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British Columbia's Pandemic Influenza Response Plan (2012) Human Resource Planning Guideline

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TABLE OF CONTENTS

Executive Summary	1
1 Introduction and Background	2
1.1 Background	2
1.2 Purpose of this Guideline.....	3
1.3 Scope	3
1.4 Audience	4
1.5 Related Plans	4
2 Assumptions	6
2.1 Key assumptions.....	6
3. Overarching Framework/Approach	2
3.1 Identification of Pandemic Phases and Associated Goals	2
3.2 Application of a Five-Layer Response Strategy	8
4. Competency-based Approach to HR Pandemic Planning in BC	10
4.1 Competency-Based Approach Defined	10
4.2 Competency-Based Framework	10
4.3 Competency-Based Approach for Planners	12
4.4 Planning Activities.....	12
5. Key Competencies Required During Pandemic Influenza	14
6. Aligning Resources with Health Settings	15
6.1 Key priority health care workers	15
6.2 Other workers (volunteer, retiree, students, etc)	16
7. Organization, roles, responsibilities, and decision-making - Pandemic	17
References	21
Appendices	22
Appendix A: Care Competencies.....	22
Appendix B: Competency-Based Approach: Key Questions for planners.....	26
Appendix C: Key Priority Health professions.....	30

EXECUTIVE SUMMARY

On June 11, 2009, the World Health Organization raised the level of pandemic influenza alert for H1N1 influenza A to pandemic phase. BC subsequently updated and completed the web-based BC H1N1 Pandemic Response Plan (2009). This Plan was used to assist the Ministry of Health, the former Ministry of Healthy Living and Sport, and the health sector to mount a response to the second wave of the H1N1 Influenza outbreak in Fall 2009.

The response to the H1N1 pandemic experienced in 2009 was recognized as an opportunity to review British Columbia's health care human resource plans and preparedness and to determine what could be improved in a future response to another pandemic or other public health emergency.

Preparation for a future pandemic response is a collaborative effort involving representatives from health care unions, professional organizations, Worksafe BC, Human Resources (HR) and Labour Relations Leaders, health authorities and many other parties. The purpose of this guideline is to provide an overall approach to health human resources planning in the BC health sector in the event of an influenza pandemic. The guideline is intended to support health authorities in the planning and deployment of the right health human resources in the right time should a pandemic occur.

The BC health sector approach to HR planning and managing a pandemic influenza is as follows:

1. Identify and assess pandemic phase (Inter-pandemic period, Pandemic alert period, Pandemic Period, Post pandemic period): Plan an appropriate response within each phase to mitigate specific risks;
2. Apply a five-layer response strategy: BC's health authorities will undertake a five layer response so that an adequate supply of health care workers is available during a pandemic event.
3. Consider a competency-based approach to HR planning (layers 4 and 5 in the 5 layer response strategy): The framework for competency-based planning (Tomblin Murphy et al., 2006; 2009) is a guide to a collaborative approach to deploying staff during a pandemic. Health care planners and employers play a key role in identifying the competencies required during an influenza pandemic, while the professions and health care providers play a key role in assessing their competencies and determining how their knowledge and skills can best be used.

This Human Resource guideline is a working document that will be updated to meet the ever-changing challenge of pandemic influenza planning and preparedness. This document provides the foundation for a proactive strategy that starts with the creation of awareness for stakeholders of the importance of building human resources capacity in the event of a pandemic.

1 INTRODUCTION AND BACKGROUND

1.1 Background

A pandemic influenza is a global outbreak caused by a new influenza virus that spreads easily from person to person, and causes serious illness because people have little immunity to the new virus. Influenza viruses periodically cause worldwide epidemics, or pandemics, with high rates of illness and death. A pandemic can occur at any time with the potential to cause serious illness, death, and extensive social and economic disruption throughout the world.

Experts agree that future influenza pandemics are inevitable, but the timing and severity of the next pandemic cannot be predicted. Because there may be little warning, contingency planning is required to minimize the potentially devastating effects of a pandemic influenza.

Most experts believe that it may only take from one to six months from the time a pandemic influenza strain is first identified globally, to the time that outbreaks begin in the province. Within three months from arrival in BC, most communities in the province will be affected, and the impact could continue for six months or more.

In the context of preparing for a pandemic event, planning for internal medical system redeployment may not be the most appropriate or practical strategy in a system that may already be operating at maximum capacity.

In the lead up to the 2009 H1N1 pandemic influenza, health human resources planners did a considerable amount of work to develop a Human Resources Framework, several policy changes and a series of health human resources planning guidelines.

Following the H1N1 pandemic, the Ministry of Health Services (MoHS) and the former Ministry of Healthy Living and Sport (MHLS)

conducted an After Action Review (AAR) process, led by the Emergency Management Unit, to identify challenges, propose measures to counteract problematic elements, and obtain lessons learned.

The key priority deliverables concluded from the AAR include:

- Establish processes to improve information sharing and availability of data among various groups of health care providers
- Include primary care, public health, acute care, and critical care health professionals in future emergency response planning efforts
- Develop ethical decision-making guidance resources that includes a ventilator decision support tool
- Develop a more formalized plan for data, status, and information reporting requirements and revise existing guidelines to ensure reporting accountability
- Increase utilization of general practice physicians, pharmacists, Licensed Practical Nurses, and additional non-traditional vaccine providers for the delivery of vaccine
- Create internal MoHS medical consultation capacity for the decision-making process and approval of clinical guidelines
- Increase information available on the influenza information websites for all health professionals.
- That the BC Pandemic Influenza Preparedness Plan requires that each regional health authority develop a “communications plan” or information strategy.
- That local government should meet with the health authority and review the current

health Communication Plan to ensure the strategy addresses the needs of the local government.

Taken together, the 2009 planning and AAR outcomes have been used to determine what could be improved in a future response to another pandemic or other public health emergency. This forms the departure point for this planning guideline.

1.2 Purpose of this Guideline

The purpose of this guideline is to provide an overall approach to health human resources in the BC health sector in the event of a pandemic influenza.

This document is designed to help the BC Ministry of Health, Health Authorities and other health sector organizations providers (e.g. not for profit, affiliates) to deploy the right health human resources at the right time should a pandemic influenza occur. This includes a competency based approach (Tomblin Murphy et al., 2006; 2009) to increase the utilization of general practice physicians, pharmacists, Licensed Practical Nurses, and additional non-traditional vaccine providers for the delivery of vaccine and other services required.

The response to a pandemic influenza in BC requires collaboration between the provincial government, health authorities and health sector organizations at all levels together with many partner organizations and the public. This guideline is therefore aimed at aligning these stakeholders around a common strategic approach.

