Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.

Influenza pandemic planning: One organization's experience

by Chingiz Amirov, Pat Howard, and Catherine Kohm

Chingiz Amirov is a Director of Infection Prevention and Control at Baycrest. He has a Master in Public Health and a doctorate degree in Preventive Medicine. He has a particular interest in the areas where community-based public health overlaps with hospital-based infection prevention and control.

Patricia Howard, BAdmin (HS), is the Director of Education & Organizational Effectiveness at Baycrest. She focuses on building internal capabilities to enhance team performance, facilitate change, and manage knowledge. She holds a degree in Health Administration, and an advanced designation as a Certified Training and Development Professional.

Catherine Ann Kohm, RN, BA, MEd., is the Director of Nursing at Baycrest. Previously she has managed departments such as utilization, emergency, admitting, pre-admission and social work and multi-cultural health at the University Health Network. Currently, she is on the faculty at the University of Toronto and York University. She is the recipient of several teaching awards and has published and presented in a variety of areas.

Abstract

This article highlights influenza pandemic planning by a geriatric facility in order to ensure preparedness for staff, clients and families. By describing our experience, we hope that other facilities that provide geriatric, long-term care services are able to advance their own pandemic plans.

Résumé

Cet article décrit la planification de la lutte contre une épidémie de grippe d'un établissement de soins gériatriques visant la préparation du personnel, des clients et des familles. Forts de notre expérience, nous espérons que d'autres établissements qui assurent la prestation de soins gériatriques à long terme seront en mesure de faire progresser leurs propres plans de lutte contre une épidémie.

This article describes the influenza pandemic planning undertaken by one health care institution. The facility provides geriatric services through a unique continuum of care, including an 11-story retirement residence, outpatient clinics, a 472-bed nursing home and a 300-bed complex continuing care hospital providing rehabilitation, palliative care and acute care. In this faith-based, academic health sciences centre fully affiliated with the University of Toronto, over 1,700 staff, representing a variety of health disciplines and unregulated workers, are actively involved in care, research and education.

Background

Since the last influenza pandemic in 1968-1969, the risk of the next pandemic has never been greater than at present.¹ Experts at the World Health Organization advise that the next influenza pandemic is overdue. With H5N1 avian influenza consistently advancing its geographical spread around the globe, the world has moved closer to the next pandemic.

Influenza pandemics usually cause abrupt surges in the number of people needing medical or hospital care, temporarily overwhelming health services. High rates of worker absenteeism can interrupt other essential services, such as law enforcement, transportation and communications, and impede business continuity and economic productivity. Experiences during the 2003 outbreak of Severe Acute Respiratory Syndrome (SARS) suggest that the associated social and economic disruptions will be amplified in this century's closely interrelated and interdependent system of trade and commerce.²

Although neither the timing nor the severity of the next influenza pandemic can be predicted with any certainty, we know that the most reliable, predictable and expedient way to improve the defenses against pandemic influenza is to build on existing structures and mechanisms that have worked well in recent public health emergencies. This is the primary focus of a facility-level pandemic plan.

Many influenza pandemic planning guidelines have been prepared by federal and provincial health authorities. Typically, these guidelines do not address the specifics of facility-level preparedness for a public health emer-

Objective: "Social Distance" Recommendations – develop recommendation aimed at increasing "social distance" for clients, staff and visitors at Baycrest

Deliverables	Actions	Timelines	Task Leader	Additional Resources
Deliverable 1: Provide rationale for developing recommendations about increasing "social distance" (i.e., banning/restricting public gatherings) within Baycrest facilities in the event of influenza pandemic.	Activity 1: Present the concept of "social distance" and its role during influenza pandemic to the Infection Control Committee and Senior Management Committee, and have the concept endorsed as a basis for developing recommendations aimed at increasing "social distance" within Baycrest in the event of pandemic.	Timeline 1:		Resource 1:
	Activity 2: Present the concept of "social distance" and its role during influenza pandemic management of entities/sites where "social distance" would be a factor in the event of influenza pandemic to increase their awareness and get their support.	Timeline 2:		Resource 2:
Deliverable 2: The plan is developed around increasing "social distance" for client, staff and visitor populations of Baycrest in the event of pandemic.	Activity 1: Identify (map out) places of public gatherings or other similar "hot spots" throughout Baycrest facilities where "social distance" would be a factor in the event of influenza pandemic.	Timeline 1:		Resource 1:
	Activity 2: Alternatives to the ban and restriction of public gatherings are discussed with the management of entities/sites at Baycrest where "social distance" would be a factor in the event of influenza pandemic.	Timeline 2:		Resource 2:

Figure 1. Baycrest template.

gency, such as a pandemic influenza. Federal, provincial and regional health authorities provide overall direction, guidance and coordination, while health care facilities provide the front-line response in terms of patient management, communication and surveillance. Our organization has the additional challenge of planning to address the needs of a complex, geriatric long-term care facility.

