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.
Will we be judged ready for the influenza pandemic?

Ray J. Racette, CHE, is President and Chief Executive Officer of the Canadian College of Health Service Executives, a position he has held since February, 2008. Ray holds a Master in Health Administration degree from the University of Ottawa and is a Certified Health Executive with CCHSE.

In May 2006, the Canadian College of Health Service Executives issued a position paper entitled The Role of Health Care Leaders in Planning for an Influenza Pandemic. It was a well-researched overview of leadership accountabilities current at that time. However, although there has been considerable work throughout Canada and around the world to prepare for a pandemic, much has also changed over the intervening period regarding expectations. The complexities of preparing for a pandemic are immense. We have spent the last three years discussing pandemic planning at conferences and in the College’s Health Professional Roundtable for Strategy (HRPS) sessions. Are we ready? This question is extremely timely for all health leaders as we react to the most recent scare with the severe respiratory illness outbreak, H1N1, which originated in Mexico. So let us catch up to where we are today.

As shown in Table 1, the World Health Organization has a six-level pandemic alert scale.

| Inter-pandemic phase | Low risk of human cases | 1 |
|----------------------|-------------------------|---|
| New virus in animals, no human cases | Higher risk of human cases | 2 |
| Pandemic alert | No or very limited human-to-human transmission | 3 |
| New virus causes human cases | Evidence of increased human-to-human transmission | 4 |
| Pandemic | Efficient and sustained human-to-human transmission | 6 |

In reaction to the outbreak of H1N1, which began April 17, 2009, the WHO on April 28 raised the alert status to Level 4, meaning there was evidence of increased human-to-human transmission. On April 29, the alert status was raised to Level 5, indicating evidence of significant human-to-human transmission. As leaders, we are now the closest ever in our careers to a pandemic. But will the pandemic actually happen? If we learn from history and study pandemics over the last 300 years, it is evident that they regularly occur. Since 1700, no more than 42 years have passed without a pandemic event. It has been 41 years since the last pandemic so the risk of another is high enough to warrant urgent readiness. Global travel patterns make the risk of a pandemic homogeneous around the world so that all countries are equally vulnerable to a pandemic that originates in one country.

There were several lessons learned from the Severe Acute Respiratory Syndrome (SARS) crisis in 2003 that have significantly improved our planning for a pandemic event. However, there are distinct differences between SARS and an influenza pandemic that are important to recognize.
WILL WE BE JUDGED READY FOR THE INFLUENZA PANDEMIC?

Influenza is community acquired, has a significantly shorter incubation period and spreads very quickly. The human impact of the SARS crisis was significant – 375 cases, 24% of patients required ICU admission, 17% of patients died. Of the people who contracted SARS, 72% were infected in a health care setting and, of those, 45% were health care workers. Despite the low number of cases relative to a pandemic, the SARS crisis had a profound impact on the entire Ontario health system.

The Public Health Agency of Canada has estimated that, in the event of an influenza pandemic, 4.5 to 10.6 million Canadians (15-35% of the population) will become clinically ill. Two to five million (50% of the clinically ill) will require outpatient care, 34,000 to 138,000 (1%) will require hospitalization and recover and 11,000 to 58,000 (0.4% of the clinically ill) will die. FluSurge, a software program used by the U.S. Centers for Disease Control and Prevention (CDC), projected the following data (see Table 3), which convey the severe stress that the pandemic will cause at hospitals.

For health systems, the pandemic will potentially represent the collision of many crises that exacerbate one another:

- an intense and sustained surge of highly ill patients,
- congestion at all service access points – medical clinics, emergency departments, walk-in clinics,
- a significantly diminished ability to treat patients due to staff illness,
- a substantial additional level of absenteeism due to fear of becoming ill and the need to care for family members,
- a severe shortage of specific capacities to care for the most seriously ill – ICU beds and ventilator support, and
- potential shortages of supplies and equipment to manage the surge in demand.

In its pandemic planning, Australia has identified the following utilization of hospitalized pandemic patients in the flu surge:

- 100% will use an acute bed for 5 days,
- 15% will use an ICU bed for 10 days,
- 7.5% will use ventilator support for 10 days.

