



# British Columbia H1N1 Pandemic Influenza Response Plan (2009)

## Human Resources Framework

*October 2009*

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# EXECUTIVE SUMMARY

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## Overview and Background

The Human Resources Framework (HRF) outlines the overall human resources plan that will guide B.C. health care in addressing pandemic influenza in 2009. It flows from the *H1N1 Pandemic Influenza Response Plan 2009* (PIRP) of the Province of British Columbia. The goals of pandemic influenza planning in B.C. are set out in section 2 of the *B.C. Planning Assumptions for Pandemic Preparedness* document, and can be stated as follows:

- To minimize serious illness and death arising from infection during an influenza pandemic.
- To minimize societal and economic disruption in British Columbia.

The magnitude of the impact of pandemic influenza is enormous: in a severe pandemic potentially three quarters of a million people seeking treatment at a time when the health system is missing up to a quarter of its frontline workers due to the disease. Planning for this tsunami of disease is made all the more difficult by the fact that our extremely complex health care system is already operating near or at capacity in many areas. Decisions made in preparation for pandemic influenza have “spillover” consequences into the normal operation of a health system that costs approximately \$14.16 billion annually to operate and which currently consumes 43 per cent of the provincial budget.<sup>1</sup> The HRF was developed by the Health Employers Association of British Columbia (HEABC) and has been reviewed by health sector employers and unions. It is the

overarching strategy that will guide health care employers and service providers as they make their plans for dealing with H1N1 in 2009.

## Objectives of the Framework

1. To ensure an adequate supply of health care workers during a pandemic event.
2. To enable provincial coordination and optimization of scarce resources before, during and after a pandemic.
3. To encourage alignment between the *BC Pandemic Influenza Preparedness Plan – Guidelines for Planning, Response and Recovery* (BCPIPP), this strategy and the pandemic influenza preparations of B.C. health employers, unions, professional associations, regulatory bodies, members of the public and individual health care workers.

In drafting the HRF, the planning group examined the existing situation in B.C., including the plans of the six health authorities. Also, plans from other jurisdictions in Canada and abroad were examined to determine if there are best practices that could be adapted to the B.C. context.

## Plan

Consideration of the nature of the unique cultural, legal, organizational and health care delivery system of the Province led to the identification of five parameters that should guide the B.C. strategy for responding to pandemic influenza.

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<sup>1</sup> Estimates Fiscal Year Ending March 31, 2010 (p. 7 – Estimated Expense by Organization). Presented to the Legislative Assembly, September 1, 2009.

An alliterative shortlist of those attributes includes:

- **Simple:** Easy to follow but comprehensive.
- **Synchronized:** Congruent plans for all facilities, regions and stakeholders.
- **Scalable:** Adaptable to any size of unit.
- **Staged:** Layers or stages with human resource tools to deploy as the pandemic wave hits.
- **Supplied:** Mission-critical supplies are locally stockpiled.

The overriding goal of pandemic human resources planning is to ensure an adequate supply of health care workers (HCWs) during the pandemic event. To achieve that goal the Framework adopts a five-layer response strategy approach, which would “ramp up” as the pandemic strikes a particular facility or area. The health and safety of employees has to be the paramount concern in any human resources plan. Consequently, this Framework commences with that as the first priority and then proceeds from there to subsequent layers.

1. Protect and support current health care employees in order to maximize supply.
2. Maximize health care employees’ hours of work.
3. Reassign health care employees to perform their duties where required.
4. Redeploy health care workers to duties other than those which they normally perform.
5. Recruit temporary health care employees for the pandemic.

## Communications and Coordination

A common set of terms is adopted to describe the experience of individual facilities, communities and regions. It focuses on the fundamental human resources issue: supply of competent staff. Health care employers are familiar with and normally measure staff absentee rates.

The Framework describes the impact of the pandemic on any community, area or facility using health care employee absenteeism for both:

- The overall facility, community or area; and
- The absentee rate in the hardest hit “mission-critical” department or service, which potentially impedes service delivery for the entire facility.

For example, a medium-sized acute care hospital might report that it has a 10 per cent overall absence rate, but that in laundry services it has a 50 per cent absentee rate. The 10 per cent overall absence is barely outside what is normal at the height of the annual flu season. However, the 50 per cent absence in the laundry service could constitute a crisis situation.

The plan assigns responsibilities to the Province and the health authorities for communication, coordination, facilitation and service delivery.

# 1. INTRODUCTION

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## 1.1 Purpose and Objectives

The Human Resources Framework guides the structure of the human resources plan under which the health sector will respond to pandemic influenza in British Columbia. The World Health Organization (WHO) and health ministries in nations around the world have determined that the 2009 H1N1 pandemic is already sweeping its way around the world.

As we have seen with the SARS epidemic and with previous pandemic influenzas (PIs), such events place enormous strain upon our health care systems. The demand for service skyrockets at the very moment that our supply of health care workers plummets, because health care workers can be expected to get sick at similar rates as the general population during an influenza pandemic.

This Framework assists health sector employers to be:

- As prepared as possible in advance to provide maximum quality and quantity of care during a pandemic event; and
- In the best position possible to recover from a pandemic and to deal with its fallout in the months and years that follow.

The Framework is not intended to be prescriptive, because influenza pandemics do not follow prescribed or even predictable routines. By their nature, PIs strike different communities and populations with varying levels of virulence and rates of infection, often at differing points in time. However, the effect in any individual location can be catastrophic, overwhelming even the best of preparations. For this reason, it is critical that we have a provincial health sector strategy that enables coordination and optimal deployment of scarce resources. The strategy recommended in the Framework must therefore be adaptable and responsive to the situation in each health care organization and community within the province.

## 1.2 Background

British Columbia is in a good position with respect to pandemic planning in health care. This is because:

- There are abundant models, ideas, tools and frameworks freely available within Canada and around the world. Many of these have been canvassed for “best-of-breed” ideas to see what will work appropriately within our provincial cultural and legal contexts. The wide variation in these contexts within Canada and around the world renders some things unworkable in B.C.
- A good deal of effort has already gone into the B.C. pandemic influenza planning efforts (including the *BC Planning Assumptions for Pandemic Preparedness, the earlier BC Pandemic Influenza Preparedness Plan – 2005* and the PI plans of the health authorities), which provides a solid context within which to iterate a pandemic plan for the health care sector.
- Much can be adapted from existing emergency and essential service plans and the pandemic plans of the health authorities. There are experts already within the system familiar with emergency planning who can facilitate the production of a pandemic plan and assist in avoiding “re-inventing the wheel” wherever possible.
- There are excellent human resources professionals within the system at the Health Employers Association of BC (HEABC), in the health authorities and in the facilities who can inform and assist with the development of the human resources component of the overall plan.

