

Chapter 4

Section 4.12

Ministry of Health and Long-Term Care

Outbreak Preparedness and Management

Follow-up on VFM Section 3.12, *2007 Annual Report*

Background

After sustained human-to-human transmission of the H1N1 influenza-A virus, the World Health Organization declared on June 11, 2009, that the first worldwide influenza pandemic in 41 years—and the first of the new century—was under way. The Ministry of Health and Long-Term Care (Ministry) is responsible for formulating emergency plans for infectious-disease outbreaks such as influenza pandemics. In the 2008/09 fiscal year, the Ministry spent about \$44 million to ensure that Ontario will be prepared in the event of such an outbreak.

We reported on our audit of the Ministry's outbreak preparedness and management in our *2007 Annual Report* that a number of measures had been taken since the SARS outbreak of 2003 to improve the province's readiness to respond to outbreaks of infectious disease. However, we also noted that Ontario, like many other jurisdictions, still was not adequately prepared to respond to large-scale outbreaks of infectious disease. In particular, we noted the following:

- The Ministry had no assurance, despite the comprehensive response plan it had developed, that everyone in the health system knew what to do in planning for and during

a pandemic. One-third of the public health units had not completed their local pandemic plans and some health-care stakeholders were unsure who should be responsible for stockpiling critical supplies.

- Designers of the critical-care triage tool included in the Ministry's pandemic plan recommended that the tool be tested and submitted for public consultation but neither was ever done. The tool is intended to help physicians in acute-care settings make the difficult decisions about prioritizing critical care during a pandemic.
- The availability of non-hospital sites where a significant number of people could be quarantined or isolated for an extended time was limited. The Ministry had no plans to look for additional isolation sites for future outbreaks despite its experience during the SARS outbreak, when it was unable to find suitable venues.
- Although the Ministry instructed local public health units in 2006 to establish up to 750 temporary influenza-assessment centres to relieve pressure on hospitals and other primary-care providers, this had generally not been done when we completed our audit in mid-2007.

- There were a significant number of public health staffing vacancies, with approximately one-third of public health units being without full-time medical officers of health. In addition, close to 100 public health positions within the Ministry were vacant, including some designated as critical during a human-health emergency.
- We found there were no warehouses for the storage of pandemic supplies west of Toronto. This means the Toronto warehouse, with a capacity equal to the combined capacity of the two warehouses in Northern Ontario, would have to serve a population about eight times the size of that served by the Northern Ontario facilities. In addition, there had been no formal assessment of the potential risk involved in storing all supplies for Southern Ontario in a single location.
- The Ministry could not reach some health-care providers because it had been told that contact information held by the College of Physicians and Surgeons of Ontario could be used only in emergencies. Consequently, the Ministry had to purchase the information from a third party—but the data so acquired was incomplete.

We made a number of recommendations for improvement and received commitments from the Ministry that it would take action to address our concerns.

Status of Recommendations

We concluded that the Ministry has, based on the information it provided to us, made good progress in addressing most of our recommendations, with additional work continuing on others due to the longer-term nature of certain of our recommendations. Further work was needed in such areas as ensuring all local public-health units have the necessary plans and resources in place, addressing

staffing shortages in the Ministry's Public Health Division, and ensuring there are sufficient infection-control practitioners available in non-hospital settings.

The status of action taken on each of our recommendations is described below.

PLANNING AND CO-ORDINATION

Recommendation 1

To ensure a consistent and co-ordinated response to infectious-disease outbreaks across the province, the Ministry of Health and Long-Term Care should:

- *review both the Ontario Health Plan for an Influenza Pandemic (OHPIP) and the Ministry Emergency Response Plan regularly to update these documents as necessary;*
- *translate the OHPIP into French as required by legislation;*
- *as recommended by the World Health Organization, periodically conduct simulation exercises to confirm that its response plan on infectious-disease outbreak will work properly;*
- *clarify the responsibilities of all relevant parties so that all parties understand their responsibilities—for example, by providing a summary or checklist of planning activities by pandemic phase and by organization in the next version of the OHPIP; and*
- *develop a template to help public health units complete local pandemic plans.*

Status

The Ministry advised us that it had updated the Ontario Health Plan for an Influenza Pandemic (OHPIP) each year, with release of the 2009 edition set for fall 2009. Although the Ministry last updated its Ministry Emergency Response Plan in 2007, it intended to conduct a review of this plan in fall 2009 to incorporate lessons learned from emergency exercises conducted in 2008 and the H1N1 influenza-A virus outbreak in spring 2009.

