4.5.1**) and the Incident Management System (a standardized approach structure used by all levels involved in a response; see **Section 4.5.2**).

- Several emergency management working groups such as a group working on the Incident Management System and annual conferences of stakeholders used to network and discuss emerging events to build comprehensive emergency management programs for the Province were put on hold.

The Province has not shown a commitment to emergency management, but instead has allowed programming to decrease. This came to light in a follow-up report conducted by the Ontario Internal Audit Division of the government on the collapse of the roof of a large commercial mall in Elliot Lake in 2012. EMO stated that it was unable to implement many important recommendations from the 2014 public inquiry into the collapse in part because of resource issues.

The report directed 16 of its 38 recommendations on emergency response to EMO. As of December 2015, when they were last followed up on, only two had been implemented. Among the actions that EMO stated it cannot implement because of its current resources are the following:

- Timely debriefings and lessons-learned reports should be mandatory for all agencies and organizations involved in rescue and recovery operations.

Figure 4: Operating Expenses and Staffing Resources in the Provincial Emergency Management Office, Selected Years

Source of data: Ministry of Community Safety and Correctional Services

	2009/10	2012/13	2016/17
Operating expenses—actual (\$ million)	10.1	9.2	6.4
Staffing resources (full-time employees)	Total positions: 84	Total positions: 63	Total positions: 58
	Filled positions: 69	Filled positions: 57	Filled positions: 46
	Vacancies: 15	Vacancies: 6	Vacancies: 12

Note: The 2009/10 fiscal year represents the peak funding and staffing at the Provincial Emergency Management Office before amalgamation in 2013.

- On request, the Province should make incident support teams available to incident commanders.

Frequent Turnover and Vacancies in the Leadership of Provincial Emergency Management

Since the 2013 amalgamation of EMO and the Office of the Fire Marshal within the Ministry of Community Safety and Correctional Services, leadership at EMO has experienced frequent turnover. Four different people have acted as Chief of Emergency Management, and at the time of our audit, the current Chief was in an interim position.

The Commissioner of Emergency Management, to whom the Chief reports, has the overall responsibility for providing leadership to the government's emergency management program and advises the Premier and the government on policy, procedures and legislation related to emergency management. Yet the position of commissioner has also experienced instability over the past five years.

The Commissioner used to have a single focus on only emergency management, but that changed in 2012 when responsibility for overall public safety in the province was added to the Commissioner's emergency management responsibilities. In fact, the current Commissioner, who was appointed in August 2016, is also the Deputy Minister of Community Safety and Correctional Services and therefore shares his time between emergency management and the many other responsibilities of the Ministry. Before the Deputy Minister's appointment, the Commissioner's position was vacant for almost two years. As a comparison, British Columbia has a dedicated Deputy Minister for emergency management and a dedicated Parliamentary Secretary to whom this person reports. (A Parliamentary Secretary is a member of the legislature who has been assigned by the Premier to assist a minister in a specific area.)

The frequent changes in leadership at EMO, along with not having a dedicated Commissioner in place for the past five years, have impacted the

program and demonstrate that the program has been given lower priority than expected in the province. This limits EMO's influence and its ability to co-ordinate and oversee the emergency management activities of ministries and municipalities. We discuss this further in **Sections 4.1.3 and 4.1.4.**

RECOMMENDATION 1

We recommend that the Ministry of Community Safety and Correctional Services (Ministry) through the Provincial Emergency Management Office review best practices in other jurisdictions and recommend to the Cabinet Committee on Emergency Management a governance structure that promotes and supports effective oversight of emergency management in the province and increases emergency preparedness, and that the Ministry implement this structure with the approval of the Cabinet Committee.

MINISTRY RESPONSE

The Ministry agrees with the Auditor General's recommendation and recognizes the importance of clarifying the provincial emergency management governance structure.

The Ministry has already begun work to address this issue, as this was also identified in the recent provincial emergency management review. More specifically, the Ministry is reviewing best practices from other jurisdictions and consulting with stakeholders on how to transform emergency management governance to ensure it can effectively guide the development and implementation of best practice emergency management programs in Ontario.

A proposal for this transformation will be developed.

4.1.3 Oversight Process for Ministries and Municipalities Does Not Ensure They Are Prepared to Respond to an Emergency

Currently, the Act assigns the day-to-day responsibility for emergency management to the Chief of Emergency Management (an Assistant Deputy Minister). The Chief's responsibilities include monitoring, co-ordinating and assisting in the development and implementation of emergency management programs in the province for ministries and municipalities. However, the legislation does not give the Chief the authority to enforce the legal requirements of ministries and municipalities. Instead, the Chief can only encourage and request their co-operation, and therefore cannot ensure they are adequately prepared to respond to an emergency.

Requirements in the Act and Regulation

The Act and its regulation include many requirements for ministries and municipalities relating to emergency management. These include:

- developing and implementing an emergency management program;
- formulating an emergency response plan;
- conducting an annual hazard identification and risk assessment;
- identifying critical infrastructure;
- conducting an annual practice test;
- undertaking public education;
- designating an emergency management co-ordinator; and
- undertaking training.

In addition to the legislative requirements, other responsibilities for ministries and municipalities are outlined in the two provincial plans—the Provincial Nuclear Emergency Response Plan and the Provincial Emergency Response Plan.

EMO is given the responsibility by the legislation for creating and maintaining these two plans. On the basis of this responsibility, it has identified the additional requirements and recommendations included in these plans.

The Provincial Nuclear Emergency Response Plan is a Cabinet-approved document that outlines requirements for several organizations, such as nuclear power companies, municipalities in the immediate area of the nuclear power facilities, host municipalities where people affected by a nuclear emergency will go, specified ministries and federal departments. The plan requires ministries and municipalities to develop plans for their assigned responsibilities; for instance, the Ministry of Transportation oversees the development of traffic control plans for nuclear emergencies, in consultation with the Ontario Provincial Police, and municipalities in the area of nuclear power facilities are to have a public alert system.

The Provincial Emergency Response Plan is a Ministry-approved document that includes the general responsibilities for ministries and municipalities noted earlier as legislative requirements, and other added responsibilities such as making provision for persons with disabilities. It also includes specific responsibilities for organizations; for example, the Ministry of Natural Resources and Forestry is to provide flood and waterflow forecasting services, and the Ministry of Transportation is to co-ordinate the use of contracted equipment and engineering expertise.

Ministries and municipalities are expected to co-ordinate their emergency response plans with the two provincial plans, and their plans are expected to include all responsibilities assigned to them.

Oversight Process Does Not Ensure Co-ordination or Completeness of All Plans

EMO interprets its legislated monitoring responsibility as having the ministries and municipalities complete an annual self-assessment compliance checklist, which EMO reviews.

The compliance checklists include mandatory requirements found in the Act and its regulation. We noted, however, that the checklists do not include the responsibilities assigned by the two provincial emergency response plans noted in the previous subsection. We reviewed these additional

responsibilities at the ministries we visited that had been assigned specific hazards (see **Section 3.0**) and noted the following:

- The Ministry of Transportation oversees the development of traffic control plans in partnership with the Ontario Provincial Police and other responders. These plans are a critical component of evacuation planning, as some of Ontario's nuclear power facilities are located close to high-density population centres. The Ministry's traffic control plans for areas near nuclear power facilities are still in draft form, even though the Ministry has realized the need for updating them since the 2011 nuclear disaster in Fukushima, Japan.
- The Ministry of Health and Long-Term Care's Radiation Health Response Plan, which was a requirement in the 2009 Provincial Nuclear Emergency Response Plan, was not finalized until 2014—five years after it was required. The ministry informed us this was due in part to a number of other ministry emergency responses during this period.

EMO does not review each ministry's plans to ensure they are aligned with the provincial plan or with other ministry plans and, because it does not track these plans, it does not ensure that all required plans, such as plans for all specific hazards, have been prepared. Further, EMO does not ensure it has the most recent version of all plans, nor does it have a central storage place for the plans in case they are needed in an emergency, even though both of these are required under law.

We noted a best practice in an audit report from the Office of the Auditor General of Newfoundland and Labrador, where the emergency management office in that province reviews and approves all emergency response plans for municipalities, and recommends any necessary changes. This is meant to ensure that the plans include all required components and show evidence of regular updates. We also noted that offices in other jurisdictions such as Alberta, Nova Scotia and Prince Edward Island have the authority to require that plans be submitted for review and integration with the provincial plan.

Oversight Process Does Not Consider the Quality of Emergency Management Programs in Place

We found as well that the review of the annual self-assessment compliance checklists (compliance review) does not look at the quality of the emergency management programs. The ministries and municipalities simply indicate if they have met certain requirements with a brief explanation of how the requirement was met, such as having an emergency response plan and having performed practice tests for these response plans. This type of self-evaluation does not assess whether these plans and tests will help ensure that an organization is prepared to respond to a real-life emergency. For example, it does not assess whether the ministries' and municipalities' plans contain all the critical components they should have, or if the practice tests focused on high-risk areas and included all relevant parties.

We noted that the quality of the compliance review undertaken by EMO also needs improvement—for example, many files were missing supporting documentation to verify compliance, or were missing explanations to support the assessment given. Further, the extent of the review varied according to the reviewer, and we found that no supervisory review had been done to ensure the reviews are completed correctly and consistently. In addition, reviews were not performed or were incomplete in certain years: in 2014, no reviews were performed for ministries, and only some were performed for municipalities; in 2013, no reviews were performed for municipalities. As a result, there is no indication of whether ministries and municipalities were in compliance with legislation during those years.

For those organizations not in compliance with the legislated requirements, EMO does not have a follow-up process in place to ensure that corrections are made. It also does not analyze the results of the compliance review process to identify systemic problems and gaps that it may need to address across the province.

RECOMMENDATION 2

To ensure that the emergency management programs in place at Ontario's ministries and municipalities include all delegated responsibilities and are sufficiently preparing them to respond to emergencies, we recommend that the Ministry of Community Safety and Correctional Services through the Provincial Emergency Management Office:

- assess whether the Chief of Emergency Management has sufficient authority under legislation to enforce the legal requirements of ministries and municipalities and whether changes are needed to obtain this authority;
- implement an oversight process that focuses on the quality and sufficiency of the emergency management programs in place;
- provide feedback to and work with non-compliant ministries and municipalities to ensure that they make timely improvements; and
- summarize and report on the results of the compliance reviews to identify systemic issues across the province.

MINISTRY RESPONSE

The Ministry agrees with the Auditor General's recommendation that the existing oversight and compliance review processes need to be improved.

The Ministry is currently developing an enhanced framework of requirements for Ontario's emergency management system, in order to establish clear expectations of all emergency management programs in Ontario.