### 1.3 Assumptions and Related Documents

- a. Influenza pandemics are recurring events that are not preventable. This is a matter of historical and epidemiological fact accepted by the WHO and governments around the world.
- b. Only about 50 per cent of those infected actually have clinical symptoms. (from *The Canadian Pandemic Influenza Plan for the Health Sector* [CPIP], sections 2.2 and 2.3). Of those with clinical symptoms many will not require treatment by health professionals.
- c. The latest H1N1 2009 assumptions are based on southern hemisphere experience:
  - i. A “mild” clinical attack rate of 7.5 per cent but that could vary up to 10–20 per cent in the more severe Canadian winter conditions.
  - ii. Mild severity with average absence from work of 7 calendar days.
- d. Canadian Epidemiological Assumptions (from CPIP, s. 2.2 and 2.3):
  - i. Incubation period is 1–3 days.
  - ii. Communicability is 24 hours prior to and 3–5 days after onset of illness but possibly 3–7 days for children and at-risk individuals.
  - iii. Transmission is by large droplet and contact (direct and indirect).
  - iv. Airborne transmission is unclear but less likely.
  - v. Transmission by asymptomatic persons is possible but inefficient.
  - vi. Efficient person-to-person transmission occurs via either droplet or contact.
- e. BC Epidemiological Assumptions (from BC Planning Assumptions for Pandemic Preparedness [BCPAPP] section 9):
  - i. False alarms are possible when new strains of influenza A virus are identified in the world because not all new strains result in pandemics.
  - ii. Pandemic could arise at any time of year.
  - iii. If the virus arrives close to the normal flu season the period to the peak of the first wave could be very short.
  - iv. Second wave “may occur within three to nine months of the initial outbreak and may cause more serious illness and deaths than the first”.
  - v. Vaccines are likely to be available prior to the peak of the second wave and should “mitigate the potential effects” of the second wave.
  - vi. The duration of each wave is likely to be 6 to 8 weeks but could be up to 15 weeks overall across B.C.
- f. “Individuals who recover from illness caused by the pandemic strain will be immune to further infection by that strain” (BCPAPP section 10 ii).
- g. Some sectors of the B.C. economy will be impacted more than others because of an inherently higher degree of “interpersonal contact such as tourism, public transport, retail, education, accommodation and food services, and the entertainment industry” and “due to government or self-imposed restrictions on travel to, from and within B.C.” (BCPAPP section 6 ii, p. 8). This may create opportunities such as using either or both of hotel workers and hotel facilities to augment health care workers and facilities.

- h. Of the three types of influenza virus (A, B and C) "... Only influenza A viruses have been known to cause a pandemic. ... The virus causing the next influenza pandemic will be a new strain of influenza A virus to which the population may have little or no immunity" (BCPAPP section 7, p. 9).
- i. Aerosol human-to-human virus transmission is a low-probability and worst-case scenario (CPIP, section 2.2).
- j. The most likely variant of the virus is transmitted via contact (direct skin-to-skin or indirect via surfaces) AND droplet (sneeze/cough) (CPIP, p. 3).
- k. Given notice, and BOTH early public health AND early infection control measures, communities will be impacted at different times and to varying extents. "Such measures ... may be of use in helping to slow the spread by limiting the opportunities for people to be exposed to the pandemic virus" (BCPAPP section 10(vi), p. 14). This could enable resource sharing within and between regions and communities.
- l. The general rate of infection of health care workers during a pandemic will be similar to the rate of infection in the community because influenza is a community-acquired disease.
- m. Absentee rates of health care workers who are NOT sick will be predictable; i.e., those afraid to work, afraid to infect family, and caring for family. (CPIP at 2.4 assumes 20-25 per cent overall absenteeism during the peak of a "moderate" pandemic).
- n. The declaration of an emergency under the *Emergency Program Act* of B.C. and its attendant Regulation provides special powers to (either or both of) the Provincial Government and municipalities (BCPAPP section 4 (II) (a), p. 6). Note: quarantine is only believed to be effective in the "very early stages of a pandemic" (BCPAPP section 10 (vii)).
- o. It is possible that a local emergency will be declared at least in some communities in order to enable vigorous action and response.

Detailed BC planning scenarios will be produced separately.

#### 1.4 Impact of Scenarios on Human Resources Planning for H1N1 2009

- a. Since PI is a "community-acquired" disease, the clinical attack rate will be the same for health care employees as it is for the general population.
- b. The period of time that health care employees will be sick with PI is the same as for the general population. With H1N1 that appears to be, on average, around 7 days.
- c. Based on the SARS experience (SARS is generally a more deadly disease than PI), health care employees will, for the most part, attend work and not stay home out of fear.
- d. Education and resilience-building efforts for employees and their families are critical to ensure the validity of point c above.

## 1.5 Basic Facts about the B.C. Health System

- a. In B.C., health services are regulated within six main health authorities. Five of the health authorities are regional and the sixth—the Provincial Health Services Authority (PHSA)—provides province-wide specialty services. The health authorities are some of the largest employers in the province and operate all the public hospitals and care centres.
- b. Collective bargaining in B.C. is conducted under the auspices of an employers’ association, the Health Employers Association of British Columbia (HEABC). The collective agreements are “master” agreements; i.e., single collective agreements are in place for all of the bargaining units in each of some 275 public facilities. For example, in hospitals there are typically three bargaining units: Nurses, Facilities and Health Science Professionals. Larger hospitals may also have a Resident Physicians bargaining unit.
- c. There are approximately 8,000<sup>2</sup> acute care beds in B.C. hospitals.
- d. There were nearly 100,000 employees of the B.C. health authorities in 2008.<sup>3</sup>
- e. Wages and benefits constitute over 70 per cent of health authorities spending.<sup>4</sup>
- f. There are also several thousand others working in the private part of the system (doctor’s offices, clinics, medical laboratories, diagnostic radiology clinics, etc.).
- g. In most years, employee absences peak during the “normal flu season” at approximately 8 per cent of the total employee population.
- h. Individual facilities and/or departments could be overwhelmed by employee absences during a pandemic. Some employees and departments are “mission-critical” i.e. without their services the ability of the facility to continue to operate is impacted.
- i. At the very time when demand for health care services will peak during a pandemic we have to expect that our supply of health care workers will be significantly impaired. It is this gap between demand and supply that this Framework intends to help close.
- j. Across the public health institutions, 16 per cent of the total hours worked is by casuals. Those hours include relief for regular employees who are on vacation, sick leave, statutory holidays and other leaves in addition to providing services in the case of work overload.
- k. Within public facilities there is limited use of volunteers, as collective agreement provisions prohibit employee replacement by a volunteer.