Since most health systems are already operating at capacity or beyond, the pandemic impact will be overwhelming. Recognizing this, health system leaders and health organiza-
Pandemic Influenza Assumptions

- A symptomatic attack of 30% (that will become sick)
- Absenteeism rate of 30% (primary staff illness)
- Absenteeism rate of 15% (secondary staff impacts)
- Case fatality rate approx 2.3%
- Overall mortality rate of 0.68%
- Duration of pandemic cycle 12 weeks
- A person will be sick for approx 7 days (children may remain infectious for up to 21 days)
- The flu surge forecast assumes that each hospitalised influenza patient will require an average of either 5 ICU or 10 non ICU days of hospital care with:
  - 100% using an acute bed for 5 days
  - 15% using an ICU bed for 10 days
  - 7.5% using ventilator support for 10 days

There were key system findings in Justice Archie Campbell’s SARS Commission Report, Spring of Fear,9 that raised the expectations for pandemic planning and response across the country. In his concluding paragraph of Volume 1, Justice Campbell states:

“SARS taught us that we must be ready for the unseen. That is one of the most important lessons of SARS. Although no one did foresee and perhaps no one could foresee the unique convergence of factors that made SARS a perfect storm, we know now that new microbial threats like SARS have happened and can happen again. However, there is no longer any excuse for governments and hospitals to be caught off guard and no longer any excuse for health workers not to have available the maximum level of protection through appropriate equipment and training.”

A new concept was articulated in the Commission report. Referred to as the Precautionary Principle,10 it states that reasonable actions to reduce risk need not await scientific certainty if they are considered to improve public health and worker safety. This would extend to continuing with levels of heightened precautions even when experts believe they are no longer necessary.

A major problem during the SARS crisis was fragmentation and inconsistency of communication. This contributed to decision-making problems and undermined workers’ confidence and, ultimately, their safety. Leadership has a significant role to play to ensure smooth and effective communication:

- For outbreak alerts what will be the role of public health, regions and hospitals?
- What process will be in place to ensure accurate advice on diagnosis?
- How will frontline workers and unions be engaged?
- What education will be provided to staff so they are informed during all phases of an outbreak?
- How will communications be staged to match WHO phases?

When the pandemic is announced, there will be global panic as the media, Internet and public discourse become saturated and focused on the spreading, worldwide outbreak. Public fear was evident during the SARS crisis even though the majority of cases were clustered in Toronto, and there is evidence of fear today with the outbreak of H1N1 even though the total cases reported worldwide are still relatively small (185 as of April 29, 2009).11 What happens to our health system workers as this panic wave sweeps society? A critical element for pandemic planning will be managing staff distress, and preparatory work will be critical. Staff will need to know about and be involved in developing pandemic plans and policies. Crisis management and employee assistance programs must be readily available due to the intense pressures staff will face, including personal fear for their own and their
families’ safety. Leaders will need to engage knowledgeable opinion leaders who are trusted by staff to assist with messaging.

The major problem facing the health system during the pandemic, beyond the demand for care, will be the supply of health care workers. The Canadian Pandemic Plan for the Health Sector identifies several human resource impacts resulting from an influenza pandemic:

- total workplace absenteeism of 20-25% during the peak two-week period,
- some workers will not report to work in order to take care of loved ones,
- some workers who remain on the job will not be as productive as usual due to stress, injury and illness.

In order to manage a severe outbreak, governments have two major objectives: (1) containing the virus to try and prevent its spread and (2) maintaining essential services to support the population.

To achieve these objectives, governments have developed extensive action plans and a variety of strategies. Since development of a specific vaccine for the pandemic influenza virus will take several months, governments have made the decision to stockpile antivirals as a strategy for reducing morbidity and mortality and ensuring service continuity of the health care sector. The differences between countries are not centred on the stockpiling decision but rather the size of the stockpile to support the population. Canada has purchased sufficient antivirals to support 17.5% of its population. Figure 2 shows by country the size of the antiviral stockpile relative to population covered. Some countries such as the United Kingdom and France have stockpiles for at least 50% of the population and all comparator G7 countries’ stockpile levels are greater than Canada’s. Why the difference in stockpile levels since the objective of all countries is surely the same?

The Task Group on Antivirals for Prophylaxis (TGAP), under the auspices of the Pan-Canadian Public Health Network Council, released its report to the Canadian government in August 2008, with the following recommendations on the use of antivirals during an influenza pandemic:

- Post-exposure prophylaxis of close contacts should be offered in Canada during the WHO pandemic alert period Phases 4 and 5;
- During implementation of the early treatment strategy, critical infrastructure-sector workers will have access to rapid assessment and early treatment;
- Use of antivirals for outbreak control, in closed health care facilities and other closed facilities where high-risk people reside during WHO pandemic alert period Phase 6, and
- Antivirals for pre-exposure prophylaxis not to be stockpiled for any of the pandemic phases.