Getting started

The key driver for getting started stemmed from our participation on the Toronto Academic Health Sciences Network (TAHSN) Pandemic Planning Committee. The TAHSN Committee was preparing a manual to guide the member teaching hospitals in their response to an influenza pandemic. Our facility identified that it was essential to prepare our own plan to address the unique needs of our organization.

An effective facility-level response requires planning, at many levels. Our planning started with the establishment of an Influenza Pandemic Planning Committee, composed of a broad representation from across the organization. The committee's ultimate goal was to prepare the organization to develop a planned response in the event of a pandemic.

Representation on the facility pandemic planning committee included medicine, nursing, infection prevention and

control, occupational health and safety, allied health, pharmacy, purchasing, public affairs, information management, human resources, education and bioethics.³

It is important to note that this committee structure is useful for *preparedness*, when the plan is in development. For the actual *response*, the internationally recognized Incident Management System (IMS) is an optimal structure to facilitate a well-coordinated response to pandemic or other emergencies. The IMS is a North American standard, essential for management of any emergency incidents. In the United States and Canada, IMS is used extensively in the fire service and increasingly by police and emergency medical services. Many hospitals and other health care providers are starting to implement IMS within their organizations. The IMS structure is built around five functions: command, operations, planning, logistics and administration.

Preparing the plan

Our approach was to develop a high-level plan for each area represented on the committee, followed by a detailed tactical plan, culminating in a table-top simulation exercise to test our plans and identify gaps.

Initially, the executive team established guiding principles and an overarching plan to guide the organization. An

ethical framework was an important component to guide decision-making during a public health emergency that would impact our clients, families and staff.

Our next step was to ensure that the committee members had a comprehensive understanding of the pandemic influenza phenomenon. To achieve this, we began every meeting with an overview of the latest epidemiological information. Initially, there was considerable anxiety due to extensive media coverage and fear of the unknown. This was mitigated through the use of humour, and reiteration of knowledge that we had gleaned from other meetings, journals, provincial and federal pandemic plans.

The committee developed a common template for the high-level plan. Each area was expected to develop a response to the various phases of the pandemic, ever mindful of the resources required during implementation. See Figure 1 for an example taken from the Infection, Prevention and Control Plan.

Each area presented its plan before the entire committee for discussion and input. This resulted in the identification of gaps and synergies between areas. Each plan was entered into a common data base to allow access to all members.

A cost centre was allocated to influenza pandemic planning to assist the groups in identifying required resources.

Testing the plan

As the plans neared completion, it was important to determine whether they were synchronized and would stand the test of an actual influenza pandemic. A real-life simulation would have been the most effective process to test our plans, but given the size and the complexity of the organization, it was decided that a table-top simulation would be the most practical and useful test of the plans.

Readiness exercise

Prior to the table-top simulation, a three-hour readiness session was held to prepare the teams. The goals of the readiness exercise were threefold:

1. To review all pandemic plans to ensure the teams knew and understood their role and responsibilities in each phase of a pandemic,
2. To identify additional gaps and synergies, and
3. To outline expectations for the upcoming table-top simulation.

At the beginning of the readiness exercise, we reviewed our ethical framework and the guiding principles for pandemic planning. Each group had someone assigned to record notes, which were collected at the end of the session and merged into a document for review by the Influenza Pandemic Planning Committee. Evaluation results indicated that participants found the readiness exercise useful.

Table-top simulation exercise

The process of a table-top simulation is to allow participants to be immersed in their assigned roles, encouraging them to make decisions based on the information they receive during the exercise. The goals of this table-top simulation exercise were to test plans and identify gaps. Two external facilitators with extensive experience in emergency exercise design were hired to assist with the process. Meetings were held with the facilitators to familiarize them with both the organization and the facility's influenza pandemic plan, and finalize the script for the simulation. The exercise was to commence with a Phase 6 alert (World Health Organization)⁴ and then cover initial notification, establishment of the senior response team, coordination of response efforts and the beginning of a recovery plan.

In order to gather diverse feedback, external observers were selected from a variety of health care institutions, the Ministry of Health and Long-Term Care, public health, and emergency management services.

Two weeks prior to the exercise, detailed information was sent to the participants and the observers, clarifying their roles and outlining the objectives and agenda for the exercise. On the day of the exercise, there was a briefing breakfast with the observers to review their role expectations.

The participant tables were organized under the headings: Senior Management, Public Affairs, Resource Support, Logistics, The Hospital, The Home and Supportive Housing. Approximately 60 management and staff were involved in the simulation. It was very important to ensure that the participants were clear that this was a test of the plans, not a test of their knowledge or ability!