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<sup>2</sup> Ministry of Health Services. (2007, May 3). *Acute Care Beds Staffed and in Operation as at end of Period 1, 2007/2008*.

<sup>3</sup> HSCIS 2008-Q4 (Payroll Extract). Note: Figures reflect employees with regular paid hours >0 reported in HSCIS. Employees working for multiple health authorities were not double counted.

<sup>4</sup> Ministry of Health Services. Estimated Labour Costs & FTEs for Fiscal 2007/2008.

## 1.6 Potential Impacts of Pandemic Influenza in the B.C. Health Sector

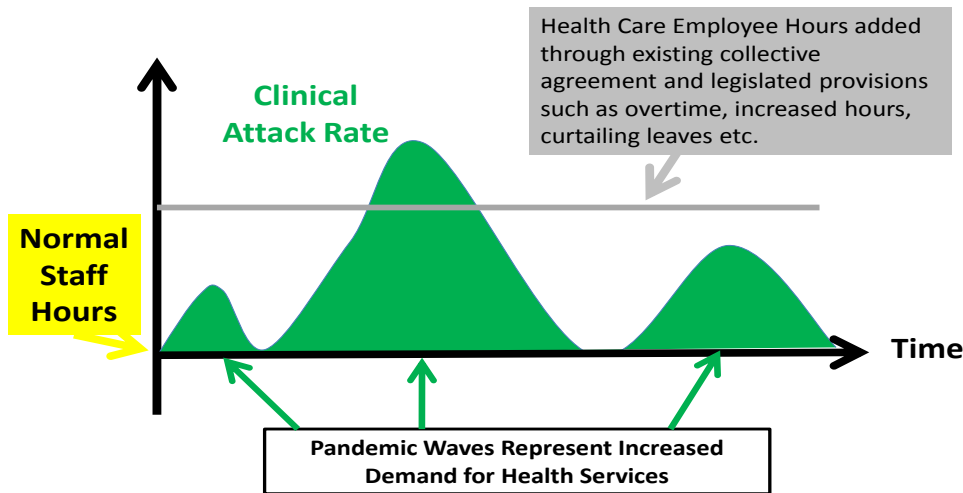
The order of magnitude of increased demand for health services in the context of a PI event was outlined in section 1.3. However, to elucidate the potential overall impact of pandemic influenza on the health sector in the entire province it is necessary to map the successive waves of influenza pandemic against the simultaneous loss of HCWs due to illness.

PI is a “community-acquired disease”; i.e., it is spread quickly and efficiently wherever people come into relatively close proximity. Sneezes and coughs on buses and in workplaces spread the disease. Hugging, kissing and handshaking spread it. Touching surfaces previously in contact with an infected person spreads the disease. There is at present no vaccine that will protect HCWs in any of these situations. However, vaccines will shortly be available to deal with the current H1N1 pandemic. In summary, until a vaccine is available there is really no effective way to ensure that HCWs are not infected at the same rate as the general population.

The net effect of this fact is that at the precise moment when hundreds of thousands of British Columbians will fall ill, with many seeking health services, our health sector will be most challenged by a shortage of HCWs. In other words: DEMAND for health services will peak at the precise moment when the SUPPLY of those services is at its lowest point.

Figure 2 represents the same pandemic waves as increased demand for health services. It depicts increased health care demand resulting from a PI event and the ability of the sector to provide additional services (SUPPLY) using all the mechanisms currently available through existing law, collective agreements and human resources practices (e.g., increased overtime, curtailing of leaves, etc. for HCWs). Figure 2 reveals that even in the best of circumstances, we will be significantly short of HCWs at the peaks of the pandemic waves.

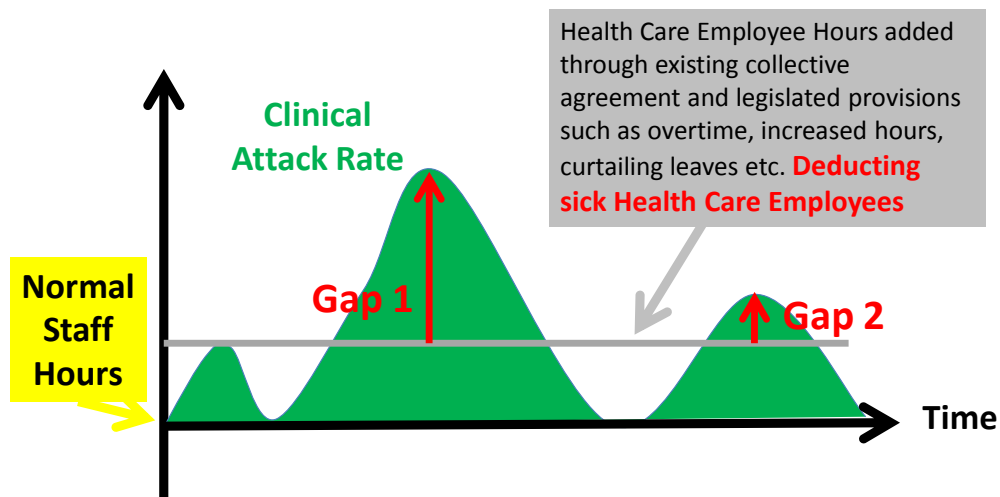
**Figure 2: Increased Demand for Health Services and Existing Supply**



However, the big challenge with PI is that it strikes HCWs at the same rate as the general population. So HCWs will themselves be ill just when we need them most. This means that we must take the information presented in Figure 2 and subtract from it the work hours that will be

lost due to HCWs who are ill with influenza. Of course, this will further increase the gap between the DEMAND for health services and the SUPPLY of HCWs available to meet that demand. Figure 3 graphically brings both of these elements together.