The Ministry is working to enhance the existing compliance process to ensure that ministries and municipalities meet their requirements under the *Emergency Management and Civil Protection Act*.

The Ministry commits to reviewing the provincial emergency management requirements, and the existing compliance and oversight processes.

4.1.4 Insufficient Co-ordination and Support for Emergency Management in the Province

We noted that EMO is not sufficiently fulfilling its legislated role of co-ordinating and assisting ministries and municipalities with their emergency management programs. This has resulted in an environment where these organizations often work independently, with little of the support or tools they need to help manage their emergency management programs. This was a common theme in our discussions with these organizations; it leads to duplication of efforts and inefficiency, by requiring them to develop components of emergency response programs on their own.

Municipalities and ministries we spoke to informed us that they lacked support in the form of various templates and guidelines for items such as emergency response plans; plans for continuity of government operations; samples of practice tests; lists of best practices; information on lessons learned during past events; and avenues for sharing information. In contrast, we noted that some provinces put information on their public websites to assist organizations with their emergency management programs. For instance, Manitoba's website includes information and assistance for completing an emergency response plan, with a template and a set of instructions for using it. Alberta's website includes a planning guide for continuity of business (that is, continuity of government operations).

Support to Municipalities Does Not Ensure Readiness to Respond to an Emergency

Municipalities are the first to respond to emergencies at the local level, making it critical that they have effective emergency management programs they can put into action quickly. But in order to carry out their responsibilities in local emergencies, many municipalities require support from the Province.

EMO situates field officers throughout the province. These staff members are critical to the success of emergency management, as they are the day-to-day face of EMO for Ontario's 444 municipalities.

Their role is to help municipalities with training and practice tests, and with developing emergency management programs, and they advise and assist municipalities with their annual compliance requirements. They can also be deployed to help during emergencies. In total, 10 field officers are available to assist with municipal emergency management programs, resulting in an average load of 40 to 50 municipalities each.

In our interviews with municipalities, we found that the resources, expertise and state of preparedness at the municipalities varied widely. Although many of the large and some of the medium-sized municipalities say they do not require a great deal of assistance from the Province—some told us that their own level of expertise exceeds the field officers' expertise—most of the smaller ones do need a high level of assistance (for example, with practice tests or strengthening their emergency response plans). Yet many of those told us that EMO does not provide enough support to assist with their emergency management programs. One informed us that it was given more time with its field officer before amalgamation of EMO with the Fire Marshal's Office, when EMO had more staff available. Another municipality located near a nuclear facility informed us that local field officers in the past have not had sufficient experience with nuclear emergency management. This municipality feels it is highly important that the field officer for this area receive proper and timely training on nuclear risks from EMO. Representatives at another municipality said that they would like EMO to undertake more emergency practice tests that they could participate in.

These unequal levels of preparedness and support mean that some municipalities may not be adequately prepared to respond if a local emergency arises, resulting in different levels of public safety across the province in the case of an actual emergency. This puts an increased responsibility on the provincial government to come to the aid of the least-prepared areas.

The Province Does Not Have a Co-ordinated IT System in Place for Emergency Management

Information technology (IT) is a critical component of a co-ordinated provincial emergency management program. The Province does not yet have a co-ordinated IT system in place for emergency management, even though it has spent about \$7.5 million for such a system.

In 2009, EMO began to implement a system known as the Emergency Management Enterprise Solution. The system was meant to provide real-time information to key stakeholders by being a single, central, secure, shareable information repository with an integrated geographic information (mapping) system and emergency alerts. EMO cancelled the project in 2015 before ever going live, after extensive delays, and after discovering user dissatisfaction and software defects.

Since there is no provincial IT system for emergency management, the ministries we visited were left to seek out their own tools to assist in managing their programs. We therefore found a variety of systems in use. Specifically, the Ministry of Health and Long-Term Care supported the procurement of an IT system for use by the health sector, the Ministry of Community Safety and Correctional Services and EMO were using a simple database as their system, and the Ministry of Transportation and the Ministry of Natural Resources and Forestry had no IT systems in place for emergency management.

We found that one consequence of this unsystematic IT approach is that there is a lack of important documentation available on past emergencies and related events. There is no complete list of all relevant events or information on how these events were handled (timing of actions, persons involved and decisions made). Having this information available after emergencies and events is important as a record of what occurred during the emergency and to help with lessons learned in order to make improvements for responses to future events (which we discuss further in **Section 4.4.4**).

We noted an example of the use of a co-ordinated IT system detailed in a report following Hurricane

Sandy, which struck the east coast of the United States in 2012. The *Hurricane Sandy FEMA After-Action Report*, by the U.S. Federal Emergency Management Agency (FEMA), noted that the use of the system facilitated information sharing and ensured that each party involved in the response shared a common operating picture. This in turn contributed to a unified response.

RECOMMENDATION 3

To ensure that the Province has a co-ordinated emergency management program in place that supports the ministries and municipalities with their emergency management programs and is able to share information in a timely manner, we recommend that the Ministry of Community Safety and Correctional Services through the Provincial Emergency Management Office:

- review the needs of municipalities and its own staffing practices, and put in place the appropriate level of support and staffing required to assist all of Ontario's municipalities in preparing for emergencies;
- develop central resources, supports and best practices for emergency management to allow for better co-ordination, expertise and consistency of emergency management programs across Ontario; and
- review the information technology needs of the province and implement an effective, co-ordinated province-wide information technology solution.

MINISTRY RESPONSE

The Ministry agrees with the Auditor General's recommendation that the Province needs to enhance its existing support to municipalities and ministries in order to assist them in developing their emergency management programs.

Currently, the Ministry provides some supports to ministries and municipalities. For example, some exercising and training tools are available to municipal and ministry emergency

management staff through an online portal and through a team of field officers.

The Ministry will prioritize how to address existing ministry and municipal needs by enhancing existing guidance and tools, and by assessing staffing needs to support the development of additional tools/resources consistent with national and international best practices.

The Ministry is also working with other ministries to procure an emergency management IT solution that can be used to support a co-ordinated response to provincial emergencies. This will include an enhanced capacity to share information, request and track resources, and support more rapid damage assessments. A broader review of ways to leverage additional technology to enhance emergency management programs, including response, will be undertaken.

4.2 Risk Identification and Assessment Processes Are Not Sufficient to Ensure the Emergency Management Program Includes All Areas of Concern

As described in **Section 2.4**, an important first step to build an effective emergency management program for Ontario is the identification and assessment of the province's potential hazards, critical infrastructure and time-critical services that need to be provided during an emergency. However, we found that the processes followed were not sufficient to identify the areas of risk that the province and ministries should focus their efforts on. This results in emergency management programs for the province and ministries that either do not include all risks or do not focus on the appropriate risks.

4.2.1 Provincial Risk Assessment Has Not Been Updated and Is Not Co-ordinated across the Province

Risk Assessment Has Not Been Updated for Recent Occurrences

The Act requires each ministry and municipality to conduct a hazard identification and risk assessment (together called “risk assessment” in this report) to identify hazards that may exist and assess the various risks to public safety that could give rise to emergencies. A risk assessment is also to be completed at the provincial level. Undertaking a risk assessment demonstrates which types of hazards are of concern and highlights those that need to be given priority. The results of the risk assessment process are to be used to establish the focus of the emergency management program.

The last provincial risk assessment was completed in 2012 and was based on information on emergencies in Ontario up to 2009. As a result, the current assessment does not consider emergencies that have occurred over the past eight years or the latest information on the effects of climate change and other risks whose frequency and severity may have changed, such as cyberattacks and terrorism. Risk assessment is meant to be an ongoing process as new hazards are identified and risk levels change.

When EMO completed the provincial risk assessment in 2012, it identified hazards that were not included in earlier assessments, such as cyberattacks, geomagnetic storms and meteorite crashes. But responsibility for these hazards has not been assigned to a ministry, because the last Order in Council was approved three years earlier, in 2009. By default, the new hazards have become the responsibility of the Ministry of Community Safety and Correctional Services, which does not have expertise in dealing with them. The Ministry has not incorporated these hazards into its emergency management program, and it has not developed emergency response plans to address them.

Risk Assessment Process Is Not Performed Collaboratively to Ensure a Co-ordinated Approach in the Province

The current approach in the province is that EMO, ministries and municipalities all undertake a risk assessment process independently of each other. This is another example of organizations working in silos rather than working collaboratively on emergency management. The Province completes its own risk assessment, even through the ministries have the subject matter expertise on the hazards, and municipalities have the local knowledge on where the hazards are likely to occur.

The best practices identified by our expert suggest that these processes should be done collaboratively to enhance discussions and understanding of the hazards, risks and vulnerabilities affecting the Province, and its preparedness priorities. Other jurisdictions, such as the federal government (through Public Safety Canada), have developed an all-hazard risk approach, which is a co-ordinated approach to risk assessment involving all departments and ministries that would be involved if a specific emergency were to occur. This approach recognizes that the ownership of risk is often shared across different ministries. Therefore, it brings all parties involved together in the risk assessment process.

RECOMMENDATION 4

To ensure that the provincial risk assessment is effective at identifying and assessing current hazards in Ontario, we recommend that the Ministry of Community Safety and Correctional Services through the Provincial Emergency Management Office:

- undertake a comprehensive review and update of the provincial risk assessment, in collaboration with all ministries and municipalities;
- seek approval for the assignment of responsibilities for new hazards; and
- implement an ongoing cyclical review process using best practices.

MINISTRY RESPONSE

The Ministry agrees with the Auditor General's recommendations to review and update the provincial risk assessment and implement an ongoing cyclical review process.

Work is under way on this initiative, including investigating options for how to share hazard-specific information with stakeholders in support of their planning efforts.

The Ministry is committed to reviewing the process by which emergency management responsibilities are assigned to ministries.

4.2.2 Critical Infrastructure Programming Is Not a Current Focus of the Emergency Management Program in Ontario

Before merging with the Fire Marshal's Office in 2013, EMO started work on a program to identify critical infrastructure in the province so it could be prioritized and protected in an emergency. This program was put on hold after the merger. The program was later transferred to the Executive Office of the Ministry and is still on hold.

The program identified nine sectors of critical infrastructure in need of protection and continuity planning in an emergency: food and water, electricity, transportation, gas and oil, financial institutions, telecommunication systems, public safety and security, government operations, and health. Many of these areas are the responsibility of the private sector, but they have an impact on government business and Ontarians.

Issues with critical infrastructure were identified in 2005 in an internal corporate review report, *Emergency Management Processes in the Ontario Public Service*. The report noted that sufficient processes were not in place for the Province to fulfill an appropriate leadership role to ensure that critical non-governmental infrastructure remains operational in times of emergency or disaster.

