



British Columbia Pandemic Influenza Preparedness Plan

Guidelines for Planning, Response and Recovery

AUGUST 2005

“Hope for the Best – Prepare for the Worst”

Why We Should Worry About Influenza

A WORD FROM THE PROVINCIAL HEALTH OFFICER

Influenza pandemics represent global emergencies with catastrophic impact. During a pandemic, worldwide epidemics of influenza due to a new viral subtype occur simultaneously and with high death rates. Pandemics have been documented every ten to forty years dating back to the 1600s, and likely long before that. There were three during the last century alone. The worst was 1918 to 1919 when over 20 million people died worldwide. The last pandemic occurred in 1968. Experts agree – we are overdue for another.

Progress in medical science has enabled the medical community to identify, characterize and produce vaccines for new influenza subtypes, but the ease and speed with which people now move around the world enables rapid global dispersion of the virus. Between the onset of a pandemic and the production and dissemination of an effective vaccine lies a period of months during which medical and social resources will be stretched to the limit.

When a pandemic occurs – and it will – no time can be lost in responding. This means that we must work now to develop efficient and effective interventions. This revised planning guide is intended to help all of us anticipate, prepare and respond to the next influenza pandemic and to other new and emerging diseases. Every influenza season should be viewed as an opportunity to refine this planning.



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FOREWORD

The following document was prepared by the British Columbia Pandemic Influenza Advisory Committee (BCPIAC), which reports to the Provincial Health Officer (PHO) through the BC Centre for Disease Control (BCCDC). These guidelines are intended to provide a wide range of information related to pandemic influenza preparedness and response. Users should be aware that this document is not regulatory and represents guidelines only. It should not replace appropriate consultation with health care and other professionals. The contributors are not responsible for use or adaptation issues arising from the use of these guidelines. Adaptation of this framework is the sole responsibility of the users.

The working members of the BC Pandemic Influenza Advisory Committee (BCPIAC) include representatives from the following groups:

- ❑ BC Ministry of Health Services (Emergency Preparedness Branch; Communicable Disease Prevention; BC HealthGuide)
- ❑ BC's Provincial Health Officer
- ❑ BC Ministry of Human Resources (Emergency Social Services)
- ❑ British Columbia Centre for Disease Control (Epidemiology Services, Laboratory Services)
- ❑ Provincial Health Services Authority (Emergency management, Communications)
- ❑ BC Professionals in Infection Control
- ❑ Public Health Agency of Canada
- ❑ Health Canada (First Nations and Inuit Health Branch; Emergency Preparedness and Response)
- ❑ Medical Health Officers
- ❑ Public Health Nursing (rural and urban)
- ❑ Paramedics/Emergency Physicians

In its dual role as a working group and ongoing advisory committee, the committee also has access to expertise, as needed, from representatives of many other stakeholder organizations and specialists in areas such as clinical health services, medical ethics, media and communications.

The committee's mandate is to plan a coordinated response to pandemic influenza by:

- ❑ Assessing the expected impact of pandemic influenza on British Columbians.
- ❑ Preparing a BC Pandemic Influenza Preparedness Plan, including roles and responsibilities at the provincial and health authority levels, and updating the plan as necessary.
- ❑ Developing a template for similar planning at the Health Authority level.
- ❑ Detailing actions/steps to be taken to assist in operationalizing the plan at the provincial and Health Authority levels.
- ❑ Providing advice and recommendations around implementing the plan.
- ❑ Providing advice related to epidemiology and related public health actions during the pandemic.
- ❑ Preparing a final report, when the pandemic is over, including an assessment of the measures taken and recommendations for the future.

ADMINISTRATIVE AUTHORITY AND AMENDMENTS

The BCCDC maintains this Plan in collaboration with the Ministry of Health Services and the Health Authorities.

Comments and recommendations for changes to the Plan should be directed to:

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Vancouver BC V5Z 4R4

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Table 1: BC Pandemic Influenza Preparedness Plan Revisions

Date	Specific Revisions/ Additions	Page(s)
December 2004	General Update	All
May 2005	General Update	All
August 2005	General Update	All

1. INTRODUCTION

Some time in the future, British Columbia (BC) will face an influenza pandemic – a global epidemic caused by a strain of influenza virus that spreads rapidly and causes high rates of illness and death. No one can predict exactly when this will happen but scientists say it may be imminent.

Most experts believe we will have between one and six months between the time an influenza pandemic strain is first identified globally and the time that outbreaks begin in BC. Within three months from arrival in BC, we expect that most communities in the province will be affected, and that the impact will continue for six months or more.

The World Health Organization (WHO) works closely with a variety of international and national organizations to monitor influenza activity at all times. By working closely with groups around the world the WHO hopes to provide early warning of the arrival of pandemic influenza activity, which will occur not just once, but in a series of waves that may strike different parts of the province at different times and with varying levels of intensity. (See Section 1.1 for the planning assumptions on which this Plan is based.)

According to estimates for British Columbia:

- ❑ More than three million people will be infected with the virus.
- ❑ As many as 1.8 million people will become clinically ill.
- ❑ Up to 610,000 people will visit a health care provider.
- ❑ Up to 18,500 people will need hospital care.
- ❑ As many as 6,800 people will die from influenza and related complications.

These estimates are based not on a worst-case scenario, but on the impact of the 1957 and 1968 influenza pandemics, which were relatively mild compared with the 1918 pandemic. There is no way to predict the severity of the next pandemic.

For detailed information on estimating the impact of pandemic influenza on BC health authorities, see [Annex B](#).

Clearly, such a widespread outbreak of illness has enormous implications for every sector of society, from front-line health care workers to business and industry; from social support agencies to funeral service providers.

Although the pandemic itself cannot be prevented, effective planning now can mitigate its impact. Accordingly, the goal of this planning process is to minimize rates of death, illness and suffering as well as the scope of social and economic upheaval.

The purpose of this Plan is to inform British Columbians about the global and local risks of an influenza pandemic, and to provide the information and guidelines needed to fulfill roles and responsibilities to minimize these risks.

One of the best ways to prepare for a pandemic is to make better use of existing prevention and control measures between pandemics.

1.1. Planning Assumptions

- ❑ Based on the last two pandemics, it is estimated that the next pandemic virus will arrive in Canada within 3 months after it emerges in another part of the world. This time could be much shorter due to increases in the volume and speed of air travel.
- ❑ The first peak of illness in Canada will occur within two to four months after the virus arrives in Canada.
- ❑ The first peak in mortality will be one month after the peak in illness.
- ❑ If the pandemic virus arrives close to the usual annual influenza season, the time interval between emergence, arrival and/or peak illness and mortality will be shortened.
- ❑ A pandemic usually has two or more waves, either in the same year or in successive influenza seasons.
- ❑ A second wave will occur within 3 to 9 months of the initial outbreak wave and may cause more serious illnesses and deaths than the first.
- ❑ Each wave of illness will last 6 to 8 weeks.
- ❑ Vaccine will be the primary means of pandemic influenza prevention. The supply will be limited during the early stages of the pandemic; therefore, plans for the first wave should assume lack of influenza vaccine and priorities for vaccination will need to be established.
- ❑ A substantial proportion of the workforce will not be able to work for some period of time due to illness in themselves or in their family members.
- ❑ Health care workers are likely to be at higher risk of illness due to their exposures.
- ❑ Effective preventive and therapeutic resources will be in short supply.
- ❑ Essential community services are likely to be disrupted.

2. ABOUT THE PLAN

2.1. A work in progress

This Plan is a work in progress, based on foundations established during 1999/2000 by the BC Pandemic Influenza Advisory Committee (BCPIAC) with guidance and support from Communicable Disease Epidemiology Services of the BC Centre for Disease Control (BCCDC). The plan will be revised and refined by the BCPIAC as needed. In 2004, subsequent to the 2003 SARS outbreak, the BCPIAC reconvened with the goal of revising the BC Pandemic Influenza Plan. This version of the Plan (Version 2) comes from that revision process – a process which will continue as needed and as appropriate.

2.2. Organization

The main body of this plan is arranged in three sections, representing the three pandemic phases:

- Pre-pandemic
- Pandemic
- Post-pandemic

In each section, provincial and health authority roles and responsibilities are outlined. Each section further covers the six key components of pandemic planning:

- Emergency response
- Vaccine
- Antivirals
- Clinical health services
- Surveillance
- Communication

The information is organized in a chart format, as illustrated below:

	Provincial Responsibilities	Health Authority Responsibilities
Emergency Response		
Vaccine		
Antivirals		
Clinical Health Services		
Surveillance		
Communication		

The first chart in each section is a high-level summary or “snapshot” of roles and responsibilities in all six areas for that pandemic phase. This is followed by a series of more detailed charts specifically addressing each of the six planning areas for that pandemic phase.

The purpose of this format is to give a general overview of the key planning responsibilities and also to provide detail for specific pandemic planning.

Because of its multi-sectoral and technical nature, this document contains many abbreviations, acronyms and medical terms. A glossary can be found on page [31](#).

2.3. Plans

Since pandemics are global events, this Plan is consistent with other provincial, national and international plans for pandemic influenza preparedness and response (listed below and under [Influenza Information Resources](#)). As they are developed, future updates to this Plan will also have direct links to regional and facility pandemic plans throughout British Columbia.

- ❑ World Health Organization (WHO)
 - Guidelines for Pandemic Preparedness (www.who.int/csr/disease/influenza/pandemic/en/)
 - Influenza Pandemic Preparedness Plan (www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_EDC_99_1/en/)
- ❑ Public Health Agency of Canada (PHAC)
 - Canadian Pandemic Influenza Plan (www.phac-aspc.gc.ca/cpip-pclcpi/)
- ❑ BC Ministry of Health Services, BC Public Affairs Bureau, and BC Ministry of Public Safety and Solicitor General/Provincial Emergency Program
 - British Columbia Pandemic Influenza Consequence Management Plan (www.pep.bc.ca/hazard_plans/PI_Consequence_Management_Plan_2004-03.pdf)
- ❑ Alberta Health and Wellness
 - Alberta Pandemic Influenza Response Plan (www.health.gov.ab.ca/public/pandemic/PandemicPlan.html)
- ❑ Manitoba Health
 - Manitoba's Pandemic Influenza Plan (www.gov.mb.ca/health/pandemic.html)
- ❑ Ontario Ministry of Health and Long Term Care
 - Ontario Health Pandemic Influenza Plan (www.health.gov.on.ca/english/public/pub/ministry_reports/pandemic/pandemic_plan04_mn.html)

This Plan focuses on provincial pandemic influenza planning and does not detail federal responsibilities, which are addressed in the Canadian Pandemic Influenza Plan (see link above) and summarized in [Annex H](#). However, the federal government is a key player in the pandemic planning process.

Every health authority within BC is encouraged to set up its own committee(s) or working group(s) to develop and implement pandemic plans for its region. It is recommended that the provincial guidelines be followed as closely as possible to ensure consistency among health authorities.

3. ROLES AND RESPONSIBILITIES

Everyone has a role to play in planning for an influenza pandemic. In order to optimize the province's readiness, all British Columbians should be involved in the planning process no matter where they live or what they do for a living. As the process evolves, provincial, health authority, municipal and other authorities will develop strategies to inform and engage the broadest possible cross-section of citizens.

Although this Plan is the focal point for provincial pandemic preparedness, every BC government ministry, crown corporation and local government is also responsible for developing its own plan to ensure that key public services continue to be available during a pandemic.

Health authorities, health care facilities and other organizations at the regional and local level are responsible for developing their own pandemic plans, in consultation with appropriate stakeholders.

Under provincial legislation, the Ministry of Health Services (MOHS), led by the Provincial Health Officer (PHO), has the lead authority in all three phases of this Plan. Other key players are:

- ❑ BC Centre for Disease Control (BCCDC)
- ❑ BC Provincial Emergency Program (PEP)
- ❑ Health Authorities (including First Nations Health Authorities)
- ❑ Public Health
- ❑ Hospitals
- ❑ Community Care
- ❑ Public Health Agency of Canada. (PHAC)

These organizations are critical to the planning process. However, as noted above, all British Columbians can – and should – get involved in pandemic planning and preparation. The best way to start is to stay informed and take steps – like annual immunization – to protect against influenza.

The roles and responsibilities of various groups and organizations affected are found throughout the Annexes of this Plan. Please note the list of stakeholders will expand as the planning process evolves.

Everyone has a role to play in preparing for a pandemic. You can start by:
- *Staying informed.*
- *Ensuring you are immunized on a yearly basis.*

4. EMERGENCY FINANCIAL ASSISTANCE

Because of its immense scope and broad, prolonged impact, an influenza pandemic will result in additional costs in a number of different areas. During an emergency, local government bodies – including municipalities, regional districts, health authorities and education authorities – may be eligible for financial assistance to offset some of these extraordinary costs.

During a pandemic, information regarding available emergency financial assistance will be posted on the Provincial Emergency Program web site at www.pep.bc.ca.

*Be prepared to document any extra costs incurred during a pandemic.
You may be eligible for compensation under the
Disaster Financial Assistance Program.*

5. PRE-PANDEMIC

5.1. Pre-Pandemic Overview

This is the critical stage for pandemic preparedness. The pre-pandemic phase is now, and planning efforts need to focus on three things:

- Building the province’s **capacity** to effectively respond to an influenza pandemic.
- Building **cooperation** among British Columbians, starting with those in and essential to, the health care system.
- Building **communication** networks, to support both the planning process and the pandemic response.

The table below provides a snapshot of key provincial and health authority responsibilities during the pre-pandemic phase. Each area is discussed in greater detail throughout this section. Information for individual care providers and other specific stakeholder groups is contained in the Annexes of this Plan.

Table 2: Pre-Pandemic Responsibilities: Overview

	Provincial Responsibilities	Health Authority Responsibilities
Emergency Response	<ul style="list-style-type: none"> <input type="checkbox"/> Coordinate the development of provincial-level pandemic emergency response plans. <input type="checkbox"/> Provide support for training. <input type="checkbox"/> Practice plans regularly; revise as needed. 	<ul style="list-style-type: none"> <input type="checkbox"/> Establish command structures and operational procedures for use during a pandemic. <input type="checkbox"/> Practice plans regularly; revise as needed.
Vaccine	<ul style="list-style-type: none"> <input type="checkbox"/> Plan to obtain supply. <input type="checkbox"/> Distribute to health authorities. <input type="checkbox"/> Set guidelines for use. <input type="checkbox"/> Plan for secure storage and transport. 	<ul style="list-style-type: none"> <input type="checkbox"/> Promote increased annual uptake. <input type="checkbox"/> Plan for mass immunization clinics.
Antivirals	<ul style="list-style-type: none"> <input type="checkbox"/> Plan to obtain supply. <input type="checkbox"/> Set guidelines for safe use and acceptable standards for adverse reactions. <input type="checkbox"/> Plan for secure storage and transport. <input type="checkbox"/> Inform the public and health care providers about the proper use. 	<ul style="list-style-type: none"> <input type="checkbox"/> Promote increased annual uptake. <input type="checkbox"/> Develop implementation protocols for use.

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	Provincial Responsibilities	Health Authority Responsibilities
Clinical Health Services	<ul style="list-style-type: none"> <input type="checkbox"/> Develop provincial guidelines for clinical care, infection control and triage during a pandemic. 	<ul style="list-style-type: none"> <input type="checkbox"/> Assess clinical capacity. <input type="checkbox"/> Estimate pandemic needs. <input type="checkbox"/> Identify additional and alternative care locations and resources.
Surveillance	<ul style="list-style-type: none"> <input type="checkbox"/> Establish an effective infrastructure to monitor influenza activity. 	<ul style="list-style-type: none"> <input type="checkbox"/> Support the development of a provincial surveillance infrastructure. <input type="checkbox"/> Participate in surveillance re: vaccine and antiviral effectiveness and safety.
Communication	<ul style="list-style-type: none"> <input type="checkbox"/> Inform the public, media and health care officials of provincial pandemic and emergency response plans. <input type="checkbox"/> Develop and test a provincial Health Emergency Communication Network for health care workers, policy-makers and decision-makers. <input type="checkbox"/> Develop key messages, strategies and guidelines for communication through all three pandemic phases. <input type="checkbox"/> Support pandemic communication planning by health authorities and local organizations. 	<ul style="list-style-type: none"> <input type="checkbox"/> Develop and test health authority/local communication networks. <input type="checkbox"/> Define communication roles and responsibilities at the health authority, local and facility levels for all three pandemic phases. <input type="checkbox"/> Support the development of a provincial infrastructure for the dissemination of influenza-related information.

During the pre-pandemic phase, we need to build three things:

- *Capacity*
- *Cooperation*
- *Communication networks*

5.2. Pre-Pandemic: Emergency Response

The province of British Columbia has an established Emergency Response Management System, designed to ensure a coordinated, organized response to all emergencies and disasters. For further information, visit the Provincial Emergency Program website at www.pep.bc.ca.

All emergency response plans developed at the provincial, health authority, regional and local levels should be consistent with this standard BC planning model and with the emergency plans already in place at community and facility levels to cope with situations such as storms, floods, earthquakes and power outages.

These existing tools provide a good starting point for emergency pandemic planning, including a framework for establishing command, control and management procedures to ensure clear lines of authority and communication during the pandemic phase (see [Annex C](#)).

Pandemics pose unique problems which distinguish them from other types of emergencies and which will require planners to adapt existing emergency response plans to address these issues. Namely, these unique features are:

- ❑ The influenza pandemic will likely originate outside North America and we may have advance warning of its arrival. Emergency plans should reflect this and should clearly specify actions to take between the time the pandemic is first identified globally and the time it arrives in BC.
- ❑ Outbreaks will occur simultaneously across the country, preventing reallocation of human and other resources from one jurisdiction to another. This means each community should be prepared to operate a “stand alone” emergency plan.
- ❑ The influenza pandemic could last for several months, which sets it apart from other emergencies which may last for several hours or days.
- ❑ Health care workers and other first responders will likely face a higher risk of infection than the general population, reducing response capacity.
- ❑ Widespread illness will increase the likelihood of personnel shortages in other key areas such as police, fire, utility and transportation services.

The table below outlines key provincial and health authority emergency response responsibilities. Detailed information for individual care providers and other specific stakeholder groups is contained in the Annexes of this Plan.

Table 3: Pre-Pandemic Responsibilities: Emergency Response

Provincial Responsibilities	Health Authority Responsibilities
<ul style="list-style-type: none"> ❑ Estimate the provincial impacts of pandemic influenza. ❑ Develop risk management plans based on various scenarios, including worst-case scenarios. ❑ Develop pandemic emergency plans, 	<ul style="list-style-type: none"> ❑ Estimate the regional impacts of pandemic influenza (for detailed guidelines, see Annex B). ❑ Work closely with local governments, provincial ministries/agencies and volunteers to develop and coordinate health authorities’

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Provincial Responsibilities	Health Authority Responsibilities
<p>including provincial command, control and management procedures.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Establish operational procedures for essential provincial functions. <input type="checkbox"/> Encourage key provincial, health authority and local stakeholders to take Emergency Management training (available through the Justice Institute of BC, http://www.jibc.bc.ca/emergency/default.htm). <input type="checkbox"/> Practice emergency plans. <input type="checkbox"/> Revise plans to respond to shortcomings identified in training scenarios. <input type="checkbox"/> Develop table-top and mock-up pandemic training scenarios to practice emergency plans. <input type="checkbox"/> Review plans regularly and update as necessary. <input type="checkbox"/> Develop guidelines and checklists for health authorities to follow. 	<p>and institutional pandemic emergency plans.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Establish command, control and management procedures to guide day to day operations during a pandemic (see Annex C). <input type="checkbox"/> Establish operational procedures for essential functions. <input type="checkbox"/> Develop table-top and mock-up pandemic training scenarios to practice emergency plans. <input type="checkbox"/> Revise plans to respond to shortcomings identified in training scenarios. <input type="checkbox"/> Review plans yearly and update as necessary.

*An influenza pandemic is like no other emergency.
Be prepared!*

5.3. Pre-Pandemic: Vaccine

Immunization is the single most effective way to reduce the impact of influenza. Getting an influenza vaccination every year can keep individuals healthy between pandemics. Having influenza vaccination also protects others: patients, grandparents and children, especially those who don't build immunity effectively, such as seniors or those with compromised immune systems. Yearly immunization programs also help build the vaccine production, supply and distribution systems that will be needed during a pandemic. In addition, pneumococcal vaccine will protect target groups against major complications of influenza.

The federal government works with manufacturers, suppliers, laboratories and foreign agencies to ensure an adequate, safe vaccine supply and to distribute vaccine to the provinces and territories. The BCCDC Pharmacy Services coordinates the provincial annual allocation and distribution of vaccine.

Priority groups for pandemic vaccine delivery should be determined in the pre-pandemic phase. The national Pandemic Influenza Committee (PIC) has developed nationally recommended priority groups (see [Appendix A-2](#)) for immunization during a pandemic, and these have been endorsed by the BCCDC. All jurisdictions in BC are encouraged to similarly adopt and endorse these priority groups. This consistency will ensure equal access to vaccine and consistent messaging across the province and across the country. It is important to remember, however, that priority groups could change with the identification and/or arrival of the pandemic strain, based on the epidemiology of the influenza strain – something that cannot be predicted in advance.

Monitoring Safety and Effectiveness of Vaccine

Monitoring vaccine safety and effectiveness will be a coordinated effort between all those agencies and individuals responsible for distributing the vaccine, including the Public Health Agency of Canada, the BCCDC, the health authorities, and those who directly administer the vaccine.

The table below outlines key provincial and health authority vaccine-related responsibilities. Detailed information for individual care providers and other specific stakeholder groups is contained in the Annexes of this Plan.

Table 4: Pre-Pandemic Responsibilities: Vaccine

Provincial Responsibilities	Health Authority Responsibilities
<ul style="list-style-type: none"> <input type="checkbox"/> Promote annual influenza vaccination programs. <input type="checkbox"/> Promote increased uptake of pneumococcal vaccine. <input type="checkbox"/> Define vaccine priority groups based on national guidelines (see Appendix A-2). <input type="checkbox"/> Set priorities and guidelines for vaccine use during a pandemic. <input type="checkbox"/> Estimate vaccine coverage among target 	<ul style="list-style-type: none"> <input type="checkbox"/> Increase public awareness of influenza and vaccines through education, promotion, presentations and the media. <input type="checkbox"/> Promote local immunization programs. <input type="checkbox"/> Determine local vaccine requirements including vaccine related supplies, by target group (see page 75). <input type="checkbox"/> Develop plans for secure vaccine storage requirements (see Annex D).

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Provincial Responsibilities	Health Authority Responsibilities
<p>groups.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Estimate vaccine need, secure supply and coordinate distribution to health authorities. <input type="checkbox"/> Coordinate vaccine re-distribution plans among bordering health authorities. <input type="checkbox"/> Support the development of guidelines for secure storage of vaccine and ancillary equipment in designated health care facilities. <input type="checkbox"/> Develop educational and promotional resources. <input type="checkbox"/> Develop a vaccine administration training package for health groups/organizations to use to immunize their members. <input type="checkbox"/> Coordinate planning with other government agencies – such as the Ministry of Children and Family Development, Ministry of Education and the Ministry of the Attorney General – to ensure vaccine delivery for clients in residential care. <input type="checkbox"/> Develop a sensitive, effective and efficient system to monitor adverse vaccine effects. <input type="checkbox"/> Work with professional organizations and unions to develop guidelines for deployment of alternate immunizers, i.e., including those for whom the task would be outside routine job descriptions. <input type="checkbox"/> Develop documentation processes for recording immunizations. 	<ul style="list-style-type: none"> <input type="checkbox"/> Ensure facility plans include vaccine storage and distribution. <input type="checkbox"/> Identify “hard to reach” populations and determine how to reach them. <input type="checkbox"/> Operate annual immunization clinics. <input type="checkbox"/> Develop plans for mass immunizations, including staffing and vaccine storage requirements (for detailed guidelines, see Annex D). <input type="checkbox"/> Develop strategies for situations where people refuse vaccine or cannot be vaccinated because of medical contraindications. <input type="checkbox"/> Monitor adverse vaccine effects and report them in a timely way to BCCDC. <input type="checkbox"/> Develop plans to deploy alternate immunizers. <input type="checkbox"/> Determine documentation requirements for recall and record keeping.

Why get immunized?

- *To protect your health.*
- *To protect the health of others.*
- *To build the vaccine production, supply and distribution capacity we will need during a pandemic.*

5.4. Pre-Pandemic: Antivirals

Antiviral drugs are used to treat influenza illness and to prevent it through prophylaxis. These drugs could be used in conjunction with vaccination for the management of pandemic influenza. Given the delay anticipated between the arrival of a pandemic influenza strain and adequate vaccine supply, antivirals may be the only virus-specific intervention available during the initial pandemic response.

A national antivirals initiative is being developed by the national Pandemic Influenza Committee (PIC) and its Antivirals Working Group. The objectives of the national antivirals initiative are:

- To recommend a strategy for the use of antivirals during a pandemic.
- To address issues around the security of supply of antivirals.
- To monitor drug resistance during the pandemic.
- To facilitate planning to ensure the distribution of available antiviral drugs to appropriate groups of people during the pandemic.

In cooperation with the provinces and territories, the federal government will coordinate the purchase of antivirals in the pre-pandemic phase.

The table below outlines key provincial and health authority antiviral-related responsibilities. Detailed information for individual care providers and other specific stakeholder groups is contained in the Annexes of this Plan.

Table 5: Pre-Pandemic Responsibilities: Antivirals

Provincial Responsibilities	Health Authority Responsibilities
<ul style="list-style-type: none"> <input type="checkbox"/> Explore options for stockpiling antivirals at the provincial level. <input type="checkbox"/> Maintain an up-to-date priority list for antiviral target groups. <input type="checkbox"/> Develop plans and guidelines for storing, transporting, distributing and administering antivirals. <input type="checkbox"/> Develop, maintain and enhance surveillance activities for adverse drug reactions and emergence of antiviral resistance. <input type="checkbox"/> Develop education materials regarding proper use of antivirals for the public and health care providers. 	<ul style="list-style-type: none"> <input type="checkbox"/> Promote increased annual uptake. <input type="checkbox"/> Work with local officials to explore the availability of local storage sites for antivirals (see Appendix G-4). <input type="checkbox"/> Develop plans for antiviral administration. <input type="checkbox"/> Determine documentation requirements for recall and record keeping. <input type="checkbox"/> Develop protocols for using antivirals to control outbreaks in long-term care facilities. <input type="checkbox"/> Develop strategies for dealing with cases where people refuse antiviral drugs, or where antivirals cannot be used because of medical contraindications. <input type="checkbox"/> Disseminate provincial guidelines to health facilities.

Antiviral drugs can be used in three ways:

- *To prevent.*
- *To control.*
- *To treat.*

5.5. Pre-Pandemic: Clinical Health Services

Health authorities, hospitals and other health facilities have lead responsibility for ensuring the development of detailed plans that focus on triage, defining how clinical services will be prioritized during a pandemic to provide appropriate levels of care for people with influenza, and meeting ongoing, non-pandemic health care needs.

Clinical health services plans should include:

- ❑ Strategies to ensure adequate staffing, for example identifying and calling on former health care workers and/or volunteers.
- ❑ Strategies to ensure adequate supplies of drugs, equipment and other material resources.
- ❑ Infection control strategies to prevent and control the spread of disease.
- ❑ Strategies to secure resources from other jurisdictions where necessary and feasible.
- ❑ Guidelines and/or tools for periodically assessing the effectiveness of clinical care measures and for refining plans during the pandemic.

Health authorities should also consider the pandemic impact on mental health services, including increased demand for counselling and other measures to help people cope with grief and loss. A detailed list of planning considerations for health care facilities is included in [Annex E](#).

The federal government’s primary role in this area is to set national guidelines for providing clinical care during a pandemic.

The table below outlines key provincial and health authority clinical health services responsibilities. Detailed information for individual care providers and other specific stakeholder groups is contained in the Annexes of this Plan.

Table 6: Pre-Pandemic Responsibilities: Clinical Health Services

Provincial Responsibilities	Health Authority Responsibilities
<ul style="list-style-type: none"> ❑ Develop provincial guidelines for prioritizing health care needs and service delivery, accessing resources and implementing infection control measures during a pandemic. ❑ Establish legislation, regulations or guidelines to support the use of alternate care providers in a pandemic. ❑ Explore logistics involved in bulk purchase and stockpiling of extra medical supplies and communicate this to the health authorities. ❑ Provide information and educational materials about pandemic influenza for health care providers. 	<ul style="list-style-type: none"> ❑ Plan for sustained high volume health care needs. ❑ Identify strategies to ensure adequate human resources. ❑ Identify strategies to ensure adequate material resources. ❑ Plan for triage. ❑ Identify alternate care sites for clinical service delivery. ❑ Purchase/stockpile extra medical supplies needed for pandemic preparedness.

Plan for triage and alternate care sites.

5.6. Pre-Pandemic: Surveillance

In Canada, the federal government has lead responsibility for national influenza surveillance. It works in partnership with provincial and territorial epidemiologists and sentinel physicians to produce weekly or bi-weekly *Flumatch* reports, summarizing influenza activity across the country.

The BCCDC coordinates BC’s provincial influenza surveillance system. This system compiles outbreaks reports, influenza-like illness (ILI) surveillance from sentinel physicians, and laboratory reporting. All health authorities provide information for this surveillance system. The information compiled is summarized and provided to all health authorities, and to health practitioners and professionals across the province on a regular basis.

The table below outlines key provincial and health authority surveillance responsibilities. Detailed information for individual care providers and other specific stakeholder groups is contained in the Annexes of this Plan.

Table 7: Pre-Pandemic Responsibilities: Surveillance

Provincial Responsibilities	Health Authority Responsibilities
<ul style="list-style-type: none"> ❑ Identify key surveillance sites. ❑ Develop a comprehensive surveillance network to enable early detection of influenza activity in BC. ❑ Use the surveillance network to determine when influenza arrives in the province, to determine the extent and distribution of the illness and to confirm when each outbreak is over. ❑ Disseminate the above information to key stakeholders, including Health Authorities and the federal government. ❑ Support influenza surveillance activities at the regional, national and international levels. 	<ul style="list-style-type: none"> ❑ Establish local surveillance sites and participate in the development and implementation of a provincial surveillance network. ❑ Ensure timely reporting of influenza activity to the province and to other key stakeholders. ❑ Participate in surveillance re: vaccine and antiviral effectiveness and safety.

For information on current surveillance for influenza and influenza-like illness (ILI) in the province of BC, contact your local health authority (<http://www.healthservices.gov.bc.ca/socsec/index.html>) or see the British Columbia Centre for Disease Control website at: <http://www.bccdc.org/content.php?item=35>.

A surveillance network provides early warning of the arrival of influenza.

5.7. Pre-Pandemic: Communication

Communication planning for pandemic response comprises two areas: Internal Communications and Public Communications. All communications plans must be compatible with BCERMS which outlines a common organizational structure and control method and enhances communication between agencies responding to an emergency or disaster. (See Provincial Emergency Planning website at www.pep.bc.ca/bcerms/Intro_to_Emergency_Management_in_BC.pdf)

5.7.1. Internal Communication

Internal communication is the communication between provincial agencies, including:

- Provincial ministries
- BCCDC
- Provincial Emergency Program and BCERMS
- Health agencies, including the health authorities, institutions, and health care providers and professionals
- Emergency Responders
- Essential Services (e.g., utilities, transportation)

5.7.2. Public Communication

Public communication is the communication of essential messages to the public. This includes:

- Education about pandemic influenza and pandemic influenza planning.
- Communicating with the public through the media.

Good communication is essential in the pre-pandemic phase to:

- Increase public awareness of the importance of pandemic planning.
- Engage key agencies and stakeholders in the planning process.
- Establish a broad network for disseminating information in all three pandemic phases.
- Ensure pandemic planning stays on the public agenda.

The provincial Public Affairs Bureau, with input from the Provincial Health Officer, BCCDC and other key stakeholders, is developing a detailed pandemic influenza communications strategy covering all three pandemic phases. This strategy will ensure that agencies, the public and the media receive appropriate, timely and accurate information in any province-wide emergency.

The table below outlines key provincial and health authority communication responsibilities. Detailed information for individual care providers and other specific stakeholder groups is contained in the Annexes of this Plan.

Table 8: Pre-Pandemic Responsibilities: Communication

Provincial Responsibilities	Health Authority Responsibilities
<ul style="list-style-type: none"> ❑ Adapt the provincial emergency communications plan to guide communications during an influenza pandemic. ❑ Develop detailed strategies and guidelines for communications during all three phases. ❑ Inform the public, media and health care officials of provincial pandemic and emergency response plans. ❑ Ensure the plan for the pre-pandemic phase includes efforts to promote public awareness regarding the need for pandemic influenza planning. ❑ Work with the media and other key stakeholders to develop and test a provincial communication network, for use in all three pandemic phases. ❑ Liaise with health authorities to provide support (such as guidelines or templates) in developing regional and local communications plans. ❑ Liaise with BC NurseLine to ensure they have the resources they require. ❑ Receive regular reports from BC NurseLine on info relevant to surveillance or provision of services. ❑ Provide regular, timely information updates (e.g. on the progress of pandemic planning). 	<ul style="list-style-type: none"> ❑ Develop and test communications plans and networks for use at the regional, local and facility levels for all three pandemic phases. ❑ Ensure local/regional/facility-level plans are consistent with, and link to, the provincial communications plan. ❑ Ensure that local media and other key stakeholders, such as municipal governments and emergency responders are aware of and involved in the planning process. ❑ Support the development of a provincial infrastructure for the dissemination of influenza-related information.

Communication is the cornerstone of effective emergency management.

6. PANDEMIC

6.1. Pandemic: Overview

The Provincial Health Officer (PHO) will declare when it is time to activate plans for the pandemic phase. We can't anticipate exactly what will happen during an influenza pandemic, so plans will need to be adapted to reflect circumstances and situations as they arise.

During this phase, the key goals are:

- To minimize mortality and morbidity.
- To minimize social disruption.

The table below provides a snapshot of key provincial and health authority responsibilities during the pandemic phase. Each area is discussed in greater detail throughout this section. Information for individual care providers and other specific stakeholder groups is contained in the Annexes of this Plan.

Table 9: Pandemic Responsibilities: Overview

	Provincial Responsibilities	Health Authority Responsibilities
Emergency Response	<ul style="list-style-type: none"> <input type="checkbox"/> Direct and coordinate provincial emergency response operations. <input type="checkbox"/> Refine emergency response plans as needed. 	<ul style="list-style-type: none"> <input type="checkbox"/> Work with key stakeholders to coordinate regional district/ municipal/ local emergency response operations (see Annex F).
Vaccine	<ul style="list-style-type: none"> <input type="checkbox"/> Obtain vaccine supply from federal government. <input type="checkbox"/> Distribute vaccine to health authorities. <input type="checkbox"/> Refine and operationalize guidelines for vaccine use. <input type="checkbox"/> Monitor vaccine effectiveness and adverse reactions. 	<ul style="list-style-type: none"> <input type="checkbox"/> Hold mass immunization clinics (see Annex D). <input type="checkbox"/> Provide information re: vaccine issues to the public and media. <input type="checkbox"/> Report vaccine adverse reactions to BCCDC.
Antivirals	<ul style="list-style-type: none"> <input type="checkbox"/> Monitor antiviral effectiveness and adverse reactions. 	<ul style="list-style-type: none"> <input type="checkbox"/> Inform the public and health care providers about the use of antivirals. <input type="checkbox"/> Distribute antivirals to priority groups.