The Ministry informed us that it had received an exemption from translating the OHPIP into French

because of its technical and scientific content. However, a number of OHPIP summary-level documents were translated into French and published on the ministry website. As well, the Ministry in August 2008 invited agencies designated and identified under the *French Language Services Act* to join an advisory group to provide advice on ways to further integrate French-language resources into pandemic-planning activities.

Since our last audit, the Ministry told us, it had led and participated in a number of exercises to test the OHPIP and other features of its pandemic-preparedness programs. These included a mass immunization exercise in 2007 and a government-wide full-scale pandemic exercise in 2008. The Ministry was working on preparing lessons-learned reports from these activities at the time of our follow-up.

The Ministry also advised us that it had clarified, documented, and summarized roles and responsibilities for various parties, including elected officials in the government of Ontario, the Chief Medical Officer of Health, municipalities, and most health-service providers. The Ministry was in the process of further clarifying and summarizing roles and responsibilities for community health-service providers and primary-care practitioners for inclusion in the 2009 edition of OHPIP.

With respect to developing a template to help those public health units that had not drawn up their local pandemic plans, the Ministry told us it had pursued other ways to assist the units. At the time of our follow-up, the Ministry indicated that six of the 10 public health units that did not have a finalized plan in place were on their way to completing a plan. The remaining four faced challenges associated with community engagement, and indicated that a template would not be of significant use in resolving these issues. The Ministry reported that it would work with the public health units over summer 2009 to assess their level of pandemic preparedness for a potential H1N1 response.

HEALTH-SYSTEM RESOURCES

Acute Care in Hospitals

Recommendation 2

To ensure that access to acute care in an outbreak is fair and equitable to all Ontarians, the Ministry of Health and Long-Term Care should:

- *consider the need for public consultation, particularly since its recently developed critical-care triage tool may be the first one developed anywhere in the world;*
- *work closely with the medical community to test and refine the critical-care triage tool; and*
- *establish a plan for responding to various levels of surges in patients needing critical care.*

Status

In its initial response to this recommendation, the Ministry said it had launched a pilot study in February 2007 to test the best method for gauging the tool's efficacy and accuracy, and was expecting results by March 2008. However, the Ministry advised us during our follow-up that this study had been delayed due to difficulties in conducting statistical analysis on the generated data. The research team continued to work on the analysis and expected to have results completed by winter 2009, at which time they would be shared with the Ministry. In the meantime, the Ministry advised us that two consultation sessions covering how Ontarians perceived the critical-care triage tool were held in March 2008. The Ministry informed us that it would address the feedback obtained from these consultation sessions in its work on communication planning.

In an effort to refine the critical-care triage tool and to address unique circumstances of the pediatric community, medical experts had devised a separate Pediatric Critical Care Triage Protocol, which was included in the 2008 version of the OHPIP. The Ministry informed us that it would look to conduct further testing and consultation on both the adult and pediatric tools by summer 2010.

The Ministry reported that a project to integrate and co-ordinate approaches to manage surges in outbreaks was tested and introduced to all hospitals in March 2009, with implementation slated for spring 2010. Subsequently, the Ministry planned to take part in a simulation exercise in January 2010 with participating hospitals and Local Health Integration Networks to test the efficacy of the program in responding to large-scale outbreaks. In addition, the Ministry had provided more resources in the OHPIP to guide the acute-care sector in developing a phased approach to surge-capacity management during an influenza pandemic.