All areas of critical infrastructure were impacted during the southern Ontario ice storm of 2013, with

the most serious result being failure of the energy supply. EMO issued a report after the event noting the need for organizations in the critical infrastructure sectors to collaborate and identify their interdependencies, and to develop plans to minimize disruptions across linked sectors. However, four years after the report was issued, the Province has not yet followed up on these recommendations. (Section 4.4.4 discusses the importance of lessons learned from past events.)

4.2.3 Oversight Is Lacking to Identify Time-Critical Services and Develop Continuity Plans for Government Operations

Continuity planning for government operations is an important component of an emergency management program. Continuity plans contain contact information for essential staff, detailed processes of communication and guides to alternative work sites; they also prioritize time-critical activities within each ministry that need to continue during an emergency or to be restored quickly. Activities such as provincial highway maintenance, laboratory examinations and flood monitoring are some examples.

During a widespread emergency, the Province may have to allocate limited government resources (staff, vehicles, generators, health supplies and so on) to ministries with services of highest priority. To do so, it needs a comprehensive, prioritized list of all time-critical services in the province. EMO does not maintain such a list, even though it was recommended in an internal audit report in 2007, and again in reports in 2011 and 2013.

We also noted that the ministries we visited do not have adequate oversight practices in place for their continuity plans, which leaves open the risk that not all time-critical services have been identified and planned for appropriately. Three of the four ministries with specific hazards assigned that we visited (the Ministry of Community Safety and Correctional Services, the Ministry of Transportation, and the Ministry of Natural Resources and Forestry) performed no review to ensure that all

necessary continuity plans are completed. In fact, we noted that some continuity plans for government operations had not been prepared.

Further, the four ministries require different levels of approval for their branch continuity plans. For example, while the Ministry of Transportation requires an Assistant Deputy Minister to approve these continuity plans, the Ministry of Health and Long-Term Care and the Ministry of Community Safety and Correctional Services require a director's approval, and the Ministry of Natural Resources and Forestry requires a manager to approve the plans. Not having senior staff such as an Assistant Deputy Minister approve these plans is not a good practice, because in that case senior staff may not be aware of whether plans have been prepared for all time-critical services or if the plans are up to date and reflect current operations. In addition, although the emergency management branches of the four ministries set out the requirements for approval of their continuity plans, they did not verify that the specified level of approval was actually obtained.

There is no legislative requirement for municipalities to have continuity of operations plans, even though it is equally important for them to ensure that they can continue to offer time-critical services to their residents and businesses.

RECOMMENDATION 5

To ensure that all critical infrastructure and time-critical services in the province are appropriately identified, and that up-to-date plans are in place to protect critical infrastructure and maintain continuity of government operations, we recommend that the Ministry of Community Safety and Correctional Services through the Provincial Emergency Management Office:

- develop and maintain a comprehensive listing and plans for the protection of critical infrastructure and all time-critical government services in the province;
- develop processes and supports to assist ministries with planning the continuity of their

operations, including having an appropriate level of approval in place for the plans; and

- evaluate requiring municipalities to have plans for the continuity of their operations.

MINISTRY RESPONSE

The Ministry agrees with the Auditor General's recommendation.

The Ministry is exploring options to expand the Ontario Critical Infrastructure Assurance Program, while taking into consideration the confidentiality needs of owners.

With respect to time-critical government services, the Ministry works with ministries to identify and ensure the availability of such services. Through the provincial continuity of operations program, the government has plans in place to ensure the maintenance and restoration of time-critical services. The program establishes recovery time objectives within which critical services have to be restored. The Ministry will work with ministry partners to identify how best to prioritize critical services across the government.

The Ministry recognizes that municipal continuity of operations plans are an important part of an emergency management program. The Ministry will develop enhanced guidance and tools to support municipal continuity of operations plans. The Ministry will also consult with municipal stakeholders to determine whether continuity of operations plans should be a mandatory requirement of any future emergency management program regulations.

4.3 The Provincial Emergency Management Program Does Not Focus on All Five Components of Emergency Management

Ontario, like most other jurisdictions, bases its emergency management program on five interdependent components: prevention, mitigation,

preparedness, response and recovery. (We discussed these in **Section 2.4.**) The progression of emergency management according to the five components is to first try to prevent an emergency from occurring, and then to mitigate, or reduce, its impact. Emergencies that cannot be prevented or mitigated must be handled through preparedness and response activities, and may require recovery assistance. It is essential to know what can be prevented or mitigated in order to know the extent of the preparedness and response activities needed.

When the current program was set up in 2003, emergency management was divided up into three progressive levels of achievement: essential, enhanced and comprehensive. The comprehensive level included all five components. The plan for Ontario was to reach the comprehensive level by the end of 2006. Today, in 2017, emergency management programs in Ontario, including the provincial program, still focus predominantly on the essential level and only two components, preparedness and response. (The Ministry of Municipal Affairs is involved with recovery activities through its disaster financial assistance programs, as discussed in **Section 4.6.**) We did note some exceptions to this, such as at the Ministry of Health and Long-Term Care, which mainly focuses on mitigating the effects of potential medical emergencies. Because the provincial and ministry programs mainly focus on preparedness and response, we mainly focused our attention on these components during our audit.

All five ministries we visited told us that they are involved to some extent in activities that relate to the three other components—prevention, mitigation (as shown in **Figure 5**) and recovery. Most of these activities, however, take place outside of emergency management and are not taken into account by or co-ordinated with the activities of the ministries' emergency management branches. In addition, EMO does not maintain information on the mitigation and prevention initiatives undertaken in the province. As we have mentioned, keeping track of prevention and mitigation activities

helps to determine the preparedness and response activities that are needed.

An expert we consulted advised us of the importance of having a strategy for all five components, which is consistent with how Ontario initially envisioned its plan for the emergency management program. Emergency management sees all five components as part of a continuum, or a feedback cycle, as **Figure 1** illustrates. The expert informed us that Ontario is the only province in Canada that assigns the responsibility for the financial assistance for recovery activities to a different ministry (the Ministry of Municipal Affairs) than the ministry responsible for the other components, which are the responsibility of EMO, with little co-ordination between the two.

After performing a risk assessment to identify and prioritize hazards, as described in **Section 4.2.1**, the next step for an emergency management program is to take every opportunity to prevent and mitigate the impact of hazards. It is important to assess the costs of prevention and mitigation efforts compared to the potential savings in response and recovery costs if preventive actions are taken ahead of time. If Ontario improved its prevention and mitigation activities, then the need for expensive recovery assistance in certain areas should decrease.

Several research studies have shown that funds invested in emergency prevention and mitigation can save money compared to what would be needed for response and recovery if an emergency occurs. For example, a report prepared by Public Safety Canada in March 2017, titled *2016–2017 Evaluation of the Disaster Financial Assistance Arrangements*, discusses reports on the benefits of mitigation efforts in several different countries. One report in particular referred to a 2005 study on earthquakes, floods and wind hazards prepared for the U.S. Federal Emergency Management Agency that indicated that the overall benefit-to-cost ratio is about 4 to 1 (a savings of \$4.00 in response and recovery costs for every \$1.00 spent on mitigation). One of the conclusions in the Public Safety Canada report was that “mitigation is the most effective approach to

Figure 5: Examples of Mitigation and Prevention Activities Undertaken by Ministries Visited

Prepared by the Office of the Auditor General of Ontario

Ministry	Hazards	Mitigation/Prevention Activity
Community Safety and Correctional Services	Terrorism/CBRNE (chemical, biological, radiological, nuclear and explosive)	<ul style="list-style-type: none"> Intelligence-gathering
	Freezing rain	<ul style="list-style-type: none"> Consult with operational ministry partners (i.e., Ministry of Transportation to close highways or make de-icing recommendations)
	Snowstorm/blizzard	<ul style="list-style-type: none"> Consult with operational ministry partners (i.e., Ministry of Transportation to close highways or make de-icing recommendations)
Health and Long-Term Care	Human health (e.g., diseases and epidemics)	<ul style="list-style-type: none"> Immunization Disease and outbreak monitoring
Municipal Affairs	Any emergency that requires the co-ordination of extraordinary provincial expenditures	<ul style="list-style-type: none"> Developing technical standards for the construction of buildings Leadership in land-use planning, such as not allowing development in flood plain areas
Natural Resources and Forestry	Flood	<ul style="list-style-type: none"> Water level monitoring Flood mapping Pre-spring melt planning sessions Maintaining sandbag stockpile
	Forest/wildland fire	<ul style="list-style-type: none"> FireSmart Program (provides information to help prepare for and manage wildfires) Road signs (e.g., safe campfires, restricted fire zones)
	Oil/natural gas	<ul style="list-style-type: none"> Licensing wells Providing well data to the public and municipalities Natural gas storage inspections
Transportation	Transportation	<ul style="list-style-type: none"> Provincial highways management and maintenance Traveller information and highway messages Road user safety campaigns

reduce costs associated with disaster recovery. The evaluation found that mitigation can improve disaster resilience of Canadian communities and reduce financial burden from future disasters.”

Currently, the Canadian federal government’s National Disaster Mitigation Program, a five-year program that began in 2015, is providing funding for mitigation projects intended to reduce the impact of flooding. The program offers municipalities and conservation authorities in Ontario the opportunity to increase their mitigation efforts. While the conservation authorities have been

participating in the program with the support of municipalities, the municipalities themselves have been slow to respond. The Ministry of Municipal Affairs, which administers the program for Ontario, is currently trying to increase awareness of the program in the province so that more municipalities can benefit from it before it expires in 2020. Since the municipalities are on the front lines of responding to local emergencies, increasing their mitigation efforts could decrease their reliance on the Province if an emergency occurs.

RECOMMENDATION 6

To ensure that Ontario is making reasonable efforts to prevent potential hazards or mitigate their impacts, and that these efforts are co-ordinated with emergency management programs, we recommend that the Ministry of Community Safety and Correctional Services through the Provincial Emergency Management Office work with ministries and municipalities to:

- determine what prevention and mitigation activities are being done in the province; and
- assess the costs and benefits of other prevention and mitigation opportunities to determine which ones to implement and incorporate into their emergency management programs.

MINISTRY RESPONSE

The Ministry agrees with the Auditor General's findings on the importance of prevention and mitigation as part of a complete emergency management program.

The Ministry acknowledges that current programs and legislation are focused on preparedness and response, and notes that it is important to recognize that there are other prevention and mitigation activities occurring in Ontario under other programs, outside of emergency management.