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	Provincial Responsibilities	Health Authority Responsibilities
Clinical Health Services	<ul style="list-style-type: none"> <input type="checkbox"/> Allocate and distribute provincial/national resources to health authorities or other agencies as needed. <input type="checkbox"/> Support provincial re-distribution of supplies and resources between health authorities as needed/appropriate. <input type="checkbox"/> Operationalize and refine, as needed, guidelines developed during pre-pandemic phase. <input type="checkbox"/> Disseminate infection control policies. 	<ul style="list-style-type: none"> <input type="checkbox"/> Implement plans to supplement human and material resources. <input type="checkbox"/> Provide health care services on a priority basis. <input type="checkbox"/> Implement infection control measures. <input type="checkbox"/> Inform the public and media about access to health services during the pandemic.
Surveillance	<ul style="list-style-type: none"> <input type="checkbox"/> Coordinate the surveillance network. <input type="checkbox"/> Collect, summarize and distribute surveillance data/information. <input type="checkbox"/> Communicate surveillance summaries to federal/provincial/territorial and regional colleagues. 	<ul style="list-style-type: none"> <input type="checkbox"/> Disseminate surveillance information to surveillance participants within the health authority. <input type="checkbox"/> Participate in surveillance network, including data collection and reporting to BCCDC.
Communication	<ul style="list-style-type: none"> <input type="checkbox"/> Alert the public, the media and health care officials when the pandemic is declared and ensure they are aware of provincial response plans. <input type="checkbox"/> Provide regular, timely information updates from the provincial perspective. 	<ul style="list-style-type: none"> <input type="checkbox"/> Provide clear direction to health care providers to ensure continued provision of essential health services. <input type="checkbox"/> Provide regular, timely information updates about pandemic response to provincial officials and to the public and media at the community level.

The Provincial Health Officer decides when it is time to activate pandemic plans.

6.2. Pandemic: Emergency Response

A clear chain of command is essential for managing any emergency and maintaining control of daily operations until the crisis has passed. Therefore, the command and control structures specified in provincial, health authority, local and facility-level pandemic plans should be activated as soon as the PHO declares the start of the pandemic phase. It will also be vital to monitor the effectiveness of various plans, as they are implemented, and to adapt or refine them as and when needed to reflect the changing nature of the pandemic emergency.

BC's official provincial emergency response management strategy is on the internet at <http://www.pep.bc.ca>

Under the *BC Health Act*, the local Medical Health Officer (MHO) has the authority to enact community-based control measures that he/she believes are important in controlling the spread of influenza and minimizing its impact (i.e. closing community centres or schools, cancelling public gatherings). These measures will remain at his/her discretion, under the guidance of the Provincial Health Officer, at the time of a pandemic.

The table below outlines key provincial and health authority emergency response responsibilities. Detailed information for individual care providers and other specific stakeholder groups is contained in the Annexes of this Plan.

Table 10: Pandemic Responsibilities: Emergency Response

Provincial Responsibilities	Health Authority Responsibilities
<ul style="list-style-type: none"> <input type="checkbox"/> Lead provincial-level response operations. <input type="checkbox"/> Coordinate the response activities of provincial ministries and agencies, including emergency responders and essential service providers. <input type="checkbox"/> Liaise with health authorities and monitor the effectiveness of emergency response at the regional/local level. <input type="checkbox"/> Support municipal governments' emergency response activities. <input type="checkbox"/> Mobilize additional police or security forces as needed. <input type="checkbox"/> Adapt/refine emergency response plans as needed. 	<ul style="list-style-type: none"> <input type="checkbox"/> Maintain command and control structures in the health authorities' and institutions' emergency response (see Annex C). <input type="checkbox"/> Liaise with provincial and municipal governments to coordinate, and gauge impact of, emergency response activities. <input type="checkbox"/> Adapt/refine emergency response plans as needed.

Clear command and control structures are essential in managing any emergency.

6.3. Pandemic: Vaccine

Timely vaccine delivery is critical for controlling the spread of influenza. Although it is expected to take several months to develop and produce an effective vaccine against the pandemic influenza strain, vaccine delivery should still be a priority item in all pandemic emergency plans.

During the pandemic, the federal government will secure vaccine, distribute it to the provinces and territories, and provide guidelines for dosages and for priority immunization groups.

The table below outlines key provincial and health authority vaccine-related responsibilities. Detailed information for individual care providers and other specific stakeholder groups is contained in the Annexes of this Plan.

Table 11: Pandemic Responsibilities: Vaccine

Provincial Responsibilities	Health Authority Responsibilities
<ul style="list-style-type: none"> <input type="checkbox"/> Arrange for vaccine delivery to health authorities and care providers. <input type="checkbox"/> Inform the public and care providers of immunization protocols and priorities. <input type="checkbox"/> Monitor vaccine use (and waste) and revise protocols as needed. <input type="checkbox"/> Implement security measures for stored vaccine. <input type="checkbox"/> Contribute to national evaluation and research protocols for immunogenicity testing, adverse effect assessment, dosage determination, geographic spread, and strain mutation monitoring. <input type="checkbox"/> Respond to public and media concerns about the immunization program. <input type="checkbox"/> Liaise with federal and regional officials and maintain a central database of up-to-date information regarding all aspects of the pandemic immunization program in BC. 	<ul style="list-style-type: none"> <input type="checkbox"/> Implement the immunization plan developed during the pre-pandemic stage, including security measures for stored vaccine. <input type="checkbox"/> Order and distribute vaccine and related supplies at the local level. <input type="checkbox"/> Arrange sites, dates, times and staff for mass immunization clinics. <input type="checkbox"/> Inform the public of clinic operations, including priority groups for immunization. <input type="checkbox"/> Administer vaccine using the most efficient, effective and safe means. <input type="checkbox"/> Monitor and document immunization program progress, including coverage and adverse events. <input type="checkbox"/> Refine immunization program as needed, in consultation with provincial authorities. <input type="checkbox"/> Communicate regularly with provincial officials, media and the public re: progress of vaccination programs. <input type="checkbox"/> Advise health care workers of relevant issues or developments related to immunization. <input type="checkbox"/> Report vaccine adverse reactions to BCCDC.

Timely vaccine delivery is critical to minimize the impact of influenza.

6.4. Pandemic: Antivirals

The federal government will coordinate the purchase of antiviral drugs during the pandemic with the provinces and territories.

The table below outlines key provincial and health authority antiviral-related responsibilities. Detailed information for individual care providers and other specific stakeholder groups is contained in the Annexes of this Plan.

Table 12: Pandemic Responsibilities: Antivirals

Provincial Responsibilities	Health Authority Responsibilities
<ul style="list-style-type: none"> <input type="checkbox"/> Monitor antiviral availability and activate distribution plan. <input type="checkbox"/> Coordinate distribution of provincial stockpile of antiviral drugs. <input type="checkbox"/> Implement security measures for stored antivirals. <input type="checkbox"/> Provide information about the use of antivirals to health facilities and care providers. <input type="checkbox"/> Provide information to the media and the public re: protocols and priorities for antiviral use. <input type="checkbox"/> Monitor antiviral effectiveness and adverse reactions and provide regular updates to care providers. <input type="checkbox"/> Monitor development of antiviral resistance, and provide related information/advice as appropriate. <input type="checkbox"/> Ensure the public and media receive accurate, timely and relevant information about the use of antiviral drugs. 	<ul style="list-style-type: none"> <input type="checkbox"/> Distribute antiviral drugs to hospitals, long-term care facilities and other priority sites. <input type="checkbox"/> Secure regional and local antiviral drug storage sites. <input type="checkbox"/> Provide information to the public, media, and health care providers about the use of antiviral drugs. <input type="checkbox"/> Monitor use of antivirals and adverse reactions and report to BCCDC. <input type="checkbox"/> Refine/adapt antiviral use plans as needed <input type="checkbox"/> Ensure priority patients and staff receive antiviral drugs (see Appendix A-5 and Annex D).

During a pandemic, antiviral drugs are used in the following ways:

- *To protect essential service providers until a vaccine becomes available.*
- *For infection control.*
- *For influenza treatment.*

6.5. Pandemic: Clinical Health Services

This is almost exclusively an area of regional and local jurisdiction. Upon pandemic notification from the Provincial Health Officer, each health authority and health care facility will activate its emergency clinical health services plan which should ensure the continued provision of essential medical services and the appropriate care for influenza patients.

During the pandemic, the federal government’s role in clinical services will be restricted to providing funds to the BC Ministry of Health Services, providing clinical recommendations and, if necessary, coordinating military assistance through the Department of National Defence.

The table below outlines key provincial and health authority clinical health services responsibilities. Detailed information for individual care providers and other specific stakeholder groups is contained in the Annexes of this Plan.

Table 13: Pandemic Responsibilities: Clinical Health Services

Provincial Responsibilities	Health Authority Responsibilities
<ul style="list-style-type: none"> ❑ Allocate and distribute funding and supplies to health authorities or other agencies, as needed. ❑ Support provincial redistribution of supplies and resources between HAs as needed. ❑ Provide inter-regional coordination of tertiary resources. ❑ Direct infection control and quarantine policies as needed. ❑ Provide clinical recommendations as needed. ❑ Review and refine guidelines developed during pre-pandemic phase. 	<ul style="list-style-type: none"> ❑ Use guidelines developed pre-pandemic to prioritize patients’ health care needs and deliver care accordingly. ❑ Implement infection control measures. ❑ Assess staffing levels and mobilize additional personnel as needed. ❑ Secure alternate sites for providing medical care (for detailed guidelines, see Annex J). ❑ Inform the local media and the public about access to health services during the pandemic. ❑ Monitor and maintain material supply inventory.

Pandemic influenza will add extreme pressure to an already stressed health system.

6.6. Pandemic: Surveillance

As noted in section 5.6, the federal government has responsibility for national influenza surveillance and works closely with health officials at the provincial and health authority levels to maintain an effective national influenza surveillance network. BCCDC has responsibility for coordinating provincial influenza surveillance, including compiling, summarizing and distributing information regarding reported outbreaks, laboratory findings, and ILI activity from the sentinel physician network.

During a pandemic, these networks will act as an early warning system for the arrival of intense influenza activity, which will occur not just once, but in a series of waves. These waves may strike different parts of the province at different times and with varying levels of intensity, or they may strike the entire province at once.

The table below outlines key provincial and health authority surveillance responsibilities. Detailed information for individual care providers and other specific stakeholder groups is contained in the Annexes of this Plan.

Table 14: Pandemic Responsibilities: Surveillance

Provincial Responsibilities	Health Authority Responsibilities
<ul style="list-style-type: none"> ❑ Track circulation and impact of regional influenza epidemics. ❑ Track, collate and disseminate international and national surveillance information. ❑ Collect, collate, summarize and distribute surveillance data/information for arrival, intensity, severity and abatement of pandemic influenza activity. ❑ Coordinate the provincial surveillance network. ❑ Communicate surveillance summaries efficiently within BC and to federal/provincial/territorial colleagues. ❑ Ensure collection of influenza isolates to enable tracking of strain mutation and emergence. 	<ul style="list-style-type: none"> ❑ Disseminate surveillance information to regional network(s). ❑ Contribute to provincial influenza surveillance data collection and data-sharing. ❑ Provide influenza isolates to BCCDC for strain testing and monitoring.

A strong surveillance network will provide early warning of the arrival of the influenza pandemic.

6.7. Pandemic: Communication

During any emergency, an organized, timely flow of accurate, consistent information is essential. We cannot anticipate exactly what kinds of information will need to be exchanged in a pandemic, but we do know that three areas will be essential:

- ❑ Within the health care system (internal communications).
- ❑ Between the health care system and policy makers.
- ❑ From key points in the health system to the public and the media (external communications).

Clear lines of communication, both internal and external, should be established as quickly as possible after the activation of pandemic influenza plans.

The federal government has lead responsibility for informing health providers and the public about the pandemic’s international and national impact and about infection control measures taken at the national level (e.g., closing ports or airports). The provincial government, through the Public Affairs Bureau, will provide public information about provincial measures (e.g., restricting public events).

The table below outlines key provincial and health authority communication responsibilities. Detailed information for individual care providers and other specific stakeholder groups is contained in the Annexes of this Plan.

Table 15: Pandemic Responsibilities: Communication

Provincial Responsibilities	Health Authority Responsibilities
<ul style="list-style-type: none"> ❑ Establish appropriate spokespeople for all external provincial communications. ❑ Alert health care providers and the public when PHAC declares a national pandemic and when the PHO declares its arrival in BC. ❑ Liaise with health authorities and the Provincial Emergency Program to coordinate the dissemination of information to the public and media at the provincial level. ❑ Provide information to the public and the media about basic infection control measures, such as washing hands. ❑ Provide information (either directly or through health authorities) to support the public in treating influenza at home. 	<ul style="list-style-type: none"> ❑ Use a central spokesperson to gather and disseminate information to the public and media as needed. ❑ Liaise with other local and regional stakeholders (such as emergency responders and essential service providers) as needed. ❑ Liaise with provincial authorities. ❑ Notify the public of any extraordinary infection control measures, such as school or business closures or other limits on the public assembly. ❑ Provide clear, consistent information and guidelines to care providers for delivering health services during the pandemic, including isolation and other infection control strategies.

Clear, consistent and concise communication is the key to effective crisis management.

7. POST-PANDEMIC

7.1. Post-Pandemic: Overview

The post-pandemic period begins when the Provincial Health Officer declares that the influenza pandemic is over. The primary focus of work at this time is to de-activate pandemic response activities, review their impact, and use the lessons learned to guide future planning activities.

The table below provides a snapshot of key provincial and health authority responsibilities during the post-pandemic phase. Information for individual care providers and other specific stakeholder groups is contained in the Annexes of this Plan.

Table 16: Post-Pandemic Responsibilities: Overview

	Provincial Responsibilities	Health Authority Responsibilities
Emergency Response	<ul style="list-style-type: none"> <input type="checkbox"/> Demobilize pandemic emergency services. <input type="checkbox"/> Assess effectiveness of emergency response and recommend improvements for future. <input type="checkbox"/> Assess effectiveness of provincial Pandemic Influenza Preparedness Plan. <input type="checkbox"/> Document lessons learned <input type="checkbox"/> Revise emergency response plan as needed. 	<ul style="list-style-type: none"> <input type="checkbox"/> Assess effectiveness of emergency plans. <input type="checkbox"/> Document lessons learned. <input type="checkbox"/> Revise emergency response plans as needed. <input type="checkbox"/> Evaluate financial impact and review options for redress under federal and provincial programs.
Vaccine	<ul style="list-style-type: none"> <input type="checkbox"/> Work with health authorities to evaluate impact of vaccine use before and during the pandemic. <input type="checkbox"/> Document lessons learned. <input type="checkbox"/> Revise vaccine use and distribution plans as needed. 	<ul style="list-style-type: none"> <input type="checkbox"/> Dispose of excess vaccine, as directed. <input type="checkbox"/> Dismantle infrastructure for mass vaccination clinics. <input type="checkbox"/> Evaluate vaccine distribution plans. <input type="checkbox"/> Revise vaccine distribution plans as needed.

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	Provincial Responsibilities	Health Authority Responsibilities
Antivirals	<ul style="list-style-type: none"> <input type="checkbox"/> Work with health authorities to evaluate the impact of antiviral use before and during the pandemic. <input type="checkbox"/> Document lessons learned. <input type="checkbox"/> Revise antiviral use and distribution plans as needed. 	<ul style="list-style-type: none"> <input type="checkbox"/> Dispose of excess antivirals, as directed. <input type="checkbox"/> Work with provincial officials to evaluate impact of antiviral use before and during the pandemic. <input type="checkbox"/> Evaluate antiviral distribution plan. <input type="checkbox"/> Revise antiviral distribution plan as needed.
Clinical Health Services	<ul style="list-style-type: none"> <input type="checkbox"/> Evaluate clinical care plans. <input type="checkbox"/> Revise clinical care plans as needed. 	<ul style="list-style-type: none"> <input type="checkbox"/> Deactivate emergency plans; redeploy human and other resources as needed. <input type="checkbox"/> Determine when facilities can resume normal operations. <input type="checkbox"/> Inform the public about the resumption of normal operations. <input type="checkbox"/> Provide grief counselling to staff and to the public as needed. <input type="checkbox"/> Evaluate clinical care plans. <input type="checkbox"/> Revise clinical care plans as needed.
Surveillance	<ul style="list-style-type: none"> <input type="checkbox"/> Collect additional hospital utilization and other administrative data to assess the pandemic's severity. <input type="checkbox"/> Disseminate summary reports regarding surveillance indicators and pandemic severity. <input type="checkbox"/> Prepare summary report on surveillance initiatives and evaluate their success. <input type="checkbox"/> Resume regular surveillance activities. <input type="checkbox"/> Revise surveillance system as needed. 	<ul style="list-style-type: none"> <input type="checkbox"/> Provide information for provincial surveillance summaries. <input type="checkbox"/> Disseminate surveillance data as needed. <input type="checkbox"/> Resume regular surveillance activities. <input type="checkbox"/> Evaluate surveillance plans. <input type="checkbox"/> Revise surveillance plans as needed.

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	Provincial Responsibilities	Health Authority Responsibilities
Communication	<ul style="list-style-type: none"> <input type="checkbox"/> Notify the public when the pandemic is considered to be officially over in BC. <input type="checkbox"/> Inform the public about the health impact of the pandemic at the provincial level. <input type="checkbox"/> Review the communication plan. <input type="checkbox"/> Revise communication plan as needed. 	<ul style="list-style-type: none"> <input type="checkbox"/> Inform the public and the media about local and regional pandemic impact. <input type="checkbox"/> Evaluate communication plans. <input type="checkbox"/> Revise communication plans as needed. <input type="checkbox"/> Encourage planning for future pandemics.

In addition to the above, an overall assessment of the clinical, societal and health care impact – including burden of illness, material, human and financial costs and so on of pandemic influenza should be undertaken. This will likely be coordinated at the national and provincial levels with input from local authorities.

Post Pandemic
 - *Review*
 - *Evaluate*
 - *Revise the plan*

GLOSSARY OF ABBREVIATIONS/ACRONYMS/DEFINITIONS

Where referred to in this document, the following definitions and interpretations apply:

A	
ACIP	Advisory Committee on Immunization Practices (American)
Acute	Short term, intense symptomatology or pathology, as distinct from chronic. Many diseases have an acute phase and a chronic phase.
Acute Care	Acute care refers to services provided by physicians and other health professionals and staff in the community and in hospitals. These include emergency, general medical and surgical, psychiatric, obstetric and diagnostic services.
AEOC	Area Emergency Operations Centre (see EOC)
AI	Avian Influenza (see definition below)
Airborne precautions	Precautions taken to prevent and control the spread of infection for organisms spread by airborne transmission.
Airborne transmission	Refers to dissemination of microorganisms by aerosolization. Organisms are contained in droplet nuclei (small airborne particles, <5 microns in size, that result from evaporation of large droplets) or in dust particles containing skin cell slough/debris that remain suspended in the air for long periods of time. Such microorganisms are widely dispersed by air currents.
ALC	Alternate Level of Care (see definition below)
All hazards approach	An emergency system or plan, that focuses on common consequences, which can be used during any emergency or disaster.
Alternate Level of Care (ALC) <i>See also Acute Care, InterQual Criteria</i>	This term refers to alternative care that, had it been available, would have been more appropriate for a person in an acute care hospital who does not meet the criteria for acute care.
Amantadine	An antiviral agent indicated in adults and children >1 year for the treatment of illness due to influenza and for prophylaxis following exposure to influenza A viruses. It has no effect against influenza B viruses.
Antiseptic	A chemical that either inhibits the growth of microorganisms or destroys them. This term refers to agents used on living tissue.
APIC	Association for Professionals in Infection Control and Epidemiology
Avian Influenza (AI)	An infection of poultry caused either by any influenza A virus which has an intravenous pathogenicity index (IVPI) in 6-week old chickens greater than 1.2 or by an influenza A virus of H5 or H7 subtype.

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B

BC or B.C.	British Columbia
BCAS	British Columbia Ambulance Service (see EHS). Responsible for the medical transportation of patients throughout BC.
BCCDC	British Columbia Centre for Disease Control
BCERMS	British Columbia Emergency Response Management System. This is a comprehensive management system that ensures coordinated and organized provincial response and recovery to any and all emergency incidents. The broad spectrum of BCERMS components includes operations and control management, qualifications, technology, training and publications.
BCPIAC	British Columbia Pandemic Influenza Advisory Committee
BCPIPPIC	British Columbia Pandemic Influenza Preparedness Plan Implementation Committee.
BCPIWG	British Columbia Pandemic Influenza Working Group. The organization responsible for overseeing the implementation of the BC Pandemic Influenza Preparedness Plan.
Bed (<i>Institutional Bed</i>)	In any institution a “bed” includes infrastructure support, including staffing, which is required to care for the patient in that bed. Therefore the requirements for a bed in an intensive care unit, for example, include all the support required for a patient to be cared for at that level.
BiPAP	Bi Positive Airway Pressure. This is a form of mechanical ventilation by which gases are moved into the lungs by means of a mechanical device that assists respiration by augmenting or replacing the patient's own respiratory effort. BiPAP provides two levels of pressure (higher pressure on inhalation, lesser on exhalation). Also, see CPAP.
Biomedical Waste	Waste that is generated by human or animal health care facilities, medical or veterinary settings, health care teaching establishments, laboratories, and facilities involved in the production of vaccine.

C

Cache	A pre-determined complement of tools, equipment and/or supplies stored in a designated location.
CAWS	Ministry of Community, Aboriginal and Women’s Services
CBRNE	Chemical, Biological, Radiological/Nuclear (Explosive)
CCG	Central Coordination Group. Provides overall direction to all provincial agencies and resources supporting or assisting with a given emergency situation. It is located at PEP headquarters in Victoria, BC.
CD	Communicable disease
CDC	Centers for Disease Control and Prevention (Atlanta, USA)
CEPR	Centre for Emergency Preparedness and Response
CHICA	Community and Hospital Infection Control Association
CHN	Community Health Nurse

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Chronic	A long-lasting health condition that often requires ongoing medical care. Many diseases have an acute phase and a chronic phase.
CIDPC	Canadian Infectious Disease Prevention and Control
Cleaning	The physical removal of foreign material, e.g., dust, soil, organic material such as blood, secretions, excretions, and/or microorganisms. Physical cleaning removes rather than kills microorganisms. It is accomplished with water, detergents and mechanical action. In certain settings (e.g., central service or dietetics), the terms decontamination and sanitation may be used for this process. Cleaning reduces or eliminates the reservoirs of potential pathogenic organisms. Cleaning agents are the most common chemicals used in housekeeping activity.
CMHO/CMOH	Chief Medical Officer of Health in the HA with legislative authority in the protection of health.
Cohort	A group of people. In the case of infection, a group of people who have been exposed to or infected with the same organism..
Cohort Staffing	The practice of assigning specific personnel to care only for patients/residents known to be exposed to, or infected with, the same organism. Such personnel would not participate in the care of patients/residents who have not been exposed to, or infected with, the organism.
Command Staff	The command staff consists of the Information Officer, Risk/Safety Officer and Liaison Officer (as part of BCERMS).
Communications Unit	An organizational unit in the Logistics section in an Emergency Operations Centre (see EOC) responsible for providing communications services.
Contact precautions	Precautions taken to prevent and control the spread of infection for organisms spread by contact transmission.
Contact transmission	Transmission of infection via direct contact (transfer of microorganisms through direct physical contact) and/or indirect contact (passive transfer of microorganisms via an intermediate object such as contaminated instruments, door handles, etc.).
CPAP	Continuous Positive Airway Pressure. This is a form of mechanical ventilation by which gases are moved into the lungs by means of a mechanical device that assists respiration by augmenting or replacing the patient's own respiratory effort. It applies a positive pressure to the inside of the throat to keep it open during sleep. Also see BiPAP.
CPIP	Canadian Pandemic Influenza Plan
Critical Resources	Material, personnel and finances that are in short supply and are needed by more than one response organization or are needed for high priority assignments.
Cross-resistance	The development of pathogen strains that not only withstand the effects of a given antimicrobial agent, but other chemically related agents as well.

D

DFA	Disaster Financial Assistance (available when authorized through the PEP)
Documentation Unit	Unit within the planning section responsible for collecting, recording and safeguarding all documents relevant to the incident.
DND	Department of National Defence
Droplet precautions	Precautions taken to prevent and control the spread of infections for organisms spread by droplet transmission.
Droplet Transmission	Transmission of infection via large droplets, greater than or equal to 5 microns in size, generated from the respiratory tract during coughing or sneezing, or during procedures such as suctioning or bronchoscopy. These droplets are propelled a short distance (approx. 1 metre/3 feet or less) through the air and can come in contact with the eyes, nose or mouth of another person, thus infecting them.

E

ECC	Emergency Coordination Centre. Located at the PEP headquarters, the ECC receives and disseminates information from multiple sources regarding emergency situations. The 24-hour ECC also serves as the “incident message centre” for the PECC.
EFA	Emergency Financial Assistance available through the PEP.
EHO	Environmental Health Officer
EHSC	Emergency Health Services Commission. Provincial agency responsible for overseeing the delivery of all emergency health services in BC. The BC Ambulance Services works under the EHSC (see BCAS).
EMB	Emergency Management Branch. The MHS organization responsible for coordinating the provincial level preparation for, response to and recovery from emergency/disaster events.
EOC	Emergency Operations Centre. A pre-designated facility established by a local authority, jurisdiction or agency to coordinate the site response and support in an emergency.
Epidemic	An outbreak of infection that spreads rapidly and affects many individuals in a given area or population at the same time.
Epidemiology	A branch of medical science dealing with the transmission and control of disease, including the study of epidemics and epidemic diseases.
ER	Emergency Room
ESS	Emergency Social Services. Provides short term services (generally 72 hours) to preserve the emotional and physical well-being of evacuees and response workers in emergency situations.

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F

FHA	Fraser Health Authority
Flu	A common, slang term for influenza infection, although it is often mistakenly used in reference to gastrointestinal and other types of clinical illness.
F/P/T or FPT	Federal, Provincial and Territorial representation

H

H1N1	An influenza A subtype. A strain of this subtype caused the 1918-1919 influenza pandemic. This subtype continues to circulate in humans and is regularly included in annual human influenza vaccines.
H2N2	An influenza A subtype. A strain of this subtype caused the 1957-58 influenza pandemic.
H3N2	An influenza A subtype. A strain of this subtype caused the 1968-1969 influenza pandemic. This subtype continues to circulate in humans and is regularly included in annual human influenza vaccines. Of the three influenza viruses that currently circulate in humans (A/H1N1, A/H3N2, B), this type causes the greatest annual morbidity and mortality.
H5N1	An influenza A subtype, currently avian only. A strain of this subtype infected both poultry and humans in 1997 in Hong Kong. Of 18 people infected, 6 died. This subtype has continued to cause poultry outbreaks and sporadic human infections. Of most significance, a strain of this subtype caused widespread poultry outbreaks in several Asian countries in 2004-2005. It has infected several dozen humans, many of whom died. Human infection is primarily through direct poultry contact, although there is concern that this subtype could mutate or reassort to become the next pandemic strain. (See www.who.int for current information.)
H7N3	An influenza A subtype, currently avian only. A strain of this subtype caused a widespread poultry outbreak in the Fraser Valley of BC in spring 2004. Two humans became infected during this outbreak. Illness was mild and resolved quickly.
H7N7	An influenza A subtype, currently avian only. A strain of this subtype caused a widespread poultry outbreak in the Netherlands in early 2003. Eighty-nine humans became infected during this outbreak. Illness was mostly mild and resolved quickly, although there was one case of serious illness resulting in death.
HA	Health Authority (see definition below)
HABCERMS	Health Authority British Columbia Emergency Response Management System. A BCERMS adaptation used by some health authorities in BC.

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Hand hygiene/ Hand washing/ Hand antisepsis	The process of removing soil and transient microorganisms from the hands. Hand hygiene is a general term that applies to hand washing or hand antisepsis. Hand washing refers to washing hands with soap and water. Hand antisepsis refers to hand washing with an antiseptic hand wash.
HCW	Health Care Worker (see definition below)
Health Act	A BC provincial statute that mandates MHOs and regulates matters of communicable disease control and sanitation for the purpose of protection of the public from health hazards.
Health Authority (HA)	A health services organization created pursuant to the Health Authorities Act, for the purpose of planning, organizing and delivering a range of facility and community-based health services to either a designated geographic region, or target populations.
Health Care Workers (HCW) (Pandemic)	Health Care Workers are professionals, including trainees and retirees, non-professionals and volunteers involved in direct patient care and/or those working/volunteering in designated health care facilities or services. During an influenza pandemic, HCWs are those whose functions are essential to the provision of patient care, and who may have the potential for acquiring or transmitting infectious agents during the course of their work. During a pandemic this group would also include public health professionals.
Health Emergency Act	The BC statute that establishes the Emergency Health Services Commission and the BCAS.
HERT	Health Emergency Response Team(s). A PHAC/CEPR initiative to provide specialized medical teams to respond to emergencies/disaster at the request of provinces/territories
HealthGuide (BC)	The BC HealthGuide includes BC HealthGuide Online (information on more than 3,000 common health topics, see http://www.bchealthguide.org/kbaltindex.asp), the BC NurseLine (health information and advice through a toll-free telephone line), the BC HealthFiles (a series of one-page fact sheets on health and safety), and the BC HealthGuide (a handbook with advice and information on more than 190 common health concerns).
Health Service Delivery Area	A geographic area/division of a Health Authority responsible for delivering specified health services.
Health Status	The state of health of an individual or a population.
HEICS	Hospital Emergency Incident Command System. Emergency management system used in health care facilities to manage emergencies/disasters (based on the Incident Command System; see ICS).
Hemagglutinin (H)	A protein on the surface of the influenza virus that helps the virus attach to the respiratory tract. Used to identify and label influenza subtypes and strains.
HERT	Health Emergency Response Team
High-Risk Groups	Those groups in which epidemiologic evidence indicates there is an increased risk of contracting a disease.

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HLTHSVC	Ministry of Health Services (see MOHS).
HPAI	Highly Pathogenic Avian Influenza. A highly contagious disease of poultry caused by avian influenza virus and resulting in significant mortality.
HSDA	Health Service Delivery Area (see definition above)

I

ICS	Incident Command System. A standardized on-scene emergency management concept specifically designed to allow its user(s) to adopt an integrated organizational structure equal to the complexity and demands of single or multiple incidents without being hindered by jurisdictional boundaries.
IEPC	Inter-agency Emergency Preparedness Council
IHA	Interior Health Authority
IM	Intramuscular, i.e., within or into the muscle. A route of immunization delivery.
Immunize	To make immune, as in making able to resist a particular disease, most often through administration of a vaccine delivered by a needle.
Incident Action Plan	Contains objectives reflecting the overall incident strategy and specified tactical actions and supporting information for the next operational period (see Operational Period).
Infection	Condition in which organisms multiply within the body and cause a response from the host's immune defences. Infection may or may not lead to clinical disease.
Influenza	A highly contagious infection of the respiratory tract (nose, throat, bronchial tubes, lungs) caused by the influenza virus. The illness is characterized by sudden onset, fever, cough, sore throat, malaise and general aches, and also by nausea/vomiting and diarrhoea in children. In the very young, fever may not be prominent. In geriatric age groups, persons often experience fever or feverishness with chills, but these symptoms may not be prominent. Influenza viruses cause annual influenza epidemics and occasional worldwide influenza pandemics.
Influenza-Like Illness (ILI)	Acute onset of respiratory illness with fever and cough and one or more of sore throat, arthralgia, myalgia or prostration which could be due to influenza.
Influenza type A	A category of influenza virus characterized by specific internal proteins. Influenza A viruses are further subgrouped according to variations in their two surface proteins, hemagglutinin (H) and neuraminidase (N) (.e.g. H1N1, H3N2). Influenza A viruses infect animals as well as humans and cause annual influenza epidemics and occasional influenza pandemics.
Influenza type B	A category of influenza virus characterized by specific internal proteins. Influenza B viruses infect only humans, cause less severe clinical illness than type A, and spread in regional rather than pandemic outbreaks.

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Influenza type C	A category of influenza virus characterized by specific internal proteins. Influenza C viruses do not cause significant clinical illness.
Influenza Virus	There are three types of influenza viruses: A, B and C. Subcategories of influenza (subtypes) are based on the configuration of two proteins on the virus surface – hemagglutinin (H) and neuraminidase (N). Subtypes of influenza A virus known to readily infect humans include H1N1, H2N2 and H3N2. Avian influenza A viruses (H5N1, H7N7, H7N3, H9N2) have also recently been shown to infect humans, although they do not do so readily. The threat of pandemic influenza is related to the introduction of a new subtype of influenza A into the human population.
Inpatient	An individual who receives health care services while admitted in a health care facility overnight or longer.
ILI	Influenza Like Illness (see definition above).
IO	Information Officer
iPHIS	Integrated Public Health Information System. iPHIS is a web-based software suite of customized health information management tools. It offers client level tools for daily case management and health surveillance data for regional/provincial/national data reporting. See http://www.ciph.ca/ciph.application.html for more information.
Isolation	Isolation means the separation, for the period of communicability of the disease, of an infected person or animal from others in a place and under conditions to prevent the conveyance of the infectious agent to those others.

J

JBCRT	Joint Biological Chemical Response Team
JTF2	Joint Task Force 2

L

LPAI	Low Pathogenicity Avian Influenza. A generally mild disease of poultry caused by avian influenza virus, resulting in respiratory symptoms and a drop in egg production, but little or no mortality.
Licensed Practical Nurse (LPN)	A nursing school graduate who has been licensed by a provincial/territorial body; occasional synonym: licensed vocational nurse (LVN).
LTCF	Long Term Care Facility

M

MD (Doctor of Medicine)	An individual holding a doctoral degree in medicine.
Mean (<i>statistical</i>)	Commonly referred to as the “average”, the mean of a set of quantities is the sum of the quantities, divided by the number of quantities summed.

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Median <i>(statistical)</i>	The value such that for a series of ranked quantities, one half are above the median, and one half are below.
MEP	Municipal Emergency Plan
Mg	Milligram
MHO	Medical Health Officer
Ministry of Health Services (MOHS)	The Ministry that supports British Columbians in their efforts to maintain and improve their health.
Mode <i>(statistical)</i>	The most frequently occurring number in a series of numbers.
MOHS	Ministry of Health Services (see definition above).
Morbidity	Illness. Departure from a state of well-being, either physiologic or psychological.
Morbidity Rate	The number of cases of an illness (morbidity) in a population divided by the total population at risk for that illness.
Mortality	Death.
Mortality Rate	The number of people who die during a specific time period divided by the total population.
MOU	Memorandum of Understanding
MROC	Ministry Regional Operations Centre. An Operations Centre established and operated by a ministry to coordinate the ministry's emergency response in that region. Structure and function is similar to PREOC.
Mutation	A permanent, transmissible change in the genetic material of a cell.