The guide is based on the BC Ministry of Health and the health authorities' own pandemic-related preparedness, decision-making and actions to achieve the following objectives:

- Optimize the ability of the health system to deliver the required services
 - Prioritize services – programs and services need to be prioritized and reduced/or paused to focus all available resources on critical response activities (such as immunization campaigns)
 - Identify skills /competencies required during the stages of the pandemic
 - Identify re-deployment options (i.e. existing administrative staff who can re-deployed such as nurse managers) – reassign from one program to another
- Surge triage – scale down selected services to free resources for the most important use
 - Maximize the availability of health care workers to deliver required services
 - Maximize use of existing mechanisms – for example, defer leaves, restrict out of province travel, maximize casual pool, shift temporary work arrangements from part time to full time, maximize overtime, alternate work schedules
 - Access potential new HR supply - recent retirees, health students, faculty, use of volunteers
 - Look to private and non-profit sector for innovative solutions – temporary workers (i.e. hotel staff for food service and housekeeping services, culinary schools for food services, private janitorial businesses, etc.)
 - Use other professions as potential immunizers (i.e. Dentists) and look at regulatory change requirements
- Recruit additional workers/volunteers and to manage the training/orientation and assignment of work/services

1.3 Scope

The following elements are in scope:

- General principles for the health sector including the Ministry, Health Authorities and the health facilities (note: although other health sector organizations providers are not the primary audience for this document, the details contained within may be used for their planning purposes, as well)
- Direction and guidance to foster a consistent approach across the health system
- General guidance to redeploy health human resources based on their competencies during a pandemic influenza
- Considerations for moving towards a competency based model for the province which serves as the basis for health authorities' planning

The following elements are out of scope:

- Process for pandemic influenza planning at health authority level
- The requirement for other health sector organizations providers to do pandemic influenza planning
- Planning for other pandemics
- Operational implementation including human resources deployment plans at the health authority level
- Inventory of detailed modeling/ staffing numbers

Scope Assumption:

While a strategy to update plans on a regular basis would be within scope of this guide, the assumption is that there will be an over-arching provincial strategy that identifies the cycle for updating all pandemic planning documents;

therefore a strategy to refresh the BC Pandemic Influenza HHR Plan is not required.

1.4 Audience

This document is intended to provide a range of information related to pandemic influenza preparedness and response. Users should be aware that this document provides general guidelines only, it is up to each individual organization (i.e. health authority) to develop specific plans to meet their population needs that align with this guideline.

Within each overarching plan, there may be specific strategies for identified groups, including, but not limited to:

- Physician planning
- Pharmacist planning
- Nurse planning
- Non-health service provider planning (e.g. information management, administrative support; etc)
- Contracted staff planning (e.g. housekeeping)
- Volunteer Planning

This guide is intended to assist key stakeholders responsible for preparing human resources pandemic influenza plans to begin to consider utilizing a competency based approach. These stakeholders include, but are not limited to:

- HR managers within each of the health authorities
- Facility and site managers
- Pandemic planners

1.5 Related Plans

There are other plans that are developed, or are in the process of being developed, that are

recommended to be reviewed in order to inform health human resources planning for the identified pandemic influenza phases:

- Ministry of Health communications and education plan
 - Immunization response plan
 - Canadian Pandemic Influenza plan
 - BC Planning Assumption for Pandemic Preparedness
 - Canadian Pandemic Influenza plan, the BC Planning Assumption for Pandemic Preparedness
 - BC H1N1 Pandemic Influenza Response Plan (2009) – Human Resources Framework
 - Dynamic Modeling/Planning Assumptions
 - Mass Fatality Plan
 - Ventilator Decision Support Tool
 - Family Physicians Communications
 - Update PPE Recommendations
 - Operational Governance Plan
 - Management Information and Reporting
 - General Plan Update of the 2009 H1N1 Pandemic Plan
 - Maintenance Plan for Pandemic Plans
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2 ASSUMPTIONS

Pandemic influenza does not follow prescribed or even predictable routines. By its very nature, pandemic influenza strikes 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 and overwhelming even with the best of preparations.

For this reason it is critical that an effective provincial health sector strategy enables coordination and optimal deployment of scarce resources. The strategy described in this document must therefore be adaptable and responsive to the situation in each health care organization and community within the province.

2.1 Key assumptions

The reader is directed to the British Columbia H1N1 Pandemic Influenza Response Plan at <http://health.gov.bc.ca/pandemic/response> for links to – the Human Resources Framework and Planning document for the list of previously identified assumptions. Some additional assumptions to consider include the following:

- 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.
- A pandemic influenza usually spreads in two or more waves, each lasting about eight weeks, either in the same year or in successive years.
- 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. Canadian Pandemic Influenza plan for the Health Sector (CPIP)

section 2.4 assumes 20-25 per cent overall absenteeism during the peak of a “moderate” pandemic).

The primary focus of this guideline is to provide the foundation to build a scalable and flexible human resources plan that considers the following scenario:

- BC is assuming two waves, based on the sizes and experience of the waves for the last three pandemics (1957, 1968 and 2009).
- The duration of the waves will be equal to the average of the above three pandemics, as well as the time between waves equal to the average of those three pandemics.
- BC also assumes that time between the first outbreak somewhere in the world and arrival in BC will be as short as that experienced with the 2009 H1N1 pandemic. In other words, the time of arrival will be as short as it was from the first outbreak in Mexico until it arrived in BC a few short weeks later.
- Once the pandemic influenza hits BC, the interventions available for Wave 1 will include anti-viral treatment and public health measures.
- For Wave 2, it is assumed that Canada (and hence BC) will have a vaccine available as well. It is assumed that 75 percent of the population can be immunized in six weeks.

3. OVERARCHING FRAMEWORK/APPROACH

When planning health human resources requirements for pandemic influenza, the approach taken should be driven by both population health needs, as well as how services should be delivered to meet those needs.

The historical approach to planning has typically looked at skills of individual professions, rather than competencies required and who may have the specific competencies.

As the system becomes more refined, we must move towards a competency based approach to human resources planning. Developed by Tomblin Murphy and colleagues for use in pandemic planning Ontario (2006) and Nova Scotia (2009), and being expanded to other conditions and jurisdictions, this approach provides an opportunity to identify innovative ways to deliver services and make more effective use of a wide range of provider skills – including public health skills — rather than continuing to plan based on how, and by who, services are delivered now.

The two key steps within the BC health sector framework/approach to Human resources (HR) planning for pandemic influenza are as follows:

1. Identify pandemic phase (Inter-pandemic, Pandemic Alert and Post-pandemic) in order to plan a response to mitigate specific risks; (see section 3.1)
2. During the pandemic phase, apply a five-layer response strategy so that an adequate supply of health care workers is available during a pandemic event. (see section 3.2)

3.1 Identification of Pandemic Phases and Associated Goals

Phases 1-2: Inter-pandemic (Preparation):

This is the critical preparation stage when potential pandemic influenza is first identified and initial planning begins. It is important that all personnel involved in preparing pandemic influenza health human resources planning (e.g. human resource planners, emergency planners and pandemic managers) within the BC Ministry of Health, Health Authorities and other health sector organizations review this guideline, and other relevant identified plans mentioned, in order to prepare for the actual pandemic phase.

There are three important HR goals within the Inter-pandemic and Pandemic Alert phase:

- To build HR capacity to respond effectively
- To build co-operation among stakeholders – including Unions, Associations and Regulatory Colleges
- To build communication networks to support both HR planning and response

Phases 3-6: Pandemic Alert (Response):

This is the actual operational/deployment stage. The Provincial Health Officer (PHO) will declare when it is time to activate the HR response plans for the pandemic phase.

Within this phase the virus is easily transmitted to and among humans, resulting in increased and sustained spread of the virus in the general population. HR plans will need to be adapted to reflect circumstances and situations as they arise.