The Ministry will develop options to further enhance and co-ordinate Ontario's mitigation programming.

vincial Nuclear Emergency Response Plan (which are critical components of the emergency management program), have not been updated since 2008 and 2009.

Emergency response plans should be updated regularly to incorporate program changes and current best practices (such as the effective use of social media), and to maintain accurate information. Updates should also follow significant emergencies, practice tests whose results suggest improvements are needed, and worldwide events such as terrorist attacks or cyberattacks. Updates must also take into account new or developing factors that may increase the risk of emergencies, such as the effects of climate change. In this way, the most current plans can be used in emergency situations as a step-by-step guide on what to do, whom to contact, and where to find critical information.

Examples of relevant information that should be included in plans are the plans' relationships to other plans (for example, plans of other levels of government and other ministries); data on mutual aid agreements (see **Section 4.5.3**); and a list of core plan elements (for example, roles and responsibilities, procedures and guidelines, operations, training and testing).

Several events have occurred within and outside the province that suggest the need to update the plans dating from 2008 and 2009. For example, a report prepared after the 2013 ice storm by EMO noted the lack of a shared understanding of the roles that senior provincial officials are expected to undertake during an emergency. It recommended updating the provincial plan to define their roles and responsibilities, but this has not been done.

4.4 Emergency Preparedness Activities Need Improvement

4.4.1 Provincial Emergency Response Plans Have Not Been Updated for Recent Events

Although internal requirements call for the provincial emergency response plans to be fully updated every four years, the two provincial plans, the Provincial Emergency Response Plan and the Prov-

4.4.2 Ministry Response Plans Have Not Been Updated for Many Years

The Act requires each ministry to have a general emergency response plan. In addition, the ministries that have been assigned responsibilities for a specific hazard (**Appendix 1**) also need to develop plans for these hazards. Although the Act requires

these plans to be reviewed annually and updated as needed, we noted that many of the plans had not been updated for several years and there was no evidence of annual reviews being done. For example, the severe weather plan at the Ministry of Community Safety and Correctional Services was last updated in 2005; this is of concern due to the increasing effects of climate change and events such as the ice storm that hit southern Ontario in 2013. In addition, the same ministry last updated its terrorism and civil disorder plans in 2010. Given the events occurring across the world, this is an important plan to keep updated. Nevertheless, this ministry and the others were considered to be compliant by EMO according to the annual compliance review process we discussed in **Section 4.1.3**.

We noted that some sections of the plans at the ministries we visited were out of date or missing information, and did not incorporate lessons learned from past events. For example, the plans we reviewed lacked clarity relating to roles and responsibilities to ensure everyone involved understands what they need to do; did not include contact information for key personnel within the ministry or private-sector suppliers, or indicate where it could be found; and did not identify key stakeholders with response roles, such as suppliers and not-for-profit organizations. The plans also did not take into account social media as a powerful means of monitoring information and informing the public.

4.4.3 Approach to Practising for Emergencies Does Not Ensure Preparedness

An important aspect of preparing for emergencies is to perform practice tests for a simulated emergency with all relevant parties. Although we noted that all the ministries that we visited that had been assigned specific hazards were undertaking the annual practice test that the Act requires in order to evaluate their emergency response plans and procedures, we found that the current process is not ensuring that the ministries are adequately prepared to respond to an emergency. The Act also

requires municipalities to conduct annual practice tests, which EMO monitors via the annual municipal compliance checklist.

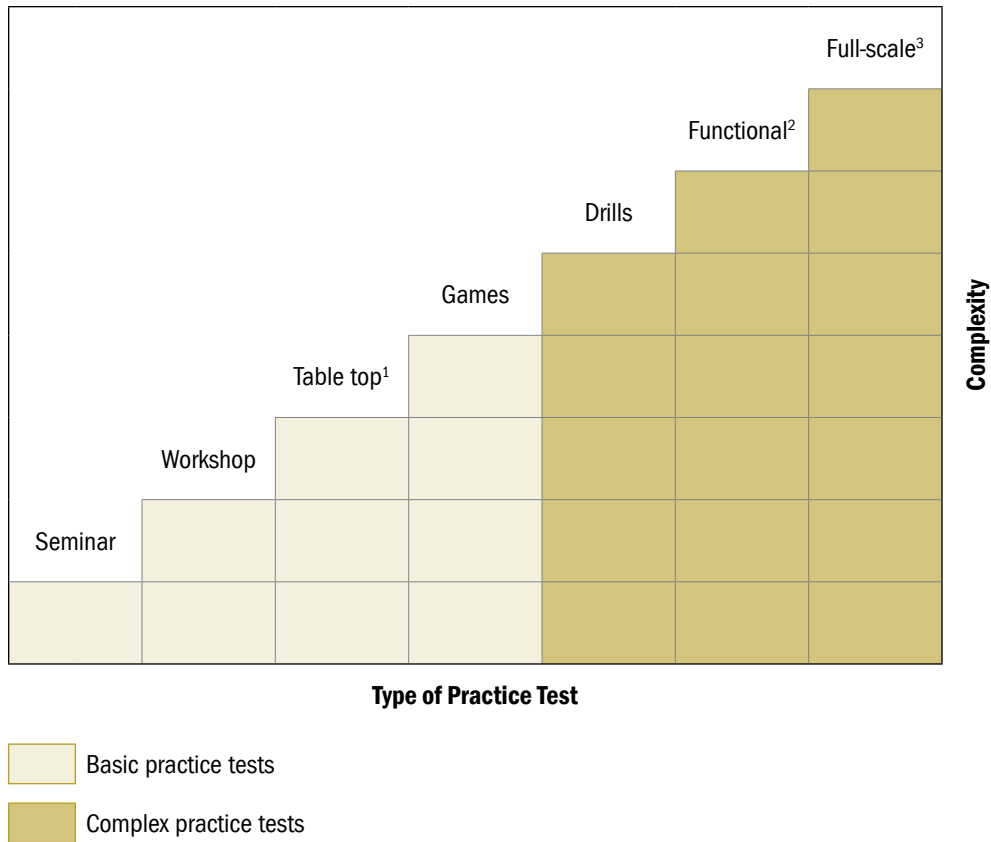
Our expert noted that best practices for practice tests suggest that they should be based on high-risk and high-consequence events and ensure that the plans are practised using a multi-year approach, usually three to five years. The practice tests should increase in complexity and scale over time, starting with basic practice tests that include discussions, seminars or workshops to familiarize participants with plans and policies, and then developing into complex practice tests that closely mirror a real event, with mobilization and deployment of resources and personnel. EMO includes similar information regarding the approach to practice tests on its website; **Figure 6** shows a “building block approach” of increasing complexity that it has developed, while **Figure 7** explains some of the differences between basic and complex practice tests.

During our review, we noted that none of the ministries visited had a multi-year strategy in place to ensure that all emergency response plans are tested periodically. More specifically, 82% of the practice tests performed were of the basic type (see **Figure 8**). Of further concern, for three of the ministries (the Ministry of Community Safety and Correctional Services, the Ministry of Health and Long-Term Care, and the Ministry of Transportation), the majority of the practice tests focused on plans for continuity of government operations, as opposed to response plans for specific emergencies. In general, the focus was on meeting the requirement in legislation of conducting one practice test per year rather than working toward the best preparation for responding to an emergency.

We also noted that about 50% of the complex practice tests performed over the past five years focused on nuclear emergencies. (Of all practice tests performed, 9% were complex nuclear emergency practice tests, compared to 18% in total that were complex tests.) However, complex practice tests should also be completed for other types of emergencies based on a multi-year plan, as noted

Figure 6: Increasing Practice Test Complexity Using the Building Block Approach

Source of data: Ministry of Community Safety and Correctional Services



1. Typically involve discussions regarding a hypothetical, simulated event, generally held in an informal setting.
2. Designed to test and evaluate, in a simulated real-time environment, multiple complexities, functions or activities including the movement of personnel and equipment.
3. Typically the most complex and resource-intensive type of practice tests: multi-agency, multi-jurisdictional practice tests test many facets of emergency response and recovery.

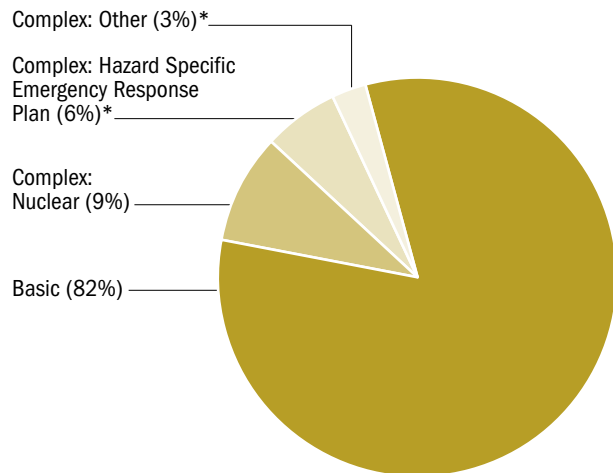
Figure 7: Differences between Basic and Complex Practice Tests of Emergency Preparedness

Source of data: Ministry of Community Safety and Correctional Services

	Basic Practice Tests	Complex Practice Tests
Purpose	Familiarize participants with current plans, policies, agreements and procedures	Validate plans, policies, agreements and procedures; clarify roles and responsibilities; and identify resource gaps in an operational environment
Structure	Aimed at facilitating an understanding of concepts and identifying strengths and shortfalls	Designed to test multiple activities and co-ordination of activities
Setting	Conducted in an informal setting intended to generate discussion of issues through seminars, workshops, tabletop activities and games	Performed in realistic environment Movement of personnel and equipment is simulated
Cost	Less costly	More costly, resulting from increased time and resource commitment during planning and execution

Figure 8: Proportion of Basic vs. Complex Emergency Practice Tests Done in Ontario, Excluding Continuity of Government Operations Plans, 2012–2016

Prepared by the Office of the Auditor General of Ontario



* Nuclear complex practice tests represent 50% of all complex practice tests.

previously. (No complex practice tests were conducted for floods, severe weather events and pandemics, for example.) In addition, we noted that there was only one government-wide complex practice test in the past five years other than for nuclear emergencies and special events, and it focused on the continuity of government operations.

The focus on practice tests for nuclear emergencies is driven by the licensing requirements of the nuclear power companies. The tests are paid for and organized by these companies and generally focus on their concerns. We noted that the tests mainly concentrate on events occurring inside the nuclear power facility—the responsibility of these companies; they usually do not extensively test areas outside the nuclear power facility—the Province’s responsibility.