Isolation and Quarantine; Transfer of Patients with Infectious Diseases; and Influenza Assessment, Treatment, and Referral Centres

Recommendation 3

To ease the burden on hospitals during an infectious-disease outbreak, the Ministry of Health and Long-Term Care should:

- *ensure that local public health units identify suitable non-hospital quarantine sites for individuals not requiring hospital care and determine if they are properly equipped or how they are to be equipped, so that they will be available when they are needed;*
- *give due consideration to making participation in the Provincial Transfer Authorization Centre compulsory to help prevent the spread of infectious diseases between facilities;*
- *resolve the legal, licensing, scope-of-practice, and funding aspects of community-based influenza assessment, treatment, and referral centres, and monitor their establishment by public health units; and*
- *make alternative arrangements in advance if it is likely that certain local public health units will not have established the required assessment centres.*

Status

The Ontario Agency for Health Protection and Promotion, a new arm's-length agency of the government, advised the Ministry in April 2009 that although there may be a need for quarantine in outbreaks of certain known or unknown diseases, there is no such need in an influenza pandemic. The Agency recommended that, to facilitate care for infected individuals who don't require hospital admission but who lack access to home isolation, and to mitigate community spread of illness during an infectious-disease outbreak, the Ministry should:

- consider non-hospital treatment sites for symptomatic individuals who don't require hospital care;
- develop criteria for these sites, including location, capacity, equipment, supplies, and recommended staffing; and
- develop guidelines and a template agreement that could be used by local public health units in their negotiations with owners of potential treatment sites to facilitate procurement and optimize consistency of this process.

The Ministry indicated it needed to further examine the Agency's recommendations.

While participation in the Provincial Transfer Authorization Centre had not yet been made compulsory for health-care facilities at the time of our follow-up, the Ministry advised us that data from the Centre as of January 2009 indicated substantial participation and compliance rates. In any case, the Ministry said, the Chief Medical Officer of Health has the statutory authority to order health-care providers to use the Centre in the event of an outbreak of immediate risk to the health of people anywhere in Ontario. The Ministry indicated to us that it would further consider making participation in the Centre compulsory as statutory and program opportunities arose.

The Ministry informed us that the resolution of many legal, licensing, scope-of-practice, and funding issues of community-based influenza assessment, treatment, and referral centres would

occur only when an influenza pandemic strikes Ontario. Consistent with our recommendation, the Standing Committee on Public Accounts also recommended that the Ministry monitor public health units' establishment of these centres. At the time of our follow-up, the Ministry was continuing to identify processes required in advance of opening such centres, and to monitor progress made in the development of local pandemic co-ordination plans, including preparations for referral centres.

The Ministry advised us that it had in 2008 revised its strategy on assessment centres, making available a range of alternative arrangements for local planners to consider when preparing for influenza assessment, treatment, and referral, which might reduce the need for these centres. We were told that the Ministry would include further resources, such as tools and guidelines, for these alternative arrangements in the 2009 edition of the OHPIP.

Human Resources in Public Health, and Human Resources in the Health-care Sector

Recommendation 4

To enhance the availability of human resources during an infectious-disease outbreak, the Ministry of Health and Long-Term Care should:

- *take effective measures to fill the large number of vacancies of medical officers of health in the public health units and of other positions in the Ministry's Public Health Division and public health laboratories;*
- *in conjunction with professional associations and regulatory colleges, maintain up-to-date registries of volunteer health-care providers who would be available to assist during outbreaks; and*
- *monitor the success of local public health units in recruiting health-care retirees and other volunteers who could help in an outbreak situation.*

Status

At the time of our *2007 Annual Report*, we reported that one-third of public health units were without a full-time medical officer of health (MOH). By the time of our follow-up, the Ministry informed us that 22 of Ontario's 36 public health units had full-time MOHs while the remaining 14 employed physicians as acting MOHs. The Ministry reported it had taken a number of steps to help fill the MOH vacancies, including:

- allocating more funds for additional infection-prevention and -control practitioners to support MOHs;
- supporting the Physician Re-entry Program, which enables doctors to obtain the educational requirements for MOH positions;
- funding the MOH-in-Training Program, which helps acting MOHs obtain MOH qualifications;
- raising the salaries of MOHs and associate MOHs through the Physician Services Agreement, effective April 1, 2009; and
- ensuring that boards of health appoint acting MOHs to provide coverage and appropriate services in public health units where the MOH position is vacant.