The simulation, "Exercise Droplet," began with a briefing by the facilitator to orient the participants to the objectives of the exercise. Participants were expected to react to the initial information that: "The Director of Emergency Medicine in a downtown Toronto hospital has been advised that the emergency department has quarantined a suspected case of type A (H5N1) influenza, but the diagnosis is not yet certain." Participants received subsequent inputs and messages over the three-hour period, with the information expressly simulating the first wave of the influenza pandemic. A copy of the facility's emergency manual and the pandemic response plans were available for reference. As in the readiness exercise, a staff person was assigned the role of recorder at each table to document all actions during the table top. The facilitator asked the participants to use their knowledge of their own facility and local resources to create a reality base for the selected scenario.

"Exercise Droplet" passed exceedingly quickly. Teams were immersed in their roles and the noise level in the room rapidly escalated. All participants were relieved and exhausted by the end of the session, and a debriefing and lunch concluded the experience.

Lessons learned

Two methods were used to collect feedback following the table-top exercise: an immediate post-exercise debrief discussion and a structured survey distributed one week following the simulation. In addition, the facilitators provided a detailed written report on the exercise, summarizing strengths and weaknesses and providing recommendations. The feedback was tabulated, resulting in a list of suggestions for the Influenza Pandemic Planning Committee to consider.

The following summarizes some of the insights from the evaluations and observers:

What went well

- holding a readiness session one month prior to the simulation was a valuable exercise,
- the simulation was a very effective internal test of plans, and successful in identifying gaps and overlaps,
- external and internal observers provided an objective view of the process and the feedback from a broad variety of perspectives was extremely useful.

Gaps and opportunities for improvement

- the recommendation to implement the Incident Management System framework within the organization, with individuals targeted for key roles, will ensure common language and maximize coordination,
- testing linkages with the broader community was a key piece that was missing.

Next steps

Despite the efforts that the organization has devoted to influenza pandemic planning over the last two years, there remain many tasks and activities to be addressed. One of the first steps is to review the gaps identified by staff, external observers and facilitators.

In addition to working on our plans with a renewed vigour, we have readjusted our original committee structure to more closely align it with both the IMS structure and our internal organizational structure.

We anticipate that the ongoing process of refining our plans will assist us in managing not only an avian flu outbreak should it occur, but will also be transferable to any public health emergency.

References

1. Avian influenza, including influenza A (H5N1), in humans: WHO interim infection control guideline for health care facilities. Manila, Philippines: WHO Regional Office for the Western Pacific. Revised, April 24, 2006.
2. WHO strategic action plan for pandemic influenza 2006-2007. WHO;2006.
3. Toronto Academic Health Science Network. Pandemic influenza planning guidelines 2006. Toronto, ON: Author; May 31, 2006.
4. WHO influenza preparedness plan. WHO, Department of Communicable Disease, Surveillance and Response. Updated 2005.

SMARTER DECISIONS ...

SUSAN RICHARDSON
Vice-President,
Patient Services & Allied
Health, Department of
Administration,
Children's Hospital of
Eastern Ontario
(Ontario)

ANDREA SEYMOUR
Vice President and CIO,
Department of Health Information
and Diagnostic Services
River Valley Health
(New Brunswick)

KEVIN MERCER
Executive Director and Chief
Executive Officer,
Department of Administration
CCAC of Waterloo Region
(Ontario)

In today's constrained health system, every administrative decision is critical. To make wise choices, nurse leaders, physician leaders and other health service executives rely on experience and training. Yet volumes of insightful research findings exist that could offer additional guidance as these leaders seek to gain efficiencies, maximize resources and improve patient care and outcomes. But just how can they access that research, interpret the findings and apply the recommendations to the day-to-day administration of Canada's healthcare organizations?

The Executive Training for Research Application (EXTRA) Program offers training to healthcare leaders and organizations on how to incorporate health service research in the decision-making process.

...STRONGER HEALTH SYSTEM

EXTRA is a challenging and rewarding two-year fellowship program that combines residency seminars, e-learning, mentorship and networking components with intervention projects undertaken in fellows' home institutions. Delivered by an expert faculty drawn from both Canada and abroad, EXTRA is an exceptional professional development opportunity available to participants in their choice of French or English.

Susan Richardson, Andrea Seymour and Kevin Mercer are part of the second cohort of fellows. They recognize that EXTRA will help them become better leaders, initiate a cultural shift within their health institutions toward evidence-based decision-making and inspire positive, effective change throughout the Canadian healthcare system.

CHSRF FORCES
Canadian Health Services Research Foundation
Fondation canadienne de la recherche sur les services de santé

Conseilium Québecois
ASSOCIATION MÉDICALE CANADIENNE

CCAC
CANADIAN COLLEGE OF
HEALTH SERVICE EXECUTIVES
Collège canadien des
directeurs de services de santé

CMAC
CANADIAN MEDICAL ASSOCIATION
ASSOCIATION MÉDICALE
DES DOCTEURS ET
DES FEMMES
DU CANADA

EXTRA call for applications available online every October at www.chsrf.ca/extra

EXTRA IS FUNDED BY A GRANT FROM HEALTH CANADA. THE VIEWS EXPRESSED HEREIN DO NOT NECESSARILY REPRESENT THE VIEWS OF HEALTH CANADA.