RECOMMENDATION 7

To ensure that the Province and its ministries are appropriately prepared to respond to an emergency, we recommend that the Ministry of Community Safety and Correctional Services

through the Provincial Emergency Management Office work with ministries to:

- annually review and update their emergency response plans for any recent events or best practices; and
- implement a multi-year testing strategy based on high-risk and high-consequence events that periodically tests emergency response plans using a variety of testing methods.

MINISTRY RESPONSE

The Ministry agrees with the Auditor General’s recommendation relating to the importance of up-to-date emergency plans and regular testing.

The Ministry is currently revising the Provincial Nuclear Emergency Response Plan. Public consultations have been held and a new Plan will be published to incorporate feedback received and will ensure alignment with applicable national and international standards. The Ministry will work with other ministries and designated municipalities to ensure that their plans are reviewed and updated to conform to the new Provincial Nuclear Emergency Response Plan.

As well, the Ministry has begun a revision of the Provincial Emergency Response Plan. As part of this revision process, the Ministry will be consulting with stakeholders and establishing a continuous review cycle.

The Ministry is also developing a provincial multi-year testing strategy based on current risks, needs assessments, corrective action planning, and best practices with ministries and municipalities.

4.4.4 Lessons Learned from Past Events Have Not Been Used to Continuously Improve Emergency Management Programs

Emergency management operates on a cycle of continuous improvement. This includes:

- evaluating an emergency event or practice test of a response plan by reviewing what

happened, why it happened, and how it could be done differently to improve outcomes;

- making any needed updates to emergency management programs and response plans; and
- tracking, following up and reporting to management on the implementation results of recommendations received.

A report commissioned by the Alberta Emergency Management Agency on the Fort McMurray wildfires in 2016 noted that the use of a continuous improvement approach had a positive impact on the response. One example described how the emergency response leadership adapted to the rapidly growing need by assigning provincial employees from other branches to assist with staffing surge capacity problems. (**Section 4.5.1** discusses surge capacity issues we identified in Ontario.)

As noted in **Section 4.4.1**, Ontario does not regularly update or improve its emergency response plans after emergencies occur or when practice tests are undertaken. Neither EMO nor any of the ministries we visited that had been assigned specific hazards had a process in place to track and follow up on lessons learned from practice tests and actual emergencies to ensure they make improvements. As a result, there is a risk that previously identified issues will continue to occur. Examples we noted of recurring issues during recent emergencies in the province include:

- problems with the clarification of roles and responsibilities among responders and stakeholders (James Bay Coast flooding, 2014; Gull Bay highway flooding, 2014);
- issues with communication, including ensuring the appropriate organizations are included in teleconferences (southern Ontario ice storm, 2013; James Bay Coast flooding, 2015); and
- response plans that needed improvement, such as better integration between plans or updates to their content (southern Ontario ice storm, 2013; Gull Bay highway flooding, 2014; James Bay Coast flooding, 2015).

We found that there are no province-wide or ministry criteria to specify when lessons-learned reports should be completed and who should complete them. Our expert noted it is important to have an independent review conducted after a major event occurs.

We reviewed all the practice tests undertaken from 2012 to 2016 across the ministries we visited and found that only half of the reports had been prepared. Similar information is not available for the total number of emergency responses for those years due to a lack of documentation available on these emergencies.

Another important component of continuous improvement is monitoring and learning from global events. For example, following the Fukushima Daiichi nuclear disaster in Japan in 2011, several reports and studies examined lessons learned and ways to improve nuclear emergency management programs, such as reviewing and updating evacuation plans. It was not until 2017 that EMO proposed updates to the Provincial Nuclear Emergency Response plan, six years after the event. However, no changes have been made yet.

RECOMMENDATION 8

To ensure that lessons learned from actual past emergencies and practice tests for response plans are used to improve emergency management programs, we recommend that the Ministry of Community Safety and Correctional Services through the Provincial Emergency Management Office work with ministries to:

- develop standardized criteria that specify when lessons-learned reports are to be completed;
- implement the recommendations of these reports in emergency management programs; and
- track and periodically report on the progress made in implementing them.

MINISTRY RESPONSE

The Ministry agrees with the Auditor General's recommendation and recognizes the importance of identifying and tracking the implementation of lessons learned from events and exercises.

To improve the existing process, the Ministry will work with ministries to develop guidance on when lessons-learned reports should be completed and how recommendations should be addressed, tracked and reported on.

Currently, the Ministry has training courses for exercises that promote the development of lessons-learned reports and corrective action plans. The Ministry also conducts lessons-learned reporting on major provincial incidents (such as the 2013 southern Ontario ice storm).

4.4.5 Preparedness for Nuclear Emergencies Needs Improvement

EMO is responsible for the overall provincial response to nuclear emergencies. Ontario has three nuclear power facilities and 18 operating reactors, which makes it the largest nuclear jurisdiction in North America and one of the largest in the world.

The Canadian Nuclear Safety Commission oversees Canada's nuclear facilities. In an emergency, the Province has responsibility for the off-site response (outside the boundary of the nuclear power facility), while nuclear power companies and the federal government are responsible for the on-site response. EMO's responsibilities include maintaining a response plan for nuclear emergencies (which it has not updated since 2009) and participating in practice tests of the plan (see **Sections 4.4.1 and 4.4.3**).

EMO receives annual funding from nuclear power companies located in Ontario for the nuclear emergency management program. In each of the 2015/16 and 2016/17 fiscal years, it received a total of \$1,125,000. The government's original intention for the funding was to recover 100% of the costs incurred for the nuclear emergency management

program; however, there is no basis to support how the current level of funding was determined or what the funds are intended to cover. In addition, EMO was unable to provide any information on the actual costs spent to operate the provincial nuclear emergency management program. When EMO requested a funding increase in 2015 from \$750,000 to the current amount, the nuclear power companies simply agreed. EMO could not provide us documentation to support either the old amount or the amount of the new request, except the observation that the funding had not been increased for some time. Although the funding is for the provincial nuclear program, it is not tied to any requirements or deliverables.

The nuclear emergency management program requires EMO to have its own staff with specific technical knowledge in order to assess risks and provide the Province with independent and objective advice. However, EMO has not kept this position filled at all times: the senior scientist position was vacant from July 2016 until April 2017. To compensate for this vacancy, EMO relied in part on a technical network of retired nuclear power company staff and a nuclear consulting group. In 2015, a staff member from a nuclear power company worked at EMO while being paid directly by the nuclear power company. This type of arrangement could pose a risk to EMO's objectivity.

Some neighbouring U.S. states have nuclear power facilities that could require an emergency response within Ontario. Yet Ontario municipalities that may be affected by the nuclear power facilities receive little assistance from the Province, in contrast to Ontario municipalities that may be affected by nuclear power facilities located inside the province—even though such assistance is a requirement of the Provincial Nuclear Emergency Response Plan.

Municipalities located near in-province nuclear power facilities receive assistance with the pre-distribution of thyroid blocking pills (KI pills), practice tests, and funding from the nuclear power companies to assist with their emergency management programs and response training. While the

nearby U.S. power company provides some funding to one municipality, the municipality does not think it is adequate to support its nuclear emergency program. In addition, the municipality told us that EMO also does not provide much support or assistance with regard to nuclear emergencies. As a result, it and other municipalities located near out-of-province nuclear facilities are left to fund much of their own emergency preparedness and response activities, even though off-site nuclear emergencies are the Province's responsibility.

RECOMMENDATION 9

To ensure that Ontario's nuclear emergency management program is effectively preparing the Province to respond to nuclear emergencies that may impact Ontarians, we recommend that the Ministry of Community Safety and Correctional Services through the Provincial Emergency Management Office:

- use independent nuclear expertise at all times to assess nuclear risks, plans and response strategies;
- develop agreements with the Ontario nuclear power companies that state the requirements and deliverables for all parties;
- develop agreements with the U.S. nuclear power companies that state the requirements and deliverables for all parties; and
- provide the same level of support and assistance to municipalities regardless of whether a nearby nuclear facility is located inside or outside the province.

MINISTRY RESPONSE

The Ministry agrees with the Auditor General's recommendation, and recognizes the need for independence and clarity in its arrangements with the nuclear power companies, and for the need for all municipalities affected by nuclear facilities to receive the same level of support from the Province.

To improve the independence of its nuclear expertise, the Ministry has staffed the Senior Scientist position.

The Ministry is in the process of updating the Provincial Nuclear Emergency Response Plan, and as part of the development of the site-specific implementing plans will develop agreements with ministries, Ontario and U.S. nuclear power companies, and affected municipalities. These agreements will outline clear deliverables, support, outcomes and performance measures.

4.4.6 Public Education Currently Has Little Reach

The approach to emergency management in Canada, including Ontario, assumes that an individual or family will be self-sufficient for 72 hours during certain kinds of emergencies, such as some weather events or power outages, or if they need to be eventually evacuated from their home. If people are not aware of how to prepare for an emergency, they may be exposed to a number of potential risks if an emergency occurs, increasing their risks and the burden on municipalities and the Province for assistance.

According to a 2014 publication by Statistics Canada, only about half of Ontarians had engaged in any kind of emergency planning activities, which is slightly better than the results for Canada overall. About one-quarter of Ontarians had taken precautionary measures, such as storing water or obtaining back-up generators, which is similar to the national average.

The Act requires each ministry to provide public education on emergency preparedness. We noted that there are benefits to having a co-ordinated provincial approach to public education, which include providing a consistent message and increasing the reach of the information. However, there currently is no such approach in Ontario.

EMO has direct access to the National Alert Aggregation & Dissemination System and has the authority to issue public broadcast alerts in the

province using the system in the event of an actual emergency. Also, ministries and municipalities may request a public broadcast alert to be issued. Through the same system, the Ontario Provincial Police issues amber alerts and Environment Canada issues all alerts relating to weather. Currently, these alerts appear on television and radio stations. Starting in 2018, telecommunications companies will be required to provide cell phones with the capability to receive emergency alerts.

EMO uses the Internet and Twitter to provide public awareness regarding emergencies, and reinforces its messages during the annual emergency preparedness week in May. However, we found that EMO does not measure the impact of these efforts to see if they are effective. We found that EMO's current reach through Twitter is about 55,000 Ontarians, which is less than 0.5% of the population, and therefore may not yet be a very effective source of public education on preparedness.

EMO spent approximately \$100,000 in 2011 on developing a mobile phone application (a "mobile app") to help with public education and information. It was not implemented, as it did not receive approval for use from the Communications Office within the Cabinet Office. We noted that other provinces such as Saskatchewan and Alberta have mobile apps available to assist in informing the public about emergencies and other incidents.