**Figure 3: Demand for Service versus Supply of Health Care Workers**



**Demand & Supply: Deduct Sick Health Care Employees**

It is expected that even a mild pandemic will severely challenge the ability of an already-taxed health sector to meet the increased demand for services.

*All of this data translates into a situation during a mild pandemic where as many as:*

- 10 to 15 per cent of HCEs (approximately 10,000 to 14,701 employees) are absent due to illness (each for seven days at some time during a twelve week period); and
- 100,000 to 200,000 influenza patients are seeking treatment for symptoms.

## 1.7 Definitions

In this framework the following definitions are adopted:

- **Health Care Worker.** *Health care workers (HCWs) are professionals (including trainees and retirees), non-professionals and volunteers, working/volunteering to provide health care services.*<sup>5</sup>
- **Health Care Employee.** *Health care employees (HCEs) are professionals (including trainees and retirees), non-professionals but excluding volunteers, who are employed to provide health care services and who are being paid to provide those services.* When it is intended herein to refer to paid employees, the term HCE will be used.
- **Health Care Volunteer.** *Health care volunteers (HCVs) may be either professionals (including trainees and retirees) or non-professionals who are volunteering to provide health care services and who are not being paid to provide those services.* When it is intended herein to refer to unpaid volunteers, the term HCV will be used.
- **Health Authority.** Health authority refers to one of the six health authorities in B.C. (Northern, Interior, Vancouver Island, Vancouver Coastal, Fraser and the Provincial Health Services Authority).

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<sup>5</sup> This is the definition adopted nationally in the Public Health Agency of Canada pandemic documents. It is used in this Framework to refer generally to all individuals paid and unpaid who are providing health care services.

## 2. APPROACHES IN B.C. AND IN OTHER JURISDICTIONS

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### 2.1 B.C. Plans

British Columbia has already put a good deal of effort into preparation and background work. For example, the *BC Planning Assumptions for Pandemic Preparedness* document (BCPAPP) (January 2007) sets the context and background within which planning can proceed in the health sector. The *BC Pandemic Influenza Preparedness Plan – Guidelines for Planning, Response and Recovery* (BCPIPP) (August 2005) is a practical and easy-to-read planning tool, albeit from a high-level perspective. The BCPIPP contains checklists against which the plans developed by health authorities can be assessed. It provides the planning assumptions and epidemiological background to develop human resources plans. The BCPIPP neatly details health authority responsibilities in chart form at the start of each section. It will be relatively straightforward to ensure that this framework plan and the health authorities' own plans are congruent with the BCPIPP.

It should be noted that the current level of planning does not “detail federal responsibilities” (BCPIPP, p. 6). This may be a cautious assumption from two perspectives: 1) it assumes there will be little or no outside aid available to B.C. during a pandemic; and 2) any aid that is provided from federal sources (armed forces, etc.) will be a welcome addition to the resources within B.C. that are certain to be stretched at peaks of the pandemic waves.

The B.C. Government has recently repealed the *Health Act*<sup>6</sup> and replaced it with the new *Public Health Act*<sup>7</sup> (which also replaces the previous *Veneral Disease Act*<sup>8</sup> and *Public Toilet Act*<sup>9</sup>). Under the Act, Health officers now have at least

three levels of powers, which dramatically improve their ability to deal with PI and other infectious diseases, as follows:

1. The first level includes those powers that exist in normal circumstances for health officers. These are outlined at Part 4, Division 3, beginning at section 27, wherein health officers have the power to deal with “infectious agents”.
2. The second level of powers arrives with the Emergency Powers given to health officers under Part 5 of the Act. In that part, health officers can take additional steps to deal with local events.
3. The third level of powers includes those given to the Provincial Health Officer (PHO), and these powers are outlined in detail in Part 5. They include all the powers given to health officers plus the ability to take action in the event of regional or provincial events.

The new Act also anticipates the potential for a shortage of health officers either generally or in specific locations. It provides the power for temporary health officers to be appointed for up to six months at a time and for health officers and environmental health officers to be given powers to work outside of their normal geographic jurisdictions.

Health officers and the PHO have the power to order the use of “Preventive Measures” under Part 5 of the Act. Those measures are outlined earlier in the Act in section 16. Finally, the Act gives the Minister broad powers to deal generally with issues that impact PI planning.

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<sup>6</sup> *Health Act*, RSBC 1996, c. 179.

<sup>7</sup> *Public Health Act*, SBC 2008, c.28

<sup>8</sup> *Veneral Disease Act*, RSBC 1996, c. 475.

<sup>9</sup> *Public Toilet Act*, RSBC 1996, c. 389.

For example, the Minister may:

- Require public health plans to be in place to deal with health issues.
- Order public inquiries into any health issue (which may be of use in resolving controversial issues).

## 2.2 B.C. Health Authority Plans

Each of the health authorities in British Columbia has established its own pandemic plan. Generally speaking, these plans adopt the background data and assumptions inherent in the WHO and Canadian documents. However, each region has taken its own approach with some variation in the level of central command,

## 2.3 Plans from Other Jurisdictions

The plans from other provincial jurisdictions and jurisdictions outside of Canada were reviewed prior to preparing this Framework. Those plans are largely useful in offering insights into the underlying legal, ethical and cultural contexts from which they emerge. They can diverge dramatically from responses that would be accepted in Canada. In short, given that British Columbia's division of powers (municipal, provincial and federal) is different from many western nations, that our labour relations milieu is distinct, and that our culture is unique, it may be fair to say that it would be unwise to adopt whole approaches from other nations or even from within Canada. There are ideas on how to handle frontline human

In this context, there is confidence that the provisions of the *Public Health Act* will avoid the need to resort to the very extensive and intrusive powers under the *Emergency Program Act*.<sup>10</sup>

control and support. It is expected that the publication of this Framework and subsequent supporting documents will provide the regions with an opportunity to update their plans and coordinate them with the overall approach here suggested for the BC health care sector.

resources issues in plans from other countries that should be explored further and imported to this Framework as and when appropriate to our context and culture.