In this phase, the five key goals are as follows (see Section 3.2 for more details):

- To protect and support current health care employees to maximize HR utilization
- To maximize hours of work
- To reassign health care workers to perform duties where required
- To redeploy health care workers to duties other than those to which they normally perform
- To recruit temporary healthcare workers

Post-Pandemic Period (Recovery):

The post-pandemic recovery period begins when the PHO declares that the pandemic influenza is over.

An overall assessment of the clinical, societal and health care impact (burden of illness, material and human costs) of pandemic influenza will need to be undertaken. As stated in the BC Pandemic Influenza Response Plan, this will likely be coordinated at the national and provincial levels with input from regional and local authorities. The three key goals for this phase are:

- To de-activate HR pandemic response activities
- To review their impact
- To use the lessons learned to guide future HR pandemic planning

3.2 Application of a Five-Layer Response Strategy

Inter-pandemic and Pandemic Alert Planning and Response:

The overall goal of pandemic human resources planning is to ensure an adequate supply of

health care workers (HCW) – including volunteers and other service providers - during the pandemic event.

To achieve this goal a five layer approach will be used and implemented on a graduated basis as the pandemic strikes a particular facility or area.

The five-layers are as follows:

Layer 1: Protect and Support current HCWs in order to maximize supply.
Layer 2: Maximize HCWs hours of work.
Layer 3: Reassign HCWs to perform their duties where required.
Layer 4: Redeploy HCWs to duties other than those which they normally perform.
Layer 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; whereas subsequent layers are successively more difficult to implement.

Layer 1: Protect and Support Existing Health Care Workers to Maximize Supply

The first action to be taken is to protect and support the existing complement of HCWs 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.

HCWs 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 HCWs and their families; and,
- Family support programs that assist the HCWs to focus on work.

Layer 2: Maximize Existing Health Care Workers' Hours

Maximizing existing HCW hours 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; and,
- Offer telecommuting where possible.

Layer 3: Reassign Existing Health Care Workers to Perform Their Duties Where Required

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

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

Reassigning HCWs is accomplished either by supporting operational decisions to reallocate services or via transferring workers under Bill 29 to other locations.

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

Redeployment would happen only when all other responses have already been implemented and the pandemic has overwhelmed the ability to supply health care services. If this were to occur, some of the responses might include the following:

- Delegating non-qualified staff to perform regulated functions with appropriate oversight, direction or supervision;
- Deploying health care employees who are not fully trained (e.g. medical and nursing students); and,
- Deploying work teams with full competency in the lead positions only.

Layer 5: Recruit Temporary Health Care Workers for the Pandemic

Recruitment of temporary HCWs 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 other professions as required by the Ministry;
- Recruit temporary trained staff from other employers (for example hotel workers generally have similar training to their

counterparts in hospital kitchens, laundries and cleaning staff); and,

- Source the service from outside suppliers if it becomes impossible to provide the service

internally. For example, if all of a health care facility's food service workers are ill, food will be brought in from hotels or other catering facilities.

4. COMPETENCY-BASED APPROACH TO HR PANDEMIC PLANNING IN BC

In order to maintain care for a large percentage of population ill with influenza, the health care continuum in BC will need to expand its capacity and adapt both the extent of services provided (e.g. reduce non-urgent care) as well as the mix of HCW providing said services (Tomblin Murphy et al., 2009).

A competency-based approach to HHR planning in the context of an influenza pandemic has been successfully pilot-tested for use in pandemic planning (Tomblin Murphy et al., 2009). Using this type of approach, the health sector is able to support the right mix of health providers with the right skills and can ensure that the workforce is deployed in ways that makes the best use of their expertise. To make the most effective use of our health human resources, it is recommended that BC move towards following a competency-based approach to human resources planning.

4.1 Competency-Based Approach Defined

Competencies are defined as combination of the knowledge, skills, ability and judgment required to perform safely and ethically in a designated role or setting. An individual's competencies are influenced by a number of variables, such as basic education, experience and ongoing formal and informal learning.

A competency-based approach to health human resource planning identifies the competencies required and the competencies available to deliver the services that people need during a

pandemic influenza (Tomblin Murphy et al., 2006; 2009).

4.2 Competency-Based Framework

A competency-based framework is intended to increase the care capacity available for a large number of influenza patients by making strategic use of the competencies of all available health care providers, students, and volunteers. With this approach, planners consider the competencies rather than the professions required to meet the needs of the population.

This is useful for health authorities because it provides for more staffing options given the range of different professionals who are able to provide the required competencies during a crisis. By focusing on the specific competencies required and available during a surge, this approach allows health authorities to make optimal use of already limited human resources.

Traditional approaches to health human resource planning emphasize the effects of demographic change on the needs for health human resources. Planning requirements are largely based on the size and demographic mix of the population applied to simple population-provider or population-utilization ratios.

As Figure 1 (Tomblin Murphy et al., 2009) illustrates, the mix and quantity of influenza care competencies an individual health care setting or a geographic area will require during a pandemic influenza will depend on:

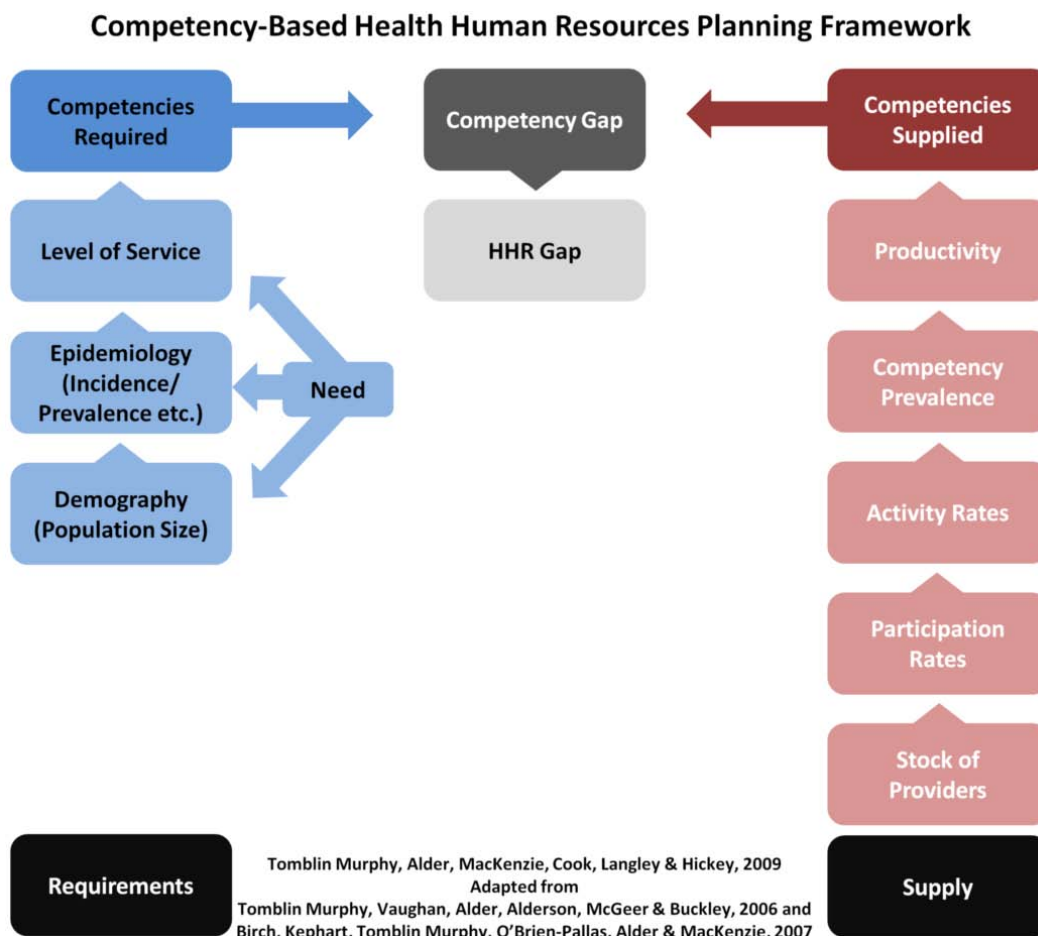
- The size and mix of population served in the setting or area (demographics)
- Health status, attack rate, mortality, and morbidity (epidemiology of the virus)
- The type and level of service provided in the care setting or area
- The competencies required to provide that type and level of service.