In addition, the Ministry advised us that the Ontario Public Health Laboratories are now part of the Ontario Agency for Health Protection and Promotion, the new arm's-length government agency mentioned earlier. As of April 2009, the Laboratories had recruited 14 specialized staff, including microbiologists, scientists, epidemiologists, and a dedicated outbreak response co-ordinator. Nonetheless, the Ministry noted that it was still addressing Public Health Division vacancies at the time of our follow-up and could not fill all vacancies in the short-term.

The Ministry said it had determined there would be significant challenges in maintaining registries of volunteer health-care providers available to assist during outbreaks. Instead, it had worked with the Federation of Health Regulatory

Colleges to determine a potential role for the health regulatory colleges in notifying health professionals in an emergency and disseminating requests for assistance. In addition, the Ministry had identified newly created resources, such as infection-control resource teams of the Ontario Agency for Health Protection and Promotion, which could be deployed by the Chief Medical Officer of Health to provide such on-site assistance as investigating and managing an outbreak of hospital-acquired infections. As well, the medical colleges of Quebec and Ontario reached agreement in 2009 to recognize the professional qualifications of each other's physicians and to allow certain physicians to practise on both sides of the Quebec–Ontario border. Canada's health ministers also signed a memorandum of understanding in 2009 on the provision of mutual aid in the form of health resources during a public health emergency.

The Ministry indicated that in 2008 it had assessed the current status of local efforts in recruiting health-care retirees and other volunteers who could help in an outbreak, and learned that approximately half of the public health units had initiated this type of planning. The Ministry noted that it would work with the remaining public health units to improve overall preparedness.

MEDICAL INTERVENTION

Recommendation 5

To ensure that vaccines, antiviral drugs, medical supplies, and personal protective equipment for health-care workers can be made available in sufficient quantities and on a timely basis, the Ministry of Health and Long-Term Care should:

- *store, distribute, monitor, and administer antivirals, vaccines, and personal protective equipment so that they are accessible to people when needed; and*
- *emphasize to the broader health-care sector the importance of local stockpiling of personal protective equipment.*

It should also ensure that it recovers the money owed to it by the federal government for its share of the cost of the national antiviral stockpile.

Status

The Ministry said it had taken some steps, and was working on others, to develop strategies to ensure antivirals, vaccines, and personal protective equipment were accessible to people when needed.

In the case of antivirals, the Ministry established a working group to formulate a strategy to ensure antivirals are accessible to the health system within 12 to 24 hours of when patients require treatment (antiviral therapy is ineffective in most patients if administered more than 48 hours after the onset of symptoms).

In the case of vaccines, the Ministry cited the following initiatives since our *2007 Annual Report*:

- The Ministry enumerated and mapped workers in the province's critical infrastructure sectors for the purposes of health-emergency preparedness.
- While the federal government would coordinate security arrangements for the inter-provincial transport of vaccines, the Ministry would work through existing structures in the Provincial Emergency Operations Centre to marshal provincial and local security services to ensure safe transport of vaccines within Ontario.
- In a 2007 exercise, the Ministry analyzed the effect of a pandemic on the warehousing and distribution capabilities of the government pharmacy. The exercise found that the government pharmacy was able to significantly reduce its delivery time to public health units and to identify contingencies needed to address the impact of a pandemic.
- To address the risk of a general breakdown of public order at dispensing sites during mass vaccinations, public health units had developed plans that include security measures to ensure public order. Typically, these plans included roles for local police or other security-service providers. The 2007 exercise

cited above also included a scenario involving a breakdown of public order.

- As Ontario is currently the only province with a universal program for seasonal influenza immunization, the Ministry possesses proven experience in planning and delivering mass immunization campaigns. The established immunization program mechanisms also include policies and procedures necessary to track adverse reactions.

With respect to personal protective equipment, the Ministry had at the time of our follow-up obtained almost all of the required quantities of medical supplies and equipment, including N95 respirators, and expected to have all required items stockpiled by fall 2009. To that end, the Ministry informed us that it was finalizing a distribution strategy for the deployment of such supplies and equipment from the provincial stockpile to health-service providers across the province. Such a strategy would include a streamlined order and entry system for health-service providers to access needed supplies and equipment, as well as appropriate audit and monitoring controls.