N

NACI	National Advisory Committee on Immunization (Canadian)
NBC	Nuclear, Biological, Chemical
Neuraminidase	A protein on the surface of the influenza virus that helps the virus leave one cell in order to spread and infect other cells. Used to identify and label subtypes and strains of influenza. Neuraminidase is the site of action of recently licensed anti-influenza drugs Oseltamivir and Zanamivir which are effective against both influenza A and B.
NESS	National Emergency Stockpile System. A CPHA/CEPR initiative to preposition medical materiel caches in regional depots and local sites across Canada.
NHA	Northern Health Authority
NML	National Microbiology Laboratory

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NML4	National Microbial Laboratory Level 4. Level 4 is a level of security denoting the ability to work with exotic and dangerous agents that usually produce very serious and often fatal human and animal diseases. These agents are transmitted readily from person to person or from animal to human (and vice versa) through the air or casual contact. Researchers must follow strict entry and exit protocols. In addition, they wear positive air pressure protective suits connected to filtered air lines. The suits are chemically treated after each session and always remain in the secured area of the laboratory. Both level 3 and 4 containment laboratories are specially constructed using "box-within-a-box" negative air pressure zone principles. In addition, specific building materials and techniques have been used to ensure all systems and surfaces are sealed.
Non-Traditional health care settings	Settings that are predetermined for operation prior to an event (influenza pandemic) and operational only when a health emergency (influenza pandemic) is declared.
Non-Traditional Site	A site (for pandemic influenza planning) that is not a currently established health care site, or that is a site that usually offers a different type or level of care. During a health emergency (influenza pandemic), it is expected that non-traditional sites will be needed to provide patient care and will focus on monitoring and staining care of these patients.
NurseLine (BC)	A telephone line that is staffed 24 hours per day, 7 days per week by a registered nurse. The NurseLine provides health information to the citizens of BC (see http://www.bchealthguide.org/kbaltindex.asp for contact info).

O

OCIPEP	Office of Critical Infrastructure Protection and Emergency Preparedness, now PSEPC.
OHS	Occupational Health and Safety. This promotes occupational health and safety and protection of workers and other persons present at workplaces from work-related risks to their health, safety, and well-being.
OHSAH BC	Occupational Health and Safety Agency for Healthcare in BC.
Operational Period	The period of time scheduled for the execution of a given set of operational actions as specified in the action plan. Operational periods can be various lengths, although usually they are not longer than 24 hours.
Opportunistic Infection	An infection in an immune compromised person caused by an organism that does not usually cause disease in healthy people. Many of these organisms are widely carried in the population in a latent state, and only cause disease when given the opportunity of a damaged/compromised immune system.

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Oseltamivir	An antiviral drug effective against influenza A and B viruses that inhibits the neuraminidase protein, effectively trapping the influenza virus within the host cell and preventing it from infecting new cells. This can help in preventing infection (prophylaxis) or in reducing the duration and severity of illness once infected. It is effective if treatment is started within 48 hours of symptom onset. In Canada and the USA, oseltamivir is sold under the brand name Tamiflu.
Outbreak	An increase in disease activity above expected levels. Also known as an epidemic. The latter term has more serious connotations.
Outpatient	An individual who receives health care services without being admitted to a health care facility.

P

Palliative	A treatment which provides symptomatic relief, but is not a cure.
Pandemic	An epidemic disease of widespread prevalence around the globe.
Parenteral	Method of administering medicine or nutrition through a means other than by the mouth. Intravenous (into the vein), intramuscular (into the muscle), and intradermal (into the skin) administration are all parenteral.
Pathogen	Any disease-producing microorganism or material.
Pathogenesis	The natural evolution of a disease process in the body without intervention (i.e., without treatment); description of the development of a particular disease, especially the events, reactions and mechanisms involved at the cellular level.
Pathogenicity	The ability or degree to which something can cause disease. A synonym is 'virulence'.
PCR	Polymerase Chain Reaction (see definition below).
PECC	Provincial Emergency Coordination Centre. An Emergency Operations Centre established and operated at the provincial central level to direct and coordinate the provincial government's overall emergency or disaster response and recovery efforts. Located at the PEP headquarters in Victoria.
Pediatric	Relating to the medical specialty concerned with the development, care and treatment of children from birth through adolescence.
PEP	Provincial Emergency Program (Ministry of Public Safety and Solicitor General)
Personal Protective Equipment (PPE)	Attire used by workers to protect against airborne or droplet exposure and against exposure to blood and body fluids. PPE generally includes masks, eye goggles, face shields, gloves, gowns and foot-covers.
PHAC	Public Health Agency of Canada
PHI	Public Health Inspector
PHIS	Public Health Information System. Now renamed iPHIS (see iPHIS).
PHN	Public Health Nurse
PHO	Provincial Health Officer. The senior medical health officer for BC.

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PHSA	Provincial Health Services Authority. The PHSA oversees health agencies delivering services for the entire province including BCCDC, BC Cancer Agency, Children’s and Women’s Health Centre of BC, Riverview Hospital and other provincial health service agencies (www.phsa.ca).
PI	Pandemic Influenza
PIC	Pandemic Influenza Committee. National committee (FPT) supported by the federal government to develop pandemic influenza preparedness and response guidelines and to make recommendations to PHAC.
PIPPIC	BC Pandemic Influenza Preparedness Plan Implementation Committee
Polymerase Chain Reaction (PCR)	A test that can detect DNA fragments of viruses or other organisms in blood or tissue. PCR works by amplifying DNA sequences in vitro and repeatedly copying genetic material using heat cycling and enzymes similar to those used by cells.
Potential Years of Life Lost (PYLL)	PYLL refers to the total number of years not lived by an individual who died before age 75. The PYLL rate per 1000 population is the ratio of the total years of life lost between ages 0 and 75 due to a specific cause as compared to the total population. The cause of death selected is the underlying cause of death.
PPE	Personal Protective Equipment (see definition above)
Preventive Care	A comprehensive type of care emphasizing priorities for prevention, early detection and early treatment of conditions, generally including routine physical examinations, immunization, and well-person care.
Preventive Medicine	Taking measures for anticipation, prevention, detection, and early treatment of disease.
PREOC	Provincial Regional Emergency Operations Centre. An Emergency Operations Centre established and operated at the regional level by the province to coordinate provincial emergency response efforts.
Primary Care	The first level of care, and usually the first point of contact, that people have with the health care system. Primary care involves the provision of integrated, accessible health care services by clinicians who are responsible for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community. It includes advice on health promotion and disease prevention, assessments of one’s health, diagnosis and treatment of episodic and chronic conditions, and supportive and rehabilitative care.
Prophylaxis	The prevention of, or protective treatment for, disease.
PSEPC	Public Safety and Emergency Preparedness Canada (formerly OCIEP)
P/T or PT	Provincial and Territorial representation
Public Affairs Bureau (PAB)	The organization within the government of British Columbia that is responsible for managing formal communication between government and the public.
Public Health	The art and science of protecting and improving community health by means of preventive medicine, health education, communicable disease control, and the application of social and sanitary sciences.
PYLL	Potential Years of Life Lost (see definition above)

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Q

QTMH	Quarantine, Travel and Migration Health
Qualitative	Of, relating to, or expressed in relative or subjective terms impossible to precisely quantify.
Quantitative	Of, relating to, or expressed in terms of quantity.
Quarantine	Quarantine means the limitation of freedom of movement of a susceptible person or domestic animal, suspected of being, or known to have been exposed to a communicable disease, for a period of time equal to the longest usual incubation period of that disease from the last date of exposure.

R

RCMP	Royal Canadian Mounted Police
Record	A paper or electronic document that contains or is designed to contain a set of facts related to some occurrence, transaction, or the like.
Registered Nurse (RN)	One who has graduated from a college or university program of nursing education and has been licensed by the state.
REOC	Regional Emergency Operations Centre. Used by HAs to manage health sites and services.
Resistance	The development of strains of a pathogen that are able to withstand the effects of an antimicrobial agent.
Respiratory tract	Structures contained in the respiratory system, including the nasopharynx, oropharynx, laryngopharynx, larynx, trachea, bronchi, bronchioles, and lungs.
Rimantadine	An antiviral agent indicated in adults for the treatment of illness due to influenza and for prophylaxis following exposure to influenza A viruses. It has no effect against influenza B viruses.
Risk Management	The process of making and carrying out decisions that will minimize the adverse effects of injuries, accidental losses and/or liability.
RN	Registered Nurse (see definition above)
Routine practices	Infection prevention and control practices used in the routine care of all patients at all times in all health care settings. Routine practices outline the importance of hand washing; the need to use gloves, masks/eye protection/face shields and gown when splashes or sprays of blood, body fluids, secretions or excretions are possible; the cleaning of patient-care equipment, the environment, soiled linen; waste disposal; patient placement; and precautions to reduce the possibility of HCW exposure to blood borne pathogens.

S

SEOC	Site Emergency Operations Centre
SQ	Subcutaneous, i.e., beneath the skin. A route of immunization delivery.

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Strain	A variation of the influenza virus within a given subtype (e.g., influenza A/Panama/H3N2, influenza A/Fujian/H3N2). New strains appear every few years and are responsible for yearly influenza outbreaks.
Sub Acute Care	Comprehensive, cost-effective inpatient level of care for patients who: a) have had an acute event resulting from injury, illness or exacerbation of a disease process, b) have a determined course of treatment and, c) though stable, require diagnostics or invasive procedures but not intensive procedures requiring an acute level of care. Typically short term, sub acute care is designed to return patients to the community or transition them to a lower level of care. Sub acute care is offered in a variety of physical settings. The philosophy of sub acute care is to ensure that patients are receiving the most appropriate services at the most appropriate phase of their illness while ensuring quality, cost-effective outcomes.
Subtype	A classification of the influenza type A viruses based on the surface proteins hemagglutinin (H) and neuraminidase (N) (see Influenza Virus).
Symptoms	Any perceptible, subjective change in the body or its functions that indicates disease or phases of disease, as reported by the patient.

T

Tamiflu	The name under which oseltamivir is marketed in Canada and the USA (see Oseltamivir).
Toxicity	The extent, quality, or degree of being poisonous or harmful to the body.
Toxin	A harmful or poisonous agent.
Triage	A system whereby a group of casualties or patients is sorted according to the seriousness of their illness or injuries, so that treatment priorities can be allocated between them. In emergency situations it is designed to maximize the number of survivors.

U

USA	United States of America
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V

Vaccination	The act of administering a vaccine.
Vaccine	A substance that contains antigenic components from an infectious organism. By stimulating an immune response (but not causing disease), it protects against subsequent infection by that organism.
VAAE	Vaccine Associated Adverse Events
VAER	Vaccine Adverse Events Reporting
VCHA	Vancouver Coastal Health Authority
VIHA	Vancouver Island Health Authority
Virology	The study of viruses and viral disease.

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Virus	A group of infectious agents characterized by their inability to reproduce outside of a living host cell. Viruses may subvert the host cells' normal functions, causing the cell to behave in a manner determined by the virus.
Volunteers	A volunteer is a person registered with a government agency or government designated agency who carries out unpaid activities, occasionally or regularly, to help prepare for and respond to an emergency/disaster (pandemic influenza). A volunteer is one who offers their service of their own free will, without promise of financial gain, and without economic or political pressure or coercion.

W

WCB	Workers' Compensation Board
WG	Working Group
WHMIS	The Workplace Hazardous Materials Information System (WHMIS) is Canadian legislation covering the use of hazardous materials in the workplace. This includes assessment, signage, labelling, material safety data sheets and worker training. WHMIS closely parallels the U.S. OSHA Hazcom Standard. Most of the content of WHMIS is incorporated into Canada's Hazardous Products Act and the Hazardous Materials Information Review Act which are administered by Public Health Agency of Canada. Certain provincial laws may also apply. Enforcement of WHMIS is performed by the Labour Branch of Human Resources Development Canada or the provincial/territorial OHS agencies.
Wild type	A naturally occurring strain of virus that exists in the population.
WHO	World Health Organization. A specialized agency of the United Nations generally concerned with health and health care.

Z

Zanamivir	An antiviral drug effective against influenza A and B viruses that inhibits the neuraminidase protein, effectively trapping the influenza virus within the host cell and preventing it from infecting new cells. This can help in preventing infection (prophylaxis) or in reducing the duration and severity of illness once infected. It is effective if treatment is started within 48 hours of symptom onset. Zanamivir is sold under the brand name Relenza.
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INFLUENZA INFORMATION RESOURCES

Provincial

British Columbia Centre for Disease Control (BCCDC)

- ❑ Main Page: <http://www.bccdc.org/>
- ❑ General Influenza Information: www.bccdc.org/topic.php?item=80
- ❑ Influenza Surveillance: www.bccdc.org/content.php?item=157
- ❑ BC Pandemic Influenza Preparedness Plan: www.bccdc.org/content.php?item=150

British Columbia Provincial Emergency Program

- ❑ Main Page: www.pep.bc.ca/
- ❑ British Columbia Pandemic Influenza Consequence Management Plan: www.pep.bc.ca/hazard_plans/PI_Consequence_Management_Plan_2004-03.pdf

British Columbia HealthGuide

- ❑ Main Page: www.bchealthguide.org/kbaltindex.asp
- ❑ NurseLine: www.bchealthguide.org/kbnurseline.stm or (604) 215-4700 within Greater Vancouver or 1-866-215-4700 toll-free from anywhere in BC or 1-866-889-4700 for TTY (for deaf and hearing impaired) toll-free from anywhere in BC

British Columbia Health Authorities' Pandemic Influenza Plans

- ❑ Fraser Health Authority: <http://www.fraserhealth.ca/HealthInfo/PublicHealth/Pandemic+Flu+Plan.htm>
- ❑ Vancouver Coastal Health Authority: <http://www.vch.ca/public/communicable/pandemic.htm>

Justice Institute of BC

- ❑ Emergency Management Division: <http://www.jibc.bc.ca/emergency/default.htm>

Alberta Health and Wellness

- ❑ Alberta Pandemic Influenza Response Plan: www.health.gov.ab.ca/public/pandemic/PandemicPlan.html

Manitoba Health

- ❑ Manitoba's Pandemic Influenza Plan: www.gov.mb.ca/health/pandemic.html

Ontario Ministry of Health and Long Term Care

- ❑ Ontario Health Plan for an Influenza Pandemic: http://www.health.gov.on.ca/english/providers/program/emu/pan_flu/ohpip_mn.html

National

Public Health Agency of Canada

BC Pandemic Influenza Preparedness Plan: Information Resources

- ❑ Main Page: www.phac-aspc.gc.ca
- ❑ General Influenza Information: www.phac-aspc.gc.ca/influenza/index.html and www.phac-aspc.gc.ca/drd-dmr/index.html
- ❑ Influenza Surveillance (FluWatch): www.phac-aspc.gc.ca/fluwatch/index.html
- ❑ Pandemic Influenza Information: www.phac-aspc.gc.ca/influenza/pandemic_e.html
- ❑ Canadian Pandemic Influenza Plan: www.phac-aspc.gc.ca/cpip-pclepi/index.html
- ❑ “Routine Practices and Additional Precautions for Preventing the Transmission of Infection in Health Care” (CCDR 1999, vol 25S4): www.phac-aspc.gc.ca/publicat/ccdr-rmtc/99vol25/25s4/index.html
- ❑ “Infection Control Guidelines – Hand Washing, Cleaning, Disinfection and Sterilization in Health Care” (CCDR 1998, vol 24S8, pdf): www.phac-aspc.gc.ca/publicat/ccdr-rmtc/98pdf/cdr24s8e.pdf

Public Safety and Emergency Preparedness Canada (formerly OCIPEP):

- ❑ Main page: http://www.psepc.gc.ca/index_e.asp

International

World Health Organization

- ❑ Main Page: <http://www.who.int/en/>
- ❑ General Influenza Information: www.who.int/topics/influenza/en/
- ❑ Guidelines for Pandemic Preparedness: www.who.int/csr/disease/influenza/pandemic/en/index.html
- ❑ FluNet: www.who.int/GlobalAtlas/home.asp
- ❑ Influenza Pandemic Preparedness Plan: www.who.int/csr/resources/publications/influenza/WHO_CDS_CSR_GIP_2005_5/en/index.html

U.S. Centers for Disease Control and Information (CDC)

- ❑ Main Page: <http://www.cdc.gov/>
- ❑ General Influenza Information: www.cdc.gov/flu/
- ❑ Pandemic Preparedness: www.cdc.gov/flu/references.htm#prepare
- ❑ Pandemic Influenza Preparedness and Response Plan (Draft): www.dhhs.gov/nvpo/pandemicplan/
- ❑ FluAid: www2.cdc.gov/od/fluaid/default.htm
- ❑ FluSurge (pdf manual): www.cdc.gov/flu/pdf/FluSurge1.0_Manual_043004.pdf
- ❑ FluSurge (program download): www.cdc.gov/flu/flusurge.htm

U.S. Department of Health and Human Services

- ❑ Main Pandemic Page: <http://www.dhhs.gov/nvpo/pandemics/>
- ❑ Draft Pandemic Influenza Response and Preparedness Plan: <http://www.dhhs.gov/nvpo/pandemicplan/index.html>
- ❑ Preparing for the Next Pandemic: <http://www.dhhs.gov/nvpo/pandemics/flu5.htm>

California Hospital Emergency Incident Command System (HEICS III):

- ❑ Main Page: www.emsa.ca.gov/dms2/heics3.htm

ANNEX A: REGIONAL HEALTH AUTHORITY (HA) PANDEMIC INFLUENZA PREPAREDNESS PLANS

The Health Authority (HA) and/or Health Service Delivery Area (HSDA) Pandemic Influenza Preparedness Plan will be referred to as the “HA/HSDA Plan” in this section. The HA/HSDA Plan can be developed as a stand-alone plan or as an annex or supplement to the HA/HSDA Disaster Plan. HA Plans should be shared with the Provincial Health Officer in order that a provincial view can be developed.

The purpose of these checklists is to assist HAs/HSDAs in developing and reviewing their Pandemic Influenza Preparedness Plans. The checklists are also communication tools for HAs/HSDAs to identify planning issues and necessary actions.

Checklists:

1. [HA/HSDA Plan Development and Maintenance](#)
2. [Command & Control/Direction & Control](#)
3. [Emergency Preparedness and Emergency Communications](#)
4. [Surveillance](#)
5. [Vaccine Delivery](#)
6. [Antiviral Delivery](#)
7. [Health Services](#)
8. [Communication](#)

These lists should be modified as required and/or as appropriate.

Appendices are also provided to assist HAs/HSDAs in developing guidelines for action at the different pandemic stages and in identifying the priority groups and estimating the number of individuals in each group.

Appendices:

1. [Canadian Pandemic Phases](#)
2. [Vaccine Priority Groups](#)
3. [Healthcare Worker Estimates](#)
4. [Emergency and Essential Service Worker Estimates](#)
5. [Antiviral Priority Groups](#)

Table A-1: HA/HSDA Pandemic Influenza Preparedness Plan Development and Maintenance

		Status (Y/N or N/A)	Person/Dept. Responsible	Comments
1.	(a)	Does the HA/HSDA have a policy statement requiring a Pandemic Influenza Preparedness Plan (PIPP)?		
	(b)	If yes, who is responsible for developing it?		
2.		Does the HA/HSDA have a PIPP?		
3.		Has the HA/HSDA Plan been developed in consultation with First Nations?		
4.		Has the HA/HSDA Plan been developed in consultation with the BCPIAC, all HA/HSDA municipalities, private industry and other stakeholders?		
5.		Does the HA/HSDA have a policy regarding approval of, and authorization of, changes to the Plan?		
6.		Is someone designated to coordinate reviews and updates of the HA/HSDA Plan (i.e., when further federal or provincial guidelines are available and/or at regular intervals)?		
7.	(a)	Is a distribution list for the HA/HSDA Plan maintained?		
	(b)	Are there processes for people to receive Plan amendments?		
8.		Does the HA/HSDA Plan outline relevant legislation?		
9.	(a)	Does the HA/HSDA Plan address roles and responsibilities for each pandemic phase, including possible 2 nd and 3 rd waves (for phases, see Appendix A-1)?		
	(b)	Is someone designated to coordinate the exercises/simulations?		
	(c)	Does the HA/HSDA Plan indicate the need for HA/HSDA as well as community exercises?		
	(d)	Is there a process for lessons learned from the exercises to be incorporated into the HA/HSDA Plan?		
10.		Does the HA/HSDA Plan address staff education well as education of other community stakeholders regarding the Plan?		

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		Status (Y/N or N/A)	Person/Dept. Responsible	Comments
11.	Has the HA/HSDA Plan been incorporated into or referenced in existing emergency preparedness plans within the HA/HSDA (e.g., facility plans, outbreak plans)?			
12.	(a) Does the HA/HSDA Plan require post-pandemic evaluation of the Plan and Plan revisions based on the evaluation?			
	(b) If yes, who is responsible for that evaluation?			

Table A-2: Command & Control/Direction & Control

		Status (Y/N or N/A)	Person/Dept. Responsible	Comments
1.	Does the HA/HSDA Plan include a description of the Command, Control and Management structure and functions specific to pandemic response?			
2.	Has the role of senior management been defined?			
3.	Have the organizational responsibilities been described?			
4.	Have all the necessary responsibilities been assigned?			
5.	Does the HA/HSDA Plan identify “back-up” personnel for each responsibility and for the MHO and other key personnel?			
6.	Does the HA/HSDA Plan address training needs for those with pandemic-related responsibilities?			
7.	(a) Does the HA/HSDA Plan identify areas where Emergency Operations Centres (EOCs) are needed (e.g., HA, HSDAs, municipalities)?			
	(b) Does the HA/HSDA Plan allow for participation in regional/local EOC(s) and in the Provincial Regional Emergency Operations Centre (PREOC)?			
	(c) Have communication links between the HA/HSDA EOC(s) and municipal EOCs been identified?			
8.	Is there a system for ensuring that all relevant personnel are alerted to the arrival of an influenza pandemic and the need for them to assume their pandemic-related responsibilities?			
9.	Does the HA/HSDA Plan identify personnel by job title who are to receive information from and provide information to the BCPIAC, the PHO and/or BCCDC regarding:			
	(a) Surveillance			
	(b) Health services			
	(c) Vaccine and antiviral delivery			
	(d) Communications (including provincial teleconferences)			

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		Status (Y/N or N/A)	Person/Dept. Responsible	Comments
10.	(a)	Does the HA/HSDA Plan require post-pandemic evaluation of the Command, Control and Management structure and functions, and revisions based on the evaluation?		
	(b)	If yes, who is responsible for that evaluation?		

Table A-3: Emergency Preparedness and Emergency Communications

		Status (Y/N or N/A)	Person/Dept. Responsible	Comments
1.	Does the HA/HSDA Pandemic Influenza Preparedness Plan (PIPP) have an Emergency Preparedness and Emergency Communication component?			
2.	Does the HA/HSDA Plan address emergency preparedness and emergency communications in each of the pandemic phases?			
3.	Does the HA/HSDA Plan include a contact list of local/regional emergency managers (e.g., public health, government, utilities)?			
4. (a)	Does the HA/HSDA Plan outline agreed-upon coordination mechanisms with all municipalities in the HA/HSDA (see Annex G)?			
(b)	Does the HA/HSDA Plan outline agreed-upon emergency communication mechanisms with all municipalities in the HA/HSDA (see Annex G)?			
5. (a)	Does the HA/HSDA Plan identify “essential service” positions?			
(b)	Does the HA/HSDA Plan estimate the number of essential service workers, based on current definitions (see Appendix A-4)?			
(c)	Does the HA/HSDA Plan provide strategies for educating and training essential service workers regarding pandemic planning and emergency response?			
6.	Does the HA/HSDA Plan include strategies for providing information on pandemic influenza, infection control, self-care, etc. to municipalities and essential service workers?			
7. (a)	Does the HA/HSDA Plan identify local/regional private industries that could assist in pandemic/emergency planning and response?			
(b)	Does the HA/HSDA Plan define agreed-upon role(s) these local/regional private industries can play in pandemic/emergency planning and response?			

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		Status (Y/N or N/A)	Person/Dept. Responsible	Comments
(c)	Does the HA/HSDA Plan include strategies to ensure that these local/regional private industries are kept informed of pandemic developments and planning?			
8.	(a) Does the HA/HSDA Plan identify local/regional organizations that could assist in pandemic/emergency planning and response?			
	(b) Does the HA/HSDA define agreed-upon role(s) these local/regional organizations can play in pandemic/emergency planning and response?			
(c)	Does the HA/HSDA Plan include strategies to ensure that these local/regional organizations are kept informed of pandemic developments and planning?			
9.	(a) Does the HA/HSDA Plan include a review of the volunteer groups listed in the Municipal Emergency Plan (MEP)?			
	(b) Does the HA/HSDA Plan identify those volunteer groups that could assist in pandemic/emergency planning and response?			
(c)	Does the HA/HSDA Plan define agreed-upon role(s) these volunteer groups could play in pandemic/emergency planning and response (e.g. retired or student health care professionals who could contribute to the health services response)?			
(d)	Does the HA/HSDA Plan include strategies to ensure that these volunteer groups are kept informed of pandemic developments and planning?			
10.	(a) Has the HA/HSDA contacted the RCMP/police and fire departments, in consultation with municipalities, regarding the HA/HSDA Plan?			
	(b) Does the HA/HSDA Plan outline communication mechanisms between the HA/HSDA and RCMP/police and fire departments?			

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		Status (Y/N or N/A)	Person/Dept. Responsible	Comments
11.	(a)	Has the HA/HSDA contacted ambulance service providers, in consultation with municipalities regarding the HA/HSDA Plan?		
	(b)	Has the ambulance service pandemic capacity been determined?		
	(c)	Have alternative patient transport methods been identified?		
12.		Has the HA/HSDA consulted with municipalities regarding mechanisms to provide non-medical support (i.e. food, snow shovelling) for persons confined to their home and for pandemic-specific support needs?		
13.		Does the HA/HSDA Plan discuss the possibility of closing public facilities and cancelling public events?		
14.		Does the HA/HSDA Plan include pandemic mortuary, burial and funeral requirements and plans based on consultations between the HA/HSDA, BC Coroners Service, municipalities and local funeral directors?		
15.		Does the HA/HSDA Plan identify available and/or needed psychological/mental health services based on discussion with local agencies and municipalities?		
16.		Does the HA/HSDA Plan identify available and/or needed social services based on discussion with local agencies and municipalities?		
17.		Does the HA/HSDA Plan identify arrangements agreed-upon with the municipalities regarding facilities that could be used as non-traditional health care sites (e.g., alternate care centres, triage centres, immunization sites, see Annex J)?		
18.	(a)	Does the HA/HSDA Plan require post-pandemic evaluation of the Emergency Preparedness and Emergency Communication component and revisions based on the evaluation?		
	(b)	If yes, who is responsible for that evaluation?		

Table A-4: Surveillance

		Status (Y/N or N/A)	Person/Dept. Responsible	Comments
1.	Does the HA/HSDA Plan contain a Surveillance component?			
2.	Does the HA/HSDA Plan address surveillance in each of the pandemic phases?			
3.	Has the HA/HSDA Plan assessed identified gaps and made recommendations regarding improvements to local influenza surveillance systems?			
4.	(a) Does the HA/HSDA have a system for monitoring school absenteeism (i.e. >10%) during the influenza season, with emphasis on laboratory confirmation early in the season?			
	(b) Does the HA/HSDA have a system for influenza and ILI outbreak reporting in hospitals, long term care facilities (LTCF) and other community settings during annual influenza seasons?			
	(c) Does the HA/HSDA have a process for reviewing surveillance mechanisms on a regular basis with partners and stakeholders?			
	(d) Has the HA/HSDA identified which personnel/organizations (including physicians and sentinel physicians) should regularly receive influenza surveillance data?			
5.	Has the HA/HSDA explored the feasibility of monitoring workplace absenteeism among large employers, including the HA/HSDA, for baseline data, for annual surveillance and/or for pandemic surveillance?			
6.	Does the HA/HSDA Plan identify groups for surveillance that are not currently routinely monitored (e.g. preschools, emergency rooms) that may need to be monitored immediately before and during a pandemic?			
7.	Does the HA/HSDA Plan address mechanisms for rapid dissemination of surveillance data (e.g. broadcast fax, e-mail, website)?			

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		Status (Y/N or N/A)	Person/Dept. Responsible	Comments
8.	Does the HA/HSDA Plan address the local monitoring and dissemination of information regarding virologic, epidemiologic and clinical findings associated with a pandemic strain?			
9.	(a) Who is responsible for disseminating surveillance information (e.g., MHO, CMHO)?			
	(b) Is there a back-up position identified to receive and communicate influenza surveillance data in the absence of the person identified above?			
10.	Does the HA/HSDA Plan include strategies to raise awareness of physicians and other health care providers regarding pandemic planning and yearly epidemics?			
11.	(a) Has the HA/HSDA assisted BCCDC in the recruitment of sentinel physicians for routine annual ILI surveillance?			
	(b) Does the HA/HSDA currently have at least 1 sentinel physician or 1 per 100,000 population where feasible? If not, are there plans to attain this goal?			
12.	Has the HA/HSDA, with the support of BCCDC if necessary/appropriate, identified additional sentinel physicians that could be called upon during immediate pre-pandemic and pandemic phases for ILI surveillance of special populations such as student health facilities, emergency rooms, the military, and/or travel destinations (e.g. Whistler)?			
13.	Does the HA/HSDA Plan address more timely methods for receiving information from within the HA regarding hospitalization and deaths attributed to influenza?			
14.	Does the HA/HSDA Plan address specimen collection processes and transportation of specimens to the Provincial Laboratory?			
15.	Does the HA/HSDA Plan address monitoring hospitalizations and severe clinical syndromes recognized to be associated with pandemic influenza during the pandemic phase?			

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		Status (Y/N or N/A)	Person/Dept. Responsible	Comments
16.	(a)	Does the HA/HSDA Plan address processes for collaboration in special studies during the pandemic?		
	(b)	Does the HA/HSDA Plan address processes for collaboration in special studies in the post-pandemic period?		
17.		Does the HA/HSDA Plan indicate that the Surveillance component will be evaluated in the post-pandemic period and that the Plan will be revised based on the evaluation?		
18.		Does the HA/HSDA Plan include the following contact information:		
	(a)	Laboratories and laboratory directors?		
	(b)	Sentinel physicians?		
	(c)	Schools participating in ongoing surveillance?		
	(d)	Long term care facilities?		
	(e)	Emergency rooms, daycares etc.		

Table A-5: Vaccine Delivery

		Status (Y/N or N/A)	Person/Dept. Responsible	Comments
1.	(a)	Does the HA/HSDA Plan include a vaccine delivery component?		
	(b)	Does the HA/HSDA Plan recognize the need to administer the vaccine as it is available as quickly as possible?		
2.	(a)	Does the HA/HSDA Plan incorporate the assumption of need for 2 doses likely 1 month apart?		
	(b)	Does the HA/HSDA Plan include plans for administering vaccine by priority group? (see Appendix A-2)		
	(c)	If vaccine is limited, does the HA/HSDA Plan include delivering 2 doses of vaccine to priority groups for whom there is sufficient supply?		
	(d)	Does the HA/HSDA Plan include delivering the 2 nd dose of vaccine 1 month after the first (while continuing to provide initial doses)?		
	(e)	Does the HA/HSDA Plan include immunizing 75% of the population with 2 doses within 4 months?		
3.	(a)	Does the HA/HSDA Plan include educating the public about pandemic vaccine?		
	(b)	Does the HA/HSDA Plan include educating health care providers (and other key groups) regarding the pandemic vaccine?		
4.		Does the HA/HSDA Plan address policies and procedures regarding obtaining informed consent?		
5.		Does the HA/HSDA Plan identify vaccine distribution “border” issues that will need to be coordinated?		
6.		Does the HA/HSDA Plan include strategies to improve influenza vaccine coverage in the pre-pandemic period?		
7.		Does the HA/HSDA Plan include strategies to improve appropriately targeted pneumococcal vaccine coverage in the pre-pandemic period?		
8.	(a)	Does the HA/HSDA Plan include strategies for reaching each of the priority groups?		

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		Status (Y/N or N/A)	Person/Dept. Responsible	Comments
(b)	Does the HA/HSDA Plan include estimates of priority groups as nationally defined? (See Appendices A-2 , A-3 and A-4)			
(c)	Has the HA consulted with municipalities regarding preliminary estimates of essential service workers?			
9.	(a) Does the HA/HSDA Plan include contingency plans for mass immunization delivery throughout the HA?			
(b)	Has the HA consulted with municipalities regarding facilities that would be required as immunization sites during the pandemic?			
10.	(a) Does the HA/HSDA Plan include a process to maintain cold chain requirements of the vaccine (including additional and back-up storage sites with back-up generators)?			
(b)	Does the HA/HSDA Plan address training all staff (and particularly new, recruited, and alternate care workers) in the proper handling of vaccine?			
11.	(a) Does the HA/HSDA Plan address vaccine storage locations, capacity, equipment, supplies, staffing and security requirements for various pandemic scenarios?			
(b)	Does the HA/HSDA Plan address vaccine transport within the HA?			
12.	(a) Does the HA/HSDA Plan include measures by the HA to ensure security of the vaccine once delivery has been accepted (including storage, transport, clinics, handling, personnel)?			
(b)	Has there been consultation in the pre-pandemic period with RCMP/police regarding vaccine security?			
(c)	Does the HA/HSDA Plan include a security audit in the pre-pandemic period?			
(d)	Does the HA/HSDA Plan address crowd control at immunization sites?			
13.	(a) Does the HA/HSDA Plan include estimates of the amount of needles, syringes and other vaccination program supplies required for the various scenarios?			

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		Status (Y/N or N/A)	Person/Dept. Responsible	Comments
(b)	Does the HA/HSDA Plan include measures to ensure adequate supplies?			
(c)	Does the HA/HSDA Plan include biomedical waste management, including containers, transportation and disposal?			
14. (a)	Does the HA/HSDA Plan include sample/template worksheets for recording immunizations?			
(b)	Does the HA/HSDA Plan include processes to account for all vaccine received?			
(c)	Does the HA/HSDA Plan include processes for monitoring vaccine coverage, effectiveness and adverse reactions?			
(d)	Does the HA/HSDA Plan include processes to minimize wastage of vaccine?			
(e)	Does the HA/HSDA Plan outline one or more position(s) designated to record and summarize data on a regular basis and for submission to BCCDC?			
15. a)	Does the HA/HSDA Plan include systems to recognize, report and assess adverse reactions?			
b)	Does the HA/HSDA Plan include systems to communicate information regarding adverse reactions to physicians, emergency rooms, etc. within the HA/HSDA during the pandemic?			
16. a)	Does the HA/HSDA Plan include estimated human resource requirements for vaccine delivery according to the various scenarios?			
b)	Does the HA/HSDA Plan include human resource plans to obtain required manpower?			
c)	Does the HA/HSDA Plan include risk management measures regarding the temporary pool of alternate workers?			
17. a)	Does the HA/HSDA Plan include identification of alternate vaccine administrators?			
b)	Does the HA/HSDA Plan address training needs of alternate vaccine administrators?			

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		Status (Y/N or N/A)	Person/Dept. Responsible	Comments
18.	Does the HA/HSDA Plan address the need for an extended period of time to provide “catch-up” immunization programs if these were suspended during the pandemic?			
19.	Does the HA/HSDA Plan indicate that the Vaccine Delivery component of the Plan will be evaluated in the post-pandemic period and revised based on the evaluation?			
20.	Does the HA/HSDA Plan include general public information about the need, efficacy and safety of the influenza vaccine?			