Most plans, whether in B.C. or elsewhere, integrate pandemic planning into other emergency preparedness plans but always with the twin caveats that:

1. Pandemics will last longer than any other anticipated emergency; and
2. By definition, mutual aid from outside sources cannot be counted on but should be incorporated into PI plans.

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<sup>10</sup> *Emergency Program Act*, RSBC 1996, c. 111.

### 3. PANDEMIC INFLUENZA PLANNING OPTIONS

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Considerable research and planning has gone into the development of this Framework. Individuals and groups involved in its preparation have:

- Reviewed plans from B.C. and other jurisdictions.
- Considered the needs of a variety of stakeholders and consulted with them.
- Examined the array of legislation involved.
- Reviewed the collective agreements of health employers.
- Assessed the impact upon the public health system of an influenza pandemic.

Review of experiences in other jurisdictions in Canada and around the world led to the examination of a small number of options for a B.C. framework. Three main models or approaches were considered in coming to the recommendations that follow. These were:

1. Central planning, coordination, control and implementation, as in the United Kingdom or the United States;
2. Provincial planning and coordination with locally distributed control and implementation as per Ontario; and
3. Provincial planning, coordination and communication, but with health region control and implementation.

The third model has been adopted for this Framework because it fits best with the B.C. milieu. It facilitates central planning, coordination and communication while enabling the health regions to retain control over their operations to implement responses suitable to their circumstances at any moment in time.

## 4. APPROACH AND PLANNING PRINCIPLES

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### 4.1 Essential Attributes of the Approach: The 5 S's

Given the structure of health care in B.C., it is essential that the Human Resources Framework and the plans of the health authorities have some basic attributes that fit within our context. An alliterative short-list of those attributes includes:

- **Simple:** Easy to follow but comprehensive.
- **Synchronized:** congruent plans for all facilities, regions and stakeholders.
- **Scalable:** Adaptable to any size of unit.
- **Staged:** Layers or stages with human resources tools to deploy as the pandemic wave hits.
- **Supplied:** Mission-critical supplies are locally stockpiled.

Each of these attributes is explained in more detail in the following paragraphs.

#### Simple

In this context, planning simplicity means that the concepts align with existing health care approaches and human resources programs. It also requires inherent flexibility rather than detailed prescription, because no plan can adequately address every contingency or how a given area, facility or department will be impacted. Finally, it must be sufficiently comprehensive so that it addresses all the key activities expected of employers and authorities such as infection control, occupational health and wellness, education, etc., in addition to compensation, benefits, labour relations and other matters.

#### Synchronized

The Framework must enable authorities, regions, facilities and other stakeholders to make their own pandemic plans, but at the same time ensure that these are all congruent with each other and with the overall provincial approach. This is necessary if there is to be any measure of inter-region cooperation and provincial coordination, communication and support during a pandemic.

#### Scalable

In B.C., health services are provided in a huge array of facilities and locations by a variety of authorities, employers and individual service providers. If B.C. is to achieve any measure of coordinated response to a pandemic, this Framework will need to be scalable so that it can address the needs of the smallest facilities as well as the needs of the largest health authority in B.C.

#### Staged

A staged response is simply one that thoughtfully adjusts its responses as the crisis waxes and wanes. To do that effectively and to coordinate provincially it is necessary to have a common understanding between departments, facilities, employers and regions within the province as to how the pandemic manifests itself at a given moment in a specific location. This Framework suggests a number of identifying “triggers” that both explain the circumstance in a location at a given time AND that can be used to engage additional responses/resources in a planned and orderly manner.

#### Supplied

By its very definition, a pandemic is a world-wide event. Across the globe employers and governments will be scrambling to deal with mass illness and death. In a pandemic it is not reasonable to expect any significant measure of outside aid. Nor should we expect to be able to source supplies from other jurisdictions, who will desperately want those supplies for their own citizens. A pandemic will also damage the transportation infrastructure of the world and the province through illness of operators and emergency travel restrictions. It is therefore necessary that mission-critical supplies be stockpiled in advance at locations that are reasonably proximate to where they will be required.

## 4.2 The Five-Layer Response Strategy Approach

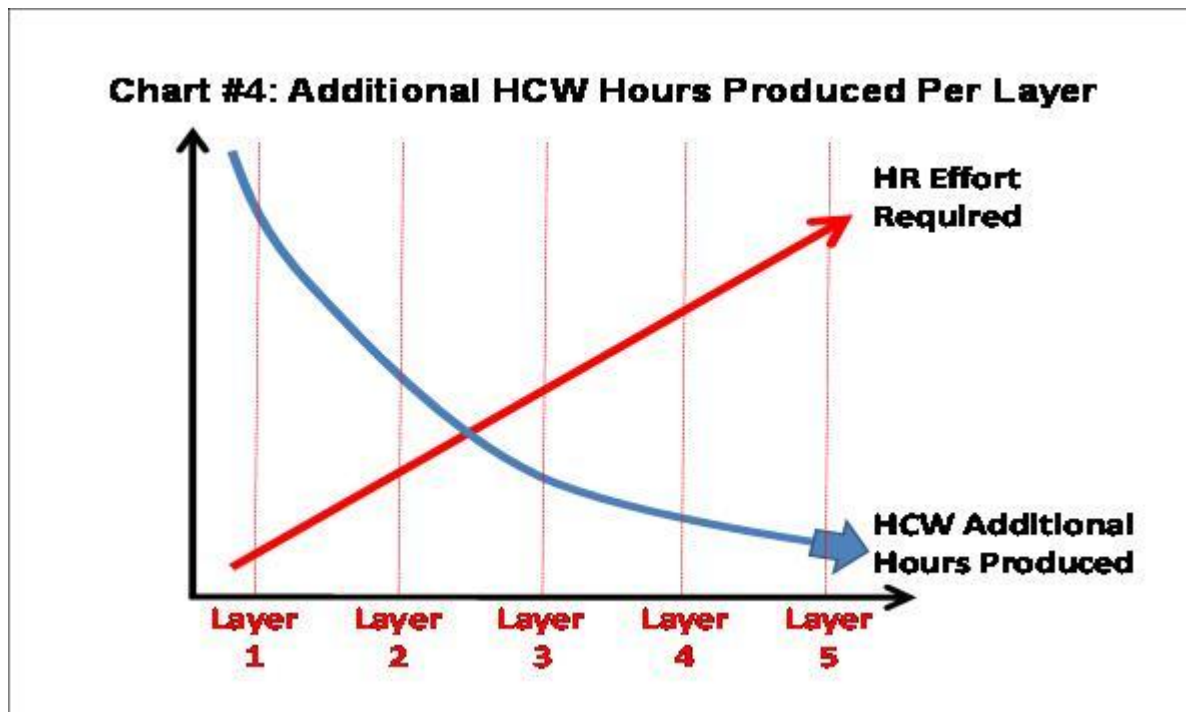
The overall goal of pandemic human resources planning is to ensure an adequate supply of HCWs during the pandemic event. To achieve that goal the Framework adopts an approach of five layers or stages, which would be implemented on a graduated basis as the pandemic strikes a particular facility or area. The health and safety of employees has to be the paramount concern in any human resources plan. Consequently, this Framework commences with that as the first priority and then proceeds from there to subsequent layers.