To emphasize to the broader health-care sector the importance of local stockpiling of personal protective equipment, the Ministry advised us that it had taken several measures, including:

- a section in the OHPIP that communicates an expectation regarding such stockpiles;
- presentations to health stakeholders; and
- a monthly newsletter from the Ministry on emergency preparedness.

As of April 2009, the Ministry had also provided the health and broader public sectors with access to preferred pricing agreements for personal protective equipment and infection control supplies. This extends the competitive prices negotiated by the Ministry to the health and broader public sectors to encourage stockpiling of these products.

The Ministry also informed us that it had recovered the money owed by the federal government for its share of the cost of the national anti-viral stockpile in 2008.

SITUATION MONITORING AND ASSESSMENT

Recommendation 6

To allow efficient and effective disease surveillance at the provincial level so that the extent and seriousness of any outbreaks can be analyzed and the most appropriate action can be taken, the Ministry of Health and Long-Term Care should:

- expedite its setting of standards for the timely reporting of diseases and for the completeness and integrity of disease data that public health units enter in the integrated Public Health Information System; and
- make plans to ensure that any new surveillance system is implemented only after proper quality assurance—such as improving the accuracy and completeness of the disease data in the existing system before conversion—and after sufficient consultation with and training for users.

Status

We were informed that the Ministry had implemented two policies since our *2007 Annual Report* related to the timeliness of data entry for both routine surveillance and urgent case reporting. According to the Ministry, these policies had as of April 2009 reduced average time between initial case notification at the public health unit, and entry into the disease surveillance system, as follows:

- to 11 days from the two to three weeks reported in our 2007 audit for routine surveillance; and
- to two days from 10 for urgent cases.

The Ministry also indicated that it had taken a number of steps since 2007 to address completeness and integrity of data. These included:

- production of disease-specific user guides, which outlined the standardized definition of each data field, and specified system-mandatory fields, along with those required for surveillance purposes;
- carrying out data-cleaning initiatives that required health units to enter key information

that was missing to ensure availability of complete and high quality data; and

- sharing outbreak-data reports with public health units weekly, resulting in a better quality of outbreak data entered into the disease-surveillance system.

The Ministry advised us that implementation of a new surveillance system was expected to begin in spring 2009 for immunization and inventory management, while the modules for communicable disease and outbreak management were to be completed in winter 2011, pending funding approval. The Ministry had established a quality assurance team that works with various government partners and public health units to standardize processes and data within the new system. As the system progresses through implementation, national and international vocabulary standards for data quality will be implemented. A training working group was also established to identify training requirements, such as adherence to standards, protocols, and surveillance and reporting requirements contained in the Ontario Public Health Standards. The Ministry also established another working group, with representatives from public health units and the Ministry, to advise on implementation of the new surveillance system.

PREVENTION AND REDUCTION IN TRANSMISSION

Recommendation 7

To help minimize the public's exposure during a disease outbreak, the Ministry of Health and Long-Term Care should:

- *collect and analyze data on the sufficiency of infection-control resources in all health-care settings;*
- *establish standards for the infection-control resources required in all health-care settings and follow up to ensure that these standards are being complied with; and*

- *finalize the protocols for surveillance and management of infectious diseases at the public health units.*

Status

In our 2007 Annual Report, we noted that the Ministry had no data on, and sometimes no standards for, the quantity of infection-prevention and infection-control resources, including people and materials. At the time of our follow-up, we concluded that the Ministry had made improvements in this area but that further work was required. The Ministry advised us that:

- Since our 2007 audit, the Provincial Infectious Diseases Advisory Committee (PIDAC) had released Best Practices for Infection Prevention and Control Programs in Ontario. This document applies to a range of health-care settings, including long-term-care facilities, and identifies best practices on the use of infection-control resources. As well, Regional Infection Control Networks, which existed at the time of our audit, and Infection Control Resource Teams, which were recently created with the Ontario Agency for Health Protection and Promotion, supplement these infection-control materials and resources.
- With respect to human infection-control resources, the Ministry had collected and analyzed the ratio of infection control practitioners (ICPs) to beds in the acute-care sector, but not other health-care settings. The Ministry advised us that the PIDAC best practices document above outlined that minimum recommendations for staffing should not be based exclusively on bed numbers. The ratio of ICPs will vary according to the health-care setting, and to the volume and complexity of the ICP's work. Accordingly, while standards for ICP resources in the acute sector and long-term-care homes were available, there were still no standards that indicated the number of ICPs needed to support other health-care services. In addition, while the Ministry

concluded that, as of September 2008, the ICP-to-beds ratio for hospitals was at 1:100, which surpassed the 1:115 national standard, it did not record the actual ICP-to-beds ratio for long-term-care homes (the standard was 1:150 to 1:250).

- The Ministry sets eligibility criteria for, and funds the recruitment of, infection control practitioners (ICPs). Successful ICP recruits who don't have the appropriate certification commit to obtain it within three years of beginning employment. In 2007, we noted that 30% of ICPs in the acute-care sector were certified. At the time of our follow-up, the Ministry informed us that it did not record the professional designations of ICPs in the province, expecting that to be done by the agencies employing them.
- Although compliance to new standards and indicators for hospitals on hand hygiene and patient safety was reported publicly as of April 2009, the hand-hygiene program would not be rolled out to long-term-care home settings until fall 2009.

In the area of finalizing the protocols for surveillance and management of infectious diseases at the public health units, the Ministry advised us that the Ontario Public Health Standards and incorporated protocols were released in October 2008 and came into effect in January 2009. To support application of these standards and protocols, the Ministry informed us that it was working on developing best practices and an infectious-diseases manual with evidence-based information on surveillance, case and contact management, and other public health interventions. These are expected to be released in one to two years.

COMMUNICATION

Recommendation 8

To help ensure timely and coherent information-sharing at various stages of a disease outbreak, the Ministry of Health and Long-Term Care should test its

public communication strategy with all members of the health-care system and the media.

Status

In our *2007 Annual Report*, we noted that the Ministry had established a steering committee to provide supervision and advice in the redesign and implementation of a new public health call system just prior to the end of our audit fieldwork, and that we would review the status of this matter in 2009. The Ministry advised us that, as a result of the steering committee's work, it had reconfigured the public health on-call system for after-hours coverage. The system utilizes existing managers of key branches within the Ministry's public health division to support the Public Health Call Centre and Chief Medical Officer of Health in addressing significant public-health events that occur at night or on weekends. Due to ongoing restructuring of the public health division, the Ministry expected to see a redesign of the current call system in winter 2009.

The Ministry indicated that it had utilized and tested the Health Emergency Information Cycle teleconference system during the provincial response to the new H1N1 influenza virus outbreak. In addition, the Ministry had tested, practised, and implemented communication strategies in response to a number of past actual public health events, including listeriosis, tuberculosis, *E-coli*, and others. Further, the Ministry organized and hosted a risk communication workshop in March 2009 with medical officers of health and public health unit communication leads to share expertise and best practices as they relate to crisis communications for public health events.

PERFORMANCE REPORTING

Recommendation 9

To help enhance its ability to report publicly on outbreak preparedness and management in a transparent and timely manner, the Ministry of Health and Long-Term Care should:

- *collect data and establish reasonable benchmarks for relevant performance measures of outbreak preparedness and management activities; and*
- *report regularly to the public on these performance indicators.*

Status

The Ministry told us that, since our *2007 Annual Report*, it had taken a number of initiatives to enhance its ability to report publicly on outbreak preparedness and management. Among them:

- It planned to release an initial report of public health in Ontario in summer 2009 that examined all of the province's public health units

using more than 30 indicators to facilitate understanding of progress by public health units of similar profile.

- In 2007 and 2008, the Ministry made public its compliance results in the area of emergency management concerning human health, disease, and epidemics under its obligations as set out in the *Emergency Management and Civil Protection Act* and the related Order-in-Council.
- All Ontario hospitals publicly reported patient-safety indicators and standards as of April 2009.