Table A-6: Antiviral Delivery

		Status (Y/N or N/A)	Person/Dept. Responsible	Comments
1.	Does the HA/HSDA Plan include an antiviral delivery component?			
2.	(a) Does the HA/HSDA Plan describe how to deliver available antivirals?			
	(b) Does the HA/HSDA Plan recognize the need to administer antivirals as quickly as possible?			
3.	(a) Does the HA/HSDA Plan include strategies for reaching each of the priority groups?			
	(b) Does the HA/HSDA Plan include estimates of priority groups as nationally defined? (See Appendix A-5)			
	(c) Has the HA consulted with municipalities regarding preliminary estimates of essential service workers?			
4.	(a) Does the HA/HSDA Plan include educating the public about the need, efficacy and safety of antivirals?			
	(b) Does the HA/HSDA Plan include educating health care providers (and other key groups) regarding antivirals?			
5.	Does the HA/HSDA Plan address policies and procedures regarding obtaining informed consent?			
6.	Does the HA/HSDA Plan include a mechanism for tracking antiviral adverse events?			
7.	Does the HA/HSDA Plan identify antiviral distribution “border” issues that will need to be coordinated?			
8.	(a) Does the HA/HSDA Plan include processes to maintain cold chain requirements (including additional and back-up storage sites with back-up generators)?			
	(b) Does the HA/HSDA Plan address training all staff (and particularly new, recruited, and alternate care workers) in the proper handling of antivirals?			
9.	(a) Does the HA/HSDA Plan address antiviral storage locations, capacity, equipment, supplies, staffing and security requirements for various pandemic scenarios?			

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		Status (Y/N or N/A)	Person/Dept. Responsible	Comments
	(b)	Does the HA/HSDA Plan address antiviral transport within the HA?		
10.	(a)	Does the HA/HSDA Plan include measures to ensure security of antivirals once delivery has been accepted (including storage, transport, clinics, handling, personnel)?		
	(b)	Has there been consultation in the pre-pandemic period with RCMP/police regarding security?		
	(c)	Does the HA/HSDA Plan include a security audit in the pre-pandemic period?		
11.	(a)	Does the HA/HSDA Plan include estimates of the amount of needles, syringes and other vaccination program supplies required for the various scenarios?		
	(b)	Does the HA/HSDA Plan include measures to ensure adequate supplies?		
12.	(a)	Does the HA/HSDA Plan include a sample/template of worksheets for recording antivirals?		
	(b)	Does the HA/HSDA Plan include processes to account for all antivirals received?		
	(c)	Does the HA/HSDA Plan include processes for monitoring antiviral coverage, effectiveness and adverse reactions?		
	(d)	Does the HA/HSDA Plan include processes to minimize wastage of antivirals?		
	(e)	Does the HA/HSDA Plan outline position(s) designated to record and summarize data on a regular basis for submission to BCCDC?		
13.	(a)	Does the HA/HSDA Plan include systems to recognize, report and assess adverse reactions?		
	(b)	Does the HA/HSDA Plan include systems to communicate information regarding adverse reactions to physicians, emergency rooms, etc. within the HA/HSDA during the pandemic?		
14.	(a)	Has the HA/HSDA developed a mechanism for assessing antiviral effectiveness?		
	(b)	Has the HA/HSDA developed a mechanism for recording and reporting antiviral effectiveness?		

Table A-7: Health Services

		Status (Y/N or N/A)	Person/Dept. Responsible	Comments
1.	Does the HA/HSDA Plan include a health services component?			
2.	Does the HA/HSDA Plan address this component in each of the pandemic phases?			
3.	Has the HA/HSDA Plan been reviewed with appropriate partners and stakeholders?			
4.	(a) Have the available federal and provincial guidelines been reviewed and modified as required?			
	(b) Does the HA/HSDA Plan include the distribution of federal/provincial/local guidelines in pre-pandemic and pandemic periods?			
5.	(a) Does the HA/HSDA Plan assess bed capacity, estimate the capacity required for the HA/HSDA using pandemic impact projections and identify options for meeting this capacity? (For estimating pandemic impact, see Annex B)			
	(b) Does the HA/HSDA Plan identify the # of ventilators in the HA (mechanical ventilation machines; do not include BIPAP, CPAP machines)?			
	(c) Does the HA/HSDA Plan identify the # of ventilators in the community (dental offices, veterinary clinics) that could be accessed?			
	(d) Does the HA/HSDA Plan include strategies to increase # of ventilated beds, including staffing considerations?			
	(e) Does the HA/HSDA Plan address the capacity to be as self-sufficient as possible and to be prepared to deal with influenza co-morbidity with reasonable expectations of successful outcome?			
	(f) Does the HA/HSDA Plan reference providing/obtaining specialized and tertiary care for patients to/from other HAs?			
6.	(a) Does the HA/HSDA Plan identify how triage would be managed?			
	(b) Does the HA/HSDA Plan include a telephone triage component?			

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		Status (Y/N or N/A)	Person/Dept. Responsible	Comments
7.	Has the HA/HSDA met with municipalities regarding non-medical support needs for persons confined to their homes?			
8.	Does the HA/HSDA have a process for defining emergent/urgent services?			
9.	Does the HA/HSDA plan address the following:			
(a)	Management of pneumonia?			
(b)	Use of ICUs?			
(c)	Extubation?			
(d)	Care of long term care residents during pandemic?			
(e)	A review of guidelines as needed on a periodic basis?			
10.	Does the HA/HSDA Plan include the collection of data regarding the impact of the pandemic on health services during the pandemic?			
11.	Does the HA/HSDA Plan deal with providing information to, and modifying expectations of the public regarding provision of health services during the pandemic?			
12.	Does the HA/HSDA Plan include strategies for promoting self-care for influenza?			
13.	Does the HA/HSDA Plan include infection control guidelines (see Annex I or Canadian Pandemic Influenza Plan)?			
14. (a)	Does the HA/HSDA Plan address workforce requirements for the HA/HSDA using pandemic impact projections?			
(b)	Does the HA/HSDA Plan include a human resource plan for hiring additional health care workers during the pandemic that includes issues such as: scope of responsibilities, registration requirements, criminal record checks, foreign trained workers, liability and other insurance coverage, and training?			
(c)	Does the HA/HSDA Plan include strategies to recruit non-active or retired health care workers within the HA when required?			
(d)	Does the HA/HSDA Plan address the use of health care students?			

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		Status (Y/N or N/A)	Person/Dept. Responsible	Comments
(e)	Does the HA/HSDA Plan include strategies for an increased role of volunteers?			
(f)	Has the HA/HSDA consulted with municipalities regarding the availability and role of volunteer organizations and potential alternate service providers?			
(g)	Does the HA/HSDA Plan include a training plan for the use of alternate care workers (non-active, retired, out of scope, etc.) and volunteers?			
(h)	Has the HA/HSDA reviewed its insurance policies regarding use of alternate care workers and volunteers?			
(i)	Has the HA/HSDA reviewed its insurance policies regarding providing services in alternate care settings?			
(j)	Has the HA/HSDA identified collective agreement issues in light of pandemic manpower requirements?			
(k)	Does the HA/HSDA Plan include discussions with staff and professional associations?			
15.	Does the HA/HSDA Plan include guidelines and/or options for employees who are required to work but who also have ill family members who need to be cared for at home?			
16.	Are the Vaccine Delivery and Health Services components of the HA/HSDA Plan coordinated to ensure sufficient resources to administer the vaccine as quickly as possible when it is available?			
17.	Does the HA/HSDA Plan include critical incident stress management?			
18.	Does the HA/HSDA Plan include a review of guidelines as needed on a periodic basis?			
19.	Does the HA/HSDA Plan include the recovery of health services (e.g. overcoming backlog of postponed surgeries) in the post-pandemic period?			
20.	Does the HA/HSDA Plan indicate that the Health Services component will be evaluated in the post-pandemic period and revised based on the evaluation?			

Table A-8: Communication

		Status (Y/N or N/A)	Person/Dept. Responsible	Comments
1.	Does the HA/HSDA Plan have a Communication component?			
2.	Does the HA/HSDA Plan address this component in each of the pandemic phases?			
3.	Has the Communication component been reviewed with partners and stakeholders?			
4.	Does the HA/HSDA Plan identify key audiences, local groups, organizations and individuals who need to be kept informed?			
5.	Does the HA/HSDA Plan identify local strategic considerations: possible scenarios, issues, and opportunities in each phase of the pandemic?			
6.	Does the HA/HSDA Plan outline the need for consistent messaging with provincial and federal messages?			
7.	Does the HA/HSDA Plan outline mechanisms for rapid communications with key audiences?			
8.	Does the HA/HSDA Plan identify a communications response team during the pandemic phase?			
9.	Does the HA/HSDA Plan outline liaison with local media, including whether a special media center will be required and identification of media spokespersons?			
10. (a)	Does the HA/HSDA Plan include an influenza information line(s) to take calls from the public during the pandemic?			
(b)	Does the HA/HSDA Plan designate a position responsible for providing information to/coordinating with the Provincial Regional Emergency Operations Centre?			
11.	Does the HA/HSDA Plan outline how coordination issues with bordering jurisdictions (e.g. other HAs, First Nations communities) will be addressed?			
12.	Has the HA/HSDA Plan been shared with the PHO's office?			

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		Status (Y/N or N/A)	Person/Dept. Responsible	Comments
13.	Does the HA/HSDA Plan indicate that the Communication component will be evaluated in the post-pandemic period and that the Plan will be revised based on the evaluation?			
	Does the HA/HSDA Plan outline agreed upon communication mechanisms between and among all municipalities in the HA/HSDA?			
	Does the HA/HSDA Plan address communication needs for private industry and other non-governmental stakeholders?			
	Does the HA/HSDA Plan identify the method for notifying and updating each municipality within the HA/HSDA regarding the confirmation of onset of pandemic influenza in Canada?			
14.	Has the HA/HSDA developed communication tools for informing staff about pandemic planning (e.g. fact sheets, articles in staff newsletters, websites)? If willing, please provide an electronic copy to Epidemiology Services at the BCCDC (epidserv@bccdc.ca).			

APPENDIX A-1: CANADIAN PANDEMIC PHASES

Table A-9: Canadian Pandemic Phases

To be inserted when available

APPENDIX A-2: VACCINE PRIORITY GROUPS

Vaccine will become available in lots and supply may be limited, therefore priorities for vaccination must be established. When available, vaccine should be distributed in an equitable manner and P/Ts should adhere to similar vaccination protocols.

The Pandemic Influenza Committee (PIC) will identify and prioritize individuals and groups of people to receive vaccine. To support the overall goal of pandemic response, the prioritization process must consider the impact of the vaccine. The priority for vaccination is focused on reducing morbidity and mortality through maintaining the health services response and through individual protection of high risk groups. In addition, this will help minimize societal disruption by maintaining the essential services upon which everyone depends.

Suggested guidelines for the use of influenza vaccine in times of short supply have been developed to provide guidance during the planning process but will need to be reassessed as soon as epidemiologic data on the specific pandemic virus become available.

The table below provides the current vaccine priority groups and allows HAs/HSDAs to estimate the numbers in each group.

Table A-10: Vaccine Priority Groups

Vaccine Priority Group	Estimate
<p>1. Health Care Workers Rationale: The health care sector will be the first line of defence in a pandemic. Maintaining the health service response and the vaccine program is central to the implementation of the response plan in order to reduce morbidity and mortality. Please complete Appendix A-3.</p>	
<p>2. Essential Service Workers Rationale: These persons maintain key community services and the ability to mount an effective pandemic response may be dependent on them being in place. Please complete Appendix A-4.</p>	
<p>3. Persons at High Risk Rationale: Persons most likely to have severe or fatal outcomes following influenza infection should be vaccinated. The National Advisory Committee on Immunization has identified the following high-risk groups for annual vaccine recommendations, but the order of prioritization during a pandemic may vary depending on the specific virus strain. Prioritization will depend on the epidemiology of the disease.</p>	
Persons in nursing homes and in long-term care facilities, homes for elderly (e.g. lodges)	
Persons with high risk medical conditions living independently in the community	
Persons over 65 years of age living independently and not included above	
Infants 6 to 23 months of age	
Poultry workers	

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Vaccine Priority Group	Estimate
Individuals who are capable of transmitting influenza to those at high-risk for influenza related complications, e.g. household contacts, childcare providers to infants aged 0 to 23 months.	
*Pregnant Women - Currently NACI does not consider pregnant women a high-risk group for annual influenza vaccination. In a pandemic, they may be at elevated risk, and PIC will prioritize according to available data. An exception is pregnant women who are expected to deliver during influenza season, as they will become household contacts of their newborn.	
<p>4. Healthy Adults</p> <p>Rationale: This group should be immunized to reduce the likelihood that they will transmit the virus to those at high risk of severe outcomes.</p>	
<p>5. Children (24 Months to 18 Years)</p> <p>Rationale: This group is at the lowest risk of developing severe outcomes from influenza during annual epidemics but play a major role in the spread of the disease.</p>	

APPENDIX A-3: HEALTH CARE WORKER ESTIMATES AS A PRIORITY GROUP FOR VACCINE

One of the groups identified as a priority group for receiving vaccine is health care workers. The health care sector will be the first line of defence in a pandemic. Maintaining the health service response and the vaccine program is central to the implementation of the response plan in order to reduce morbidity and mortality. Immunization of workers will reduce transmission to patients, staff and families within facilities. Health care workers may be considered in the following work settings for the purpose of coordinating immunization programs:

- Acute care hospitals
- Long term care facilities/nursing homes
- Private physicians' offices
- Home care or other community care settings
- Public health offices
- Ambulance staff and paramedics
- Pharmacies
- Laboratories

The following groups, in descending order of priority, are offered as planning guidance but will need to be re-examined at the time of a pandemic alert when epidemiological data about the pandemic virus is available. It is not clear whether workers in health care facilities other than those in the health occupations will be eligible, so please provide these estimates separately.

Table A-11: Health Care Worker and Health Facility Worker Estimates

Priority Health Care Workers	Estimate: Health Occupations Workers	Estimate: Other Workers in Health Facilities
Acute care hospitals		
Long term care facilities/nursing homes		
Private physicians' offices		
Home care and other community care settings		
Public health offices		
Ambulance staff and paramedics		
Pharmacies		
Laboratories		
Non-Priority Health Care Workers (for consideration during vaccination program)	Estimate: Health Occupations Workers	Estimate: Other Workers in Health Facilities
Alternate care sites/triage sites		
Assisted living homes		
Health care students		
Volunteers at any care site		
Community mental health		
Homeless shelters		
Others		

APPENDIX A-4: EMERGENCY AND ESSENTIAL SERVICE WORKER ESTIMATES AS A PRIORITY GROUP FOR VACCINE

One of the groups identified as a priority for receiving vaccine is essential service providers. The ability to mount an effective pandemic response may be highly dependent on these persons being in place to maintain key community services. Each F/P/T and local plan will need to determine their own priorities, but they are likely to include:

- Police
- Fire-fighters
- The armed forces
- Key emergency response decision makers (e.g. elected officials, essential government workers and disaster services personnel)
- Utility workers (water, gas, electricity and essential communications systems)
- Funeral service/mortuary personnel
- Personnel who work with institutionalized populations
- Persons who are employed in public transportation and the transportation of essential goods (such as food)

It is expected that all services will need to develop pandemic influenza contingency plans to deal with worker absenteeism and illness. All services will need to change priorities for service delivery during the pandemic - not all services currently provided would be considered essential during the pandemic.

Table A-12: Essential Service Worker Estimates

Essential Service Workers	Estimate
Police (local/provincial)	
Firefighters (include volunteer firefighters)	
Armed forces	
Key emergency response decision makers	
Municipal/local government emergency services committee members	
Utility workers Water Natural gas Propane Electricity Essential communication systems	
Funeral service/mortuary personnel	
Personnel who work with institutionalized populations including workers at provincial jails (note: federal corrections employees will be included in the federal government essential workers vaccine distribution plan)	
Public transit workers (need to define on a community basis)	
Persons involved in the transportation of essential goods (such as food)	

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Non-Essential Service Workers (for consideration during a vaccination program)	Estimate
Clergy	
Social Service Agencies workers (e.g., soup kitchens)	
Meals on Wheels workers	
Provincial vaccine depot workers and those transporting vaccine	

APPENDIX A-5: ANTIVIRAL PRIORITY GROUPS

Antivirals will likely be the only virus-specific intervention during the initial pandemic response given that vaccine is unlikely to be unavailable in the early months of a pandemic. Current supplies of antivirals both within and outside of Canada are limited.

The following priority groups for the use of anti-influenza drugs in times of short supply should be used for planning purposes during the inter-pandemic period.

The following groups, in descending order of priority, are offered as planning guidance but will need to be re-examined at the time of a pandemic alert when epidemiological data about the pandemic virus is available.

Table A-13: Antiviral Priority Group Estimates

Antiviral Priority Group	Estimate
<p>1. Persons hospitalized for influenza. Rationale: those who are hospitalized within the first 48 hours of onset of illness should be highest priority for treatment (see Annex B, table B-2)</p>	
<p>2. Ill health care and emergency services workers. Rationale: considering the essential role that these groups will have in the pandemic response, influenza cases that are identified within the first 48 hours of onset of illness should be high priority for treatment.</p>	
<p>3. Ill high-risk persons in the community. Rationale: persons with underlying heart and lung conditions or those who are immunocompromised, who present to ambulatory settings within 48 hours of onset of symptoms are at high risk for complications (see Annex B, table B-2).</p>	
<p>4. Health care workers (prophylaxis) Rationale: until an effective vaccine becomes available HCWs are essential to the pandemic response plan and for the care of patients (see Appendix A-3).</p>	
<p>5. High-risk residents of institutions (e.g. nursing homes) Rationale: to control outbreaks and reduce health care demands.</p>	
<p>6. Emergency & essential service workers (prophylaxis) Rationale: to minimize societal disruption by maintaining key community services (see Appendix A-4).</p>	
<p>7. High-risk persons hospitalized for illnesses other than influenza (prophylaxis) Rationale: will be at higher risk of acquiring influenza in hospital.</p>	
<p>8. High-risk persons in the community (prophylaxis) Rationale: a group likely to experience severe illness (see Annex B, table B-3).</p>	
<p>The mass prophylaxis of children to control a pandemic is currently not recommended.</p>	

ANNEX B: ESTIMATING HEALTH IMPACTS

In an influenza pandemic, the BCCDC estimates that between 20% and 50% of the population may become infected, and that 15% to 35% of the population would become clinically ill such that they would be unable to attend work or other activities for at least one and a half a days. The rate of outpatient visits is estimated at 40 to 400 per 1,000 people, the rate of hospitalizations is estimated at 0.2 to 13 per 1,000 people, and the rate of death is estimated at 0.014 to 7.65 per 1,000 people (www.cdc.gov/ncidod/eid/vol5no5/meltzer.htm). This means that in BC during the next pandemic:

- More than three million people will be infected with the virus.
- As many as 1.8 million people will become clinically ill.
- Up to 610,000 people will visit a health care provider.
- Approximately 18,500 people will need hospital care.
- As many as 6,800 people will die from influenza and related complications.

These estimates are based not on a worst-case scenario, but on the impact of the 1957 and 1968 influenza pandemics, which were relatively mild compared with the 1918 pandemic. There is no way to predict the severity of the next pandemic.

To calculate the regional pandemic impact, use the tables below (Table B-1 and Table B-2) and follow these steps:

1. Table B-1, Column 1: Enter your region's age-stratified population into column 1 of Table B-1. Express the numbers in 1,000s (e.g. 100,000 expressed in 1,000s is 100).
2. Table B-1, Columns 2 & 3: Calculate low and high estimates of the numbers of high-risk person in each age group using the following percentages:
 - 0-19 years: 6% to 11% of the total population in this age group.
 - 20-64 years: 14% to 25% of the total population in this age group.
 - 65+ years: 40% to 55% of the total population in this age group.
3. Table B-1, Columns 4 & 5: Calculate low and high estimates of the numbers of other persons (e.g. non-high-risk) in each age group by subtracting the low and high estimates of high-risk individuals from the total population in each age group. For example, for the low estimate for 0-19 year olds (column 4), subtract column 3 from column 1.
4. Table B-2, Column 3 & 4: Use the rates per 1,000 population (columns 1 & 2) and multiply these by the low and high population estimates from Table B-1 to estimate regional impact.

Note that these are population-based estimates and do not take into account individuals who live in one area but travel to another to visit a family physician or to receive hospital or other care. For example, many people who live outside of Vancouver work in Vancouver and therefore have Vancouver-based physicians. Likewise, Vancouver has a greater number of tertiary care hospitals (including BC Children's Hospital) and so the burden borne by Vancouver may be disproportionate to their population. This should be considered in regional plans as possible and as appropriate.

Table B-1: Template for Calculating Population Estimates, High-Risk and Other (Non-High-Risk), by Age

	Column 1	Column 2	Column 3	Column 4	Column 5
Population by age group	Total (in 1,000s)	Number of High-Risk (in 1,000s)		Number of Other Persons (in 1,000s)	
		Low estimate	High estimate	Low estimate	High estimate
0-19 years		(total x 0.06)	(total x 0.11)	(column 1 – 3)	(column 1 – 2)
20-64 years		(total x 0.14)	(total x 0.25)	(column 1 – 3)	(column 1 – 2)
65+ years		(total x 0.40)	(total x 0.55)	(column 1 – 3)	(column 1 – 2)

Source: US CDC. Draft Influenza Planning Guide for State and Local Officials. Version 2.1, Jan 99, table 2.

Table B-2: Template for Calculating Health Care Impact Estimates, High-Risk and Other (Non-High-Risk), by Age

		Column 1	Column 2	Column 3	Column 4
	Age group (yrs)	Rates per 1,000 pop.*		Health Authority cases	
		Lower limit	Upper limit	Lower limit (pop x rate)	Upper limit (pop x rate)
OUTPATIENT VISITS: HIGH-RISK	0-19	289	403		
	20-64	70	149		
	65+	79	130		
OUTPATIENT VISIT: OTHER	0-19	165	230		
	20-64	40	85		
	65+	45	74		
Total outpatient visits					
HOSPITALIZATIONS: HIGH-RISK	0-19	2.1	9.0		
	20-64	0.9	5.1		
	65+	4	13.0		
HOSPITALIZATIONS: OTHER	0-19	0.2	2.9		
	20-64	0.18	2.8		
	65+	1.5	3.0		
Total Hospitalizations					
DEATHS: HIGH-RISK	0-19	0.13	7.65		
	20-64	0.1	5.7		
	65+	2.8	5.6		
DEATHS: OTHER	0-19	0.014	0.13		
	20-64	0.025	0.09		
	65+	0.28	0.54		
Total deaths					

Source: Meltzer, M., Cox, N., and Fukuda, K. 1999. The Economic Impact of Pandemic Influenza in the United States: Priorities for Intervention. Emerging Infectious Diseases vol. 5:5.

Table B-3: BC Provincial Population Estimates, High-Risk and Other (Non-High-Risk), by Age

	Column 1	Column 2	Column 3	Column 4	Column 5
Population by age group	Total (in 1,000s)	Number of High-Risk (in 1,000s)		Number of Other Persons (in 1,000s)	
		Low estimate	High estimate	Low estimate	High estimate
0-19 years	974	58	107	867	916
20-64 years	2637	369	659	1978	2268
65+ years	572	229	315	257	343

Table B-4: BC Provincial Health Care Impact Estimates, High-Risk and Other (Non-High-Risk), by Age

		Column 1	Column 2	Column 3	Column 4
		Rates per 1,000 pop.*		British Columbia cases	
	Age group (yrs)	Lower limit	Upper limit	Lower limit (pop x rate)	Upper limit (pop x rate)
OUTPATIENT VISITS: HIGH-RISK	0-19	289	403	16,762	43,121
	20-64	70	149	25,830	98,191
	65+	79	130	18,091	40,950
OUTPATIENT VISIT: OTHER	0-19	165	230	143,055	210,680
	20-64	40	85	79,120	192,780
	65+	45	74	11,565	25,382
Total outpatient visits				294,423	611,104
HOSPITALIZATIONS: HIGH-RISK	0-19	2.1	9.0	121	963
	20-64	0.9	5.1	332	3,361
	65+	4.0	13.0	916	4,095
HOSPITALIZATIONS: OTHER	0-19	0.2	2.9	173	2,656
	20-64	0.18	2.8	356	6,350
	65+	1.5	3.0	386	1,029
Total Hospitalizations				2,284	18,454
DEATHS: HIGH-RISK	0-19	0.13	7.65	8	819
	20-64	0.1	5.7	37	3,756
	65+	2.8	5.6	641	1,764
DEATHS: OTHER	0-19	0.014	0.13	12	119
	20-64	0.025	0.09	49	204
	65+	0.28	0.54	72	185
Total deaths				819	6,852

Source: Meltzer, M., Cox, N., and Fukuda, K. 1999. The Economic Impact of Pandemic Influenza in the United States: Priorities for Intervention. See <http://www.cdc.gov/ncidod/eid/vol5no5/meltzer.htm#Table%202>

APPENDIX B-1: FLUSURGE

Centers for Disease Control and Prevention, www.cdc.gov/flu/flusurge.htm

FluSurge is a spreadsheet-based model which provides hospital administrators and public health officials with estimates of the surge in demand for hospital-based services during the next influenza pandemic. FluSurge estimates the number of hospitalizations and deaths during an influenza pandemic (pandemic length and virulence are determined by the user) and compares the number of persons hospitalized, the number of persons requiring ICU care, and the number of persons requiring ventilator support during a pandemic with existing hospital capacity.

System Requirements:

- Windows* operating system (MS Windows 2000 or higher)
- Microsoft Excel (MS Office 2000 or higher)
- 486 Pentium processor and at least 128 MB RAM
- 2 MB of hard drive storage space

*MS Windows and Office are copyrighted products produced by Microsoft Corporation, WA. Use of trade names and commercial sources is for identification only and does not imply endorsement by the U.S. Department of Health and Human Services, by the BCCDC or by any other provincial agency.

Instructions for Downloading:

Before loading and starting FluSurge, you must change Excel's security level:

- Open a blank Excel spreadsheet.
- Click Tools and then click Macro, choose Security.
- Set Security Level to Medium.
- Click OK.

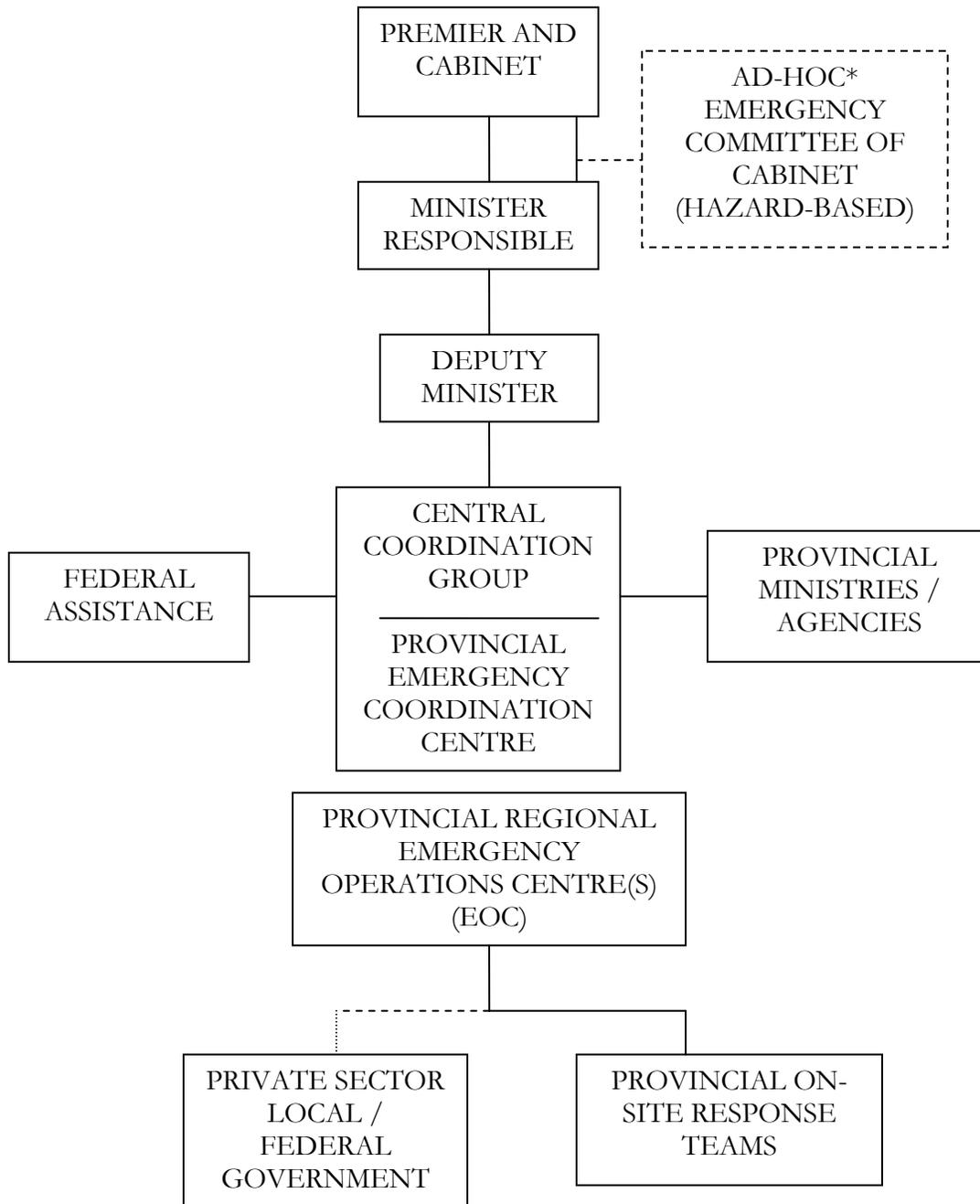
Then download and start FluSurge:

- Double click and open FluSurge file.
- When asked to Disable Macros or Enable Macros, click Enable Macros.

ANNEX C: EMERGENCY RESPONSE GUIDELINES

Pandemic influenza plans are managed, coordinated and operationalized in the same manner and under the same auspices as all BC Provincial Emergency Plans. The following figure outlines BC's Emergency Management structure.

Figure C-1: BC's Emergency Management Structure



*Ad hoc committee may be formed in the event of a severe emergency or catastrophic event.

C.1. Provincial Coordination

The Province of British Columbia has adopted the British Columbia Emergency Response Management System (BCERMS). 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. It provides the framework for a standardized emergency response in BC. For more information, see the BCERMS brochure (http://www.pep.bc.ca/bcerms/bcerms_brochure.pdf).

C.2. Developing Health Authority Emergency Plans

Emergency Operations Basics Overview:

- ❑ Use the all-hazards approach to develop an emergency management framework to plan for and respond to pandemic influenza (see below).
- ❑ Define the roles, responsibilities and location of community resources, such as police, fire, public works and emergency social services.
- ❑ Maintain current telephone and e-mail Emergency Operation Centre (EOC) lists, including local and regional acute care hospitals' emergency departments and local municipal/regional district emergency planners.
- ❑ Update EOC telephone numbers, cellular phone numbers, fax numbers, satellite phone numbers and e-mail addresses on a yearly basis.
- ❑ Periodically update public health emergency callout list(s).
- ❑ Periodically update acute care hospital administrator on-call list(s).
- ❑ Adapt existing disaster management forms to reflect pandemic influenza incident issues.
- ❑ Meet various times throughout each year to update emergency plan(s).
- ❑ Include municipal and/or regional district representatives in the planning process.
- ❑ Develop plans for demobilization after the emergency.

C.3. Planning and Operationalizing the Plan

As indicated in the main body of the BC Pandemic Influenza Preparedness Plan, it is recommended that the following command and control guidelines be used when planning for and responding to a Pandemic. This adaptation of the Hospital Emergency Incident Command System (HEICS) is presently used in many facilities as part of an “all hazards” approach to dealing with large-scale emergencies and disasters. If not already in place, once implemented, this system will help streamline organizational planning and response to large-scale emergencies and disasters. The system can be applied to all hazards, including an influenza pandemic.

The recommended guidelines identify several of the functions necessary when planning for a pandemic. Think of the boxes in the planning organizational chart as “functions” that do not necessarily require one person for each position. Depending on the size of your area and the resources available one person may take on several functions, conversely, some of the functions may require more than one individual.

Organizational Structure

The organizational structure (illustrated in [Figure C-2](#)) shows a chain of command which incorporates four sections (Logistics, Planning, Finance, Operations) under overall leadership of an Emergency Operations Centre (EOC) Director. As required, each of the four sections has a Chief appointed by the EOC Director. The Chiefs, when required, appoint leaders to sub-functions filling various crucial roles. This structure limits the span of control of each position/function in an attempt to distribute the work.

It is strongly recommended that the Health Authority BC Emergency Response Management System (HABCERMS) be utilized as a planning and response management system for various types and magnitudes of emergency events.

The organizational chart ([Chart C-2](#)) has been adapted from HEICS and BCERMS as a guide to assist in planning for and responding to an influenza pandemic. It was developed by John Hill, Emergency Disaster Manager, Vancouver Island Health Authority.

See www.pep.bc.ca for BCERMS details.

See <http://www.emsa.ca.gov/Dms2/heics3.htm> for the latest version of the HEICS.

C.4. Health Authority BC Emergency Response Management System (HABCERMS): Overview of Positions and Functions

Emergency Operations Centre (EOC) Director:

- Initiate health emergency response management system (recommend HABCERMS) by assuming role of EOC Director.
- Organize and direct the HSDA's Emergency Operations Center (EOC).
- Appoint necessary command staff as needed (e.g. Public Information Officer, Liaison Officer, Safety/Security Officer) and necessary Section Chiefs.
- Give overall direction for HSDA operations.
- Receive status report and discuss an initial action plan with command staff and section chiefs.
- Call for a HSDA-wide patient census projection report (Operations).
- Obtain patient census and status (Operations).
- Authorize a patient prioritization assessment for the purpose of designating early discharge to obtain beds for incoming influenza patients (Operations).
- Consult with Section Chiefs on needs for staff and volunteer responders.
- Deliver regular briefings/updates to all EOC staff.
- If requested, provide a health representative to the Provincial Regional Emergency Operations Centre (see Provincial Emergency Program Pandemic Influenza Consequence Management Plan for provincial EOC operational guidelines and staffing requirements).
- Establish roles and reporting relationships which involve agencies from within the same jurisdiction, and under multi-jurisdiction conditions.
- Establish areas of cost sharing.
- Provide for EOC staff rest periods and relief.

Regional Emergency Operations Centre (REOC) Liaison Officer(s)

- Reports to the EOC Director.
- This person/these people are contact person(s) from outside agencies.
- Directs calls to ensure that the appropriate connections are made between internal and external contacts.

Information Officer

- Reports to the EOC Director.
- Prepares information releases (to be approved by the Incident Commander).

Safety and Security Officer

- Reports to the EOC Director.
- Establishes Security Command Post.
- Removes unauthorized persons from restricted areas.
- Establishes ambulance entry and exit routes.
- Ensure security of the EOC, the hospital's triage areas, pharmaceuticals, patient care areas, morgue and other sensitive or strategic areas from unauthorized access.
- Provides vehicular and pedestrian traffic control.
- Secures food, water, medical and blood resources.
- Establishes routine briefings with safety and security staff.

Operations Chief(s) (Care and Prevention Branches)

Depending on the scope of operations within an area, Section Chiefs may be required for Acute Care, Long Term Care and Community Health Programs.

- Reports to the EOC Director.
- As required, appoints Ancillary Services Director, Medical Staff Director, Medical Care Director, and Human Services Director.
- Coordinates and supervises the Clinical Services, Ancillary Services and Human Services subsections.
- Acts as the overall Director of Community Services/Programs, including community mental health services, public health nursing, continuing care, and community facilities.