1. **Protect and Support** current HCWs in order to maximize supply.
2. **Maximize** HCWs' hours of work.

3. **Reassign** HCWs to perform their duties where required.
4. **Redeploy** HCWs to duties other than those which they normally perform.
5. **Recruit** temporary HCWs for the pandemic.

The logic behind the five layers is that there is an inverse relationship between the layers and their ability to provide additional HCW hours to the system; i.e., the early layers produce the greatest yield of the easy-to-gather resources. Subsequent layers are successively more difficult to implement and produce significantly reduced results. This is best represented by Figure 4.

**Figure 4: Additional Health Care Workers Hours Produced per Layer**



The fundamental logic behind the five-layer approach is this: What efforts produce the greatest increase in supply of HCW hours? What maximizes available HCW hours with the least investment in time and other resources?

The five-layer “graduated” responses are more fully explained in the sections that follow.

### **Layer 1: Protect and Support Current Health Care Employees to Maximize Supply**

The first action to be taken is to protect and support the existing complement of HCEs in order to ensure their health and safety. Keeping current employees as healthy as possible will also assist in maintaining the availability of the existing workforce. Any successes at this level will minimize the number of temporary employees required to be added to the system.

HCEs are protected and supported through a variety of measures, including

- Health care employee and family education.
- Health care employee personal readiness and resilience.
- Protective equipment and other safety measures.
- Infection control measures (described in related documents and work packets).
- Employee education programs.
- Resilience-building both for HCEs and their families.
- Family support programs that assist the HCEs to focus on work.

### **Layer 2: Maximize Existing Health Care Employee Hours**

This is accomplished through implementing human resource staffing responses under the terms of the existing collective agreements and employment law, such as

- Utilize casual employees to the fullest extent.
- Increase part-time employee hours to full-time where possible.
- Maximize overtime.
- Curtail leaves of absence.
- Implement alternative work schedules.
- Reassign health care workers who have commuting issues caused by pandemic.
- Offer telecommuting where possible.

### **Layer 3: Reassign Health Care Employees to Perform Their Duties Where Required**

HCEs will be reassigned (within the parameters of their training, licensing, experience or normal duties) based on demand for health services

- Within existing programs.
- Across facilities.
- To temporary facilities to provide services unique to the pandemic.

This is accomplished either by supporting operational decisions to reallocate services or via transferring workers under Bill 29 to other locations. Bill 29 mechanisms have some limitations, such as not allowing workers to be transferred more than 50 km. These limitations have been taken into account.

### **Layer 4: Redeploy Health Care Workers to Duties Other Than are Normally Performed**

This would happen only when all other responses have already been deployed and the pandemic has overwhelmed the ability to supply health care services. In those circumstances, some of the responses might include

- Delegating non-qualified staff to perform regulated functions with appropriate supervision.
- Deploying staff who are not fully trained (students, etc.).
- Deploying work teams with full competency in the lead positions only.

As outlined earlier, the *Emergency Program Act* of B.C. provides extensive powers to the Province and to local authorities. It may be that as a region or community is hit by a PI wave, an emergency may be declared in that area. Such a declaration would facilitate Layer 3 and 4 responses as the Act enables reassignment and redeployment by overriding other pieces of legislation, collective agreements and regulations. It will be necessary in making final plans at the provincial, regional and facility level to take that possibility into account.

### **Layer 5: Recruit Temporary Health Care Employees for the Pandemic**

This is accomplished by adding new staff through a variety of means, including

- For licensed positions, recruit trained but not currently licensed staff (e.g., resignees, retirees).
- Recruit partly trained staff (students) from the various HCW training programs.
- Conduct rapid licensure of foreign trained professionals and others.

- Recruit temporary trained staff from other employers (for example hotel workers generally have similar training to their counterparts in hospital kitchens, laundries and on the cleaning staff).
- Source the service from outside suppliers if it becomes impossible to provide the service internally. For example, if all of the facility's food service workers are themselves ill we might bring food in from hotels or caterers.

## **4.3 Communications and Triggering Responses**

All health care employers are familiar with and normally measure staff absentee rates. However, overall staff absentee rates are an imprecise measure of the challenges an individual facility or area is facing during a pandemic. As noted earlier, in any facility there are “mission-critical” departments that are essential to all operations within the facility. For example, in an acute care hospital the absence of sterile supply services can rapidly result in the closure of the facility. This led us to conclude that it is not sufficient to describe simple facility-wide staff absentee rates. This Framework proposes that we describe the impact of the pandemic on any community, area or facility using HCE absenteeism for both:

- The specific facility, community or area; and
- The hardest hit “mission-critical” department or service.

Thus, a medium-sized acute care hospital might report that it has a 10 per cent overall absence rate, but that in laundry services it has a 50 per cent absentee rate. The 10 per cent overall absence is barely outside what is normal at the height of the annual flu season. However, the 50 per cent absence in the laundry service could constitute a crisis situation.

The two measures can be used to expedite communication around the province to facilitate coordination, supply and support. Using these twin measures it is also possible to create a set of “trigger points” that health employers can use to plan how they will implement various response measures. They can be used to create a matrix to enable advance planning as to how facilities, regions and communities might respond to a pandemic. A sample extract of such a matrix is shown in Figure 5.