Planners would use the information on available competencies to deploy staff to meet the population’s needs. After redeployment of existing staff, if there is still a gap between the

competencies required and the competencies available, planners would then look beyond the current workforce (e.g., students, retired health care providers, people with some first aid or other training, and volunteers).

It must be also noted that prior to triggering changes under this approach, there is a need to consult with unions, colleges and regulatory bodies to understand any implications prior to moving towards a full competency based approach to health human resource planning.

Figure 1: Competency-based health human resources planning framework



4.3 Competency-Based Approach for Planners

A list of the most important competencies needed for influenza care and pandemic management developed by Tomblin Murphy et al. (2006) for use in Ontario is listed in Appendix A and key questions for planning (from the same work) are listed in Appendix B.

The HR planning activities involved in this approach include quantitative and qualitative data collection. Quantitative data would incorporate information such as number of providers available, demographics, and attack rates. Qualitative data would include information collected from focus group and stakeholder discussions related to but not limited to:

- Are there non-registered providers (e.g. retirees) in your planning area who could be registered expeditiously?
- How can administration and research staff be moved back into patient care?
- How can part-time shift workers move to full-time status?
- What are the competencies of these providers?
- What is their level of productivity?

This approach is intended to increase the care capacity available for a large number of influenza patients by making strategic use of the competencies of all available health care providers, students, and volunteers.

When matching competencies, planners and health care providers must work within the legislative framework for health care in BC.

4.4 Planning Activities

It is important to note that the competencies considered under “influenza care” include not only components that are usually considered

“health care” (e.g., diagnosis, medication prescription), but also the infrastructure needed to maintain critical non- health care services. In addition the infrastructure is necessary to run triage, immunization clinics, alternative care sites, and the community supports needed for ill patients caring for themselves at home (e.g., medication delivery) (Tomblin Murphy et al., 2006).

Planners will use the information on available competencies to deploy staff to meet needs. They may consider part-time employees who might be willing to work more hours during a pandemic.

If after redeployment of existing staff there is still a gap between the competencies required and the competencies available, planners will then need to look beyond the current workforce (e.g., students, recently retired employees, volunteers).

As part of health human planning, employers are encouraged to talk to staff and other health care providers about the province’s pandemic plan and to discuss how health care workers can contribute to both the planning process and pandemic response.

There are a number of ways planners may wish to structure care so that provider competencies are stretched to their limits (Tomblin Murphy et al., 2006). These include:

- **Detailed care plans/algorithms** – These will need to be developed to ensure a consistent approach to delivery of the services required to provide an appropriate quality of care during the pandemic
- **Assess competencies** – Once the services required during a pandemic are identified, the next step planners need to take is to assess the level of competency of potential workers to deliver those services, and the supports/supervision required. It may be necessary to coordinate this at the

provincial level and/or locally and in consultation with appropriate partners (i.e. unions, colleges, regulatory bodies, post secondary health educators, MoH, Ministry of Advanced Education).

- .
- **Supervision** – supervision of these workers will need to be provided by experienced and appropriate individuals. Human resource planners may consider care to be delivered in teams or pods.
- **Deployment of workers** - Once the pandemic competencies of the workforce have been assessed, some adjustment of their deployment may be required to better align those competencies with the services required during a pandemic. For example, in the emergency department (ED), triaging requires the highest level of competence in initial assessment: this role is often filled by a subset of ED nurses. As triage resources become stretched, other ED nurses or paramedics could be the first to be moved into this role, with nurses with assessment/ED technical skill capacity being moved from in-patient units into the ED, and student or retired nurses being added to the in-patient unit complement (Tomblin Murphy et al., 2006)..
- **Team-delivered care** – there will likely be variation in the level of competence to perform various services. For example, some providers may have been trained to perform a service in the past but not have performed it in some time; structuring care providers in teams will likely provide the greatest amount of support for providers coping in extended roles (Tomblin Murphy et al., 2006)..

5. KEY COMPETENCIES REQUIRED DURING PANDEMIC INFLUENZA (TOMBLIN MURPHY ET AL., 2006)

The competencies needed to provide health care for influenza listed in Table 1 in Appendix A are classified into five broad categories as follows (Tomblin Murphy et al., 2006):

A. Administrative/support

Facilities providing all types of health care will be required to function at levels above their usual capacity. In addition, if the pandemic is of moderate or greater severity, alternative care sites will be needed to provide both out-patient services and domiciliary care for those unable to be managed at home. Alternative care sites will also need a full range of administrative and support services to function. Communications infrastructure, both internally within organizations, and externally across provider agencies and between providers and government authorities will be of critical importance.

B. Transportation

If alternative care sites are needed, transportation will be needed for patients and supplies. Transportation may also be needed for staff: for instance, public transport may be reduced, or, in rural areas, additional resources may need to be moved to particular isolated areas.

C. Education

Education of existing and temporary health care workers will be required, including, but not limited to skills upgrades, self-protection, self care, public education. In addition, training in infection control and monitoring of workplace safety are critical functions. Recent studies of health care providers and health agency staff have suggested that the provision of both

psychosocial and logistic support are viewed by staff as critical to their remaining at work during the stress of a pandemic.

D. Infection control/occupational health and safety/surveillance

While most surveillance for influenza will be coordinated at federal and provincial levels, each health care setting will need to be performing syndromic and laboratory-based surveillance for disease and mortality in patients, disease in staff, vaccination rates, antiviral treatment and prophylaxis, and adverse events associated with vaccination and antivirals (as resource availability permits).

E. Public health/Care of well persons

The provision of vaccine as soon as it is available will be a critical function during a pandemic. The current national and provincial antiviral stockpiles are not large enough to permit their use for prophylaxis; however, planners should be aware that this may change, and that antivirals for prophylaxis may be provided to contacts of influenza cases, essential service providers, or persons at high risk of complications.

F. Care of ill persons with influenza

Many of the additional resources required during the pandemic will be required to provide direct care to patients with illness due to influenza. Many technical skills are needed to provide this care; however, the most important resources, and those which will be most difficult to supply, are the competencies to assess patient status, to develop a care plan for the patient, to identify whether additional care is needed, and to determine whether the patient can be

discharged from the care site. These competencies are also the most difficult to

assess.

6. ALIGNING RESOURCES WITH HEALTH SETTINGS

As part of the planning process, planners need to consider health care settings such as home & community care; public health; acute care; primary care; mental health; aboriginal communities; remote communities.