The key difference in Canada’s stockpile levels versus other G7 countries is the federal government’s decision to not use the Canadian stockpile for pre-exposure prophylaxis for es-

---

**Figure 2. Antiviral stockpiling by country.**

Sources: Media/National pandemic plans and GeoHive.com [as of May 2008]. These figures:
- Illustrate the number of antiviral treatments that governments have stockpiled or intend to stockpile, as a percentage of the total country population
- Are publicly available figures; that have been made public either via national pandemic plans or media releases
- May not be a true reflection of actual stockpiles (i.e., some governments may have stockpiled more but have not publicly communicated updated figures)
- Report antiviral stockpiles; in some cases the coverage includes Tamiflu and Relenza, in others only Tamiflu
sential workers, including those in the health care system. The decision creates a challenge for leadership since government policy traditionally rules in these areas. This challenge plays out in many ways.

The Ontario Hospital Association in its response to the national policy recommendations stated that the TGAP recommendations.  

1. “Do not support the provision of antivirals to hospital staff for prophylaxis during an outbreak of pandemic influenza, resulting in a lower standard of care than is currently provided during outbreaks.

2. Proposed outbreak control measures during the pandemic will result in patients and health care workers in ‘closed’ facilities being treated differently than those in acute care hospitals, even though the risk may be the same.

3. Do not reflect the realities of the health system where in the absence of clear MOHLTC direction regarding the use of antiviral prophylaxis, most Ontario hospitals developed and implemented their own policies, with many supporting the use of antivirals for prophylaxis and having stockpiles in place.”

Provinces may choose to increase their stockpiles. Ontario currently has an antiviral stockpile large enough to treat 25% of the province’s population. The Ontario Health Plan for an Influenza Pandemic includes a statement on prophylaxis:

“Currently there is no evidence that putting large groups of otherwise healthy Canadians on antiviral drugs to prevent influenza (prophylaxis) will stop or slow the spread of a pandemic; however prophylaxis with antiviral drugs may play a key role in maintaining critical services (i.e., preventing infection in and providing reassurance to people caring for individuals with influenza as well as workers in critical industries) until a vaccine becomes available.”

Some hospitals, corporations and private-sector companies have chosen to stockpile antivirals for their own workers in order to support worker safety, reduce staff absenteeism and reduce worker anxiety of becoming ill in the process of providing care.

What then are leaders and health corporations to do when facing conflicting perspectives on how to proceed? What are the legal issues associated with making choices when there is no clear “right” direction established by policy or science?

Federal and provincial law mandates private and institutional pandemic planning. In Ontario, as in other provinces, different laws cover various aspects of pandemic planning. Directors and health leaders should be aware of any specific language in their jurisdictions pertaining to pandemic planning and worker protection. The Ontario Occupational Health and Safety Act requires institutions to take every reasonable precaution when protecting workers.

The Ontario Public Hospitals Act contains requirements for ensuring business continuity.

“The administrator, medical staff, chief nursing executive, staff nurses and nurses who are managers are required to develop plans to deal with:

- emergencies that could place a greater than normal demand on the services provided by the hospital or disrupt the normal hospital routine, and
- the failure to provide services by persons who ordinarily provide services in the hospital.”

Officers and directors of health corporations have a duty in law to take reasonable steps to prevent harm to employees. Determining what is reasonable depends on context and knowledge. The growing awareness of the potential for a pandemic means that taking steps to mitigate harm is more likely to be seen as reasonable. Directors have a fiduciary responsibility to act honestly and in good faith in the best interests of the corporation. They must exercise the care (precautionary principle), diligence and skill that a reasonably prudent person would exercise in comparable circumstances (duty of care). The Supreme Court of Canada has confirmed that the duty of care is tested against an objective standard and the standard is not perfection. The courts are more concerned about process, that is, was the information used for making the decision sufficient, was the information examined critically and was appropriate time allocated to make the decision?

Recognizing that a future pandemic is inevitable, preparation is the key to mitigating the risks and disruption, and ensuring recovery after the impact. Health corporations may have liability for either a failure to prepare or a failure to respond. Since there is no clear guideline, consensus or practice on the planned pre-exposure use of antivirals for employee safety, it will be imperative for boards and health leaders to document the process and the decisions in order to meet the test of both the duty to care and the precautionary principle.

Ultimately, when the pandemic occurs and the population and health systems recover, we will know as leaders how successful our planning strategies have been in meeting this unprecedented challenge in our careers. We will be judged for our preparation and our response. Are we ready for this test?