**Figure 5: Extract From Response Matrix**

<i>Note: this approach assumes that some responses are deployed across several levels while others occur only as the situation becomes more critical.</i>			Layer 1: Protect HCEs	Layer 2: Max HCE Hours	Layer 3: Reassign HCEs to Other Locations	Layer 4: Re-deploy HCWs to Non-Normal Duties	Layer 5: Recruit Temp HCEs
	Trigger	Trigger	Next Level Actions	Next Level Actions	Next Level Actions	Next Level Actions	Next Level Actions
Period Description	General Absentee Level	Mission-Critical Dept. Worst Absentee Level					
Pre-Pandemic Planning & Prep Period	< 8%	< 15%	x	x			
Pandemic Notice Period	< 8%	< 15%	x	x	x		
Wave Onset Period	> 12%	> 25%	x	x	x	x	
Early Wave	> 20%	> 40%	x	x	x	x	
Full Wave	> 25%	> 50%	x	x	x	x	x
Pandemic Crisis	> 30%	> 60%	x	x	x	x	x
Recovery	< 8%	< 15%	x				

The matrix in Figure 5 is an extract of a spreadsheet that incorporates the five-layer graduated response approach and includes individual actions that are component subsets of each of the five responses.

If B.C. is to obtain the full benefit of such opportunities, it is critical that we have efficient communication processes and common terminology in place prior to the onset of a pandemic. As noted previously, it is entirely possible that a pandemic will strike different

areas and facilities in very different ways. The impact of the full pandemic may not strike at the same time throughout a region or the province. Because of this, the level of the crisis could vary from place to place at any given moment in time. As a result, there may be opportunities for resource sharing between regions, communities and facilities, providing that we have common terminology and understanding of the degree of crisis being faced in those other facilities, communities and regions.

## 4.4 Division of Responsibilities

The Framework assigns to the Province the general responsibility for planning, coordination and communication. The levels of responsibility anticipated in this would be as follows:

### Planning

**Province:** Produce the Provincial PI Plan as a template for the authorities, including addressing all matters of legislation, regulation and public policy inherent in it.

**Health Authorities:** Produce individual plans that are synchronized with each other and with the Provincial PI Plan but are adapted to the circumstances of each HA. Specifically to include: implementation of the plan, control of service delivery and operation of facilities.

### Coordination

Within this Framework, the **Province** has responsibility to ensure:

- Coordination between the PHO, emergency planning/response operations, epidemiology research offices, Worksafe BC and similar agencies and the health authorities who deliver the services.
- Coordination between B.C. and other provinces and Government of Canada agencies.
- Coordination between B.C. and the World Health Organization.
- Declaration of emergencies (province-wide or for areas of B.C.).
- Coordination between the various health authorities to encourage mutual aid and resource sharing wherever possible.
- Province-wide logistical support and stockpiling.

The **health authorities** are responsible to facilitate coordination:

- Between departments, facilities and communities within the purview of their

authority to optimize response levels as appropriate; i.e., assignment and redeployment of staff, reallocation of resources and whatever is necessary to deliver services.

- Between themselves and other regions for mutual aid.
- Between themselves and the Province for mutual aid and logistic support.

### Communication

**Province:** the Provincial Health Officer would be responsible for:

- Communication with the World Health Organization, Canadian health and other provinces health authorities.
- Communication with health officers around the province to disseminate and collect epidemiology information.
- Communication with health authorities to optimize continuity of service and response.
- Communication with the general public regarding general PI precautions and restrictions.

**Health authorities** are responsible for:

- Staff training, employee and family resilience.
- Patient/resident communication of PI precautions and restrictions peculiar to individual facilities or communities.
- Communication between facilities and communities within the purview of their authority.
- Communication with the Province.

In this configuration, the health authorities are responsible for actual service delivery while the Province exercises the functions of setting overall standards through the planning process and then has a central coordination and communication role.

## 4.5 Health Services Stakeholders and Consultation

HEABC has engaged with the various stakeholders in the system. There are seven main categories of employees within the health care system in addition to volunteers:

1. Nurses in the bargaining unit represented by the Nurses Bargaining Association, which includes Registered Nurses and Registered Psychiatric Nurses.
2. Paramedical Professionals in the bargaining unit represented by the Health Sciences Professionals Bargaining Association, which includes HCEs such as pharmacists, lab technicians, dieticians, radiology technicians etc.
3. Facilities employees in the bargaining unit represented by the Health Services and Support – Subsector Association of Unions, which includes a range of HCEs working in support roles such as clerical, maintenance, steam engineering, trades, care aides, patient transport, central supply, laundry and Licensed Practical Nurses.
4. Community based employees in the bargaining unit represented by the Health Services & Support – Community Subsector Association of Bargaining Agents, which includes a range of employees such as community health worker, activity worker, dental assistant and residential care aide.
5. Residents in the bargaining unit represented by the Professional Association of Residents.
6. Physicians (both those working in their own offices and also those directly employed within hospitals).
7. Non-affiliated and/or excluded workers such as management employees or others excluded from the various unions because of policy or labour relations reasons.
8. Volunteers

There are unions and/or professional associations representing HCWs in the first five groups.

In addition, there are the regulatory and licensing bodies for each of the regulated health professions. Other stakeholders include the health authorities and various ministries of the Province (principally the Ministry of Health Services).

As part of the process of updating pandemic plans for the health sector, HEABC has been holding meetings with an Advisory Committee comprising the foregoing stakeholders. The parties are actively participating in developing plans and processes to address the existing H1N1 pandemic. When the current pandemic subsides there will be an opportunity to revisit the plan and update it based on the experience gathered in dealing with H1N1.

## 5. NEXT STEPS

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HEABC is the organization responsible to the Province of BC for providing the Human Resources Framework together with the review of collective agreements, the analysis of legislation affecting employment in the health sector, and a review of compensation and

benefits applicable for HCWs during a pandemic. In addition HEABC assists health authorities to manage and track human resources during a pandemic and to develop human resources education programs.

### 5.1 Continuing Consultation and Plan Development

PIRP and HEABC have already instituted a consultative a process with the stakeholders in the sector. Both HEABC and the Provincial Government will need to continue those processes as all plans require updating as circumstances and knowledge related to PI develop. It would be useful to regularly re-examine the plan to ensure that it remains

viable and congruent with changes in science and in the health sector service delivery model.