Management of pandemics requires system wide surge capacity to ensure maximum prevention services and treatment options. Interdisciplinary practice with all health care partners working to full scope of practice facilitates efficiency and effectiveness in community and institutional services.

Different care settings provide different types and levels of service and, therefore, require different competencies. HR planners should assess the “gap” in competencies required to provide care/support to those impacted by the pandemic and identify people who have or could be quickly trained to provide those competencies.

HR planners should identify the competencies required in each care setting and identify the professions who can deliver those competencies. With this information, planners can then think beyond traditional credential-based silos and consider a broader range when setting options to meet the population’s health needs.

HR planners should recognize the role that self-regulating professions and their regulatory colleges play in determining competencies and establishing standards for safe care, as well as the role of unions in discussions about deploying health care workers and the need to respect collective agreements (See Appendix C for links).

6.1 Key priority health care workers

Key priority health care workers who provided support during the past H1N1 pandemic included:

- Family physicians
- Licensed Practical Nurses (LPN) – (If utilized as immunizers must have successfully taken the BCCDC course and skill workshop)
- Registered Nurses (RN) - (If utilized as immunizers must have successfully taken the BCCDC course and skill workshop)
- Nurse Practitioner (NP) - (If utilized as immunizers must have successfully taken the BCCDC course and skill workshop)
- Registered Psychiatric Nurses (RPN) - (If utilized as immunizers must have successfully taken the BCCDC course and skill workshop)
- Qualified pharmacists (who have passed the (If utilized as immunizers must have successfully taken the BCCDC course and skill workshop)

Others planned for, should the pandemic severity have increased included:

- Dentists
- Physiotherapists
- Respiratory Therapists
- Occupational Therapists
- Speech Language Pathologist
- Paramedics
- Lab Technologists

- Midwives

Cross, St. John Ambulance, community lifeguards)

6.2 Other workers (volunteer, retiree, students, etc)

Volunteers provided valuable assistance in past pandemics and in other emergency situations. Health care volunteers (HCVs) may be either professionals (including trainees and retirees) or non-professionals who are volunteering to provide services and are not being paid to provide those services.

- Community volunteer organizations (e.g., Volunteer BC)
- Secondary and post secondary institutions

The following steps should be considered to involve volunteers during a pandemic influenza:

- Recruit and screen
- Orient and train
- Retain for duration of pandemic

Many influenza care competencies (e.g., administrative support) can be provided by volunteers.

During planning the following can be considered:

- Integrate local volunteer organizations early into the planning process – before a pandemic occurs.
- Develop effective working relationships/partnerships with local chapters.
- Develop effective communication among volunteer groups, governments, local communities and other stakeholders.

Planners may consider recruiting volunteers from variety of sources including:

- Existing volunteers
- Organizations with individuals who have some health care training or skills (e.g., Red

7. ORGANIZATION STRUCTURE ROLES AND RESPONSIBILITIES

During a pandemic, shortages of personnel can be expected to limit the ability of institutions to respond to a significant increase in patient volume. Health care professionals may need to be moved from vaccination clinics to hospitals or between hospitals and alternate care facilities. The human resources management team within each health authority will need to take on the responsibility to identify current health care workers, recruit additional professionals and volunteers and to manage the training and assignment of workers.

As part of pandemic preparedness, the Ministry of Health recommends that key stakeholders work together at the local, regional and provincial levels to ensure that planning occurs across all care settings including: community and primary health care, emergency departments, acute care, long-term care, and critical care sites. Planning should occur in a bottom up fashion. This means that local planners would estimate the health human resources required to provide influenza care in all settings in their local planning area. They can then coordinate with regional and provincial planners to determine how to make the most effective use of available people and skills, for example establishing interdisciplinary teams that can react quickly during a crisis.

The responsibilities for influenza surveillance fall mainly to the federal and provincial governments. The federal government has the lead role, working in partnership with provincial/territorial epidemiologists and sentinel physicians.

Health Canada

Health Canada provides national leadership in developing health policy (domestic and

international), enforcing health regulations and administering the Canada Health Act, and in working with other partners to define Canada's international role, responsibilities and obligations.

The Public Health Agency of Canada (PHAC) which was created to deliver on the Government of Canada's commitment to help protect the health and safety of all Canadians, provides information on overall pandemic impact and infection control measures taken at the national level, while engaging in ongoing communications with key international stakeholders (i.e. WHO).

Health Emergency Response Teams (HERT) are coordinated by the PHAC, and consist of local medical support teams (nationally funded and deployed). These teams assist provinces, territories and other jurisdictions, in mitigating the medical and health effects in the event of a public health emergency

The [Canadian Pandemic Influenza Plan](#) maps out how Canada will prepare for and respond to an influenza pandemic. Federal, provincial and territorial governments collaborated on its development.

The Canadian Pandemic Influenza Plan is designed for:

- federal, provincial and territorial departments of health
- emergency workers,
- public health officials, and
- health care workers

The plan includes guidelines and checklists that these groups can use in emergency response planning and creates a framework that guides the actions of all levels of government in the event of an influenza pandemic.

First Nations

Through its First Nations and Inuit Health Branch (FNIHB), Health Canada will work collaboratively with the provinces to provide health care services and to adapt disease prevention and healthy living programs to on-reserve First Nation communities through direct service delivery or funding through contribution agreements.

Province/Ministry of Health (MoH):

Ministry of Health provides leadership, direction and support to the service delivery partners, such as health authorities, physicians and other health professionals who deliver the majority of health services.

MoH has overall responsibility for leading health human resources planning for the health sector in BC and through collaboration/consultation with health authorities and key stakeholders, will assess needs, organize, and implement strategies such as this guideline to strengthen the health care workforce during a pandemic. MoH will support the health authorities in addressing all matters related to employer relations, legislations, regulations and public policy.

The British Columbia Emergency Response Management System (BCERMS). is a comprehensive management system based upon the Incident Command System (ICS) that ensures a coordinated and organized response and recovery to all emergency incidents and disasters. The ICS is "a systematic tool used for the command, control, and coordination of emergency response. An ICS is based upon a flexible, scalable response organization, providing a common organizational framework

within a set of temporary management hierarchies of personnel, policies, procedures, facilities, and equipment, to provide a unified, centrally authorized emergency organization. BCERMS is the structure through which the MoH will direct emergency response operations from the Health Emergency Coordination Centre (HECC). See figure 2 for an overview of HECC.

Office of the Provincial Health Officer (PHO)

In the event of a threat to the health of the public the PHO provides leadership to pandemic influenza preparedness activities across the health sector and maintains the British Columbia Pandemic Influenza Plan.