Ancillary Services Director

- Reports to the Operations Chief.
- Organizes and manages ancillary medical services, including laboratory services, radiology services, pharmacy services, cardiopulmonary services, and respiratory services.
- Assists in providing optimal functioning of these services.
- Monitors the use and conservations of these resources.
- Tracks the ordering and receiving of needed supplies.
- Supervises operations within Ancillary Services when indicated.

Planning Chief

- Reports to the EOC Director.
- Supplies morbidity and mortality data to appropriate authorities. These data include at a minimum the number of hospitalized persons and the number of persons discharged from hospital to home or other facilities, the number of deaths, and individual influenza patient data including name or physical description, sex, age, address and seriousness of condition.

Labour Pool Worker

- Reports to the Planning Chief.
- Is involved with short term planning, e.g. planning staffing issues, soliciting physicians and other hospital personnel to volunteer as disaster services workers outside the hospitals, etc.

Situation Status Worker

- Reports to the Planning Chief.
- Oversees information flow and documentation. This information includes resource tracking, situation status, personnel time sheets, activity logs and emergency incident message forms.

Finance Section Chief

- Reports to the EOC Director.
- Oversees the acquisition of supplies and services and associated costs of pandemic response.
- Supervises the documentation of expenditures relevant to pandemic influenza.

Logistics Chief

- Reports to the EOC Director.
- Ensures necessary supplies and facilities to support the medical objective(s).
- Coordinates the delivery of consumables to healthcare facilities.
- Ensures necessary communication tools are operational.

C.5. Demobilization of Emergency Operations Centres

Prior to demobilization of the REOC, the following tasks must be performed:

- Complete all documentation.
- Complete damage assessment reports.
- Complete operational situation reports.
- Complete documentation necessary to generate post-emergency action reports.
- Implement demobilization of incident resources in an orderly, safe and efficient manner.
- Compile and report recommendations for improvements in emergency services.
- Provide briefing for EOC staff.

Figure C-2: Organizational Structure: Health Authority Emergency Response Guidelines: Health Authority BC Emergency Response Management System (HABCERMS)

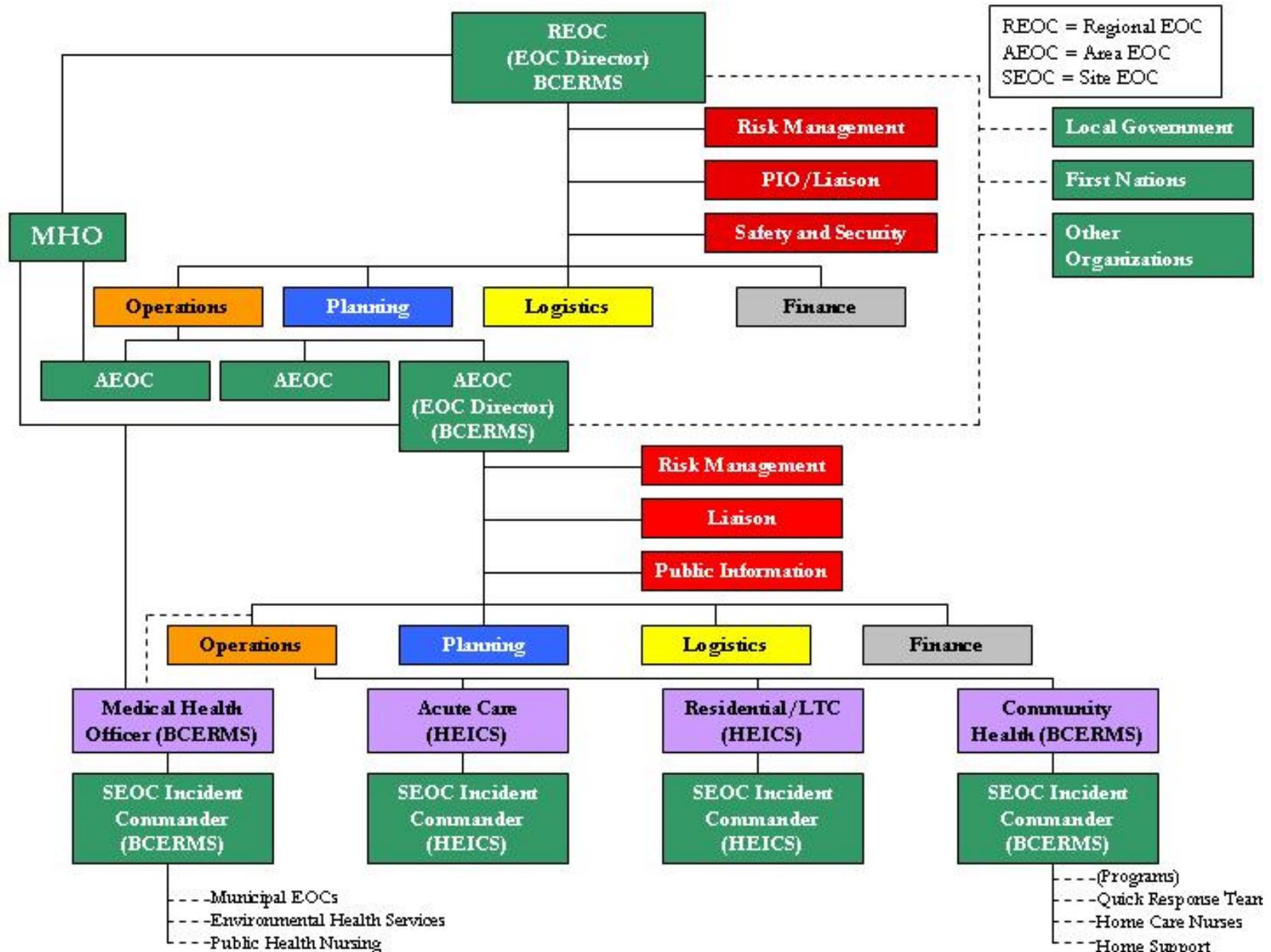
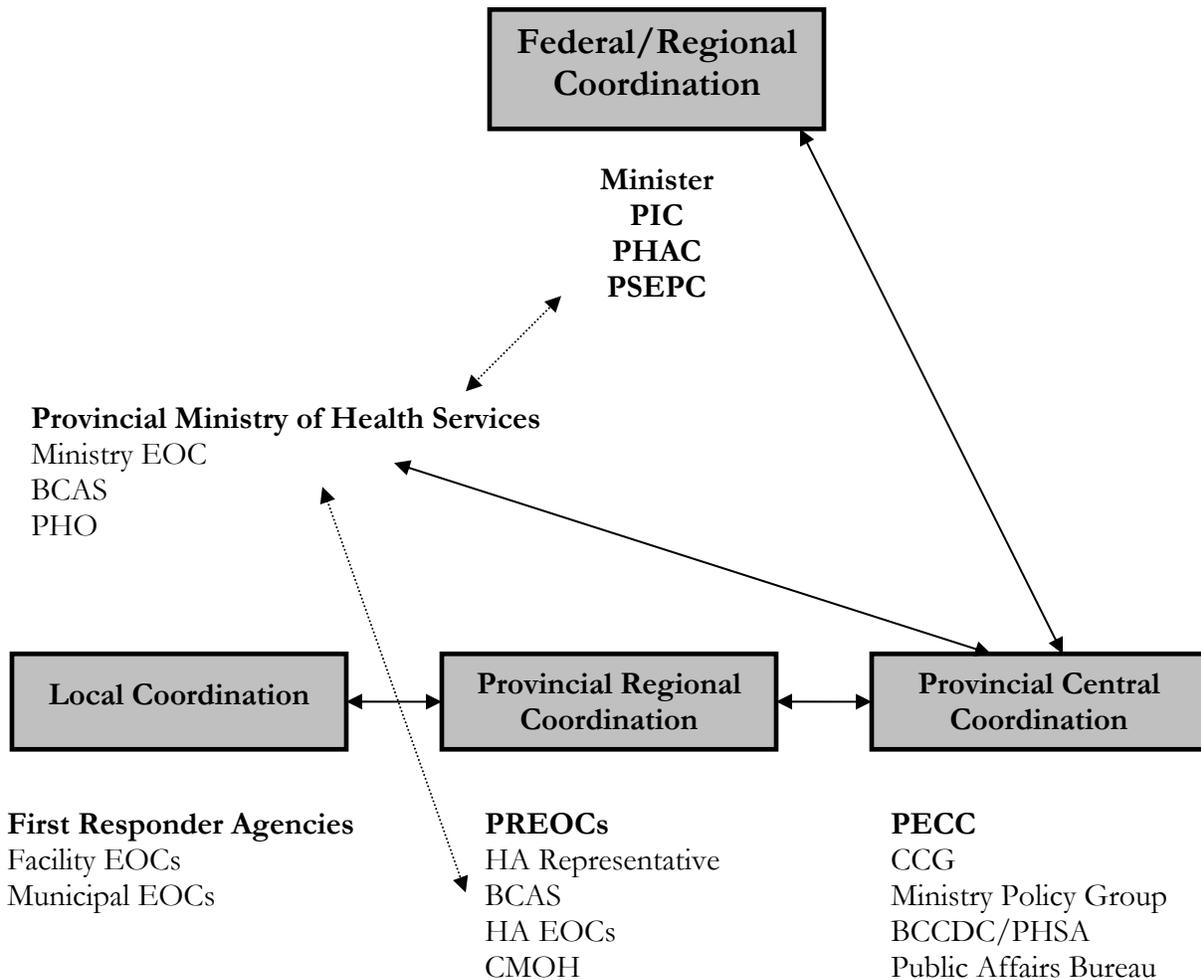


Figure C-3: Pandemic Influenza Response Activity Chart



Legend:
 BCAS: British Columbia Ambulance Service
 BCCDC: British Columbia Centre for Disease Control
 CCG: Central Coordination Group
 CMOH: Chief Medical Office of Health
 EOC: Emergency Operations Centre
 HA: Health Authority
 PECC: Provincial Emergency Coordination Centre
 PHAC: Public Health Agency of Canada
 PHO: Provincial Health Officer
 PHSA: Provincial Health Services Authority
 PIC: Pandemic Influenza Committee
 PREOC: Provincial Regional Emergency Operations Centre
 PSEPC: Public Safety and Emergency Preparedness Canada

Figure C-4: Pandemic Response Activity Flow Chart

This figure is from the BC Pandemic Influenza Consequence Management Plan, page 16
 (http://www.pep.bc.ca/hazard_plans/PI_Consequence_Management_Plan_2004-03.pdf).

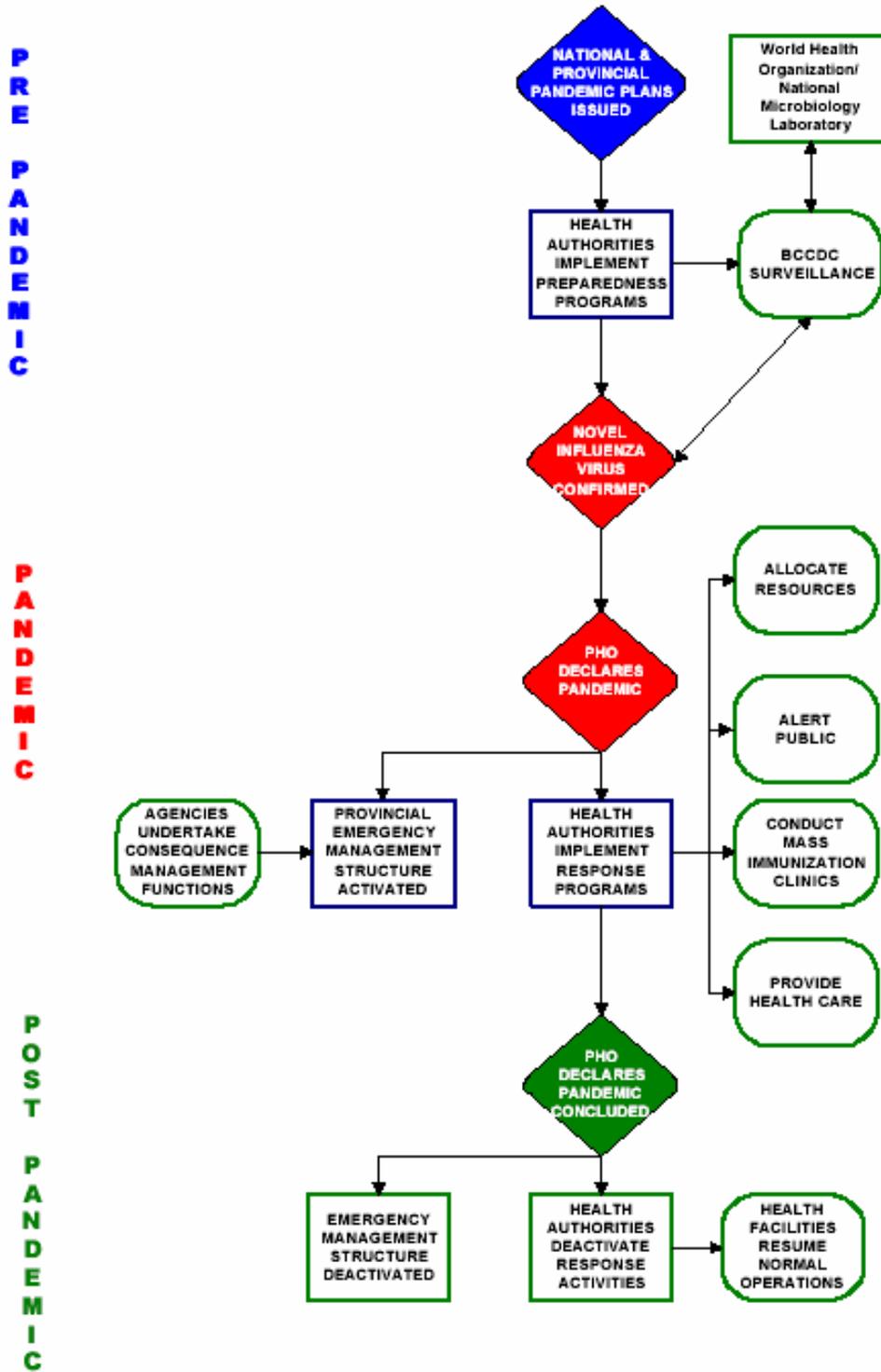


Figure C-5: Provincial Health Emergency Management Structure

Provincial Health Emergency Management Structure

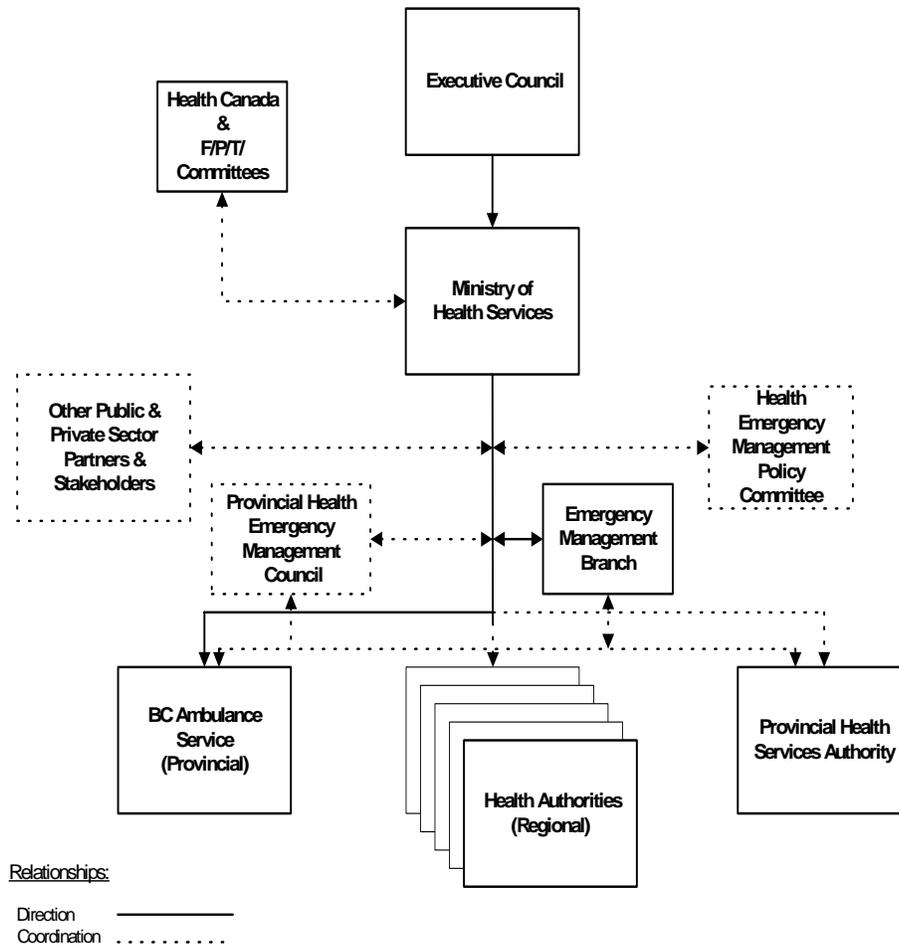


Figure C-6: Outbreak Management Emergency Relationship (Response Phase)

Outbreak Management Emergency Relationships (Response Phase)

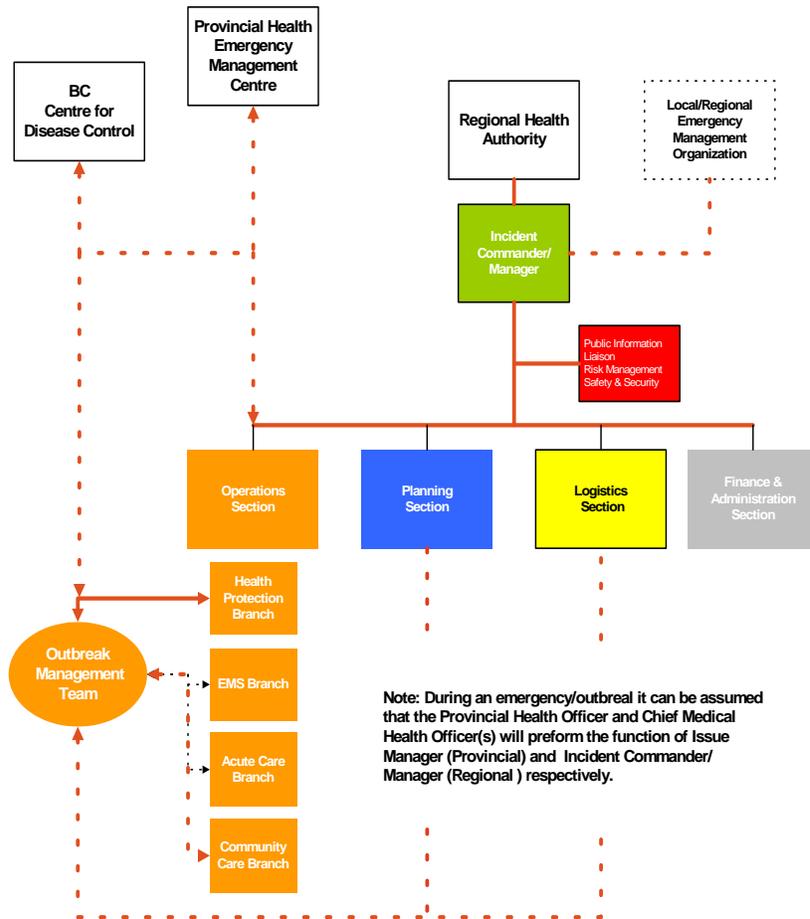
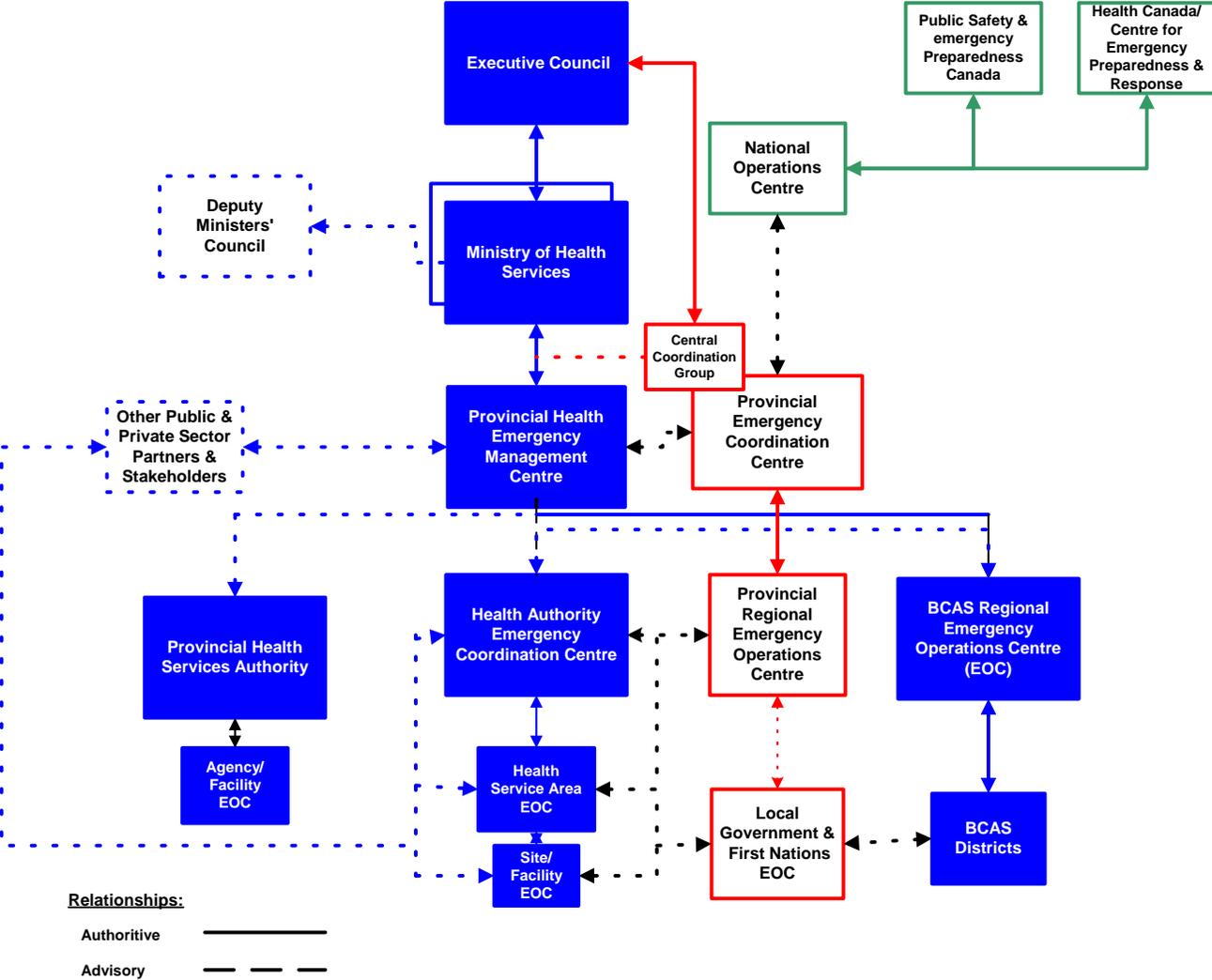


Figure C-7: British Columbia Health Emergency Management Structure



ANNEX D: PLANNING FOR MASS IMMUNIZATION

D.1. Introduction

In the event of an influenza pandemic, there may be a requirement to quickly mobilize public health resources to provide vaccine or antivirals to large numbers of people. Influenza vaccination has long been considered the cornerstone of influenza prevention and control and will also serve as the central preventive strategy during the next pandemic. In a pandemic the aim is to vaccinate the entire population over a period of four months, on a prioritized basis. Previous experience with outbreak related immunization clinics indicates that it would be prudent to prepare for an initial demand of 75% of the target population. The most effective method for achieving this goal and meeting the demand to the greatest extent possible is to offer mass influenza immunization clinics, which allow the immunization of a large number of people over a short time period.

Health Authorities are responsible for planning and implementing mass immunization clinics in their respective geographical catchment areas. This is not a new concept to public health and is a method commonly used to deliver large quantities of vaccine in response to outbreaks. Some Health Authorities will have more experience than others in mass immunization.

This Annex provides detailed guidelines for planning and conducting mass influenza immunization clinics. Other methods of administering influenza vaccine may also be utilized during a pandemic. These guidelines can also be applied to the administration of antivirals in a mass delivery situation, although this will be undertaken under very limited circumstances.

D.2. Mass Clinic Preparation

Planning for Mass Clinics

Planning for mass clinics will be based on the following expectations:

- ❑ The target population for vaccination will be expanded far beyond the typical high-risk groups to encompass, ideally, the entire population.
- ❑ It is likely that vaccine shortages will exist, especially during the early phases of the pandemic. Consideration must be given to flexibility in planning for (a) severe vaccine shortages, (b) moderate vaccine shortages, and (c) no shortages.

Provincial Responsibilities

Provincial responsibilities include setting the vaccine priority groups (see [Appendix A-2](#)) and the priority order. The list will be subject to change, potentially on short notice, depending on the epidemiology and clinical features of the pandemic influenza strain. As well, circumstances may require the addition of specific groups of people in areas where absences due to influenza illness could pose serious consequences in terms of public safety or disruption of essential community services (e.g. air traffic controllers at major airports).

Specific tasks/responsibilities include:

- Set antiviral priority groups (see [Appendix A-5](#)). This list may be subject to change for the reasons listed above.
- Procure the vaccine and antiviral supply.
- Distribute the vaccine and antivirals and set guidelines for its use.
- Set guidelines for security of storage and transport of vaccine and antivirals.
- Set up a system for documentation/tracking and evaluation.
- Determine how many doses of vaccine are needed.
- Determine minimum qualifications/skills for immunizers.
- Prepare education and communication materials for the various stakeholders in multiple languages, as appropriate and as possible.

Health Authority Responsibilities

Leadership:

- Establish a project leader and a project team, with clear roles and responsibilities (see [Appendix D-2](#))

Vaccine/ Antiviral Issues:

- Calculate local vaccine/antiviral amounts required based on population (see [Annex B](#)) and priority groups (see Appendices [A-2](#), [A-3](#), [A-4](#) & [A-5](#)).
- Calculate all support and requirements for obtaining vaccine and antivirals including vaccine storage, cold chain, security, transport, and disposal within the region.
- Set consent policy for immunization/antiviral use including response to refusals from health care workers and first responders.
- Establish contingency plan(s) for those individuals showing up at the clinic who do not qualify for vaccine/antivirals (i.e. cross border issues and/or ineligible).
- Establish a plan for the management of adverse events.
- Establish plans to vaccinate priority groups within hard-to-reach populations, e.g. those with language or cultural barriers, the homeless, and those with mental illness.

Site Selection:

- Determine the number of facilities required to implement mass clinics, and where they can/will be located (consideration to geographic areas, bus routes, size, etc.).
- Establish special transportation arrangements for those with physical disabilities, the frail elderly and for those with transportation difficulties.

Supplies/Equipment:

- Determine the supplies and equipment needed (see [Appendix D-1](#)).
- Identify available suppliers.
- Plan for bio-medical waste management.

Staffing:

- ❑ Determine what programs will be suspended during the pandemic, and therefore whether additional staff will be available.
- ❑ Identify potential staff (medical personnel, volunteers, translators and security staff) within your organization who will be reassigned/recruited to assist with mass clinics (data base recommended).
- ❑ Establish a centralized staff scheduling process and rapid recall system (data base recommended) which includes a contingency plan for when personnel become ill.
- ❑ Identify staff training needs around mass immunization.

Documentation:

- ❑ Set up a system for documentation/tracking and evaluation of vaccine/antiviral uptake, vaccine supplies, and adverse events.

Communication:

- ❑ Develop a communications plan re: mass clinics and key spokespersons.
- ❑ Determine the necessary information and supplies needed, e.g. clinic information/posters, pamphlets, consents, translations, etc.
- ❑ Consider establishing an information hotline and regularly updated websites.
- ❑ Update NurseLine with clinic times and locations.

Mass Immunization Plan Training:

- ❑ The plan should be reviewed by personnel likely to hold the clinic coordination positions; should be exercised periodically, and necessary updates and amendments put into action.
- ❑ Establish evaluation components for the post pandemic period.
- ❑ Include training for security personnel in handling desperate and/or emotional people.

D.3. Mass Clinic Operations

Facilities

The size and type of facilities needed for mass influenza immunization clinics will vary depending on the number of persons to be served. Examples of central locations are local school auditoriums, arenas (without ice), community center gymnasiums, churches and temples, and shopping malls. Necessary amenities include bathrooms, open areas, near bus routes, familiar locations for public, parking capacity and possible refrigeration.

Clinic Operation

See [Annex D, Figure D-2](#) for the Clinic Flow Chart.

Registration:

- Greeters direct vaccine recipients to registration tables.
- Registrars collect data, confirm eligibility and provide information.
- Vaccine recipients are given a number and asked to wait in the holding area.
- Persons with overt signs of illness are directed to a separate room for more in-depth evaluation with a nurse.

Holding Area/Lounge:

- Client reads information.
- Nurses are available to provide additional information and answer questions.

Vaccination:

- Numbers or letters on flags identify immunizing stations. A volunteer calls out the number who is next and directs that individual to the available station.
- Client screened for precautions/contraindications.
- The vaccine is administered and final instructions and documentation completed.
- Clerk maintains supplies and collects data information.
- Recommendation given to wait for 15 minutes in waiting area near the exit.

Post immunization holding area:

- Client remains in holding area for 15 minutes.
- Clients showing adverse reactions are moved to first aid station.

Project Leader/Team Roles:

- Management and Coordination Functions (oversee all clinics).
- Clinic Nurse Director: Gather and brief clinic personnel, operationalize the mass immunization clinic plans.
- Logistics Coordinator: Ensures that all necessary clinic supplies are on site and are available in sufficient quantities during clinic operations, maintains inventory, oversees distribution of supplies.
- Security Coordinator: Ensures supplies are secure, crowd control, signage etc.
- Volunteer Coordinator: Oversees volunteer activity at the clinic sites, maintains rosters of persons available, makes up duty assignments.

Clinical Staff Functions:

- Nurse Team Leader: Ensures clinic is running efficiently, trouble shoots when necessary.
- Volunteers: Greets vaccine recipients, registers them, directs recipients through the clinic process, monitors clinic flow and serves as runner (s).
- Clerks: Collect data; maintain and monitor uptake of supplies.

- ❑ Security Staff: Ensure an orderly flow of traffic and parking at the clinic site, provide necessary control if persons become unruly, maintain security of vaccines and clinic supplies.
- ❑ Nurses: Assess individuals for contraindications and precautions, administer the vaccine, complete documentation, observe vaccine recipients for immediate reaction or complications.

Clinic Layout and Flow:

- ❑ Clinics should have clearly marked entrance and exit points with adequate waiting space.
- ❑ Traffic flow within the clinic should be controlled and follow a logical path from entry to exit.
- ❑ Easy to read signage should be provided to guide people through the clinic process.
- ❑ Registration and waiting areas should be in a separate room from the vaccine administration and first aid stations where possible.
- ❑ The first-aid station should be located as close to the vaccine administration area as possible.

Figure D-1: Clinic Function Chart

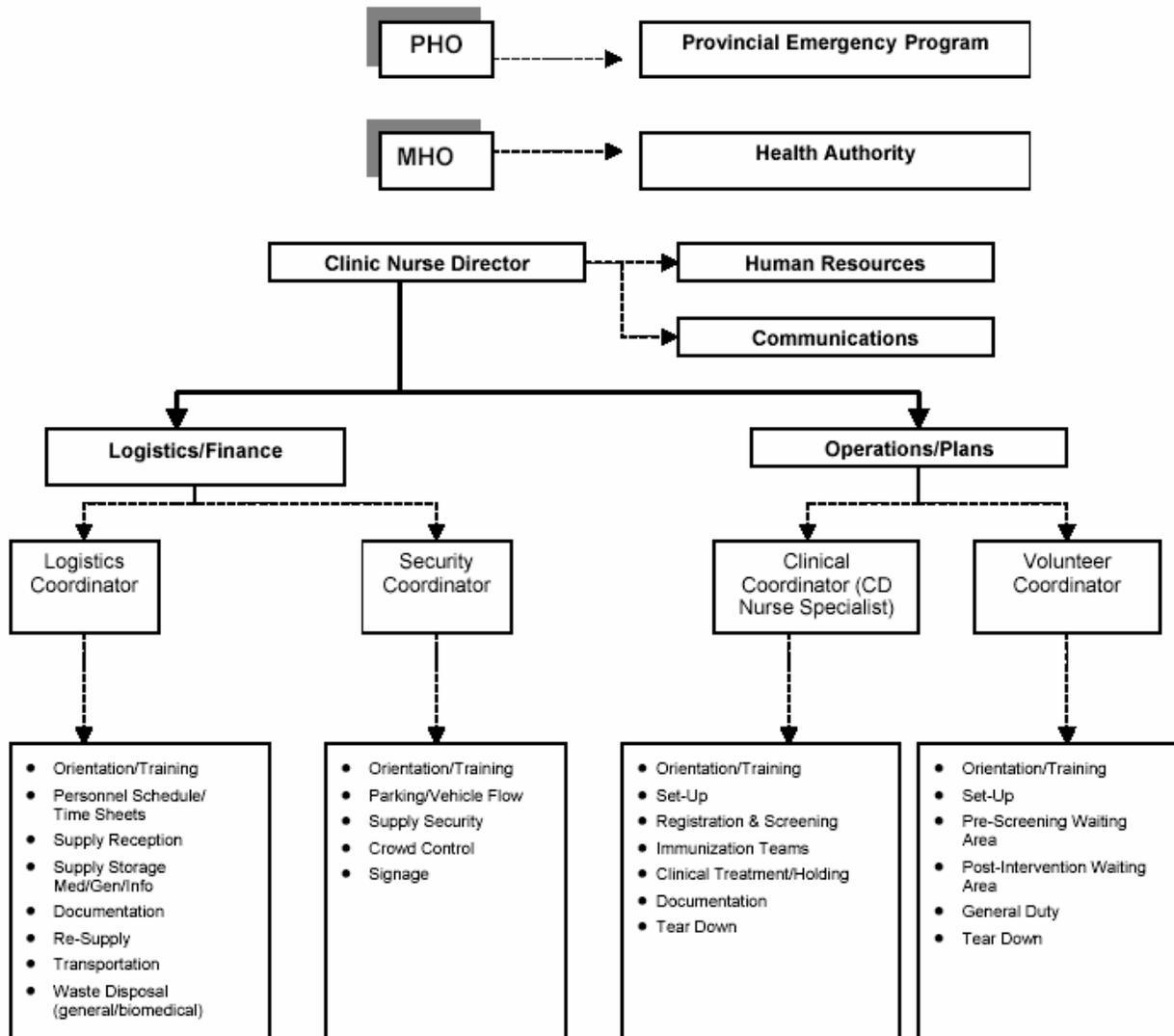
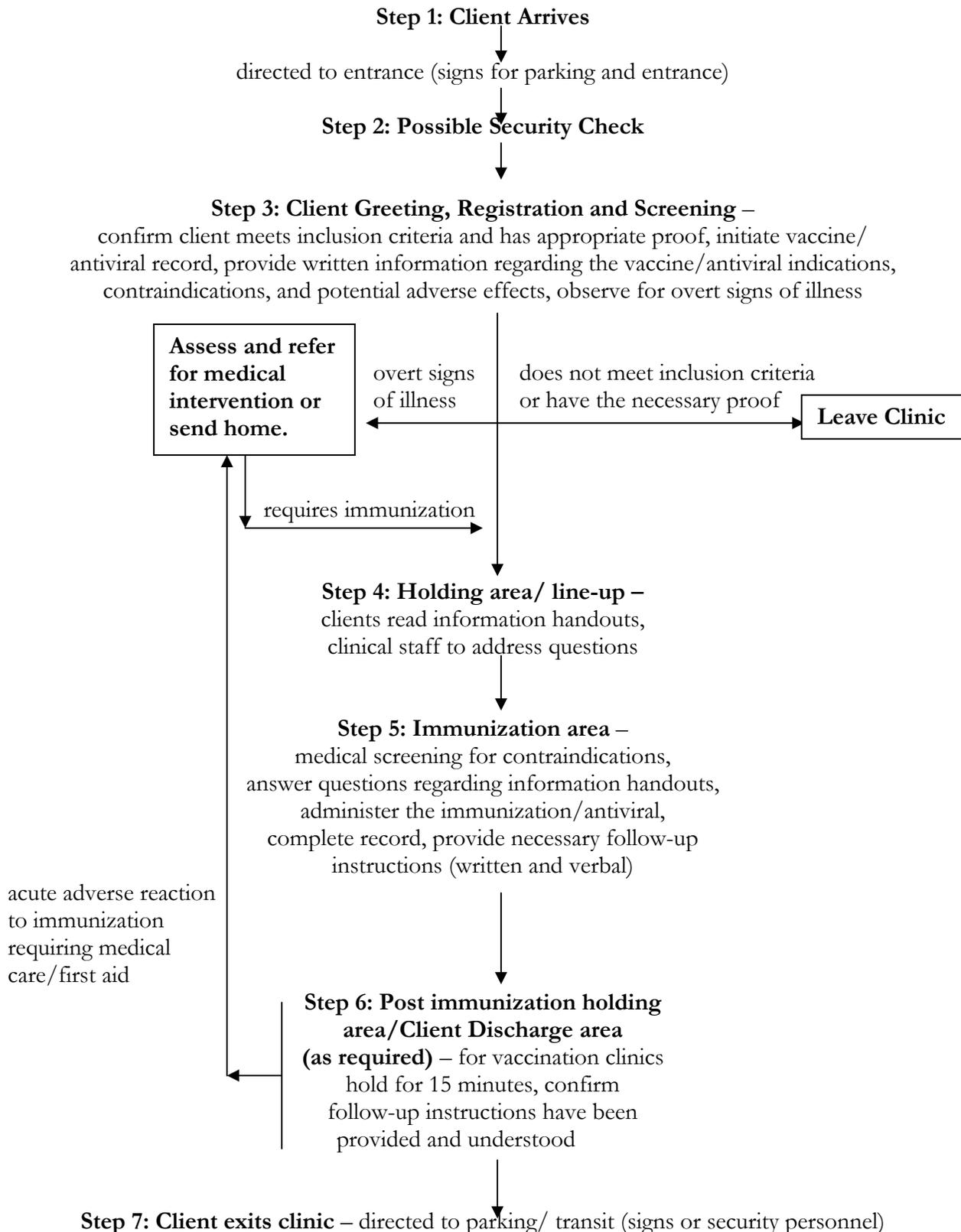


Figure D-2: Clinic/Client Operational Flow Chart



APPENDIX D-1: MASS CLINIC EQUIPMENT LIST “IN-A-BOX”

Equipment requirements will be primarily dependent on the facility selected, the expected clinic capacity, and whether it is vaccine or antivirals being administered. A secure area should be identified for receiving and maintaining supplies and equipment.