To complete the HR plan, various policy statements will be forthcoming to define areas where consistent approaches or actions may be required.

### 5.2 Influenza is One of Many Communicable Diseases Health Care Employees Deal With

Health Care Employees treat a wide variety of illnesses in our health facilities. Many of those illnesses are communicable diseases like influenza. However, unlike influenza, some of those illnesses have very high mortality rates. In the vast majority of cases influenza sufferers get sick, stay home and recover. There is a normal tendency to look at a world-wide event like a pandemic as a unique circumstance. But influenza is not unique in the health setting—it is just one of many communicable diseases that HCWs deal with every day in B.C. and its mortality rate is far lower than some other diseases.

pandemic influenza than it actually is. The danger is that we create unnecessary levels of fear and because of that we might implement employment conditions for the duration of a pandemic that are not sustainable when the pandemic has passed.

We must be cautious about implementing mechanisms to temporarily increase HCW staffing that cannot be deactivated subsequent to a pandemic incident, or to implement measures that would add unsustainable cost to the provincial health care system. As noted, the costs of the health care system are the single biggest expense within government.

It would be wise as human resources pandemic planning proceeds not to make more of

### 5.3 Pandemic Influenza Should Not Be a “Compensable Occupational Disease”

Pandemic influenza is, by definition, a “community-acquired” disease; i.e., it is spread easily and widely through casual contact in the

community. People are at risk of infection anytime they go out in public, use transit services or just go shopping. It will be nearly

impossible to determine if an ill HCE contracted the virus at work or in the community. The ultimate jurisdiction on this

matter resides with WorkSafe BC to make a determination on case-by-case basis.

## 5.4 Financial Implications

An initial review of this Framework by human resources representatives of the health authorities has been completed and they have indicated support for the overall approach and strategy. However, the human resources representatives expressed concern that this document should note the significant costs associated with responding to PI. Most of those costs will fall to employers, and they include such things as

- Overtime for HCEs.
- Special leave for HCEs who are dealing with family illness.
- Bereavement leave for HCEs who lose family members to PI.
- Pay and benefits for temporary pandemic contract workers.

- Sick leave among HCEs.
- Living and travel expenses for HCEs who are reassigned outside their home area.
- Dispute resolution costs for issues arising from a PI event.
- Increased premiums because of higher experience ratings for
  - Extended health benefits.
  - Life insurance.
  - Long term disability.

It is difficult to estimate the full costs of staffing the health care facilities in the province during a pandemic (including overtime , premiums, living and travel expenses and health and welfare benefits), but it will be substantial.

## 6. CONCLUSIONS

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This Framework presents a structure upon which human resources planning will occur in preparation for an influenza pandemic.

**The Framework is predicated upon the goals of PI planning in B.C. as set out at section 2 of the *BC Planning Assumptions for Pandemic Preparedness* (Jan. 2007, p. 4).**

These goals are:

- To minimize serious illness and death arising from infection during an influenza pandemic.
- To minimize societal and economic disruption in British Columbia arising from PI.

This Framework has three essential objectives:

1. To ensure an adequate supply of health care workers during a pandemic event.
2. To enable provincial coordination and optimization of scarce resources before, during and after a pandemic.
3. To encourage alignment between the *BC Pandemic Influenza Preparedness Plan*, this strategy and the pandemic influenza preparations of B.C. health employers, unions, professional associations, regulatory bodies, members of the public and individual health care workers.

It is therefore important that this Framework assists health sector employers to be

- As prepared as possible in advance to provide maximum quality and quantity of care during a pandemic event; and
- In the best position possible to recover from a pandemic and to deal with its fallout in the months and years that follow.

The Framework is not intended to be prescriptive, because influenza pandemics do not follow prescribed or even predictable routines. By their nature, PIs strike different communities and populations with varying levels of virulence and rates of infection, often at differing points in time.

However, the effect in any individual location can be catastrophic, overwhelming even the best of preparations. For this reason, it is critical that we have a provincial health sector strategy that enables coordination and optimal deployment of scarce resources and is adaptable and responsive to the situation in each health care organization and community within the province.

**This Framework adopts a common set of terms to describe the impact of PI in individual facilities, communities and regions must be focused on the fundamental human resources issue: adequate supply of competent staff.**

All health care employers are familiar with and normally measure staff absentee rates. This Framework requires that we describe the impact of the pandemic on any community, area or facility using HCW absenteeism for both:

- The overall facility, community or area; and
- In the hardest hit mission-critical department or service.

These measures of PI impact can be used to:

- Initiate and expedite communication around the province.
- Facilitate coordination, supply and support during a pandemic event.
- Create a set of “trigger points” that health employers can use to plan how they will implement various response measures.
- Design a planning matrix to enable pre-planning of how facilities, regions and communities might respond to a pandemic.

Utilizing the approach set out in this Framework, the Province, acting in concert with the health authorities, and health employer and employee representatives, will be able to coordinate an effective and timely response to a pandemic event in British Columbia.

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## APPENDICES

### Appendix A: World Health Organization and Canadian Crisis Levels

The World Health Organization has created a table of phases of pandemic alert around the world. These are illustrated as follows:

**Figure 6: World Health Organization Pandemic Phases Table**

Inter-pandemic phase New virus in animals, no human cases	Low risk of human cases	1
	Higher risk of human cases	2
Pandemic alert New virus causes human cases	No or very limited human-to-human transmission	3
	Evidence of increased human-to-human transmission	4
	Evidence of significant human-to-human transmission	5
Pandemic	Efficient and sustained human-to-human transmission	6

The *Canadian Pandemic Influenza Plan for the Health Sector* adapts the WHO alert phases by identifying “Canadian activity level indicators” of pandemic activity that might be observed within Canada. These are as follows:

- 0 – No activity observed in Canada.
- 1 – Single case(s) observed in Canada (i.e., no clusters).
- 2 – Localized or widespread activity observed in Canada.

At any of the WHO pandemic alert phases, the Canadian activity level indicators further describe what is happening within the borders of this country. Consequently, WHO Phase 4, Canadian activity level indicator 0 means that there is “evidence of increased human-to-human transmission”, but that “no activity observed in Canada.” Such a state of affairs would be part of the pandemic alert phase in B.C., and all efforts would then be focused on preparing for the arrival of the pandemic in the province.