RECOMMENDATION 10

To ensure that Ontarians are informed on how to prepare for an emergency and on risks to be aware of in the province, we recommend that the Ministry of Community Safety and Correctional Services through the Provincial Emergency Management Office work with ministries to:

- develop an appropriate and effective public education program on preparing the public for emergencies that the Province may face;
- implement the program; and
- assess the effectiveness of the program.

MINISTRY RESPONSE

The Ministry agrees with the Auditor General's recommendations.

The Ministry will work with stakeholders to assess current public education programming, identify public education needs, and develop a year-round Ontario-wide public awareness strategy. The Ministry commits to working with ministries to enhance the assessment of public education program effectiveness.

4.5 Planning Improvements Are Needed to Prepare for Effective and Efficient Emergency Response to Potential Future Emergencies

An effective and efficient response to an emergency includes timely and accurate communication, understanding of roles and responsibilities, awareness of the situation as it develops, information sharing and identification of the needed resources. We have noted the following concerns with regard to Ontario's state of readiness to respond to potential emergencies.

4.5.1 Numbers of Trained Staff Are Not Sufficient for a Lengthy Emergency

EMO has not identified and trained sufficient staff from the Ministry or elsewhere who would be prepared to maintain the Provincial Emergency Operations Centre's activities around the clock during a lengthy large-scale emergency (longer than two weeks) or multiple simultaneous emergencies. The current plan is to have internal staff work shifts around the clock during a prolonged emergency response. With staff unable to work effectively around the clock for longer than two weeks, essential operations cannot be guaranteed past this limit. EMO told us that when it followed this plan during the spring 2017 floods, it did not have sufficient staffing resources.

We noted similar issues at the emergency operations centres of two of the ministries we visited: the Ministry of Health and Long-Term Care, and the Ministry of Transportation. For example, during the Ebola disease outbreak starting in 2014 (which did not reach Ontario), the Ministry of Health and Long-Term Care undertook mitigation work for eight months. It told us it activated its continuity of government operations plan so that it could focus on long-term monitoring of the situation.

During a prolonged emergency, it is common to reduce operations to a predetermined level of essential, time-critical services. To achieve this level without having to put all operations on hold, however, requires planning and support for additional staffing resources. EMO and the two ministries previously mentioned have not fully planned for a prolonged emergency.

As mentioned in **Section 4.4.4**, the report on the 2016 wildfires in Fort McMurray, Alberta, noted that having identified and trained provincial employees to fill a range of functions and supporting roles in the emergency operations centre in case an emergency arose was critical to sustain the response required during that long-lasting emergency.

4.5.2 A Standardized Approach to Emergency Response Has Not Been Mandated after Eight Years in Development

A best practice in emergency management is mandating the use of a standardized response approach, including a standard organizational structure, functions, processes and terminology for use at all levels of the response. However, Ontario has not mandated such an approach even though in 2009 it developed one that it intended to implement across the province—the Incident Management System (IMS). IMS has still not been adopted by all ministries and municipalities.

The use of a standardized approach to respond to emergencies can help avoid problems that can occur when multiple organizations are working together. It helps provide a common understanding

of response functions, such as who is in control and who the decision-makers are. Several reports that reviewed past emergencies for lessons learned have made this point. The need to mandate a standardized approach was identified in the lessons-learned report following the SARS emergency in 2003, and again in the public inquiry report following the mall collapse in Elliot Lake in 2012, and in a lessons-learned report prepared by EMO on the 2013 ice storm.

As an example, in the mall collapse in Elliot Lake, it was noted that although the standard response approach was used, it was not fully adhered to or understood by all parties. The chief officer, who should have the final say on all decisions, did not exercise full authority. Also, although the local Ontario Provincial Police (OPP) division was in charge of the operation, when the specialized provincial OPP team arrived, it took over leadership responsibilities that it had no authority for. It was noted that this may have contributed to the delay in response.

RECOMMENDATION 11

To ensure that the Province is ready to respond to emergencies effectively, we recommend that the Ministry of Community Safety and Correctional Services through the Provincial Emergency Management Office (EMO):

- approve and mandate a standardized emergency response approach for the Province; and
- work with ministries to develop a strategy for lengthy, large-scale emergency staffing requirements within EMO's and the ministries' emergency operations centres.

MINISTRY RESPONSE

The Ministry agrees with the Auditor General's recommendation.

The Ministry is currently reviewing the standardized emergency response approach and is working with stakeholders to ensure

its adoption across the province. In April, the Provincial Emergency Management Office re-established the Incident Management System (IMS) Steering Committee to guide this work. The committee consists of almost 30 organizations across Ontario.

The Ministry is committed to:

- revising the IMS Doctrine to make it simpler to use and to ensure alignment with contiguous jurisdictions;
- offering Ontario stakeholders access to a wider suite of courses focused on managing larger-scale and complex incidents; and
- developing a strategy to improve adoption by all responder organizations in Ontario.

The Ministry recognizes the importance of having sufficient staff for lengthy, large-scale emergencies. While the Ministry recognizes that some ministries and municipalities have surge capacity programs in place, the Ministry is working with stakeholders to develop an Incident Management Team/Incident Support Team (IMT/IST) program, to identify and train staff in advanced IMS functions to supplement capacity within emergency operations centres or at sites for extended, large-scale and complex emergency responses.

4.5.3 Agreements Are Not in Place for Resources That May Be Needed in an Emergency Response

Emergency management can improve the efficiency of the response to emergencies and reduce expenses if it anticipates the resources it may need and seeks out reliable sources for them at pre-established rates, and if it has put in place mutual agreements with other parties and establishes or makes arrangements for specialized teams. However, we found that EMO and most of the ministries we visited have few such agreements in place and have not even determined what types of resources they may need, as we describe in the following subsections.

The Province Has Few Mutual Aid Agreements in Place

It is important to have in place mutual aid agreements for emergency assistance. Such agreements, between the Province and other jurisdictions and levels of government, the private sector and non-governmental organizations, could provide for resources such as personnel, equipment, materials and services. EMO and three of the ministries we visited that had been assigned specific hazards (the Ministry of Health and Long-Term Care, the Ministry of Transportation and the Ministry of Community Safety and Correctional Services) had a minimal number of mutual aid agreements in place, while the Ministry of Natural Resources and Forestry had several of these agreements in place.

EMO recognizes that other cross-border agreements should be signed as well. It is currently reviewing how best to enter into these agreements.

The Province Does Not Have a Specialized Response Team to Assist During an Emergency

EMO does not have a specialized provincial response team in place, such as an all-hazard response team that can be brought in for any type of emergency. The concept of such a team was developed in 2008 with the intent to launch it in 2012, but the team is still not in place. The Province's lack of a specialized team was identified in the public inquiry report following the mall collapse in Elliot Lake in 2012, which noted that it should establish agreements with ministries to use their specialized teams and also should have its own specialized response team.

We noted that some specialized teams exist at the ministries we visited. For example, the Ministry of Natural Resources and Forestry's specialized response team includes additional trained staff ready to be deployed on a rotational basis as needed to assist with an emergency. The Ministry of Health and Long-Term Care has a special medical assistance team to provide surge support for medical emergencies.

Agreements for Goods and Services Are Not in Place

EMO and most of the ministries we visited had given little consideration to what goods and services they might need during an emergency, or to what arrangements they might need to make to obtain them at pre-established rates. Not having these arrangements in place can result in delays in obtaining these items or additional costs at a critical time. EMO created a supply chain group in 2008 involving members from all levels of government and the private sector, to provide strategic resources when and where they are needed during large-scale emergencies. However, it was never operationalized.

We noted the following specific issues:

- During the 2013 ice storm in southern Ontario, some municipalities requested help from the Province for debris management that required heavy equipment, chainsaws and other resources. Since the Province and ministries did not have any agreements in place for these types of services, the municipalities had to pay the rates that were being asked at the time of the emergency. We noted instances where these rates varied significantly between municipalities, for example, from \$123 to \$345 per hour for similar services.
- Although the Ministry of Health and Long-Term Care currently has a stockpile of over 26,000 pallets of supplies for medical emergencies, including respirators, face shields, needles, disinfectant wipes, disposable thermometers and other items, more than 80% of these supplies have reached their expiry date. The original cost of the expired supplies is approximately \$45 million. Although the ministry has donated a small amount of supplies to two other countries for emergency situations, it did not put the majority of these supplies into circulation within the health-care system so that they could be used before expiring. The ministry informed us that its budget for these supplies only allowed for

storage and not the management of them. The Ministry of Health and Long-Term Care continues to pay to store these expired supplies at a cost of over \$3 million per year. The ministry has started to dispose of some of the expired supplies. For example, it disposed of a relatively small amount (7%) of the total expired supplies last year—1,500 pallets—at a cost of \$370,000. It will continue to incur these storage and disposal costs until all the expired supplies have been disposed of.

We found one ministry, the Ministry of Natural Resources and Forestry, that planned ahead and has an inventory of sandbags available that are used within the ministry and can be requested by other ministries and municipalities through a cost-recovery program.

RECOMMENDATION 12

To ensure that the Province is ready to respond to emergencies efficiently and economically, we recommend that the Ministry of Community Safety and Correctional Services through the Provincial Emergency Management Office:

- work with ministries to ensure that they plan for and enter into all relevant agreements and plans for any resources that may be needed during an emergency and, whenever possible, ensure that these agreements specify pre-established rates for these resources;
- work with ministries to ensure that they plan for and enter into all relevant agreements and plans for any services that may be needed during an emergency and, whenever possible, ensure that these agreements specify pre-established rates for these resources; and
- develop its own specialized response team.

MINISTRY RESPONSE

The Ministry agrees with the Auditor General's recommendation and recognizes the need to establish agreements for key services and

resources that may be needed during an emergency before any events occur.

The Ministry is working on a process intended to expedite the emergency procurement process, as well as to ensure that prices paid are fair and reasonable. This work will include a variety of services and resources that might be required in an emergency. Options for bolstering capacity in a variety of additional functional areas (for example, heavy equipment, emergency feeding, and others) will be developed.

The Ministry will explore options to ensure Ontario can enter into mutual aid arrangements with contiguous provinces and states. Options for a province-wide mutual aid system will also be developed.

As noted above, the Ministry is also working with stakeholders to develop an Incident Management Team program in order to identify and train staff to supplement response capacity.

4.6 Financial Assistance Recovery Programs Lack Timeliness and a Consistent Approach to Handling Claims

The Public Accounts of Ontario reported expenditures of almost \$50 million under various disaster financial assistance programs to cope with the consequences of natural disasters since the 2012/13 fiscal year. Of these expenses, 71% were for the program for municipalities, and 29% were for the program for Ontarians (including individuals, small businesses, farms and not-for-profit organizations). In addition, Ontario paid \$136.9 million by way of a special program (before receiving the federal reimbursement) to municipalities and conservation authorities for the consequences of the 2013 southern Ontario ice storm.