The following table should be completed for a clinic with an estimated capacity of 2,500 clients per day in an 8 hour time period. The equipment listed is primarily required for a vaccination clinic, although there is also some included for an antiviral clinic.

Table D-1: Mass Immunization Equipment List

Item	Quantity Required
Medical Supplies/Equipment	
3 cc syringes 1”, 25 gauge needles	
Acetone	
Adhesive tape	
Adult airways	
Alcohol wipes	
Ampoules of diphenhydramine 50 mg IM	
Ampoules of epinephrine 1:1000 SQ	
Antibacterial hand washing solutions	
Blankets	
BP cuff and stethoscope	
Cots/Mats	
Cotton Swabs	
Emesis bags	
Flashlight	
Gloves	
Intravenous supplies	
Needles, 25 gauge 7/8”	
Pediatric airways	
Pillows	
Portable O ₂ with masks and tubing	
Rectangle Band-Aids	
Sharps containers	
Spray bottle of bleach solution	
Tourniquet	
Tuberculin syringes with 5/8” needles (for epinephrine	
Vaccine (doses/day)	
Vaccine cooler/refrigerator (Styrofoam containers and cold packs are adequate for local transport and day use)	
Vaccine information sheets	
For Antiviral Clinics	
Adhesive labels (pre-printed)	

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Item	Quantity Required
Antiviral (client/day x doses/client)	
Medication information sheets	
Pill counting trays and spatulas (automatic pill counter if available)	
Small resealable pouches for pills	
General Supplies and Equipment	
Canteen supplies (e.g., juice, cookies)	
Chairs	
Clipboards	
Cups for water	
Envelopes	
Facial tissue	
File boxes	
Garbage containers	
ID badges for staff (or colour-coded t-shirts, etc.)	
List of emergency telephone numbers	
Paper	
Paper towels	
Pens and pencils	
Portable partitions (or other material to provide a limited number of private areas)	
Post-it notes	
Rubber bands	
Scissors	
Signage	
Stapler and staples	
Table pads and clean paper to cover table for work site	
Tables	
Tape	
Telephone (fixed and mobile)	
Trash bags	
Water	
Training and Communications Equipment	
Computers	
Photocopier paper (perhaps already in facility)	
Printers	
Public announcement system or bullhorn(s)	
Two-way hand-held radios or messaging devices for key personnel and security staff	
VCR/TV (for orientation and training, as necessary)	
Video camera (for orientation and training, as necessary)	

APPENDIX D-2: IMMUNIZATION TEAM “IN-A-BOX”

The concept of a “team in-a-box” can be adapted to meet the needs of the population to be immunized, the size of the immunization facilities, and so on. It has been formulated to immunize 2,500 people per day during an 8 hour shift at one site.

- ❑ 1 Nurse team leader.
- ❑ 20 Nurses: screening, medical assessment, addressing questions, immunizing and medical management of adverse events.
- ❑ 8 Volunteers: 1 greeter, 4 for registration, 2 directing traffic flow, 1 runner.
- ❑ 2 Clerical: 1 to maintain supplies at stations, 1 to collect data.
- ❑ 2 Security people (minimum).

ANNEX E: HEALTHCARE SERVICE PLANNING PRINCIPLES

Much of the information in this Annex comes from the CDC, Guidelines for Utilization of Non-Traditional Settings for Delivery of Medical Care During an Influenza Pandemic – draft 03/23/000, p. 15-18.

E.1. Introduction

During a pandemic or other medical emergency, the province and health authorities may have to call on many additional resources to meet the increased need for medical care. The province or region may need additional health care beds or facilities, additional personnel and other resources. This Annex outlines the general planning principles and actions required to determine possible needs and the best means of meeting those needs.

The agency, authority or facility will appoint an individual or task force (depending on the complexities of the jurisdiction(s) involved) to coordinate and oversee the development and implementation of the guidelines. Use an ethical decision making model to prioritize allocation of resources and patient care.

E.2. Assessment of Facility

Bed Capacity

Conduct an assessment of each facility currently in use (see [Appendix E-2](#)). For each site determine the factors which limit patient care. These might include:

- Emergency department capacity.
- Number of beds.
- Number of intensive care unit beds.
- Quantity of ventilators.
- Space – to separate beds.
- Space and capacity to separate by gender or age.
- Ceiling height, ventilation systems.
- Transportation of patients, staff and public.
- Storage capacity including pharmacy.
- Water and sewage service.
- Disposal/storage of medical waste.
- Kitchen facilities.
- Facilities to lodge and feed staff.
- Morgue capacity.

Supplies

Equipment will be scarce during the pandemic, and unlikely to be stockpiled beforehand. Sharing between agencies may occur at the local level but cannot be depended on as a resource option.

Therefore, it is important to complete and maintain a listing of inventory within each of the facilities.

- ❑ Identify medications that will be used for treatment of influenza complications during the pandemic. Develop strategies for securing these during a pandemic.
- ❑ Address supply chain and transportation issues for staff, equipment and supplies.
- ❑ Determine existing equipment which would be used in the pandemic, such as:
 - Hospital beds, ICU beds.
 - Ventilators.
 - Ready supply or contingency supplies of antibiotics, antiviral agents, needles, syringes.
 - Bronchodilators.
 - Oxygen and oxygen equipment.
 - Blood pressure cuffs, thermometers, pulse oximeters.
 - Hand washing solution, gloves, masks bedding.
 - Body bags and burial supplies.

Work with the federal/provincial governments to prioritize and allocate bulk purchased equipment and supplies.

Source of Supply

Identify sources of extra supplies needed to provide health care.

- ❑ Identify supply chain and transportation issues.
- ❑ Conduct a community-wide space and site resource inventory in conjunction with community emergency planning representatives.
- ❑ Determine the availability of shelters, schools, gymnasiums, nursing homes, daycare centers, and other potential sites for aggregate care.
- ❑ Determine location and availability of vacant land for possible mobile hospital installations.
- ❑ Make arrangements with owners of each facility to use the site, if necessary, to care for ill persons during a pandemic.
- ❑ Conduct an inventory of health care personnel including current and retired MDs, RNs and other nursing personnel, veterinarians, others with medical training and other potential volunteers.
- ❑ Determine sources from which additional staff could be redeployed or acquired during a pandemic, e.g. retired healthcare providers, students and allied disciplines.

Assessment of Pandemic Impact

- ❑ Estimate the number of out-patient visits and hospitalizations that could be expected during a pandemic and determine the extent to which health care organizations might be overwhelmed (see [Annex B](#)).
- ❑ Estimate the shortage of staff in health services and develop strategies to minimize the impact. Consider staff shortages due to illness, sick children, lack of childcare, death.

Security Issues

Plans need to be made to secure the contents of local health care facilities. Due to limited supplies and equipment during the pandemic, their protection from theft and vandalism will be paramount. Plans should be made to ensure that:

- Each health care facility has security services or local police to protect against loss of equipment, medical supplies and drugs during the pandemic.
- Secure storage area(s) are designated for supplies/drugs/equipment.
- Transportation routes to and from health care facilities remain unobstructed.

Care Guidelines

- Develop community-wide guidelines regarding what type of care could be provided at each site and what will trigger activation of these sites.
- Designate an individual to oversee the care provided in each traditional and non-traditional setting. The type of person selected for each site may vary based on the type of care provided. This person should monitor patient flow, maintain a log of patient activity including patient outcome, and monitor availability of supplies.
- Determine how triage will be managed.
- Establish provisions for referral to other health care services.
- Follow infection control procedures outlined in [Annex I](#).
- Define the extent of care that each type of provider can perform according to law/collective agreements, scope of practice and professional standards.
- Ensure that health care providers' liability protection extends to providing care and service in all settings.

E.3. Pandemic Impact on Staffing

Assess the Impact

The pandemic will have a profound affect on staffing, as many more health care workers will be required, but many will be ill or caring for family members who are ill. Planning for staff shortages will be one of the major factors in pandemic planning.

- Assess current numbers of health care workers, home care staff, and their skill levels.
- Estimate impact of pandemic on staffing levels.
- Monitor staffing levels and staffing shortages.
- Follow occupational health recommendations for when staff are to be excluded from work due to influenza.
- Develop staff roles for health care and other essential services to cover essential work and augment areas where additional work is required.
- Assess and maintain a current list of staff that are qualified to work in Critical Care (ICU, PAR, ER, CCU, etc.) to manage the care of ventilated influenza patients and other critically ill patients.

- ❑ Assess availability of auxiliary and ancillary staff required during the pandemic such as: medical students, nursing students, interns and physiotherapy, pharmacy, radiography and pathology services (especially bacteriology and virology).
- ❑ Consider the potential and risk management issues of using people who may be authorized as a back-up workforce e.g. volunteers, retired professionals.
- ❑ Plan to work with community organizations such as St John's Ambulance, Red Cross, and/or Salvation Army.
- ❑ Plan how the facility will function if staff are absent due to influenza disease, fear of getting the disease from patients, or needing to care for sick or dying relatives at home.
- ❑ Support staff through critical incident debriefing, grief counselling, child care support, etc.

Education

- ❑ Assess requirements and provide education to health care providers on the care and management of persons suffering from influenza and its complications.
- ❑ Provide education on infection control practices for influenza.
- ❑ Develop strategies to ensure competency of staff that may be performing new skills.
- ❑ Refer to Federal Clinical Care Guidelines (<http://www.phac-aspc.gc.ca/cpip-pclcpi/pdf-cpip-03/cpip-appendix-g.pdf>).

Care Guidelines

- ❑ Designate a leader who is familiar with the pandemic preparedness plan.
- ❑ Designate alternate sites for delivering care to influenza patients.
- ❑ Develop plans to determine level of care at each site/facility.
- ❑ Develop strategies to set up and staff after-hours assessment sites.
- ❑ Designate a separate assessment/admission/triage area for people with suspected influenza.
- ❑ Develop hospital admission criteria, and determine who is treated where, when, how and by whom.
- ❑ Designate sites where non-influenza conditions will be treated during the pandemic.
- ❑ Evaluate the capacity for home care support, family or volunteer support available for early discharge of influenza patients who can be cared for at home.
- ❑ Identify social services that will be available for emergency foster care for children whose parents have died from influenza during the pandemic.
- ❑ Develop implementation plans for the use of medications during the pandemic.
- ❑ Develop plans for care of the deceased.
- ❑ See Canadian Pandemic Influenza Plan (<http://www.phac-aspc.gc.ca/cpip-pclcpi/>) Annex I (<http://www.phac-aspc.gc.ca/cpip-pclcpi/pdf-cpip-03/cpip-appendix-i.pdf>).

APPENDIX E-1: CRITICAL HOSPITAL OPERATIONS

This list of critical hospital operations includes areas where the demand may increase markedly, but continuing operation is critical. Health authority pandemic plans and facility pandemic plans should consider these areas and determine which are critical in their facility, and how to keep them operational.

Hospital Wide Resources

- Engineering (essential for dealing with breakdowns, maintenance, checking airflow).
- Sewerage.
- Water Supply.
- Medical Gases (essential for the provision of oxygen and medical air).
- Natural gas supply.
- Electricity.
- Security (including antiviral and vaccine security considerations).
- Air conditioning/Air flow (essential for air flow, preventing spread of influenza).
- Maintenance Services.
- Vehicles and Transport.

Hospital Critical Support Services

- Central sterilization.
- Infection Control.
- Pharmacy.
- Information Technology (essential communication tools).
- Communications.
- Laboratory Services.
- Diagnostic Imaging.
- Purchasing.
- Warehouse/Stores.
- Building and Nutrition Services.
- Mortuary Services (in particular storage space, and space capacity for patients who die outside of hospital).

Hospital Units

- | | |
|---|---|
| <input type="checkbox"/> General Unit. | <input type="checkbox"/> Children's/Pediatric Unit. |
| <input type="checkbox"/> Ambulatory Care Units. | <input type="checkbox"/> Obstetrics/Maternity. |
| <input type="checkbox"/> Emergency Department. | <input type="checkbox"/> Special Care Nursery. |
| <input type="checkbox"/> Intensive Care. | <input type="checkbox"/> Oncology. |
| <input type="checkbox"/> Coronary care, Cardiothoracic. | <input type="checkbox"/> Renal Care. |
| <input type="checkbox"/> Medical unit. | <input type="checkbox"/> Mental Health. |
| <input type="checkbox"/> Surgical Unit. | |

APPENDIX E-2: HOSPITAL BED CAPACITY

The following worksheets have been developed to assist health authorities and facilities in planning for an influenza pandemic. They can be used to compliment centralized bed management systems, or can be used on their own to evaluate bed capacity and achieve maximum bed utilization.

As well as the maximum number of beds available, facilities should determine the hours of care needed to staff those beds.

Advance planning should be in place for the likely change in bed acuity.

The estimates from these worksheets can be used in generating FluSurge estimates (see [Appendix B-1](#)).

Table E-1: Evaluating Bed Capacity

Description		Position Title
Who is responsible for collecting the information for this table (should be contained in the facility's emergency plans)?		
Who will have authority and responsibility for applying this information during a pandemic?		
Description	In 72 hours	In 7 days
1. What is the total number of non-ventilated beds, without oxygen, which:		
(a) are currently open and staffed?		
(b) could be available during an emergency if extra short-term resources were available?		
What are the limiting factors (e.g., staffing, equipment, physical space, other)?		
2. What is the total number of non-ventilated beds, with oxygen supply, which:		
(a) are currently open and staffed?		
(b) could be available during an emergency if extra short-term resources were available?		
What are the limiting factors (e.g., staffing, equipment, physical space, other)?		
3. What is the total number of ventilated beds, which:		
(a) are currently open and staffed (total of 1(a) and 2(a) above)?		
(b) could be available during an emergency if extra short-term resources were available (total of 1(b) and 2(b) above)?		

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What are the limiting factors (e.g., staffing, equipment, physical space, other)?		
4. If a directive came to stop all elective surgery/admissions:		
(a) How many beds (total) would become available?		
(b) How many of these beds have oxygen supply?		
(c) How many of these beds are ventilated?		
5. How many extra emergency ventilator beds could your hospital create? (NOTE: consider use of all ventilator capacity, including time-cycled ventilators, anaesthetic machines, CPAP, BiPAP, and the availability of oxygen/suction and air supply, recovery and operating rooms and neuroscience beds.):		
(a) assuming current staffing levels?		
(b) assuming additional resources for staffing?		
What are the limiting factors (staffing, equipment, physical space, other)?		
Total number of beds that could be available (total of 3(a), 3(b), 4(a), 5(b))		
	Yes	No
6. Does your hospital have any excess capacity, such as provision of meals or sterilization capacity, to assist other health care facilities or the community?		
7. Does your hospital have an affiliation with another health care facility which may have extra bed capacity?		
8. If yes to 7. above, is this affiliation with:		
(a) long-term care facility/ies?		
(b) acute detoxification unit(s)?		
(c) rehabilitation facility?		
(d) crisis unit?		
(e) other (please specify)?		

Table E-2: Inventory of Beds (Worksheet)

Type of Bed	Total # of physical beds in facility	# of physical beds with O2 supply	# of currently operating beds (open and staffed)	# of currently operating beds with O2 supply (open and staffed)	Current proportion of elective vs. emergency cases/beds	# of beds able to be staffed using current resources	# of beds, with O2 outlet, for which space would be available, no physical bed available	# of beds, without O2 outlet, for which space would be available, no physical bed available	Comments (e.g. unique equipment, special purpose)
Medical									
Special Medical/ Stepdown									
Surgical									
Special Surgical									
Coronary Care (CCU)									
Intensive Care (ICU)									
Pediatric									
Special Care Nursery (SCN)									
Neonatal ICU (NICU)									
Day Ward									
Recovery Room (PAR)									
Sleep Laboratory									
Closed Wards									
Other									
TOTAL									

Table E-3: Inventory of Ventilators (Worksheet)

Type of Ventilator	Intensive Care	Coronary Care	Special medical/stepdown	Recovery Room	Operating Room	Emergency Department	Storage	In Repair	Sleep Study Laboratory	Physiotherapy	Other
Oxylog											
Bird											
CPAP spont. breathing											
BiPAP spont. breathing											
TOTAL											

Table E-4: Emergency Ventilator Capacity Considerations (Worksheet)

Property	Intensive Care	Coronary Care	High Dependency	Recovery Room	Operating Room	Emergency Department	Neuroscience	Sleep Study Laboratory	Other
Suction									
Oxygen outlet									
Medical air outlet									
Airflow (negative pressure)									
Airflow (positive pressure)									
Room monitoring									
Physical Bed									
Bed space, but no physical bed									
TOTAL									

Table E-5: Beds with Oxygen (Worksheet)

Type of Bed	Acute Care Inpatient	Intensive Care	Emergency Department	Recovery Room	Other
With O2/Suction					
Without O2/Suction					

APPENDIX E-3: OTHER HEALTH SERVICE NEEDS

Other health services will experience a greater than usual demand. These include mortuary services, BC NurseLine and other sources of information, Public Health Units and walk-in medical clinics.

Mortuary Services

During a pandemic, local authorities will have to be prepared to manage additional deaths due to influenza, over and above the number of fatalities from all causes expected during the inter-pandemic period. Within any locality, the total number of fatalities (including influenza and all other causes) occurring during a 6- to 8-week pandemic wave is estimated to be similar to that which typically occurs over six months in the inter-pandemic period.

The Canadian Pandemic Plan has guidelines to assist local planners and funeral directors in preparing to cope with large-scale fatalities due to an influenza pandemic. A number of issues have been identified, which should be reviewed with coroners/medical examiners, local authorities, funeral directors, and religious groups/authorities. See the Canadian Pandemic Influenza Plan, Annex I (<http://www.phac-aspc.gc.ca/cpip-pclcpi/pdf-cpip-03/cpip-appendix-i.pdf>) for more information.

BC NurseLine

BC NurseLine provides health information and advice offered through a toll-free (within BC) telephone line. The lines are staffed by registered nurses 24 hours a day, 7 days a week. A pharmacist is also available 5 p.m. to 9 a.m., 7 days a week. NurseLine should expect increased usage of their services in the event of the pandemic as people call about their symptoms, about self-care options and for advice regarding visiting health care practitioners.

BC HealthGuideOnline and BC HealthFiles are on-line sources of information on health topics that can be publicized to assist the public with self-care and management of symptoms (<http://www.bchealthguide.org/kbaltindex.asp>). A hard copy version of BC HealthGuide is available at no charge to all BC residents.

Public Health Units

Public Health Units can expect increased inquiries about vaccination and treatment. If the Unit conducts immunization clinics, the volume of patients will be much higher during an influenza pandemic than is usual during inter-pandemic influenza seasons.

Walk-In Medical Clinics

Walk-in medical clinics are treatment centres that operate on a first-come, first-served basis and do not require an appointment with the physician. During an influenza pandemic, walk-in clinics should expect increased volume, both from people infected with the influenza virus, and from people suffering from influenza-like illness. This is in addition to the usual patient caseload.

APPENDIX E-4: CRITICAL SUPPLIES

The following table details critical supplies required during the pandemic. Supplies include for requirements for vaccine/antiviral clinics, treatment needs, hand hygiene, etc. Be aware that supplies may be limited, both within the region and from other sources (e.g. other provinces, internationally).

Table E-6: Critical Supplies List

Item	Quantity Required
Medical Supplies/Equipment	
3 cc syringes 1", 25 gauge needles	
Acetone	
Adhesive tape (hypoallergenic and other)	
Adult airways	
Adverse reaction reporting form	
Alcohol hand rinse	
Alcohol wipes	
Ampoules of diphenhydramine 50 mg IM	
Ampoules of epinephrine 1:1000 SQ	
Antibacterial hand washing solutions	
Band-Aids	
Blankets	
Blood pressure cuffs (different sizes)	
Body bags	
Cold packs (sodium, ammonium nitrate, gel packs)	
Consent forms for vaccines	
Cots/Mats	
Cotton balls	
Cotton Swabs	
Disinfecting wipes	
Disposable manual resuscitators	
Disposable tips, catheters, tubing, canisters	
Emesis bags	
Flashlight	
Garbage bags (regular, biohazard, and autoclave bags)	
Gloves (latex and non-latex, all sizes)	
ID bands for patients	
Inline suction catheters	
Intravenous supplies	
IV solutions	
IV tubing	
Liquid soap	
Nasal prongs	

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Item	Quantity Required
Nasopharyngeal swabs	
Needles, 25 gauge 7/8"	
Oxygen masks	
Oxygen tubing	
Oxymeters and probes	
Paper gowns (all sizes)	
Paper table covers	
Paper towels	
Pediatric airways	
Pillows	
Portable O ₂ with masks and tubing	
Portable suction	
Safety glasses	
Sharps containers	
Spray bottle of bleach solution	
Sterile gauze pads	
Stethoscopes	
Surface cleaner and disinfectant	
Surgical/procedure masks	
Syringes	
Testing reagents	
Thermometers (with disposable covers)	
Tourniquet	
Tuberculin syringes with 5/8" needles (for epinephrine)	
Vaccine (doses/day)	
Vaccine cooler/refrigerator (Styrofoam containers and cold packs are adequate for local transport and day use)	
Vaccine information sheets	
Ventilator supplies	
For Antiviral Clinics	
Adhesive labels (pre-printed)	
Antiviral (client/day x doses/client)	
Medication information sheets	
Pill counting trays and spatulas (automatic pill counter if available)	
Small resealable pouches for pills	
General Supplies and Equipment	
Canteen supplies (e.g., juice, cookies)	
Chairs	
Clipboards	
Cups for water	
Envelopes	
Facial tissue	
File boxes	

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Item	Quantity Required
Garbage containers	
ID badges for staff (or colour-coded t-shirts, etc.)	
List of emergency telephone numbers	
Paper	
Paper towels	
Pens and pencils	
Portable partitions (or other material to provide a limited number of private areas)	
Post-it notes	
Rubber bands	
Scissors	
Signage	
Stapler and staples	
Table pads and clean paper to cover table for work site	
Tables	
Tape	
Telephone (fixed and mobile)	
Trash bags	
Water	
Training and Communications Equipment	
Computers	
Photocopier paper (perhaps already in facility)	
Printers	
Public announcement system or bullhorn(s)	
Two-way hand-held radios or messaging devices for key personnel and security staff	
VCR/TV (for orientation and training, as necessary)	
Video camera (for orientation and training, as necessary)	

ANNEX F: MUNICIPAL/LOCAL GOVERNMENT PLANNING CONSIDERATIONS

F.1. Introduction

Municipalities and regional districts within a health authority should develop consequence management guidelines and procedures for health emergencies. The purpose of these guidelines is to enable local government(s), working in conjunction with the health authorities to maintain the continuity of essential services and support to residents. Local government all-hazard emergency response plans will provide general guidance.

The health authorities, local governments, local first responder agencies (e.g. police, fire), emergency social services, emergency health services, and local non-governmental organizations all have roles and responsibilities in terms of developing and supporting these local emergency response plans.

F.2. Health Authority Roles and Responsibilities for Municipal/Local Pandemic Influenza Planning and Response

- ❑ The health authority, under the leadership of the Medical Health Officer (MHO) is responsible for developing a Pandemic Influenza Contingency Plan.
- ❑ The health authority, through the MHO, will take the lead in providing advice and counsel to local governments' emergency services.
- ❑ The MHO will take whatever steps are reasonably possible to suppress the disease and protect the public as described in the *Health Act*.
- ❑ Whenever possible, the MHO will provide staff to the local government Emergency Operations Centre(s) (EOC).
- ❑ In the event of staff and resource shortages, regional staff will be accessed through the health authority EOC.

Table F-1: Health Authority Roles and Responsibilities for Municipal/Local Pandemic Planning and Response

Stage	Response	Status/Comments
Pre-Pandemic	<ul style="list-style-type: none"> <input type="checkbox"/> Evaluate adequacy of existing local infrastructure to respond to an influenza pandemic. <input type="checkbox"/> Work in conjunction with health service providers, employers, and municipalities to improve annual influenza vaccination levels. <input type="checkbox"/> Review current plans for mass vaccination campaigns. <input type="checkbox"/> Determine availability of alternate sites (see Annex J). <input type="checkbox"/> Identify facilities/resources with sufficient refrigerated storage to serve as temporary morgues. <input type="checkbox"/> Devise a plan for distribution and administration of vaccine to public. <input type="checkbox"/> Educate staff about the nature and significance of pandemic influenza and the local response. <input type="checkbox"/> Work with local private and volunteer organizations to develop and synchronize local response to a pandemic influenza. <input type="checkbox"/> Coordinate pandemic influenza planning with municipal/regional district partners. <input type="checkbox"/> In conjunction with the local emergency response agencies, establish a list of public buildings and review the benefits and disadvantages of closure of those public facilities in the interest of public health. 	
Novel Influenza Strain Identified	<ul style="list-style-type: none"> <input type="checkbox"/> Monitor reports from WHO, CDC. <input type="checkbox"/> Notify appropriate local agencies/staff of alert and provide updates. 	
Pandemic: Human to Human Transmission Confirmed in Other Region(s)	<ul style="list-style-type: none"> <input type="checkbox"/> Report to or send designate to municipal EOC to provide a briefing and receive status reports from partner agencies. <input type="checkbox"/> Activate emergency plans, as required. <input type="checkbox"/> Plan for implementation of alternate care sites. <input type="checkbox"/> Plan for implementation of counselling/psychiatric support services. <input type="checkbox"/> Implement health education campaign with emphasis on following: hand washing, stay home rather than be exposed to/spread the influenza virus, check on family and friends living alone, location of vaccination clinics, signs and symptoms of influenza. <input type="checkbox"/> Review list of alternate care facilities with municipal planners and emergency social services. <input type="checkbox"/> Attend EOC briefings and provide regular updates to the local Government. 	

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Stage	Response	Status/Comments
Pandemic: Confirmation of Arrival in Canada (First Wave)	<ul style="list-style-type: none"> <input type="checkbox"/> Activate health authority pandemic plan. <input type="checkbox"/> Report to municipal EOC to provide a briefing and to receive status reports from partner agencies. <input type="checkbox"/> Increase public information effort designed to keep ill persons at home. <input type="checkbox"/> Implement alternate care sites as necessary to respond to overwhelming caseload. <input type="checkbox"/> Attend EOC briefings and provide regular updates to the municipality. 	
Recovery	<ul style="list-style-type: none"> <input type="checkbox"/> Ensure all safety and health issues have been identified and resolved. <input type="checkbox"/> With local government, review and revise plans based on lessons learned. 	
Pandemic: Second Wave	<ul style="list-style-type: none"> <input type="checkbox"/> Continue immunization efforts in lower risk groups as vaccine becomes available. <input type="checkbox"/> Consider need to re-immunize depending upon period between waves. <input type="checkbox"/> Review and revise plans as necessary. <input type="checkbox"/> Monitor resources and staffing requirements. 	

F.3. Municipal/Local Government Roles and Responsibilities for Pandemic Influenza Planning and Response

Priorities

In the face of an influenza pandemic, the municipality, in consultation with the local health authority, will activate the necessary contingency plans and set priorities for:

- Continuing local government.
- Maintaining public safety services (e.g., fire and police).
- Maintaining essential public works and municipal services such as water treatment/delivery, waste management, garbage disposal and utilities.
- Providing local information and advice to the public via regular announcements, when appropriate (i.e., for information not being coordinated and provided provincially by BCCDC/MOHS or by the health authority).
- Closing public buildings where it is deemed to be in the best interests of public safety and to minimize the spread of infection.
- Cooperating with the local health authority to establish alternative care facilities and triage centers as requested by the health authority to facilitate public immunization and healthcare provision in non-traditional settings.
- Initiating a committee of local business persons with the task of activating their mutual aid pacts to assist one another in maintaining a level of service to the community, particularly those services involving access to pharmaceuticals, retail food purchases, gasoline and other commerce deemed necessary.

Municipal Emergency Operations Centre (EOC)

Upon notification from the local health authority of a pandemic alert, when preparations to respond to an influenza pandemic need to be implemented the municipal or local government will activate the EOC at the appropriate level. Staff representing the health authority (MHO or designate) will report to the EOC to provide a briefing of the situation.

As the pandemic escalates, the functions of the EOC will need to become more aggressive in responding to the seriousness of the situation. This will require communication between the health authorities and local government(s).

The municipal/local government will coordinate the municipal/local response.

Table F-2: Municipal/Local Government Roles and Responsibilities for Municipal/Local Pandemic Planning and Response

Stage	Response	Status/Comments
Pre-Pandemic	<ul style="list-style-type: none"> <input type="checkbox"/> Establish plans and procedures to support health authority initiatives to prepare for a pandemic. <input type="checkbox"/> Develop a program, in conjunction with the health authority, to facilitate routine, annual influenza vaccination of staff. <input type="checkbox"/> Establish a list of public buildings and review the benefits and disadvantages of closure of those public facilities in the interest of public health, in conjunction with the health authority. <input type="checkbox"/> Ensure that areas of responsibility essential for maintenance of government have been backed up so that appropriate designated personnel can take over management in case of absence due to illness. <input type="checkbox"/> Review mutual aid agreements with neighbouring communities to share personnel capable of managing and maintaining essential services. <input type="checkbox"/> Review and confirm availability of facilities for alternate care, triage, cremation, refrigeration, with health authority and Coroners' Services. <input type="checkbox"/> Arrange and facilitate a meeting with the local Chamber of Commerce and local business leaders regarding the need for mutual aid support between businesses. 	
Novel Influenza Strain Identified	<ul style="list-style-type: none"> <input type="checkbox"/> Monitor reports from CDC and the Public Health Agency of Canada (PHAC). Updates will be given to staff as necessary. 	

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Stage	Response	Status/Comments
<p>Pandemic: Human to Human Transmission Confirmed in Other Region(s)</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Advise chief elected official and council. <input type="checkbox"/> Activate the EOC. <input type="checkbox"/> Provide a briefing to all EOC members. <input type="checkbox"/> Consider obtaining declaration of local state of emergency, if necessary. <input type="checkbox"/> Be prepared to respond to media inquiries regarding the outbreak. <input type="checkbox"/> Post information on appropriate websites. <input type="checkbox"/> Plan for implementation of mass clinics and alternate care sites. <input type="checkbox"/> All areas will implement plans for procedures to address supply and personnel shortfalls. <input type="checkbox"/> Plan with health authority for the implementation of a ESS Reception Centre to provide social service and mental health assistance. <input type="checkbox"/> Plan for implementation with utilization of ESS Reception Centre(s). <input type="checkbox"/> Arrange for the local Chamber of Commerce to meet with businesses to ensure continuity of services. <input type="checkbox"/> Working with the health authority, ensure that self-help guidelines are distributed to businesses and public. <input type="checkbox"/> Meet with representatives of local businesses to ensure essential businesses remain open. <input type="checkbox"/> Confirm arrangements with local funeral directors for burial plots, cremation, and refrigeration. <input type="checkbox"/> Confirm security arrangements for facilities to be used for mass clinics and health care. <input type="checkbox"/> Alert neighbourhood watch or other community based response organizations. <input type="checkbox"/> Consult with the health authority on the need to close public buildings and cancel public events. <input type="checkbox"/> Consult with the health authority on the need for control of movement of people and commodities in and out of the community. <input type="checkbox"/> Continue with updates and briefing with EOC personnel. 	