References
1. Canadian College of Health Service Executives. Position paper on pandemic planning. The role of health care leaders in planning for an influenza pandemic. Ottawa, ON: Author, May 2006. Available from: www.cchse.org/default1b.asp?active_page_id=857
2. World Health Organization, Global Influenza Programme. Pandemic influenza preparedness and response. Geneva, Switzerland: Author, 2009.
3. McGeer Allison. A perspective on pandemic influenza and Canadian hospitals. Presentation to the Canadian College of Health Service Executives, Health Professional Roundtable for Strategy, March 2009.
4. King John. Pandemic planning. Presentation to the Canadian College of Health Service Executives, Health Professional Roundtable for Strategy; September 2008.

5. The SARS Commission. Spring of fear, executive summary, volume 1 (p. 12). Toronto, ON: Author; December 2006

6. Public Health Agency of Canada. The Canadian pandemic influenza plan for the health sector (Section 2, p. 5). Ottawa, ON: Author; 2006. Available from: www.phac-aspc.gc.ca/cipp-pclipi/s02-eng.php

7. Toner Eric, Waldhorn Richard. What hospitals should do to prepare for an influenza pandemic. Biosecurity and Bioterrorism: Biodefense Strategy, Practice, and Science 2006;4(4). Available from: http://www.upmc-biosecurity.org/website/resources/publications/2006_orig-articles/2006_article_pdfs/2006-12-15-hospitalpreppforpandemic.pdf

8. Di Rienzo M. Preparing for the next influenza pandemic. Presentation to the Canadian College of Health Service Executives, Health Professional Roundtable for Strategy; March 2009.

9. The SARS Commission. Spring of fear, executive summary, volume 1 (p. 14). Toronto, ON: Author; December 2006

10. The SARS Commission. Spring of fear, final report (p. 1158). Toronto, ON: Author; 2007.

11. Galloway G, Alphonso C. All humanity urged to fight imminent swine flu pandemic. The Globe and Mail, April 30, 2009. Available from: www.theglobeandmail.com/

12. Public Health Agency of Canada. The Canadian pandemic influenza plan for the health sector (Section 2.4, p. 4). Ottawa, ON: Author; 2006. Available from: www.phac-aspc.gc.ca/cipp-pclipi/s02-eng.php

13. Antiviral stockpiling by county. Sources: Media / national pandemic plans and GeoHive.com (as of May 2008).

14. Public Health Agency of Canada, Pan-Canadian Public Health Network. Pan-Canadian Public Health Network Council report and recommendations on the use of antivirals for prophylaxis during an influenza pandemic; June 2007 (modified August 2008). Available from: www.phac-aspc.gc.ca/publicat/2008/prapip-uappi/07a-eng.php

15. Ontario Hospital Association. National policy recommendations on the use of antivirals for prevention during an influenza pandemic. Toronto, ON: Author; September 3, 2008. Available from: www.oha.com

16. Ontario Ministry of Health and Long-Term Care, Emergency Management Unit. Ontario health plan for an influenza pandemic (Chapter 9. Antiviral drugs and vaccine). Toronto, ON: Author. August 2008. Available from: www.health.gov.on.ca/english/providers/program/emu/pan_flu/ohpip2/plan_full.pdf

17. The Supreme Court of Canada. Peoples Department Stores Inc. (Trustee of) v. Wise, [2004] 3 S.C.R. 461, 2004 SCC 68. Available from: www.canlii.org/en/ca/scc/doc/2004/2004scc68/2004scc68.html

---

**EXTRA/FORCES**

EXECUTIVE TRAINING FOR RESEARCH APPLICATION (EXTRA) FELLOWSHIP PROGRAM

**EXTRA** is a challenging and rewarding PART-TIME program that over 2 years trains leaders like you to find, interpret and apply RESEARCH-BASED EVIDENCE to inform decision-making and organizational change.

**STRONG DECISIONS RELY ON STRONG EVIDENCE**

EXTRA makes that happen!

APPLICATIONS ACCEPTED FROM:

- DIRECT CARE DELIVERY ORGANIZATIONS (individual and teams)
- GOVERNMENT MINISTRIES OR DEPARTMENTS (individual and teams)

To find out more about this exciting program, visit our Web site at www.chsrf.ca/extra/ or call 613 728-2238.

CURRENT CALL FOR APPLICATIONS 1 October 2009
CLOSE OF COMPETITION 2 March 2010

---

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