A recent review of provincial disaster financial assistance programs to help Ontarians recover from disasters resulted in two new programs, mentioned in **Section 2.5**, that began operating in March 2016: Disaster Recovery Assistance for Ontarians

(for homeowners, tenants, small owner-operated businesses and farms, and not-for-profit organizations), and Municipal Disaster Recovery Assistance. The new programs included changes intended as improvements over the previous program, by clarifying the program and eligibility guidelines, lowering the eligibility threshold for municipalities, extending the timeline for municipalities to submit claims, introducing cost-sharing for municipalities, and introducing special provisions for low-income households (see **Figure 9**).

4.6.1 Financial Assistance Recovery Programs Do Not Provide Timely Assistance

The Ministry of Municipal Affairs has set its target for finalizing and making payments for 80% of the eligible claims to individuals under Disaster Recovery Assistance for Ontarians to within eight months following the activation of this program. However, only approximately 40% of claims met this target during the program's first year, 2016, although approximately 60% of the claims were closed within eight months of receiving the claims. Still, this is an improvement over the previous program, which generally took a year or longer for claims to be paid. However, as of the end of August 2017, more than 25% of all claims submitted for events in 2016, which is at least 10 months after the last event occurred (events occurred from March to September 2016) had not been paid. These claims were made by people who experienced hardship, and it is therefore critical that they be reimbursed in a more timely manner.

There is no defined time frame for the activation of the Disaster Recovery Assistance for Ontarians program. We noted that with natural disasters, the 2016 assistance programs were activated from five to 27 days after the damage. It is important that Ontarians in need are informed as to whether financial assistance will be provided in a timely manner.

The Municipal Disaster Recovery Assistance program was activated four times during its first year, 2016. On average, the claims were paid within eight

Figure 9: Summary of Changes to the Provincial Financial Assistance Programs

Source of data: Ministry of Municipal Affairs

Area of Concern	Previous Program	New Program
	Ontario Disaster Relief Assistance Program	Assistance to Municipalities Municipal Disaster Recovery Assistance Program
Predictability: Program guidelines	Municipalities unclear of which circumstances qualify for assistance	Program guidelines with detailed eligibility information
Accessibility: Threshold for qualifying	4% of municipality's Own Purpose taxation levy*	3% of municipality's Own Purpose taxation levy*
Responsiveness: Submission deadline	14-day time frame for submitting disaster assistance requests based on estimates	120-day time frame to request provincial assistance based on actual costs
Fairness: Cost sharing	Municipalities receive either 0% or 100% reimbursement	Cost-sharing formula up to 95% reimbursement
	Assistance to Individuals and Others	
	Ontario Disaster Relief Assistance Program	Disaster Recovery Assistance for Ontarians Program
Transparency: Program guidelines	No published caps, deductibles, eligible or non-eligible expenses	Program criteria and guidelines include published caps and deductibles
Fairness: Fundraising	Province paying up to \$2 for every \$1 raised	No fundraising requirement; assistance provided based on program guidelines
Fairness: Cost sharing	Paid up to 90% with no deductible	Cost subject to a \$500 deductible and paid at 90%
Accessibility: Low-income households	No special provisions	Special provisions (waiver of deductible; eligibility of sewer back-up)

* A municipality's Own Purpose taxation levy is generally the amount of tax a municipality is eligible to collect to fund its own budget, less some adjustments.

months of the submission date. However, there is no target for when payments should be made under this program.

4.6.2 Federal Government Reimbursement for Disaster Not Requested in a Timely Manner

As seen in **Figure 10**, for the 2013 southern Ontario ice storm, it was not until February 2014 that a special assistance program was announced, two months after the storm. Then it was not until September 2014, nine months later, that the program guidelines and claim form were released. The Province made payments for this program from March 2015 to June 2016, up to two-and-a-half years later, totalling \$136.9 million. However, it was not able to request an advance from the federal government as it did not meet the requirement of making payments within 12 months of the event. Further, it has not filed a request for an interim payment with the federal government. The opportunity to do so has now passed due to the fact that it has filed the final claim with the federal government (see **Figure 10**). Historically, payments from the federal government have been finalized between seven and 10 years after the event, so a timely request for an advance or an interim payment is important for the Province's cash flow while waiting for reimbursement.

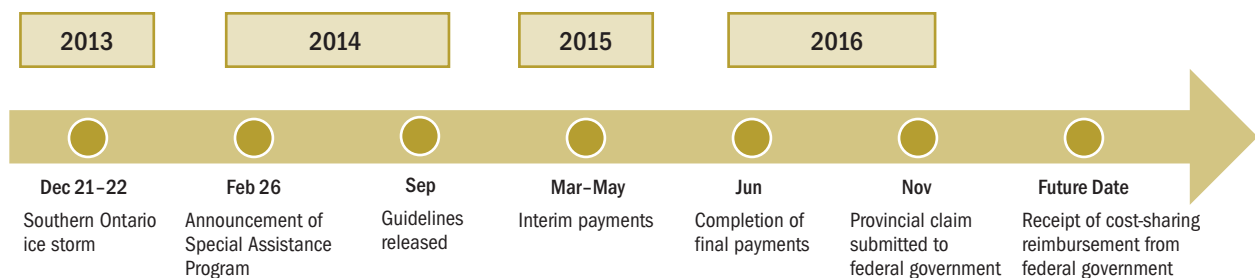
4.6.3 Improved Policies and Procedures Are Needed to Ensure Consistency and Proper Verification of Claims Submitted

Based on a review of claims that had been paid for the two new financial assistance recovery programs, we noted that policies and procedures were applied inconsistently when processing claims. Guidelines are lacking or unclear, leading to exceptions and judgment calls in program administration. We also noted a significant amount of back and forth communication between the ministry (or its contracted service providers who review claims for Disaster Recovery Assistance for Ontarians and reviewed claims for the 2013 southern Ontario ice storm financial assistance program) and claimants on issues with claim submission, which created inefficiencies and increased the time needed to process the claims.

In addition, in reviewing the special program for the 2013 ice storm, we noted several instances where invoices did not contain sufficient detail for us to determine what the claimed expenses were for, or if they even related to ice storm damage. For example, in some instances there was no description of the extent or type of work conducted or the time period the work was for. Further, we noted the use of an informal appeal process for handling disputes after the final claim amount was determined, which created an unfair process for those not aware of this option. This process was not documented in the program guidelines.

Figure 10: Timeline for Ice Storm Assistance Program

Prepared by the Office of the Auditor General of Ontario



4.6.4 Financial Assistance Recovery Programs Do Not Encourage Prevention and Mitigation

Ontario's financial assistance recovery programs are designed to fund repairs back to pre-disaster conditions only, even though it may be beneficial to build better replacement structures to reduce vulnerability to future emergency events. For example, when a water tunnel under a road collapses, the road may flood and give way. Rather than replacing the tunnel as it was when it failed (risking that the same failure could happen again), improving the tunnel could potentially prevent or mitigate the damage from future similar emergencies.

The concept of building back better ties into the five components of emergency management, as the prevention and/or mitigation of future damage could be among the benefits resulting from recovery efforts. Building back better is also one of four priorities under the United Nations Sendai Framework for Disaster Risk Reduction, which Canada has signed on and made a commitment to. This framework focuses on preventing new risks and reducing existing risks of disasters. This is done through mitigation and prevention actions, which have been proven to be more economical than the cost of response and recovery, as noted in **Section 4.3**.

RECOMMENDATION 13

To ensure that the provincial government provides timely and consistent financial assistance to those who are affected by the consequences of natural events, and to encourage prevention and mitigation efforts, we recommend that the Ministry of Municipal Affairs:

- implement processes to allow for the more timely review and payment of claims;
- document the requirements for its claims review processes and ensure that policies and procedures are in place and are applied consistently; and
- consider adding prevention and mitigation incentives to avoid similar consequences

from potential future emergencies to financial assistance programs.

MINISTRY RESPONSE

The Ministry of Municipal Affairs (MMA) agrees with these recommendations and recognizes the importance of providing financial assistance quickly to people who experienced hardship, while maintaining appropriate review and approval processes to ensure public funds are expended properly.

MMA recognizes that significant efficiencies can be achieved if better-quality and more complete applications are received and has taken steps to address this for both disaster programs, including providing better guidance and holding public and municipal information sessions after a natural disaster. More MMA and claims adjusting staff have also been hired to speed up the process. MMA will continue to implement processes to allow for more timely review and payment of claims, while maintaining the oversight needed in administering publicly funded programs. MMA will also review and update its claims review processes and associated policies, procedures and documentation, and apply them consistently. Currently, MMA is working with the Office of the Provincial Controller Division to improve process mapping and internal controls documentation for the programs.

Through building code and land-use planning policies, MMA works to mitigate the potential impacts of disasters before they occur by encouraging the development of resiliently planned communities and requiring well-sited, safe, sound structures. We acknowledge the opportunity to reduce the need for disaster recovery financial assistance through investments in climate change adaptation and will assess the cost/benefit of adding incentives to our disaster recovery programs to support climate resilience.

4.7 The Province Does Not Measure the Performance of Its Emergency Management Program or the State of Readiness in Ontario

The readiness of the Province to respond to emergencies is a key measure of an emergency management program. Yet EMO has not established any performance measures relating to the delivery of program objectives or the effectiveness of the provincial emergency management program. We were told by EMO that it does not know what the overall state of readiness is in Ontario. Similarly, none of the ministries that we visited that had been assigned specific hazards had developed any specific performance measures for their emergency management programs.

Although EMO tracks and reports basic statistical data relating to the provincial emergency management program, such as the number of locally declared emergencies, number of community evacuations required during emergencies and percentage of community populations evacuated, we found that documentation was not always available to support or verify this information.

Examples of performance data that goes beyond basic statistical data and that can be used to evaluate and improve an emergency management program include:

- the frequency with which hazard identification and risk assessment are conducted, and the extent to which data is incorporated into emergency management programs;
- the degree to which emergency management plans reflect best practices and are current; and
- the percentage of lessons learned identified in practice tests that have been implemented.

Measuring and reporting on performance can inform management and other stakeholders on the progress of the emergency management program and whether program objectives are being met sufficiently. It could also assist the oversight body—the Cabinet Committee on Emergency Management—

with its mandate, which is to ensure that Ontario is prepared to address emergencies that may arise. We noted that a best practice in another jurisdiction is to include its state of readiness among the performance information contained in its annual report, highlighting strengths, weaknesses and areas for improvement.