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Stage	Response	Status/Comments
Pandemic: Confirmation of Arrival in Canada (First Wave)	<ul style="list-style-type: none"> <input type="checkbox"/> Activate EOC (if not already activated) and operate, as needed. <input type="checkbox"/> Declare a local state of emergency (if necessary). <input type="checkbox"/> Respond to media inquiries regarding the outbreak. <input type="checkbox"/> Increase public information effort designed to keep ill persons at home. <input type="checkbox"/> If police, fire, ambulance mutual aid is overwhelmed, request military assistance from provincial level. <input type="checkbox"/> Implement alternate care sites, as necessary, to respond to overwhelming caseload. <input type="checkbox"/> Ensure transportation available to those individuals unable to transport themselves to access treatment and/or immunization. <input type="checkbox"/> Determine availability of burial plots and assign staff/crews to assist local funeral homes with tasks associated with burial and/or cremation. <input type="checkbox"/> Continue with updates and briefing with EOC personnel. 	
Recovery	<ul style="list-style-type: none"> <input type="checkbox"/> Coordinated support services with health authorities for persons impacted by the influenza pandemic through the ESS Reception Centre. <input type="checkbox"/> Review, evaluate and assess impact of municipal pandemic response. <input type="checkbox"/> Monitor and redistribute resources, as appropriate. 	
Pandemic: Second Wave	<ul style="list-style-type: none"> <input type="checkbox"/> Receive notification from health authority. <input type="checkbox"/> Notify mayor and council. <input type="checkbox"/> Activate or escalate activation of EOC as required. 	

F.4. Local Government Communications/Public Information Leader(s) Roles and Responsibilities for Municipal/Local Pandemic Influenza Planning and Response

The local government communications department(s) and/or public information leader(s) ensures that information about the influenza pandemic and the pandemic response are delivered to communities and staff within the health authority municipalities and to the appropriate levels of government.

Table F-3: Local Government Communications/Public Health Information Leader(s) Roles and Responsibilities for Municipal/Local Pandemic Planning and Response

Stage	Response	Status/Comments
Pre-Pandemic	<ul style="list-style-type: none"> <input type="checkbox"/> Work with health authority and local emergency services agencies to develop contingency communications templates and plans for pandemic influenza. <input type="checkbox"/> Encourage agency personnel to receive annual influenza vaccine. <input type="checkbox"/> Raise public awareness of pandemic influenza, the importance of hand washing, vaccination, and self-care. <input type="checkbox"/> Ensure all essential positions are backed up with an alternate. <input type="checkbox"/> Review current emergency plans and extract all relevant sections that may be used for pandemic planning. <input type="checkbox"/> Develop tools and networks for effective and efficient communication to mitigate the effects of pandemic influenza. 	
Novel Influenza Strain Identified	<ul style="list-style-type: none"> <input type="checkbox"/> The health authority will monitor reports from CDC and the Public Health Agency of Canada (PHAC). Updates will be given to staff as necessary. 	
Pandemic: Human to Human Transmission Confirmed in Other Region(s)	<ul style="list-style-type: none"> <input type="checkbox"/> Designate to report to municipal EOC, if activated. <input type="checkbox"/> Review contingency plans for pandemic influenza. <input type="checkbox"/> Prepare media briefings in conjunction with local health authority. <input type="checkbox"/> Liaise with health authority to coordinate distribution of self-help information to general public. <input type="checkbox"/> Activation of Declaration of Local State of Emergency Notification Procedure, when necessary. <input type="checkbox"/> Review plans to establish a 1-800 line and updates on municipal websites. 	

Stage	Response	Status/Comments
Pandemic: Confirmation of Arrival in Canada (First Wave)	<ul style="list-style-type: none"> <input type="checkbox"/> Designate to report to municipal EOC. <input type="checkbox"/> Media given regular up-to-date information. <input type="checkbox"/> Activation of Declaration of Local State of Emergency Notification Procedure, when necessary. <input type="checkbox"/> Liaise with health authority to coordinate distribution of self-help information to general public. <input type="checkbox"/> Monitoring media for correct information. <input type="checkbox"/> Ensure websites, phone lines, etc. are kept current. <input type="checkbox"/> Apprise EOC of critical gaps in ability to provide communications updates. 	
Recovery	<ul style="list-style-type: none"> <input type="checkbox"/> Assess ability to resume normal provision of services. <input type="checkbox"/> Report results of assessment to EOC. <input type="checkbox"/> Review and revise plans, as necessary. 	
Pandemic: Second Wave	<ul style="list-style-type: none"> <input type="checkbox"/> Review, evaluate and modify pandemic response, as needed. <input type="checkbox"/> Monitor staff and resource requirements. 	

F.5. Police Service/RCMP Roles and Responsibilities for Municipal/Local Pandemic Influenza Planning and Response

The police and/or RCMP provide security for the protection of lives, public and private property and they assist in the evacuation of buildings and sites as authorized to do so in support of the health authority and municipal/local pandemic influenza response.

Table F-4: Police Services/RCMP Roles and Responsibilities for Municipal/Local Pandemic Planning and Response

Stage	Response	Status/Comments
Pre-Pandemic	<ul style="list-style-type: none"> <input type="checkbox"/> Work with health authority and local emergency services agencies to develop contingency plans for pandemic influenza. <input type="checkbox"/> Encourage agency personnel to receive annual influenza vaccine. <input type="checkbox"/> Establish a registry of former and retired personnel and suitable volunteers. <input type="checkbox"/> Ensure all essential positions are backed up with an alternate. <input type="checkbox"/> Review current emergency plans and extract all relevant sections that may be used for pandemic planning. 	
Novel Influenza Strain Identified	<ul style="list-style-type: none"> <input type="checkbox"/> The health authority will monitor reports from CDC and the Public Health Agency of Canada (PHAC). Updates will be given to staff as necessary. 	

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Stage	Response	Status/Comments
Pandemic: Human to Human Transmission Confirmed in Other Region(s)	<ul style="list-style-type: none"> <input type="checkbox"/> Designate to report to municipal EOC, if activated. <input type="checkbox"/> Review contingency plans for pandemic influenza. <input type="checkbox"/> Prepare for providing security for vaccination clinics. 	
Pandemic: Confirmation of Arrival in Canada (First Wave)	<ul style="list-style-type: none"> <input type="checkbox"/> Designate to report to municipal EOC. <input type="checkbox"/> Implement contingency plans. <input type="checkbox"/> Cease non-essential services. <input type="checkbox"/> Apprise EOC of critical gaps in ability to provide essential services. <input type="checkbox"/> Enforce any travel restrictions in and out of the community. <input type="checkbox"/> Control traffic to facilitate movement of emergency vehicles. <input type="checkbox"/> Provision of security for mass vaccination clinics. <input type="checkbox"/> Provision of security for vaccine. 	
Recovery	<ul style="list-style-type: none"> <input type="checkbox"/> Assess ability to resume normal provision of emergency essential services. <input type="checkbox"/> Report results of assessment to EOC. <input type="checkbox"/> Review and revise plans, as necessary. 	
Pandemic: Second Wave	<ul style="list-style-type: none"> <input type="checkbox"/> Review, evaluate and modify pandemic response, as needed. <input type="checkbox"/> Monitor staff and resource requirements. 	

F.6. Fire Department Roles and Responsibilities for Municipal/Local Pandemic Influenza Planning and Response

Fire departments assist other emergency services, as required to support the health authority and municipal/local pandemic influenza response.

Table F-5: Fire Department Roles and Responsibilities for Municipal/Local Pandemic Planning and Response

Stage	Response	Status/Comments
Pre-Pandemic	<ul style="list-style-type: none"> <input type="checkbox"/> Work with health authority and local emergency services agencies to develop contingency plans for pandemic influenza. <input type="checkbox"/> Encourage agency personnel to receive annual influenza vaccine. <input type="checkbox"/> Establish a registry of former and retired personnel and suitable volunteers. <input type="checkbox"/> Ensure all essential positions are backed up with an alternate. <input type="checkbox"/> Review current emergency plans and extract all relevant sections that may be used for pandemic planning. 	
Novel Influenza Strain Identified	<ul style="list-style-type: none"> <input type="checkbox"/> The health authority will monitor reports from CDC and the Public Health Agency of Canada (PHAC). Updates will be given to staff as necessary. 	
Pandemic: Human to Human Transmission Confirmed in Other Region(s)	<ul style="list-style-type: none"> <input type="checkbox"/> Report to EOC, as directed by municipality/regional district. <input type="checkbox"/> Review contingency plans for pandemic influenza. 	
Pandemic: Confirmation of Arrival in Canada (First Wave)	<ul style="list-style-type: none"> <input type="checkbox"/> Designate to report to municipal EOC. <input type="checkbox"/> Implement contingency plans. <input type="checkbox"/> Cease non-essential services. <input type="checkbox"/> Apprise EOC of critical gaps in ability to provide emergency services. 	
Recovery	<ul style="list-style-type: none"> <input type="checkbox"/> Assess ability to resume normal provision of essential services. <input type="checkbox"/> Report results of assessment to EOC. <input type="checkbox"/> Review and revise plans, as necessary. 	
Pandemic: Second Wave	<ul style="list-style-type: none"> <input type="checkbox"/> Review, evaluate and modify pandemic response, as needed. <input type="checkbox"/> Monitor staff and resource needs. 	

F.7. Community Emergency Social Services Roles and Responsibilities for Municipal/Local Pandemic Influenza Planning and Response

Community emergency social services will be the local resource expert in the establishment of Reception Centres, alternative care centres, and triage areas as appropriate in support of the health authority and municipal/local pandemic influenza response.

Table F-6: Community Emergency Social Services Roles and Responsibilities for Municipal/Local Pandemic Planning and Response

Stage	Response	Status/Comments
Pre-Pandemic	<ul style="list-style-type: none"> <input type="checkbox"/> Work with health authority and local emergency services agencies to develop contingency plans for pandemic influenza. <input type="checkbox"/> Encourage agency personnel to receive annual influenza vaccine. <input type="checkbox"/> Establish a registry of former and retired personnel and suitable volunteers. <input type="checkbox"/> Ensure all essential positions are backed up with an alternate. <input type="checkbox"/> Review current emergency plans and extract all relevant sections that may be used for pandemic planning. 	
Novel Influenza Strain Identified	<ul style="list-style-type: none"> <input type="checkbox"/> The health authority will monitor reports from CDC and the Public Health Agency of Canada (PHAC). Updates will be given to staff as necessary. 	
Pandemic: Human to Human Transmission Confirmed in Other Region(s)	<ul style="list-style-type: none"> <input type="checkbox"/> Designate to report to municipal EOC, if activated. <input type="checkbox"/> Review contingency plans for pandemic influenza. <input type="checkbox"/> Plan for implementation of alternate care sites. <input type="checkbox"/> Plan for utilization of ESS Reception Centre(s) to provide social service and mental health assistance. 	
Pandemic: Confirmation of Arrival in Canada (First Wave)	<ul style="list-style-type: none"> <input type="checkbox"/> Designate to report to municipal EOC. <input type="checkbox"/> Implement contingency plans. <input type="checkbox"/> Implement alternate care sites, as necessary, to respond to overwhelming caseload in consultation with health authority. <input type="checkbox"/> Apprise EOC of critical gaps in ability to provide essential social services. <input type="checkbox"/> Determine support needed for orphaned children and the need for grieving and counselling services. 	
Recovery	<ul style="list-style-type: none"> <input type="checkbox"/> Assess ability to resume normal provision of social services. <input type="checkbox"/> Report results of assessment to EOC. <input type="checkbox"/> Assist in the implementation of an ESS Reception Centre. <input type="checkbox"/> Review and revise plans, as necessary. 	

Stage	Response	Status/Comments
Pandemic: Second Wave	<input type="checkbox"/> Review, evaluate and modify pandemic response, as needed. <input type="checkbox"/> Monitor staff and resource requirements.	

F.8. Community Emergency Health Services Roles and Responsibilities for Municipal/Local Pandemic Influenza Planning and Response

Community emergency health services coordinates emergency medical services including medevac and establishes and maintains communication with the health authority in support of the health authority and municipal/local pandemic influenza response.

Table F-7: Community Emergency Health Services Roles and Responsibilities for Municipal/Local Pandemic Planning and Response

Stage	Response	Status/Comments
Pre-Pandemic	<input type="checkbox"/> Establish plans and procedures to support health authority initiatives in a pandemic influenza. <input type="checkbox"/> Work with health authority to improve routine annual vaccination of staff, EHS personnel. <input type="checkbox"/> Establish a registry of former and retired personnel and suitable volunteers. <input type="checkbox"/> Ensure all essential positions are backed up with an alternate. <input type="checkbox"/> Review current emergency plans and extract all relevant sections that may be used for pandemic planning.	
Novel Influenza Strain Identified	<input type="checkbox"/> The health authority will monitor reports from CDC and the Public Health Agency of Canada (PHAC). Updates will be given to staff as necessary.	
Pandemic: Human to Human Transmission Confirmed in Other Region(s)	<input type="checkbox"/> Designate to report to municipal EOC, if activated. <input type="checkbox"/> Activate emergency response plans, if necessary. <input type="checkbox"/> Implement staff health education campaign. <input type="checkbox"/> Provide regular updates to staff.	
Pandemic: Confirmation of Arrival in Canada (First Wave)	<input type="checkbox"/> Designate to report to EOC. <input type="checkbox"/> Monitor status of alternate treatment sites, personnel and equipment. <input type="checkbox"/> Cease non-essential services. <input type="checkbox"/> Apprise EOC of critical gaps in ability to provide emergency medical services.	
Recovery	<input type="checkbox"/> Report results of assessment to EOC. <input type="checkbox"/> Review and revise plans, as necessary.	
Pandemic: Second Wave	<input type="checkbox"/> Review, evaluate and modify pandemic response, as needed. <input type="checkbox"/> Monitor staff and resource requirements.	

F.9. Local Non-Governmental Organizations (NGOs) Roles and Responsibilities for Municipal/Local Pandemic Influenza Planning and Response

Local non-governmental organizations (NGOs) ensure continuity of essential business services and provide support to the health authority and municipal/local pandemic influenza response.

Table F-8: Local Non-Governmental Organizations Roles and Responsibilities for Municipal/Local Pandemic Planning and Response

Stage	Response	Status/Comments
Pre-Pandemic	<ul style="list-style-type: none"> <input type="checkbox"/> Work to increase routine annual influenza vaccination coverage among employees and clients. <input type="checkbox"/> Develop contingency plans for response. <input type="checkbox"/> Establish and maintain contact with health authority and/or local government emergency services agencies. <input type="checkbox"/> Identify essential staff and develop contingency plans for operations under prolonged staff shortages and/or shortages of resources. <input type="checkbox"/> Local chamber of commerce to establish committee to ensure essential retail operations continue to operate. <input type="checkbox"/> Review current emergency plans and extract all relevant sections that may be used for pandemic planning. <input type="checkbox"/> Consider ability to provide assistance to health services or other overwhelmed agencies. 	
Novel Influenza Strain Identified	<ul style="list-style-type: none"> <input type="checkbox"/> The health authority will monitor reports from CDC and the Public Health Agency of Canada (PHAC). Updates will be given to staff as necessary. 	
Pandemic: Human to Human Transmission Confirmed in Other Region(s)	<ul style="list-style-type: none"> <input type="checkbox"/> Notify organization director that pandemic is imminent. <input type="checkbox"/> Continue to monitor appropriate information sources for updated information. <input type="checkbox"/> Review contingency plans and modify as necessary. <input type="checkbox"/> Consider implementing a telecommuting system so more people can stay at home. <input type="checkbox"/> Implement health education plan through appropriate workplace health and safety programs. 	
Pandemic: Confirmation of Arrival in Canada (First Wave)	<ul style="list-style-type: none"> <input type="checkbox"/> Implement contingency plans. <input type="checkbox"/> Continue to monitor appropriate information sources for updated information. <input type="checkbox"/> Be prepared to make arrangements to rotate hours/days of operation, rotation (loan) of service staff. 	

Stage	Response	Status/Comments
Recovery	<ul style="list-style-type: none"> <input type="checkbox"/> Assess ability to resume normal organizational function. <input type="checkbox"/> Report results of assessment to organization director. <input type="checkbox"/> Review and revise plans, as necessary. 	
Pandemic: Second Wave	<ul style="list-style-type: none"> <input type="checkbox"/> Review, evaluate and modify pandemic response, as required. <input type="checkbox"/> Monitor staff and resource requirements. 	

F.10. Municipal Engineering/Public Works Roles and Responsibilities for Municipal/Local Pandemic Influenza Planning and Response

Municipal engineering/public works provide municipal equipment, personnel and technical expertise in support of the health authority and municipal/local pandemic influenza response.

Table F-9: Municipal Engineering/Public Works Roles and Responsibilities for Municipal/Local Pandemic Planning and Response

Stage	Response	Status/Comments
Pre-Pandemic	<ul style="list-style-type: none"> <input type="checkbox"/> Work with health authority and local emergency services agencies to develop contingency plans for pandemic influenza. <input type="checkbox"/> Encourage agency personnel to receive annual influenza vaccine. <input type="checkbox"/> Ensure all essential positions are backed up with an alternate. <input type="checkbox"/> Review current emergency plans and extract all relevant sections that may be used for pandemic planning. 	
Novel Influenza Strain Identified	<ul style="list-style-type: none"> <input type="checkbox"/> The health authority will monitor reports from CDC and the Public Health Agency of Canada (PHAC). Updates will be given to staff as necessary. 	
Pandemic: Human to Human Transmission Confirmed in Other Region(s)	<ul style="list-style-type: none"> <input type="checkbox"/> Designate to report to municipal EOC, if activated. <input type="checkbox"/> Review contingency plans for pandemic influenza. <input type="checkbox"/> Be prepared to arrange for access and control of designated facilities to be used by the health authority. 	
Pandemic: Confirmation of Arrival in Canada (First Wave)	<ul style="list-style-type: none"> <input type="checkbox"/> Designate to report to municipal EOC. <input type="checkbox"/> Implement contingency plans. <input type="checkbox"/> Apprise EOC of critical gaps in ability to provide essential engineering services. <input type="checkbox"/> In collaboration with HAs, arrange access and control of designated facilities to be used for mass clinics, alternate care facilities, triage centres, storage facilities, alternate morgue locations, ESS reception centres, others as required. 	

Stage	Response	Status/Comments
Recovery	<ul style="list-style-type: none"> <input type="checkbox"/> Assess ability to resume normal provision of engineering services. <input type="checkbox"/> Report results of assessment to EOC. <input type="checkbox"/> Review and revise plans, as necessary. 	
Pandemic: Second Wave	<ul style="list-style-type: none"> <input type="checkbox"/> Review, evaluate and modify pandemic response, as needed. <input type="checkbox"/> Monitor staff and resource requirements. 	

F.11. Utilities Companies Roles and Responsibilities for Municipal/Local Pandemic Influenza Planning and Response

Utilities companies provide essential utility services in support of the health authority and municipal/local pandemic influenza response.

Table F-10: Utilities Companies' Roles and Responsibilities for Municipal/Local Pandemic Planning and Response

Stage	Response	Status/Comments
Pre-Pandemic	<ul style="list-style-type: none"> <input type="checkbox"/> Work with health authority and local emergency services agency to develop contingency plans for pandemic influenza. <input type="checkbox"/> Encourage agency personnel to receive annual influenza vaccine. <input type="checkbox"/> Ensure all essential positions are backed up with an alternate. <input type="checkbox"/> Review current emergency plans and extract all relevant sections that may be used for pandemic planning. 	
Novel Influenza Strain Identified	<ul style="list-style-type: none"> <input type="checkbox"/> The health authority will monitor reports from CDC and the Public Health Agency of Canada (PHAC). Updates will be given to staff as necessary. 	
Pandemic: Human to Human Transmission Confirmed in Other Region(s)	<ul style="list-style-type: none"> <input type="checkbox"/> Designate to report to municipal EOC, if activated. <input type="checkbox"/> Review contingency plans for pandemic influenza. <input type="checkbox"/> Provide updates on staffing and resources. 	
Pandemic: Confirmation of Arrival in Canada (First Wave)	<ul style="list-style-type: none"> <input type="checkbox"/> Designate to report to municipal EOC. <input type="checkbox"/> Implement contingency plans. <input type="checkbox"/> Apprise EOC of critical gaps in ability to provide essential utility services. 	
Recovery	<ul style="list-style-type: none"> <input type="checkbox"/> Assess ability to resume normal provision of utility services. <input type="checkbox"/> Report results of assessment to EOC. <input type="checkbox"/> Review and revise plans, as necessary. 	

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Stage	Response	Status/Comments
Pandemic: Second Wave	<input type="checkbox"/> Review, evaluate and modify pandemic response, as needed. <input type="checkbox"/> Monitor staff and resource requirements.	

ANNEX G: PROVINCIAL HEALTH AGENCIES' ROLES AND RESPONSIBILITIES

This Annex provides guidelines for the provincial and regional roles and responsibilities during the three pandemic phases: pre-pandemic, pandemic and post-pandemic. It is recognized that roles and responsibilities will vary by region depending on each region's organizational structure, geography, and culture. Regional plans should, therefore, clearly describe the specific roles and responsibilities within their health authorities and organizational structures, using this Annex as a guide.

The roles and responsibilities are provided as Appendices to this Annex:

- ❑ BC Centre for Disease Control (BCCDC): [Appendix G-1](#)
- ❑ Provincial Health Officer (PHO) and Ministry of Health Services (MOHS): [Appendix G-2](#)
- ❑ Medical Health Officers (MHOs): [Appendix G-3](#)
- ❑ Health Authorities (HAs) and Public Health Nursing Leaders (PHNLs): [Appendix G-4](#)
- ❑ Laboratories: [Appendix G-5](#)
- ❑ Pharmacists: [Appendix G-6](#)
- ❑ BC Ambulance Services (BCAS): [Appendix G-7](#)

APPENDIX G-1: BC CENTRE FOR DISEASE CONTROL (BCCDC)

PRE-PANDEMIC

Emergency Planning and Response

- ❑ Work with PHO, MOHS and other key partners to develop, test and refine the provincial pandemic influenza plan.
- ❑ Establish provincial partnerships & mechanisms for coordinating response between and among agencies.

Vaccines

- ❑ Promote annual influenza vaccine uptake.
- ❑ Promote increased uptake of pneumococcal vaccine.
- ❑ Inform others such as ministries and legislators of the importance of pandemic influenza in order to gain support for vaccine-related resources.
- ❑ Determine if there are resources in other programs which could be accessed in the event of a pandemic.
- ❑ Establish annual vaccine uptake targets and develop methods to measure this uptake, particularly among high-risk groups.
- ❑ Define & refine the provincial vaccine priority groups based on the national priority groups and according to the epidemiology of circulating influenza disease.
- ❑ Determine alternatives to vaccination for those who cannot be immunized because of medical contraindications (e.g., egg hypersensitivity, prior anaphylaxis).
- ❑ Identify anticipated hard to reach populations (e.g., the homeless; certain ethnic groups, especially those with language barriers).

- ❑ Develop, in cooperation and conjunction with other agencies/groups, strategies for immunizing hard to reach populations.
- ❑ Discuss expectations regarding people who refuse vaccination during the pandemic.
- ❑ Coordinate with the MHOs and HAs to develop vaccine estimates and proposed pandemic allotments for each HA/HSDA.
- ❑ Explore storage/security capacity for vaccine.
- ❑ Explore feasibility of stockpiling vaccine-related supplies (e.g., needles and syringes) and communicate findings to the HAs.
- ❑ Participate in the development of immunization protocols for mass or select clinic setting(s). Involve HAs, industry, professional regulatory bodies, unions, and universities in the development process.
- ❑ Develop plans for three levels of vaccine supply – “critical”, “limited” and “sufficient” quantities. Plans should include: what constitutes these amounts, how vaccine will be distributed, and ethical issues regarding distribution of “critical” or “limited” supply.
- ❑ Develop guidelines regarding ordering, delivery, storage and distribution of vaccine by institutions, health care facilities, or distribution centers.
- ❑ Provide vaccine distribution information to key contact persons in each HA, each of whom is responsible for further dissemination to their regional stakeholders.
- ❑ Maintain the electronic reporting of influenza vaccine adverse events from the health units to BCCDC via the Integrated Public Health Information System (iPHIS).
- ❑ Determine if the current electronic transmission methods of reporting adverse events is anticipated to be adequate during the pandemic.
- ❑ Assess liability issues re: illness and death among those who are not targeted and/or not eligible for immunization during an influenza pandemic.
- ❑ Determine the need for a vaccine compensation plan.
- ❑ Develop promotional, media and educational materials as well as presentations on the importance of vaccine aimed at target groups (e.g., health care workers).
- ❑ Develop training package(s) on influenza vaccine administration to be used by groups (e.g., first responders) to immunize their members.
- ❑ Develop and disseminate Question and Answer sheets regarding pandemic influenza vaccine issues.
- ❑ In partnership with pharmacists, develop written information for public education regarding vaccine recommendations, contraindications, dosage and potential vaccine associated adverse events.

Antivirals

- ❑ Define and refine the provincial antiviral priority groups based on national priority groups and according to the epidemiology of circulating influenza disease.
- ❑ Coordinate with the MHOs and HAs to develop antiviral estimates for treatment and prophylaxis and proposed pandemic allotments for each HA/HSDA.
- ❑ Support/negotiate funding arrangements with the federal government for the purchase of an antiviral stockpile.
- ❑ Stockpile antivirals (i.e., amantadine and/or oseltamivir, with the latter being preferred because of the lesser chance of resistance) in accordance with provincial and federal initiatives.

- ❑ Consider stockpiling raw materials (5 year shelf-life oseltamivir powder which could be reconstituted) and explore resources required for processing the powder.
- ❑ Develop plans for antiviral distribution and delivery.
- ❑ Develop protocols or algorithms for choosing the correct antiviral drug(s).
- ❑ In communication with MHOs, develop plans for antiviral administration during facility influenza outbreaks, including treatment of patients and health care worker (HCW) prophylaxis.
- ❑ Develop, maintain and enhance surveillance activities for adverse antiviral drug reactions.
- ❑ Assist or support research projects regarding antiviral drug use for treatment and prophylaxis of influenza disease, antiviral effectiveness, adverse events/side effects, and assessment of viral resistance to antivirals.
- ❑ In partnership with pharmacists, develop educational materials for public education to promote awareness about different antivirals, their indications, contraindications and associated adverse events/side effects.
- ❑ Develop a variety of methods to educate physicians about antiviral choices and issues, including prevention of amantadine resistance in long-term care facilities and monitoring of amantadine resistance during inter-pandemic years.
- ❑ Develop and disseminate Question and Answer sheets regarding antiviral drug issues.

Communications

- ❑ In consultation with the BC Public Affairs Bureau, the Health Authority communications staff and the PIC, develop a Pandemic Influenza Communications Plan (see Annex K: Communications Planning). This plan should include:
 - strategies for ongoing communications with relevant ministries and policy makers during all pandemic phases;
 - policy regarding who will be authorized to make public statements; and
 - identification of positions/people which/who will liaise between health authorities, other provincial agencies and government ministries.
- ❑ Develop plans to maintain communication between provincial agencies and essential service providers, including emergency responders, utilities, transportation services and others.
- ❑ Educate health care providers, policy makers and the public regarding pandemic influenza and emergency plans.
- ❑ Ensure that pandemic-related information can be communicated, as appropriate, in a timely manner to health care practitioners and professional across the province.
- ❑ In partnership with the PHO and MOHS, MHOs, HAs and PHNLs and pharmacists, educate the public and physicians about proper antibiotic use to prevent and/or minimize drug resistance, which could directly affect the effectiveness of treatment of influenza complications such as secondary bacterial pneumonia.

PANDEMIC

Emergency Planning and Response

- ❑ Work with PHO, MOHS and other key partners to implement and adapt the provincial pandemic influenza plan.

- ❑ Monitor geographic spread of the pandemic influenza virus.
- ❑ Monitor epidemiology of influenza infection and illness (morbidity, severity, mortality, age distribution, etc.)

Vaccines

- ❑ Liaise nationally and provincially with epidemiologists and other public health regulators regarding vaccination goals, strategies, adverse events and effectiveness.
- ❑ Refine the provincial vaccine priority groups based on national priority groups and according to the epidemiology of the pandemic influenza strain.
- ❑ Develop and/or revise as needed vaccine-related policies for public health units, hospitals, health care facilities and physicians.
- ❑ Communicate provincial vaccine priority groups and other relevant policies/protocols to HAs and to the public.
- ❑ Communicate rapidly any changes in the protocols re: priority groups and/or influenza vaccine implementation and delivery to the MHOs, HAs and PHNLs.
- ❑ Confirm federal and provincial vaccine funding at the start of the pandemic and ongoing as activity increases and decreases.
- ❑ Secure vaccine supply through national process.
- ❑ Monitor vaccine supply throughout the pandemic period.
- ❑ Develop guidelines and protocols for security of vaccine at BCCDC to ensure supplies are not stolen or misdirected and support regions in ensuring similar security in their areas.
- ❑ Coordinate with the MHOs and HAs to refine vaccine requirements by priority group.
- ❑ Distribute vaccine to the HAs/HSDAs.
- ❑ Liaise with the PHO and MOHS regarding the status of vaccine coverage, mass immunization clinic successes/failures, and the number of people immunized on a daily/weekly/monthly basis.
- ❑ Provide information to HAs regarding cold chain issues (for proper vaccine storage and handling) to minimize vaccine wastage.
- ❑ Coordinate, if needed, geographic vaccine redistribution around the province.
- ❑ Implement surveillance to:
 - ❑ monitor vaccine uptake (use and wastage);
 - ❑ monitor vaccine adverse events; and
 - ❑ monitor vaccine effectiveness.
- ❑ Report results of vaccine surveillance provincially and nationally.
- ❑ Liaise with the PHO and MOHS regarding vaccine associated adverse events and other serious vaccine-related concerns.
- ❑ Communicate regularly with the PHO and MOHS and with MHOs regarding the status of pertinent influenza vaccine issues.
- ❑ Communicate pandemic influenza vaccination goals.
- ❑ Provide information to health care providers and professionals on ethical decisions regarding those who are not eligible to receive pandemic influenza vaccine.
- ❑ Revise, as needed, Question and Answer sheets regarding pandemic influenza vaccine issues.
- ❑ Support evaluation and research protocols for:
 - vaccine immunogenicity, efficacy and effectiveness;
 - vaccine adverse events;

- appropriate number and quantity of doses; and
- strain mutation and implications re: vaccine effectiveness.

Antivirals

- ❑ Refine the provincial antiviral priority groups based on national priority groups and according to the epidemiology of the pandemic influenza strain.
- ❑ Communicate priorities, recommendations and guidelines for antiviral drug use.
- ❑ Confirm federal and provincial funding for antivirals.
- ❑ Secure antiviral supply through national and/or provincial process(es).
- ❑ Monitor antiviral supply remaining at BCCDC throughout the pandemic period.
- ❑ Coordinate with MHOs and HAs to refine antiviral requirements by priority group.
- ❑ Distribute antivirals to the HAs/HSDAs.
- ❑ Provide information to the HAs regarding proper antiviral storage.
- ❑ Coordinate, if needed, geographic antiviral redistribution around the province.
- ❑ Implement surveillance to:
 - monitor antiviral utilization (use and wastage);
 - monitor antiviral adverse events/side effects;
 - monitor antiviral effectiveness for treatment and for prophylaxis.
- ❑ Report results of antiviral surveillance provincially and nationally.
- ❑ Communicate regularly with the PHO and MOHS and with MHOs regarding the status of pertinent antiviral issues.
- ❑ Liaise with the BCCDC laboratory to ensure that influenza isolates are monitored for antiviral susceptibility.
- ❑ Revise, as needed, Question and Answer sheets regarding antiviral drug issues.
- ❑ Support evaluation and research protocols for:
 - antiviral efficacy and effectiveness;
 - appropriate antiviral dosage; and
 - influenza strain mutation and resistance.

Communications

- ❑ In consultation with the BC Public Affairs Bureau, the Health Authority communications staff and the PIC, operationalize Pandemic Influenza Communications Plan (see Annex K: Communications Planning).
- ❑ Designate an appropriate spokesperson to update the media regularly.
- ❑ Provide regular internal communications for BCCDC staff.

POST-PANDEMIC

Emergency Planning and Response

- ❑ Work with PHO, MOHS and other key partners to revise and update the BC Pandemic Influenza Preparedness Plan based on pandemic experience.
- ❑ Compile, submit and/or pay bills as appropriate.

Vaccines

- ❑ Advise MHOs and HAs regarding the return or disposal of excess vaccine.
- ❑ Ensure that vaccine adverse event reports are completed and provided to BCCDC.
- ❑ Summarize vaccine coverage data by target group.
- ❑ Evaluate vaccine effectiveness in preventing infection and reducing morbidity and mortality.
- ❑ In partnership with the PHO and MOHS:
 - Compile an evaluation report on influenza vaccine uptake (coverage, use and wastage), by targeted risk group, during the pandemic.
 - Assess and evaluate the effectiveness of public vaccine delivery.
 - Assess and evaluate the effectiveness of occupational (e.g., health care worker) vaccine delivery.
 - Evaluate the adequacy of volunteer training for assisting in immunization clinics.
 - Evaluate the effectiveness and appropriateness of promotional and educational materials regarding the importance of influenza vaccine.
 - Assess the overall functioning and success of the pandemic influenza vaccine program.
 - Ensure that pandemic vaccine adverse event reports are completed.
 - Summarize the impact of vaccine use and communicate nationally, provincially and locally.

Antivirals

- ❑ Advise MHOs and HAs regarding the return or disposal of excess antivirals.
- ❑ In partnership with the PHO and MOHS:
 - Evaluate antiviral effectiveness in preventing infection, reducing morbidity and mortality, outbreak control and treatment of influenza infection.
 - Complete and distribute evaluation reports on antiviral use/uptake, adverse events/side effects and effectiveness in preventing morbidity and mortality.
 - Assess the overall functioning and success of the pandemic influenza antiviral process.
 - Summarize the impact of antiviral use and communicate findings nationally, provincially and locally.
 - Liaise with the BCCDC laboratory to describe drug resistance pattern observed in pandemic influenza isolates.
- ❑ In partnership with the PHO and MOHS, summarize pandemic antiviral resistance patterns.

Communications

- ❑ In consultation with the BC Public Affairs Bureau, the Health Authority communications staff and the PIC, revise and update Pandemic Influenza Communications Plan based on pandemic influenza experience.

APPENDIX G-2: PROVINCIAL HEALTH OFFICER (PHO) AND MINISTRY OF HEALTH SERVICES (MOHS)/EMERGENCY MANAGEMENT BRANCH

PRE-PANDEMIC

Emergency Planning and Response

- Work with BCCDC and other key partners to develop, test and refine the provincial pandemic influenza plan.
- Advocate for collaborative emergency preparedness planning among all health care agencies.
- Provide the HAs with information about the necessary pre-pandemic emergency planning for pandemic influenza, and support their planning efforts.
- Encourage community stakeholders to take measures to ensure continued essential services during a pandemic.
- Ensure that other government ministries are informed of pandemic planning progress and solicit support for planning efforts.
- Review and update emergency management and contingency plans as needed.

Vaccines

- Endorse press releases regarding the importance of annual influenza vaccination.
- Advocate for education about annual influenza vaccination.
- Promote awareness and importance of the pandemic and the role of mass immunization clinics via the provincial Communications Department.

Antivirals

- Ensure that MHOs are informed of national guidelines for dispensing antivirals for prophylaxis.
- Ensure contingency plan is in place for the increase in demand for antivirals.

Communications

- Provide the media with information about influenza and pandemic influenza.
- Ensure communication networks and systems are in place and are tested periodically.
- Identify communication gaps and identify resource needs.
- In partnership with BCCDC, MHOs, HAs and PHNLs and pharmacists, educate the public and physicians about proper antibiotic use to prevent and/or minimize drug resistance, which could directly affect the effectiveness of treatment of influenza complications such as secondary bacterial pneumonia.