The PHO's responsibilities are outlined in the Public Health Act and include:

- Providing independent advice on health issues to the Minister and Ministry;
- Reporting to British Columbians on the health of the population and other health issues;
- Recommending actions to improve health and wellness;
- Reporting on progress towards achieving BC's health goals;
- Working with the BC Center or Disease Control, Health Authority, and Medical Health Officer (MHO) to fulfill their legislated mandates on disease control and health

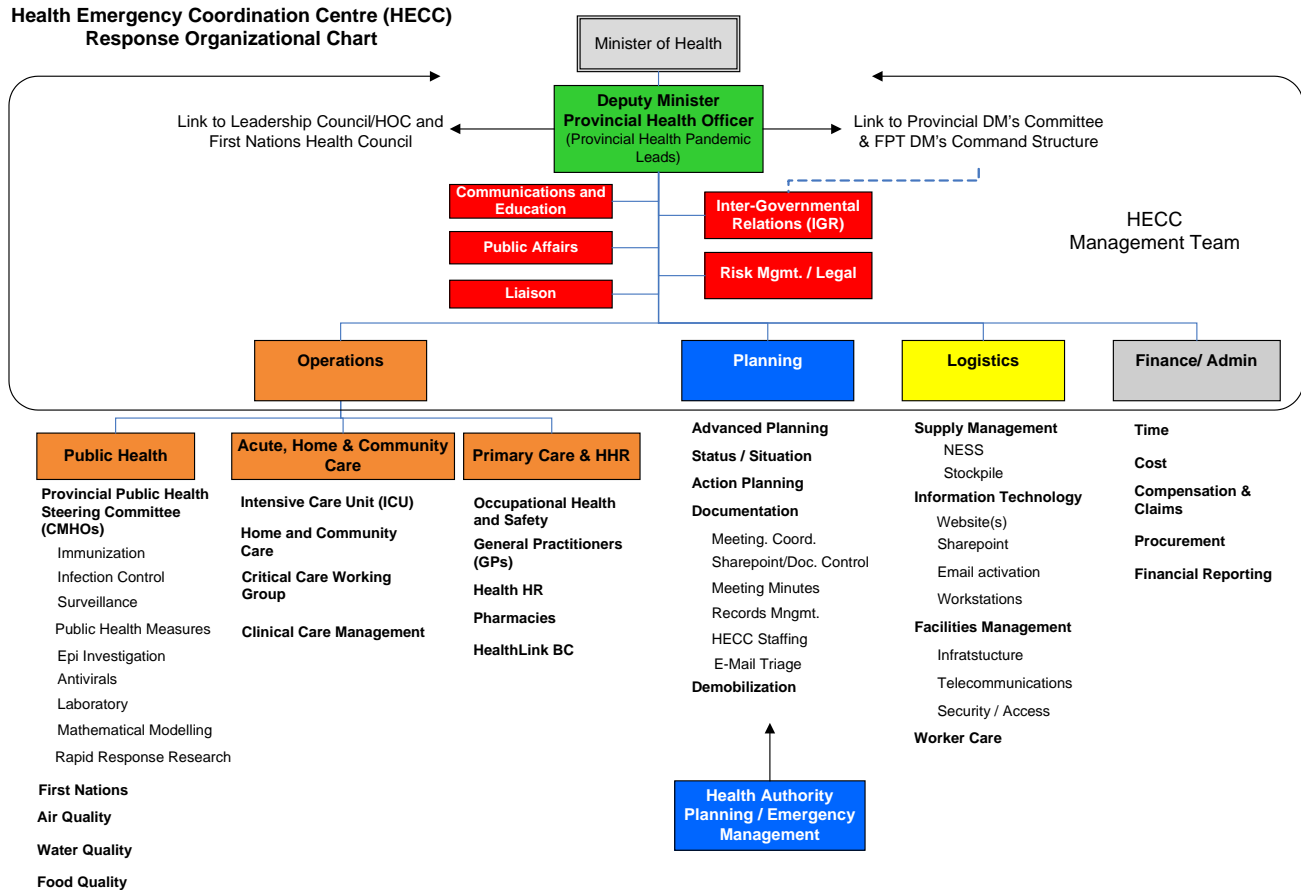
BC Centre for Disease Control

During the pandemic influenza period, the BC Centre for Disease Control (BCCDC) is responsible for developing guidelines for the distribution and use of vaccines anti-viral medications in BC, as well as the evaluation of use and delivery of these vaccines and medications. BCCDC is also responsible for communicating technical updates to Health

Care Providers and may provide venues for advanced training of public health personnel.

The Provincial Health Officer (PHO) may also delegate other responsibilities to BCCDC.

Figure 2



August 3, 2011

Figure 2

BC Regional Health Authorities

The Ministry of Health works together with BC's health authorities to provide quality, appropriate and timely health services to British Columbians. The ministry sets province-wide goals, standards and performance agreements for health service delivery by the health authorities.

Health Authorities are responsible for developing and implementing their own pandemic plans in consultation with other stakeholders. Health Authorities should coordinate their HR plans with one another and also ensure that their plan is aligned with the principles of this guideline. 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, as exemplified through this guideline, and then has a central coordination and communication role.

At the regional level of the public health delivery system, the key players are the Medical Health Officers, the Health Emergency Manager and the Public Health Nursing Administrator. The Medical Health Officers in each health authority will coordinate activities to develop plans and respond to issues.

Health authorities are also responsible for:

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

- Communication with the Province.

Health Employers Association of British Columbia (HEABC):

HEABC works with the Ministry of Health, health authorities and unions to coordinate labour relations issues. They provide expertise in labour relations, job classification, specialized recruitment, etc.

HEABC represents a wide range of groups including denominational, proprietary and affiliate health employers, as well as BC's six health authorities. Because of HEABC's position, the organization is able to take a provincial leadership role in strategic planning related to human resources and various labour relations issues.

In addition to collective bargaining, HEABC leads industry initiatives aimed at fostering and strengthening collaborative relations with its members, government, employees, and unions. HEABC is therefore a key partner in human resource planning for pandemic influenza.

Unions:

Unions would work closely with the Ministry of Health, HEABC, regulators and health authorities to discuss the appropriate deployment of health care workers.

Representatives from B.C.'s health care unions are:

- British Columbia Government and Service Employees' Union (BCGEU);
- BC Nurses' Union (BCNU);
- Health Sciences Association of British Columbia (HSABC);
- Hospital Employees' Union (HEU); and
- United Food and Commercial Workers Union Local 1518 (UFCW).

Regulatory system:

The regulatory system will continue to set the standards of practice for the regulated health professions and will play a role in determining scopes of practice and supporting interprofessional practice during a pandemic.

Advanced Education (AVED)/ Educational institutions:

The Ministry of Advanced Education, in collaboration with the post secondary education system, will work with the Ministry of Health and the public health sector to prepare a health workforce with the knowledge, skills and flexibility to respond to changing needs such as the utilization of students and faculty.

Other providers:

Some arms length provincial agencies and institutes and non-governmental organizations may play a stronger role in public health activities during a pandemic. For example, the Canadian Cancer Society hires staff to implement prevention and population health promotion programs in some communities. These organizations may also serve as sources for volunteers.

The private sector is likely to take more responsibility in supporting and implementing public health activities such as utilizing Dentists as immunizers.