RECOMMENDATION 14

To ensure that the Provincial Emergency Management Office (EMO) and ministries are held accountable for Ontario's state of readiness and that information is available on the performance and effectiveness of their emergency management programs, we recommend that the Ministry of Community Safety and Correctional Services, working through EMO and ministries:

- identify appropriate performance measures related to the emergency management programs' objectives;
- regularly assess the programs' performance; and
- report publicly on the results.

MINISTRY RESPONSE

The Ministry recognizes that performance measurement is important to ensure that emergency management programs are effective.

The Ministry annually reports on the municipal and ministry compliance with the *Emergency Management and Civil Protection Act*. Additionally, the Ministry reports statistical information on emergencies that occur in the province on an annual basis, including performance data for the Provincial Emergency Operations Centre.

The Ministry will review best practices in emergency management and performance management to inform the development of performance indicators. The Ministry will use these performance indicators to assess program performance and will report on results.

Appendix 1: Assignment of Emergencies to Ministries by Order in Council, by Risk Level

Source of data: Ministry of Community Safety and Correctional Services

Assessed Risk ¹	Hazard ¹	2009 Order in Council Assignment of Emergency Management Responsibilities
Extreme	Freezing rain	Community Safety and Correctional Services
	Snowstorm/blizzard	
	Tornado	
	Hazardous materials incident	Environment and Climate Change ²
	Human health	Health and Long-Term Care
	Flood	Natural Resources and Forestry ²
	Forest/wildland fire	
Very High	Geomagnetic storm	Community Safety and Correctional Services
	Terrorism/CBRNE (chemical, biological, radiological, nuclear and explosive)	
	Drinking water	Environment and Climate Change ²
	Oil/natural gas	Natural Resources and Forestry ²
High	Agricultural and food	Agriculture, Food and Rural Affairs
	Nuclear	Community Safety and Correctional Services
	Drought/low water	Natural Resources and Forestry ²
	Critical infrastructure failure	Responsibility varies depending on the nature of the infrastructure failure
Moderate	Civil disorder	Community Safety and Correctional Services
	Cyberattack	
	Earthquake	
	Human-made space object crash	
	Windstorm	
	Landslide	Natural Resources and Forestry ²
	Transportation	Transportation
Low	Building/structural collapse	Community Safety and Correctional Services
	Explosion/fire	
	Extreme temperatures	
	Hurricane	
	Natural space object crash	
	Radiological	
	Dam failure	Natural Resources and Forestry ²

Assessed Risk ¹	Hazard ¹	2009 Order in Council Assignment of Emergency Management Responsibilities
Very Low	Fog	Community Safety and Correctional Services
	Hail	
	Lightning	
	Sabotage	
	Special event (e.g., Pan Am Games, concerts, political rallies, etc.)	
	War and international	
	Energy supply	Energy ²
	Erosion	Natural Resources and Forestry ²
	Land subsidence (e.g., sink holes, drainage of organic soils, etc.)	Natural Resources and Forestry ²
	Mine	Northern Development and Mines ²

1. Assessed risk and type of hazard from the 2012 Provincial Hazard Identification and Risk Assessment. Assessed risk is based on frequency, consequences and changing risk (future projections) of the hazard.
2. Ministry assignments from the 2009 Order in Council have been updated to reflect current ministry names.

Appendix 2: Assignment of Emergencies to Ministries by Order in Council, by Functional Categories

Source of data: Ministry of Community Safety and Correctional Services

Type of Emergency	2009 Order in Council Assignment of Emergency Management Responsibilities
Any emergency related to the administration of justice Provision of legal services to government in an emergency	Attorney General
Any emergency that requires emergency shelter, clothing and food; victim registration and inquiry services (i.e., direct support for family members of missing persons); personal services	Community and Social Services
Any emergency that requires the co-ordination of provincial emergency management Any emergency that requires the continuity of provincial government services	Community Safety and Correctional Services
Any emergency that affects worker health and safety	Labour
Any emergency that affects labour relations and human resource management in the provincial government	Government and Consumer Services ^{1,2}
Any emergency that requires the co-ordination of extraordinary provincial expenditures	Municipal Affairs ²
Any emergency that requires the support of provincial emergency management in Northern Ontario	Northern Development and Mines ²
Health services in an emergency	Health and Long-Term Care

1. Treasury Board Secretariat is now the responsible ministry.

2. Ministry assignments from 2009 Order in Council have been updated to reflect current ministry names.

Appendix 3: History of Emergency Management in Ontario and Selected Related Events

Prepared by the Office of the Auditor General of Ontario using reported data and data from the Ministry of Community Safety and Correctional Services

Period	Evolution of Emergency Management in Ontario	Select Significant Events in Ontario	Select Significant Events outside of Ontario
1950–1969	<ul style="list-style-type: none"> Emergency Measures Ontario was formed Focus on preparedness for nuclear attack Emphasis on continuity of government and public preparedness Provincial leadership role and local volunteers/ programs 	<ul style="list-style-type: none"> Polio epidemic Hurricane Hazel Northeast blackout 	<ul style="list-style-type: none"> Red River flood Alaska earthquake
1970–1979	<ul style="list-style-type: none"> Decentralized: Emergency Measures Ontario disbanded Ministries given leadership for hazard-based programs 	<ul style="list-style-type: none"> Sudbury tornado Mississauga train derailment 	<ul style="list-style-type: none"> Typhoon Nina Three Mile Island nuclear plant “meltdown”
1980–2000	<ul style="list-style-type: none"> Emergency Planning Ontario formed in 1980 and later changed its name to Emergency Measures Ontario <i>Emergency Plans Act</i> (1983) 	<ul style="list-style-type: none"> Barrie tornado Eastern Ontario ice storm Walkerton <i>E. coli</i> outbreak 	<ul style="list-style-type: none"> Chernobyl nuclear disaster Exxon Valdez oil spill
2001–2010	<ul style="list-style-type: none"> Emergency Measures Ontario changed to Emergency Management Ontario (2003) with the passing of new legislation <i>Emergency Management and Civil Protection Act</i> (2003, 2006, 2009) Province of Ontario Emergency Response Plan (2008) Province of Ontario Nuclear Emergency Response Plan (2009) Order in Council for assignment of types of emergencies (2009) Continuity of government operations program moved from Ministry of Government Services to Emergency Management Ontario (2009) 	<ul style="list-style-type: none"> SARS outbreak* Blackout* Peterborough floods H1N1 influenza pandemic 	<ul style="list-style-type: none"> Indian Ocean tsunami Hurricane Katrina BC wildfires Haiti earthquake 9/11
Since 2010	<ul style="list-style-type: none"> Hazard Identification and Risk Assessment (HIRA) (2012) Amalgamation of Emergency Management Ontario and the Office of the Fire Marshal (August 2013) Provincial reviews of the disaster relief program and emergency management (2015, 2017) New Provincial Emergency Operations Centre (2015) 	<ul style="list-style-type: none"> Goderich tornado Elliot Lake mall collapse Southern Ontario ice storm Toronto flash floods 	<ul style="list-style-type: none"> Fukushima nuclear disaster Hurricane Sandy Lac Mégantic train derailment Ebola disease outbreak Fort McMurray wildfire Hurricanes Harvey, Irma and Maria

* Declared provincial emergencies (under previous legislation).

Appendix 4: Description of Roles and Responsibilities of Participants in Emergency Management in Ontario

Prepared by the Office of the Auditor General of Ontario

Participant	Roles and Responsibilities
Federal Government	<ul style="list-style-type: none"> Provides assistance to the provincial government when requested, and may take the lead during emergencies that clearly impact or come under federal jurisdiction.
Lieutenant Governor; Premier	<ul style="list-style-type: none"> Have the power to declare a provincial emergency.
Cabinet Committee on Emergency Management	<ul style="list-style-type: none"> Provides strategic direction on issues that pertain to provincial emergencies referred to this committee by Cabinet or the Premier's Office. Overall responsibility for ensuring the Province is prepared to address emergency situations. Assumes other emergency management responsibilities that Cabinet considers appropriate.
Commissioner of Emergency Management	<ul style="list-style-type: none"> Overall responsibility for provincial management of emergencies.
Chief of Emergency Management	<ul style="list-style-type: none"> Oversees the day-to-day operations of emergency management. Responsible for monitoring, co-ordinating, and assisting in the development of emergency management programs for ministries and municipalities.
Provincial Emergency Management Office	<ul style="list-style-type: none"> Located within the Ministry of Community Safety and Correctional Services. Responsible for the overall co-ordination of emergency management in the province. Maintains the provincial emergency response plans used to co-ordinate the overall provincial emergency response. Maintains the Provincial Emergency Operations Centre. Monitors ministries and municipalities for compliance with legislation. Prepares the provincial hazard identification and risk assessment. Responsible for the overall provincial off-site response to nuclear emergencies (nuclear power companies are responsible for the on-site response).
Ministries	<ul style="list-style-type: none"> All ministries are required to have an emergency management program including an emergency response plan, emergency operations centres, hazard identification and risk assessment, ministry action group (to carry out ministry responsibilities and direct ministry actions) and ministry emergency management co-ordinator. In addition, 13 different ministries have been assigned responsibility for specific types of emergencies, including responsibility for an emergency response plan for the specific type of emergency assigned. See Appendices 1 and 2.
Municipalities	<ul style="list-style-type: none"> Manage local emergencies (main party involved with emergency response in the local area). Emergency programs include the creation of community emergency management programs, plans, forming municipal emergency management control groups (responsible for the monitoring and control of the emergency response, establishing emergency operations centres and having a community emergency management co-ordinator). Emergencies are declared by the head of council; the Province must be notified.
Individuals	<ul style="list-style-type: none"> Individuals are expected to be self-sufficient for 72 hours during an emergency.

Appendix 5: Audit Criteria

Prepared by the Office of the Auditor General of Ontario

1. There is sufficient oversight and co-ordination over emergency management functions within the Province, including those within and among ministries and municipalities, to ensure compliance with legislated requirements and policies and to keep Ontarians safe.
2. Emergency management plans are based on a thorough risk identification and assessment process with a clear assignment of responsibilities of various types of emergencies to appropriate parties. Plans are regularly reviewed, tested and updated accordingly, using knowledge gained from testing and past experiences.
3. There are clear objectives for emergency management plans and programs within the Province that are consistent with the overall provincial emergency management mandate. Performance measures and targets are established, monitored and compared against actual results to ensure that the objectives are achieved and that corrective actions are taken on a timely basis when issues are identified.
4. Emergency management information systems provide timely, accurate and complete information to assist with emergency management and performance measurement and public reporting.
5. Emergency management programs and functions are efficiently managed, and goods and services are acquired economically and in accordance with government requirements.