REFERENCES

The following documents or sites were used in the preparation of the Human Resources Guideline:

- British Columbia Pandemic Influenza Preparedness Plan – Guidelines for Planning, Response and Recovery. (August 2005).
- World Health Organization - Pandemic Alert Phases. (October 8, 2008) http://www.who.int/csr/disease/avian_influenza/phase/en/index.html.
- WHO Influenza Pandemic Preparedness Plan (2005) http://www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_5/en/
- Canadian Pandemic Influenza Plan (Feb. 2004) <http://www.phac-aspc.gc.ca/cpip-pclcpi/>
- Government of Canada Pandemic Influenza <http://www.influenza.gc.ca/>
- BC Centre for Disease Control (BCCDC) <http://bccdc.org>
- Vancouver Coastal Health Authority Regional Pandemic Influenza Response Plan (May 2005) <http://www.vch.ca>
- Ontario Health Plan for an Influenza Pandemic (August 2008)

- British Columbia H1N1 Pandemic Influenza Response Plan - Human Resources Framework (2009)
- Review of Alberta’s Response to the 2009 H1N1 Influenza Pandemic (December 2010)
- Tomblin Murphy, G., Alder, R., MacKenzie, A., Cook, A., Langley, J., & Hickey, M. (2009). Health Human Resources Planning for an Influenza Pandemic in Nova Scotia. Halifax: Nova Scotia Department of Health.
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- Nova Scotia Health System – Pandemic Influenza Plan (Jan 2008) http://www.gov.ns.ca/pandemic/docs/plan/Full_NS_Pandemic_plan.pdf
- Pandemic influenza Human resources guidance for the NHS http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_086829.pdf
- Ministry of Advanced Education: <http://www.gov.bc.ca/aved/>
- Health Employers Association of BC: <http://www.heabc.bc.ca>
- Office of the Provincial Health Officer: <http://www.health.gov.bc.ca/pho/>

APPENDICES

Appendix A: Care Competencies (Taken from Tomblin Murphy et al., 2006)

The tables below provide an overview of both the skill-sets required for each category of competencies, along with breaking-down the various roles required during a pandemic according to competences.

Table 1 - Care Competencies:

A. Administrative/support
<p>1. Management and leadership</p> <p>Ability to:</p> <ul style="list-style-type: none"> • Respond to crises, develop strategies for response. • Manage care sites (care clinic, immunization clinic, ED, home care, non-traditional care site) • Assess staff competencies/skills and align to needs • Schedule deployment and re-deployment: <ul style="list-style-type: none"> • Staff (physician, employees, volunteers) • Beds • Sites • Succession and contingency plan

<ul style="list-style-type: none"> • Coordinate triage and rationing decisions, ethics • Allocation of resources • Manage and command control structures • Manage supply chain • Manage pharmacy services • Manage laboratory service • Manage radiology services • Manage supplies (clean/sterile, as well as office) • Manage health records services <ul style="list-style-type: none"> • Information infrastructure management • telephones • email • hospital information systems • surveillance infrastructure • Manage food services • Manage laundry services • Manage Parking services • Manage Security services • Manage housekeeping services • Manage disposal of waste (including handling and disposal of biohazardous waste) • Manage facility (ventilation, creation of isolation space, etc.) • Establish and manage alternate morgue sites/temporary morgues • Manage and prepare bodies for burial/cremation, and store pending transport
<p>2. Coordinating patient flow</p>
<p>Ability to :</p> <ul style="list-style-type: none"> • Answer patient questions • Navigate the system • Receive and direct patients to appropriate care site
<p>3. Managing communication</p>
<ul style="list-style-type: none"> • Develop and implement external communication • Ability to coordinate with other levels of care, public health and non health groups • Develop and implement internal communication • Managing confidentiality • Carry our risk management/ risk communication
<p style="text-align: center;">B. Transportation</p>
<p>Manage transportation of:</p> <ul style="list-style-type: none"> • Laboratory specimens • Biohazardous waste • Dangerous goods (e.g. Oxygen) • Staff • Patients • Bodies for burial/cremation • Equipment and supplies

C. Education
1. Educating health care providers including alternate care providers
<p>Educate health care providers about:</p> <ul style="list-style-type: none"> • Provincial emergency and pandemic preparedness • Individual preparedness (e.g. wills, stockpiling OTC meds, etc.) • Influenza and pandemic influenza • Personal protective equipment and immunization • Advanced directives, chain of command, responsibilities, ethics • Self screening for influenza illness and for stress/ability to continue working • Assessment, triage, management protocols (patient with and without comorbidities): within healthcare settings, within community/PHC settings (e.g., pharmacy, teletriage, schools) • Infection control and occupational health and safety • Immunization (delivery, safety, etc) • Deciding to discontinue/continue working
2. Educating the general public
<p>Educate the public about:</p> <ul style="list-style-type: none"> • Influenza in general and pandemic influenza in particular • Ethical considerations and decision-making framework of BC's health system • Disease prevention strategies • Self-care (includes responding to questions by phone, in-person, web) • Individual preparedness (e.g. caring for ill family members, palliative care, wills, etc.)
D. Infection control/occupational health and safety
<p>Ability to:</p> <ul style="list-style-type: none"> • screen staff for illness • Identify staff who through other illness or burn out, need assistance/rest. • Develop surveillance programs <ul style="list-style-type: none"> • For disease • For adverse events of immunization and therapy • Monitor and manage workplace and patient safety <ul style="list-style-type: none"> • Identify hazards/problems • Provide on-going education and training • Rectify hazards • Advise health care providers regarding appropriate patient placement to minimize/prevent infectious disease transmission
E. Public Health / Care for well persons
1. Immunization
<p>Ability to:</p> <ul style="list-style-type: none"> • Organize and conduct mass immunization clinics in a community setting • Screen for eligibility for immunization • Obtain consent for immunization • Perform an assessment of medical history, contraindications, allergies, etc. • Dispense vaccine • Administer vaccine • Implement appropriate vaccine safety (maintenance of cold chain during storage and transport) • Identify and manage initial adverse reactions/events • Monitor for adverse events associated with immunization among members of the public

2. Prophylaxis
<p>Ability to</p> <ul style="list-style-type: none"> • Screen persons for eligibility for antiviral prophylaxis • Obtain consent for antiviral prophylaxis • Prescribe antivirals for prevention of influenza • Dispense antivirals for prevention of influenza (public health or hospital supply).
F. Care for ill patients with influenza
1. Competencies Across Care Settings
<ul style="list-style-type: none"> • Taking a medical history • Examining the chest • Performing a complete physical exam • Interpreting the results of history, physical exam, chest x-ray, laboratory and point of care testing • Prescribing medication • Triaging patients to appropriate location: in community, to care location; in ED to level of care • Deciding to refer patient for assessment by staff with greater competency • Discharging patient home or to another care setting • Deciding on palliative care/withdrawal of care • Certification of death • Designing and implementing rehabilitation programs • Psychosocial support
2. Supports Across Care Settings
<ul style="list-style-type: none"> • Activities of daily living • Delivery of food etc (community only) • Care for dependents (community only)
3. Technical skills by Care Setting:
<ul style="list-style-type: none"> • Community/PHC: measuring temperature, pulse, blood pressure, taking blood, obtaining NP swabs, other cultures (e.g. skin swabs, urine), O₂ sats • ED/Acute Care/LTC: Community/PHC skills PLUS ECG, Chest x-ray, performing IM injections, starting intravenous lines, maintaining intravenous lines (site and tubing), setting up oxygen for administration; checking oxygen administration sets, administering oral, inhaled, iv and IM medication, suctioning non-intubated and trachea patients, insertion, maintenance of Foley catheters • Critical Care: ED/Acute Care/LTC skills PLUS intubation, ventilation, central and arterial line insertion and maintenance, administration of medication by continuous infusion, suctioning, ACLS, management of inotropes and vasopressors, management of insulin infusions, management of dialysis.

Appendix B: Competency-Based Approach: Key Questions for planners (Taken from Tomblin Murphy et al., 2006)

Requirements for providers
How many providers are required to meet the population need?
Demographics:
What is the population size of your geographic planning area?
What is the population breakdown by age and gender?
What is the relevant size of your population that routinely requires care that cannot be provided in your local area?
How is your population geographically dispersed? (those at high risk of complex illness, and barriers in accessing care)
What are the geographic barriers to provide support at home for the ill?
Who is responsible for gathering this information? Where would the information be available?
Health Status: Attack Rate, Morbidity and Mortality Rates
What are the available sources of up to date information for your area related to number of cases of reportable diseases (e.g., Pandemic Influenza) and hospitalizations during pandemic waves? How can you use this information for planning and how can you collect actual data to assist on-going planning?
Are there geographic mapping resources available to assist in deployment planning and how would this be obtained?
Level of Service:
What is the expected distribution of patients across care settings (e.g., community clinics/PHC, ED/acute care hospital, ICUs)? And what is the most reliable way of determining this distribution?
How many people will require supportive care at home (e.g. meals, medication delivery)?
Who is designated as responsible for coordinating the organization of health care delivery in each care setting? And do they have an alternate backup?
What are the usual patient volumes by each of the care settings?
What information systems will be required? Who will update them? And how often?
Competencies Required:
What are the competencies necessary for the care of both the well and the ill in each of the care settings (i.e., community clinics/PHC, ED/acute care hospital/ ICUs)?
Supply of Providers
How many providers are or will be available to deliver health care services to the population?
Health Care providers:

How many of each health care profession are available in your area?
How will you update provider workforce information during a pandemic?
Have you matched the required competencies with the available health care professionals?
Have you consulted with the Ministry of Health regarding the expedited registration of retired or inactive staff? Who would you contact within the Ministry?
Stock of Providers: Refers to number of registered health care providers available to provide health care services (also includes those who left practice for retirement or other reasons but remain registered)
How will you engage key stakeholders to assist you in planning for provider stock information? And who would these stakeholders be?
What mechanism will you employ to update information during a crisis? And who will coordinate this?
Who would you contact to find out how many providers are training in your area, and in what professions?
How many licensed health care providers live or work in your area? Or adjacent areas? How many are retired or working outside their field but are willing and available? If you were to use these individuals which stakeholders need to be engaged in the process (e.g., MoH, HEABC, Unions, etc.)
What are the influenza care competencies of your local providers? How will you determine this?
Have you considered using a provider self-assessment tool?
Whose job will it be to engage providers?
Who will be responsible for gathering the self-assessment information? Is there someone within your team who can use that information to plan influenza competency training sessions? Who would run these training sessions?

<p>Activity Rates: Refers to the number of hours spent in the delivery of patient care service (i.e., worked hours).</p>
<p>How activity rate information will be maintained during a pandemic influenza crisis? Who will be responsible for gathering the information?</p>
<p>How many of health providers in your area are working full time, part time or casual? Where will you find the information? Have you engaged health provider leaders in pandemic planning?</p>
<p>Can you assume most providers will work full-time during a pandemic crisis?</p>
<p>Participation Rates: Refers to the proportion of the stock involved in the delivery of patient care.</p>
<p>What percentage of your primary health care workforce is involved in direct patient care?</p>
<p>What percentage of your ED/acute care hospital workforce is involved in direct patient care?</p>
<p>How will you access this information before a pandemic influenza crisis?</p>
<p>What alternative sources of information can you employ during a pandemic influenza crisis?</p>
<p>Is there a provider self assessment tool used to determine the level of influenza care competencies among those not involved in direct patient care (i.e., those in administration or research)?</p>
<p>Work and Productivity of Providers: Refers to the average rate of services per hour of work delivered to people requiring care.</p>
<p>How many vaccines can a public health nurse administer, on average per day?</p>
<p>How many possible influenza patients can be assessed each hour in a flu assessment clinic with a particular range of providers?</p>
<p>How many people can a family physician assess per day (e.g., 40 per day which is 5 per hour)?</p>
<p>How many prescriptions can pharmacist fill per day, in addition to providing communication, education, and advocacy?</p>
<p>Who will coordinate human resource scheduling in your area? ICUs? ER/Acute Care Hospitals? Community Clinics? ALC? Homecare?</p>

How will staff burnout be identified and prevented?

How will you plan for critical skills shortages?

Are there programs, policies or procedures that could be considered and put in place before a pandemic crisis?

Competencies Supplied:

The variety of competencies that can be supplied by the available stock of providers across care settings. Different health care providers, even within the same profession, will have different levels of competencies.

How will the competencies that could be supplied in your area by care setting be estimated? And how does this compare with the competencies required in your area by care setting?

How will the gap between the existing competencies and the population need in your area be addressed?

Appendix C: Key Priority Health professions

Nurses

Registered Nurses (RN)

Regulatory Body:

- College of Registered Nurses of British Columbia (CRNBC) - www.crnbc.ca

Regulation:

- http://www.bclaws.ca/EPLibraries/bclaws_new/document/LOC/freeside/--%20H%20--/Health%20Professions%20Act%20RSBC%201996%20c.%20183/05_Regulations/23_284_2008.xml

Union:

- British Columbia Nurses Union (BCNU) - http://www.bcnu.org/about_bcnu/JoinBCNU/JoinContactInfo.htm

Licensed Practical Nurses (LPN)

Regulatory Body:

- College of Licensed Practical Nurses of British Columbia (CLPNBC) - www.clpnbc.ca

Regulation:

- <http://www.clpnbc.ca/regulation/lpnactregulations.html>

Union:

- Hospital Employees' Union (HEU): www.heu.org/
- UFCW: <http://www.ufcw.ca/>
- BC Government Employees' Union (BCGEU): <http://www.bcgeu.ca/>

Nurse Practitioner (NP)

Regulatory Body:

- College of Registered Nurses of British Columbia (CRNBC) - www.crnbc.ca

Regulation:

- http://www.bclaws.ca/EPLibraries/bclaws_new/document/LOC/freeside/--%20H%20--/Health%20Professions%20Act%20RSBC%201996%20c.%20183/05_Regulations/23_284_2008.xml
- http://www.health.gov.bc.ca/msp/infoprac/np/s1-nurseprac_in_bc.pdf

Union:

- British Columbia Nurses Union (BCNU) - http://www.bcnu.org/about_bcnu/JoinBCNU/JoinContactInfo.htm

Registered Psychiatric Nurses (RPN)

Regulatory Body:

- College of Registered Psychiatric Nurses of BC (CRPNBC) - <http://www.crpnb.ca>

Regulation:

- http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/24_285_2008

Union:

- Union of Psychiatric Nurses of British Columbia (UPNBC) - <http://www.upnbc.org/>

Physicians

Regulatory Body:

- College of Physicians and Surgeons of BC (CPSBC) - <https://www.cpsbc.ca>
- BC College of Family Physicians (BCCFP) - <http://www.bccfp.bc.ca/>
- BC Medical Association - <https://www.bcma.org/>

Legislation:

- Medical Practitioners Act - http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/19_416_2008

Pharmacists

Regulatory Body:

- The College of Pharmacists of British Columbia - <http://www.bcpharmacists.org/>

Regulation:

- http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/28_417_2008