PANDEMIC

Emergency Planning and Response

- Work with BCCDC and other key partners to implement and adapt the provincial pandemic influenza plan.
- Declare the influenza pandemic when appropriate.
- Provide overall direction during the pandemic.
- Request the activation of provincial government emergency response systems as required.

Vaccines

- Communicate regularly with BCCDC and MHOs regarding the status of pertinent influenza vaccine issues.
- Report to the BC Minister of Health Services regarding pandemic vaccine issues such as efficacy, supply, uptake, etc.
- Liaise with BCCDC regarding status of vaccine coverage, mass immunization clinic successes/failures, and the number of people immunized on a daily/weekly/monthly basis.
- Liaise with BCCDC regarding the number and severity of adverse events following administration of a new vaccine strain and other serious vaccine-related concerns.

Antivirals

- Communicate regularly with BCCDC and MHOs regarding the status of antiviral issues.
- Authorize priority distribution of antivirals.

Communications

- Activate pandemic communications plan and modify it as required.
- Establish communication with provincial, territorial and federal health officials.
- Ensure continued communication with national and international partners
- Ensure that consistent, accurate and clear communication is being delivered to the province.
- In consultation with the BC Public Affairs Bureau, the Health Authority communications staff and the PIC, designate the PHO or other appropriate spokesperson from the MOHS to update the media regularly.

POST-PANDEMIC

Emergency Planning and Response

- Review and assess overall healthcare emergency response to the pandemic.
- Review and update MOHS emergency plans.
- Work with BCCDC and other key partners to revise and update the BC Pandemic Influenza Preparedness Plan based on pandemic experience.
- Recommend demobilization of EOCs within the health authorities.
- Compile, submit and/or pay bills as appropriate.

Vaccines

- ❑ In partnership with BCCDC:
 - Compile an evaluation report on influenza vaccine uptake (coverage, use and wastage), by targeted risk group, during the pandemic.
 - Assess and evaluate the effectiveness of public vaccine delivery in preventing infection, reducing morbidity and mortality and outbreak control.
 - Assess and evaluate the effectiveness of occupational (e.g., health care worker) vaccine delivery in preventing infection, reducing morbidity and mortality and outbreak control.
 - Evaluate the adequacy of volunteer training for assisting in immunization clinics and non-traditional care sites.
 - Evaluate the effectiveness and appropriateness of promotional and educational materials regarding the importance of influenza vaccine.
 - Assess the overall functioning and success of the pandemic influenza vaccine program.
 - Ensure that pandemic vaccine adverse event reports are completed.
 - Summarize the impact of vaccine use and communicate nationally, provincially and locally.

Antivirals

- ❑ In partnership with BCCDC,
 - Evaluate antiviral effectiveness in preventing infection, reducing morbidity and mortality, outbreak control and treatment of influenza infection.
 - Complete and distribute evaluation reports on antiviral use/uptake, adverse events/side effects and effectiveness in preventing morbidity and mortality.
 - Assess the overall functioning and success of the pandemic influenza antiviral process.
 - Summarize the impact of antiviral use and communicate nationally, provincially and locally.
 - Describe resistance patterns observed in pandemic influenza isolates.

Communications

- ❑ Inform public of the end of the pandemic and plans for recovery.
- ❑ Evaluate communication plan and revise as needed.

APPENDIX G-3: MEDICAL HEALTH OFFICERS (MHOS)

At the regional level of the public health delivery system, the key players are the Medical Health Officers, the health authorities and public health nursing. The Medical Health Officers in each health authority will coordinate activities to develop plans and respond to issues. Please also refer to [Appendix G-4: Health Authorities and Public Health Nursing Leaders](#) for roles and responsibilities that overlap with those of the health authorities and public health nursing leaders.

PRE-PANDEMIC

Emergency Planning and Response

- ❑ Establish local partnerships (including partnerships with First Nations health authorities and bands) and mechanisms for coordinating emergency response.
- ❑ Hold bi-annual emergency preparedness practice sessions for health care workers working in hospitals and public health units/agencies in conjunction with the other agencies, i.e., local government.
- ❑ Identify staff for redistribution and deployment during the pandemic as needed and appropriate.
- ❑ Develop protocol for controlling/managing long term care facility influenza outbreaks.

Vaccines

- ❑ Promote annual influenza and pneumococcal vaccine uptake for identified target groups.
- ❑ In partnership with HAs, determine anticipated local pandemic vaccine requirements by priority groups and communicate to BCCDC.
- ❑ Explore the availability of vaccine storage depots with local officials.
- ❑ Estimate necessary human resource requirements for mass immunization clinics.
- ❑ Establish local partnerships and mechanisms for coordinating pandemic vaccination programs.
- ❑ In partnership with the HAs, ensure vaccine distribution information is disseminated to appropriate persons in each health service delivery area (HSDA) and/or health unit.
- ❑ Stockpile vaccine-related supplies (e.g., needles and syringes).
- ❑ Establish a pandemic influenza immunization committee and/or participate in/communicate with such provincial committee(s) to develop immunization protocols for mass or select clinic setting(s), to identify roles/responsibilities, to identify mechanics of administration and to plan for mass immunization clinics.
- ❑ Educate health care workers regarding the importance of pre-pandemic influenza vaccine for risk groups and for themselves in order to reach the targeted goals of the National Advisory Committee on Immunization (NACI) as published annually in the Canada Communicable Disease Report (<http://www.hc-sc.gc.ca/pphb-dgspsp/publicat/ccdr-rmtc/index.html>).
- ❑ Increase the public's awareness about pandemic influenza vaccine through education, promotion, the media, and presentations.

Antivirals

- ❑ In partnership with HAs, develop estimated pandemic antiviral needs for treatment and prophylaxis for each HA/HSDA and communicate to BCCDC.
- ❑ Explore the availability of antiviral storage depots with local officials.
- ❑ Adopt national guidelines for dispensing antivirals for prophylaxis through local public health units.
- ❑ Develop strategies for dealing with refusal of prophylactic antivirals.
- ❑ Develop education materials for health care facilities and physicians to promote awareness of different types of antivirals.

Communications

- ❑ Ensure that communication networks are established between the MHO, HAs and provincial agencies, as appropriate.
- ❑ In partnership with BCCDC, the PHO and MOHS, HAs and PHNLs and pharmacists, educate the public and physicians about proper antibiotic use to prevent and/or minimize drug resistance, which could directly affect the effectiveness of treatment of influenza complications such as secondary bacterial pneumonia.

PANDEMIC

Emergency Planning and Response

- ❑ Redistribute and deploy staff as needed and appropriate.
- ❑ Liaise with long term care facilities regarding outbreak investigation and management, in particular use of influenza vaccine and antivirals for staff and residents.

Vaccines

- ❑ In partnership with HAs, refine local vaccine requirements by priority groups and communicate to BCCDC.
- ❑ In partnership with local officials, secure vaccine storage depots and ensure the security of these depots to ensure supplies are not stolen or misdirected.
- ❑ In partnership with BCCDC, HAs and PHNLs, ensure that cold chain protocols (for proper vaccine storage and handling) are provided and implemented to minimize vaccine wastage.
- ❑ Implement the immunization protocols and guidelines developed by the provincial pandemic influenza committees and by the provincial/regional pandemic influenza immunization committee(s).
- ❑ Communicate regularly with BCCDC and with the PHO and MOHS regarding the status of pertinent influenza vaccine issues.
- ❑ Liaise with local partners to ensure coordinated pandemic vaccine programs.
- ❑ Finalize and recruit necessary human resource requirements needed for mass immunization clinics.
- ❑ Communicate regularly with BCCDC to remain current with changes in the implementation of influenza vaccine delivery during the pandemic.

- ❑ In partnership with BCCDC, contribute to geographic vaccine redistribution process if needed.
- ❑ Communicate with other MHOs within BC and in other provinces regarding progress with influenza vaccine delivery and related issues.
- ❑ Review adverse event forms following influenza vaccine receipt.
- ❑ Increase the public's awareness about pandemic influenza vaccine through education, promotion, the media, and presentations.

Antivirals

- ❑ In partnership with BCCDC, contribute to geographic antiviral redistribution process if needed.
- ❑ In partnership with HAs and PHNLs:
 - Refine antiviral need estimates by priority group and communicate to BCCDC.
 - Secure regional and local storage sites for antivirals.
 - Ensure protocols for proper antiviral storage are provided and implemented.
 - Mobilize groups who administer antivirals.
 - Arrange mass antiviral clinic sites/dates/times.
 - Disseminate information about antiviral drug clinics and other pertinent information about antivirals to the public and health care providers.
 - Dispense antivirals to priority groups.
 - Dispense antivirals to hospitals, LTCF and workplaces.
 - Ensure informed consent is obtained from individuals receiving antivirals.
 - Record appropriate epidemiological information related to antiviral recipients.
 - Document antiviral refusals.
 - Monitor antiviral adverse events/side effects.
 - Track antiviral use and uptake (use, wastage).
 - Monitor antiviral use to control black market impact on supply.
 - In partnership with BCCDC, collect and report antiviral drug efficacy and effectiveness in preventing morbidity and mortality.
- ❑ Communicate regularly with BCCDC and with the PHO and MOHS regarding the status of pertinent antiviral issues.

Communications

- ❑ Designate an appropriate spokesperson to update the media regularly.
- ❑ Inform the public and the media about access to health services during the pandemic.

POST-PANDEMIC

Emergency Planning and Response

- ❑ Summarize local pandemic impact.
- ❑ Evaluate and summarize the success of pandemic influenza programs – in particular emergency response plans, pandemic influenza plans, vaccine programs and antiviral

programs – and their success in achieving the goals of minimizing influenza-related morbidity, mortality and societal disruption.

- Communicate with provincial and interprovincial MHOs regarding pandemic emergency issues.
- In partnership with public health nursing, implement critical incident stress debriefing and counselling services for the public at the local level.
- Send evaluative report regarding emergency services to the PHO.
- Refine local pandemic influenza plan(s) to reflect lessons learned.
- Compile, submit and/or pay bills as appropriate.

Vaccines

- Collate local information on vaccine uptake and adverse events.
- Collate local information on the vaccine distribution process (how it was done, how well it was done).
- Evaluate and summarize the local impact of vaccine programs in terms of preventing and/or minimizing influenza-related morbidity and mortality.
- Communicate evaluation and summary provincially (to PHO) and locally.
- Ensure all adverse event forms are completed and submitted to BCCDC.
- In partnership with HAs and PHNLs, return or dispose of excess vaccine as instructed by BCCDC.

Antivirals

- Collate information on antiviral uptake and adverse events/side effects.
- Collate information on the antiviral distribution process (how it was done, how well it was done).
- Evaluate and summarize the local impact of antiviral programs in terms of preventing and/or minimizing influenza-related morbidity and mortality.
- Communicate evaluation and summary provincial (to PHO) and locally.
- In partnership with HAs and PHNLs, return or dispose of excess antivirals as instructed by BCCDC.
- In partnership with BCCDC, summarize pandemic antiviral resistance pattern.

APPENDIX G-4: HEALTH AUTHORITIES (HA) AND PUBLIC HEALTH NURSING LEADERS (PHNL)

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. Please also refer to [Appendix G-3: Medical Health Officers](#) for roles and responsibilities that overlap with those of the Medical Health Officer.

PRE-PANDEMIC

Emergency Planning and Response

- ❑ In partnership with the MHO, develop emergency/disaster/pandemic influenza plan(s).
- ❑ In conjunction with local public health officials, utilize charts (see Annex B) and/or software (e.g., FluAid <http://www2.cdc.gov/od/fluaid/default.htm>) to estimate the anticipated number hospital admissions, outpatient visits and deaths by high risk patients and non-high risk patients during an influenza pandemic.
- ❑ Attend bi-annual emergency preparedness practice sessions for health care workers working in hospitals and public health units/agencies.
- ❑ Participate in national pandemic planning day(s) and focus on health services issues.
- ❑ Practice mock pandemic influenza exercises every 2-3 years.
- ❑ Develop guidelines for employee health.
- ❑ Develop guidelines for postponement of elective surgery.
- ❑ Develop guidelines to address the provision of medical care in non-traditional settings, such as shelters, schools, gymnasiums, nursing homes, day care centres, and others (see Annexes [D](#) and [E](#) for detail and guidelines).
- ❑ Identify acceptable equipment alternatives (e.g., handwashing solutions, types of face masks, types of ventilators).
- ❑ Coordinate accountability mechanisms such as hospital accreditation based on influenza pandemic planning standards.

Vaccines

- ❑ In partnership with the MHOs, explore the availability of vaccine storage depots with local officials.
- ❑ In partnership with the MHOs, ensure that vaccine distribution information is disseminated to appropriate person in each HSDA and/or health unit.

Antivirals

- ❑ In partnership with the MHOs, explore the availability of antiviral storage depots with local officials.
- ❑ Coordinate with BCCDC and the MHOs to develop antiviral estimates for treatment and prophylaxis and proposed pandemic allotments to each HA/HSDA.

Communications

- ❑ Ensure that communication networks are established between the MHOs, HAs and provincial agencies, as appropriate.
- ❑ In partnership with BCCDC, the PHO and MOHS, MHOs and pharmacists, educate the public and physicians about proper antibiotic use to prevent and/or minimize drug resistance, which could directly affect the effectiveness of treatment of influenza complications such as secondary bacterial pneumonia.

PANDEMIC

Emergency Planning and Response

- ❑ Work with key stakeholders to coordinate regional/municipal/local emergency response operations (see Annex F for Municipal/Local Government roles).

Vaccines

- ❑ In partnership with the MHOs, refine local vaccine requirements by priority groups and communicate to BCCDC.
- ❑ In partnership with the MHOs, coordinate with local partners to ensure coordinated pandemic influenza vaccine programs.
- ❑ In partnership with the MHOs and local officials, secure vaccine storage depots and ensure the security of these depots to ensure supplies are not stolen or misdirected.
- ❑ In partnership with BCCDC and the MHOs, ensure that cold chain protocols (for proper vaccine storage and handling) are provided and implemented to minimize vaccine wastage.
- ❑ Hold mass immunization clinics (see Annex D).
- ❑ Provide information regarding vaccine issues to the public and media.
- ❑ Report vaccine adverse reactions to BCCDC.

Antivirals

- ❑ In partnership with the MHOs:
 - Refine antiviral need estimates by priority group and communicate to BCCDC.
 - Secure regional and local storage sites for antivirals.
 - Ensure protocols for proper antiviral storage are provided and implemented.
 - Mobilize groups who administer antivirals.
 - Arrange mass antiviral clinic sites/dates/times.
 - Disseminate information about antiviral drug clinics and other pertinent information about antivirals to the public and health care providers.
 - Dispense antivirals to priority groups.
 - Dispense antivirals to hospitals, LTCF and workplaces.
 - Ensure informed consent is obtained from individuals receiving antivirals.
 - Record appropriate epidemiological information related to antiviral recipients.
 - Document antiviral refusals.
 - Monitor antiviral adverse events/side effects.

- Track antiviral use and uptake (use, wastage).
- Monitor antiviral use to control black market impact on supply.
- In partnership with BCCDC, collect and report antiviral drug efficacy and effectiveness in preventing morbidity and mortality.

Clinical Health Services

- ❑ Provide health care services on a priority basis.
- ❑ If medical/health mutual aid system is overwhelmed, request assistance from province but anticipate the assistance from others may be limited.
- ❑ Implement infection control measures.
- ❑ Disseminate surveillance information to surveillance participants within the HA/HSDA.

Communications

- ❑ Respond to media inquiries regarding the outbreak.
- ❑ Participate in surveillance network(s), including data collection and reporting to BCCDC.
- ❑ Provide clear direction to health care providers to ensure continued provision of essential health services.
- ❑ Provide regular, timely information updates about pandemic response to provincial officials.

POST-PANDEMIC

Emergency Planning and Response

- ❑ Demobilize and re-instate facilities for normal health services:
 - Demobilize pandemic influenza-related health care services.
 - Close alternate health care sites.
 - Demobilize police and/or security services at health care facilities.
 - Assess facilities' monetary losses attributable to the influenza pandemic.
 - Clean up facilities and disinfect areas.
 - Project when facilities will be capable of resuming pre-pandemic services.
 - Return facilities to normal functions.
 - Open hospital beds and rebook elective surgeries.
 - Assess and evaluate the impact of the pandemic on health care services at the local level.
 - Evaluate the use of alternate sites.
 - Provide BCCDC with influenza-related epidemiological data as requested.
 - Provide feedback on clinical care guidelines.
 - Participate in situation review.
 - Review facilities' pandemic plan(s), make recommendations for improvement, and support facilities in revising pandemic plan(s).
- ❑ Return equipment to normal use:
 - Dispose of biohazardous waste.
 - Clean and disinfect equipment.
 - Return borrowed equipment.
 - Return stockpiled supplies and/or drugs according to instructions.

- Repair or replace damaged and lost equipment.
- Assess use of supplies.
- ❑ Assess impact on health care workers and facility staff and address staff issues:
 - Demobilize staff and volunteers.
 - Acknowledge the work done during the pandemic by the voluntary organizations and volunteers.
 - Provide a debriefing session immediately after the pandemic has ended.
 - Provide grief counselling to decrease incidence of post traumatic stress syndrome.
 - Offer sabbatical leave for staff requiring immediate relief from duties.
 - Assess staff and volunteer losses due to the influenza pandemic, arrange for lost vacation or sick time to be taken so staff can be revitalized.
 - Reassign staff to former duties.
- ❑ Address and evaluate public impact and needs:
 - Provide grief counselling to decrease incidence of post traumatic stress syndrome.
 - Assess the public's perception of the quality and efficiency of health care delivery during the pandemic.
- ❑ Compile, submit and/or pay bills as appropriate.

Vaccines

- ❑ In partnership with the MHOs, return or dispose of excess vaccine as instructed by BCCDC.

Antivirals

- ❑ In partnership with the MHOs, return or dispose of excess antivirals as instructed by BCCDC.

APPENDIX G-5: LABORATORIES

PRE-PANDEMIC

BCCDC Laboratory

- ❑ Send representative influenza isolates to the National Microbiology Laboratory for strain characterization.
- ❑ Correspond regularly (weekly) with the National Microbiology Laboratory regarding strain characterization results for influenza isolates from BC.
- ❑ Coordinate with other Provincial and Federal laboratories regarding testing information and results.
- ❑ Ensure that all testing laboratories in the province receive regular information regarding circulating influenza subtypes, the best cell lines to use, the usefulness of direct testing, viral susceptibility pattern(s), etc. as received from the National Microbiology Laboratory, the USA CDC or other sources.
- ❑ Establish parameters for testing during annual influenza activity during a pandemic.

All Laboratories

- ❑ Educate laboratory staff about the necessity of annual influenza vaccination.
- ❑ Evaluate on an on-going basis laboratory procedures which will detect influenza rapidly and with high sensitivity and specificity. For example:
 - evaluate respiratory-mix (MinkLung/A549 cells) for rapid shell vial technique for culture of influenza; and
 - evaluate rapid DFA or point of care methods for same day results.
- ❑ Provide additional training for laboratory workers who may need to perform non-regular tasks during an influenza pandemic.
- ❑ Investigate the availability of other facilities that can help in the laboratory diagnosis of influenza.
- ❑ Participate in regular emergency exercises.

PANDEMIC

BCCDC Laboratory

- ❑ Inform BCCDC epidemiologists and all provincial testing laboratories of the first identification of a pandemic influenza strain in BC.
- ❑ Correspond regularly with the National Microbiology Laboratory (NML) regarding antiviral resistance monitoring of influenza isolates from BC.
- ❑ Communicate regularly with the NML regarding appropriate testing and recommended laboratory protocols.
- ❑ Communicate any changes in laboratory protocols to all provincial testing laboratories.
- ❑ Communicate regularly with the NML regarding national and provincial results.

- ❑ Provide BCCDC epidemiologists with influenza testing data as part of ongoing and pandemic influenza surveillance.

All Laboratories

- ❑ Recruit additional laboratory workers if necessary to continue providing influenza testing and other essential laboratory services.
- ❑ Adopt testing recommendations and protocols from the Public Health Agency of Canada regarding influenza laboratory identification.

POST-PANDEMIC

All Laboratories

- ❑ Evaluate overall effectiveness of provincial laboratories' emergency response.
- ❑ Report results of evaluation to provincial laboratories and to the NML.
- ❑ Revise emergency response procedures as needed.
- ❑ Participate in emergency exercises.

APPENDIX G-6: PHARMACISTS

PRE-PANDEMIC

Public Education

- Educate pharmacists regarding pandemic vaccine and antiviral issues (see reference: Preparing for Influenza Pandemics; Canadian Pharmaceutical Journal, April 2000).
- In partnership with BCCDC, the PHO and MOHS, MHOS, HAs and PHNLs, educate the public and physicians about proper antibiotic use to prevent and/or minimize drug resistance, which could directly affect the effectiveness of treatment of influenza complications such as secondary bacterial pneumonia.
- Advocate for public acceptance of influenza vaccination and best use of antibiotics and antivirals.

Vaccines

- Explore possibility of and requirements to allow pharmacists to deliver influenza vaccine in the event of an influenza pandemic.
- In partnership with BCCDC, assist in developing written information for public education regarding vaccine recommendations, contraindications, dosage and potential vaccine associated adverse events.

Antivirals

- Participate in decision-making regarding antiviral distribution to the public.
- In partnership with BCCDC, assist in developing educational materials for public education to promote awareness about different antivirals, their indications, contraindications and associated adverse events/side effects.

PANDEMIC

Vaccines

- Provide storage for extra vaccine (if available) while maintaining cold chain.
- Provide information to the public regarding times, dates, location of mass immunization clinics.
- Disseminate written materials regarding influenza vaccine (developed provincially).
- If possible and needed, administer influenza vaccine.

Antivirals

- Distribute written materials regarding antivirals (developed provincially).
- Distribute antivirals to the public.
- Assist in coordinating mass antiviral clinics and distribute antivirals at these clinics.

POST-PANDEMIC

Public Education

- ❑ Assist in revising and updating materials for public education about pandemic influenza vaccine and antivirals.

APPENDIX G-7: BC AMBULANCE SERVICE (BCAS)

PRE-PANDEMIC

- Collaborate with HAs in the development of regional/local pandemic influenza preparedness plans.
- Participate when and where possible in testing and practicing local pandemic influenza preparedness plans.
- Encourage all BCAS paramedics to receive annual influenza vaccination.
- Provide timely information regarding pandemic threat(s) to field staff.
- Consider occupational health issues for staff during a pandemic.
- Establish contingency plans:
 - for replacement of staff who become ill with influenza; and
 - to increase staffing levels to assist with significant increases in ambulance service call volumes.
- Liaise with volunteers to establish additional human resources capacity.
- Consider alternatives to formal or existing ambulances for the transportation of patients.
- Consider prioritization of patients for transport during a pandemic.
- Consider triage of patients during a pandemic.

PANDEMIC

- Provide BCAS representative(s) to inter-agency emergency operations centre(s) (EOC).
- Liaise with HAs and BedLine to receive information about bed availability in specific communities.
- Activate staffing contingency plans as necessary.
- Monitor capacity to deliver ambulance services within normal operational expectations.
- Facilitate inter-facility patient transfers as required.

POST-PANDEMIC

- Demobilize operational contingency plans.
- Engage in operational critiques with HAs to determine if plan improvements are necessary.

ANNEX H: OVERVIEW OF FEDERAL ROLES AND RESPONSIBILITIES

Meeting the challenge of an influenza pandemic will require co-operative efforts between the federal and provincial governments. This overview of roles and responsibilities includes both federal responsibilities and national efforts which will be coordinated by federal agencies.

Along with specific federal preparedness and response planning activities, the Public Health Agency of Canada (PHAC) is to support and ensure federal, provincial and territorial (F/P/T) collaboration in the development of the Canadian Pandemic Influenza Plan and other necessary preparedness activities. This will be achieved by forming, supporting and maintaining an F/P/T committee and necessary working groups. This is being accomplished by the activities of the Pandemic Influenza Committee (PIC) and its Working Groups.

The mandate of the PIC includes providing advice, expertise and recommendations, liaison and other activities associated with the pre-pandemic, pandemic and post-pandemic phases to support the health and safety mandates of all levels of government. Where there is a need for F/P/T collaboration in developing plans and guidelines, PIC has been delegated the responsibility to ensure that plans are developed. PIC's specific roles and responsibilities are established and its mandate is described in the F/P/T Memorandum of Understanding.

This comprehensive list of federal as well as joint federal, provincial and territorial roles and responsibilities is drawn from the Canadian Pandemic Influenza Plan (www.phac-aspc.gc.ca/cpip-pclcpi/).

In general the roles and responsibilities of the respective jurisdictions are as follows:

- ❑ The federal government is responsible for the nationwide coordination of the pandemic influenza response, including surveillance, international liaison, and coordination of the vaccine response (infrastructure procurement, vaccine allocation, management and funding).
- ❑ Joint responsibilities of the F/P/T MOHs include ensuring distribution of plans to all organizations that may be involved in the pandemic response and liaison with these partners on an ongoing basis. They may also be involved in planning simulation exercises once plans are in place. Development of cost estimates and options for decision makers will also be a joint F/P/T responsibility.
- ❑ The P/Ts are responsible for mobilizing their contingency plans and resources. Health emergency response commences at the local level and escalates through P/Ts to the federal order of government.
- ❑ Local public health authorities are responsible for planning the local response to an influenza pandemic with direction from both the P/T and federal level. This involves liaising with local partners (e.g., emergency responders, hospitals, mortuary services) in advance of a pandemic to facilitate a coordinated response when pandemic influenza strikes in the community. It is likely that the local public health authorities, through existing or enhanced surveillance, may be the first ones to detect influenza in their community. It is essential that the lines of communication within the community and up the line to the P/T and federal levels are clear and established in advance of a pandemic.

The Pandemic Influenza Committee

The PIC is a F/P/T committee that first met by teleconference in March 2002. It is co-chaired by two individuals representing the federal and the provincial/territorial governments. The PIC is supported by the CIDPC and reports through the Advisory Committee on Population Health and Health Security (ACPHHS) to the F/P/T Deputy Ministers of Health during the pre-pandemic period. It is anticipated that PIC will report directly to the F/P/T Ministers of Health at such time when PIC is asked to consult on a real, actual or perceived threat of pandemic influenza. The PIC would continue to report to said F/P/T Ministers of Health until such time as the threat or influenza pandemic is declared over.

The mandate of the PIC includes providing advice, expertise and recommendations, liaison and other activities associated with the pre-pandemic, pandemic and post-pandemic phases to support the health and safety mandates of all orders of government. PIC will also provide advice, assistance and expertise concerning the development, maintenance, testing and evaluation of the Canadian Pandemic Influenza Plan, and when requested to do so, any P/T contingency plan.

PRE-PANDEMIC

Joint F/P/T Responsibilities

- ❑ Developing, maintaining and enhancing routine surveillance activities for influenza and other related disease factors/events that are required, including adverse influenza vaccine and antiviral drug reactions.
- ❑ Developing and maintaining coordinated communication strategies, plans and frameworks during the inter-pandemic period for use during pandemic periods.
- ❑ Nominating their respective representatives to the PIC.
- ❑ Developing and participating in coordinated training and simulation exercises, including the coordination of emergency and contingency plans, designed to achieve emergency preparedness and to test, assess, evaluate and adjust pandemic influenza response capacity.
- ❑ Mobilizing required resources (e.g., medical, scientific, technical, emergency response and other resources, etc.) within their respective jurisdictions to respond to the influenza pandemic in the context of the CPIP.
- ❑ Developing negotiation and indemnification strategies with Public Works and Government Services Canada to require through the contracting process that manufacturers/fabricators/suppliers provide indemnification or purchase commercial insurance coverages suitable to provide protection, particularly at the time of an influenza pandemic.
- ❑ Stockpiling essential emergency supplies that might be routinely and ordinarily associated with the planning and preparation for an influenza pandemic (e.g., mobile hospital beds, syringes, etc.).
- ❑ Developing and maintaining the CPIP.
- ❑ In addition, the Federal Minister of Health through Public Works and Government Services Canada, and the P/T Ministers of Health are responsible for:

- Identifying inter-pandemic and pandemic period manufacturers/fabricators/suppliers of influenza vaccine and antiviral drugs, as the case may be.
- Developing contracts with manufacturers/fabricators/suppliers, and coordinating and maintaining a secure supply of influenza vaccines and antiviral drugs for the pandemic period.

PIC Responsibilities

- ❑ Identifying and/or developing a framework for evaluating the process and the outcome of the individual and the collective responses of all parties to an influenza pandemic.
- ❑ Drafting safety and performance evaluation criteria against which to evaluate the activities of all parties and their handling of pandemic influenza.
- ❑ Coordinating preparatory activities.
- ❑ Providing expertise, advice and recommendations concerning public health, care and treatment, microbiology, immunology, epidemiology, and ethics including:
 - Ongoing and timely medical, scientific and public health advice.
 - Review of the pandemic influenza response capacity.
 - Modifications to pandemic influenza surveillance activities or special studies/investigations to be carried out by the parties and estimating resulting costs.
 - Equitable allocation of available influenza vaccine during a pandemic.
 - Policy issues requiring immediate resolution and referring them to the F/P/T Ministers of Health.

Federal Responsibilities

- ❑ Entering agreements and arrangements with international organizations such as the WHO to support surveillance, coordination and investigation activities.
- ❑ Producing, allocating, and overseeing the distribution of specialized diagnostic reagents and technical information to provincial and territorial public health laboratories.
- ❑ Receiving and characterizing viral isolates and sending representative strains to the US CDC, a WHO collaborating centre.
- ❑ Providing liaison with the CDC and the WHO for influenza surveillance and epidemiology, including issues related to laboratory diagnostic methods and the typing of strains.
- ❑ Designing, organizing and supporting special national studies required to better define burden of disease or evaluate pandemic influenza response capacity.
- ❑ Pursuant to Federal legislation, for licensing establishments and influenza vaccines and antiviral drugs for sale.
- ❑ Instructing manufacturers/fabricators/suppliers pursuant to contractual provisions to obtain, from time to time, appropriate quantities of a specified seed virus identified by the WHO for the purpose of manufacturing domestic and/or off-shore influenza vaccine supplies.
- ❑ Assisting in the identification of alternative potential sources of influenza vaccines, as required.
- ❑ Instructing Public Works Government Services Canada (Canada's federal procurement arm) that administrative contractual services be provided to acquire influenza vaccine and antiviral drugs for the pandemic period.

- ❑ Making reasonable efforts to enter into agreements with foreign governments and or international agencies that have sources of influenza vaccine supply in order to enhance the protection of Canadians during an influenza pandemic by identifying secure supplies of influenza vaccine and antiviral drugs during interpandemic periods.
- ❑ Providing administrative support for PIC.
- ❑ Developing and maintaining the Canadian Pandemic Influenza Plan.
- ❑ Assisting in the planning for international coordination of influenza vaccine supplies during an influenza pandemic and consulting with P/T Ministers of Health on the potential impact of this activity on their influenza vaccine supply.
- ❑ Enabling the establishment of a national (i.e. domestic) influenza vaccine capacity for pandemic needs of an amount up to 8.0 million doses per month, including ongoing monthly supply of fertilized hens' eggs needed for egg-based component of this capacity.
- ❑ Making available influenza vaccine and antiviral drugs for specific populations (e.g. military, RCMP, First Nations, and others), and coordinating with P/Ts in the distribution and administration of influenza vaccine and antiviral drugs to those specific populations.
- ❑ Acting as lead Federal authority on this health matter, to involve all other appropriate Federal Ministers (e.g., Defence, Finance, Citizenship and Immigration, etc.) in effecting an emergency response.

P/T Responsibilities

- ❑ Providing Influenza prevention, treatment and control consistent with policies and procedures within their jurisdictions, including the distribution of influenza vaccine and antiviral drugs.
- ❑ Coordinating with the Federal government about the distribution of influenza vaccine and antiviral drugs to First Nations and military and RCMP personnel.
- ❑ Ensuring that their respective pandemic influenza contingency plans are developed and adopted and that these contingency plans and appropriate guidelines are regularly updated.
- ❑ Participating in national surveillance activities by monitoring and reporting diseases caused by influenza virus and related diseases/conditions, and use their best efforts to take steps within their authority to cooperate with the Federal Minister of Health and PIC with regard to national surveillance activities.
- ❑ Maintaining provincial and territorial surveillance activities, including, the isolation, antigen detection, serology, and strain identification for influenza viruses and the participation in Influenza proficiency tests.
- ❑ Investigating outbreaks and clusters of influenza-like illness.
- ❑ Sending influenza virus isolates and reporting the extent of influenza-like illness to Health Canada.
- ❑ Designing, organizing and supporting special studies of provincial or territorial focus required to better define burden of disease or evaluate pandemic influenza response capacity.
- ❑ Considering in a timely manner the recommendations of PIC and taking steps to adopt those that they have accepted and that fall within their scope of responsibilities as identified in the Working Agreement.
- ❑ Undertaking promotional and other activities to decrease annual morbidity and mortality due to Influenza.

- ❑ Acting as lead authorities in their respective jurisdictions on this health matter, to involve all other appropriate P/T Ministers in effecting an emergency response.
- ❑ Undertaking periodic reviews of immunization prioritization schemes for influenza vaccines and antiviral drugs.

PANDEMIC

Joint F/P/T Responsibilities

- ❑ Monitoring, reviewing and assessing any issues where immediate intervention may be required to ensure the health and safety of Canadians.
- ❑ Ordering influenza vaccine and antiviral drugs and considering the need for, and ordering if necessary, any additional influenza vaccine in preparation for a second wave of pandemic influenza.
- ❑ Refining coordinated and targeted communication strategies to keep the public, health professionals and any other persons or groups informed particularly in regards to the influenza pandemic and the recommendations on the use of influenza vaccines and antiviral drugs.
- ❑ Disseminating communication and educational information concerning the first and second waves of the influenza pandemic and providing communication and educational information concerning the potential for a second wave of pandemic influenza.
- ❑ Deactivating their respective contingency plans for pandemic influenza.

PIC Responsibilities

- ❑ Confirming that the conditions, based on an independent assessment of the information/intelligence and not necessarily subject to a declaration by the WHO, for an influenza pandemic have been met and recommending to the F/P/T Ministers of Health that contingency plans for pandemic influenza be activated.
- ❑ Recommending vaccine composition, number of doses, priority groups to receive influenza vaccine and antiviral drugs, standards or acceptable rates for adverse influenza vaccine and antiviral drug reactions, mechanisms and time frames for reporting, the equitable distribution of available products to prevent or treat pandemic influenza, modifications to Influenza surveillance and communications strategies.
- ❑ Assessing influenza vaccine coverage, disease impact, making recommendations concerning vaccine composition and updating guidance concerning use, and equitable distribution of influenza vaccines.
- ❑ Taking into account influenza vaccines and antiviral drugs that may remain following the first and second waves of the influenza pandemic and making recommendations concerning their alternate use and redistribution.
- ❑ Recommending enhanced surveillance and targeted studies to better monitor and define the influenza pandemic in Canada, and refine safety and performance evaluation criteria.
- ❑ Proposing or developing criteria that can be used by itself or others to assist in the post pandemic evaluation of recommendations concerning processes and outcomes during the influenza pandemic.
- ❑ Recommending the influenza pandemic be declared over.

Federal Responsibilities

- ❑ Declaring the activation of the pandemic phase of the CPIP.
- ❑ Providing liaison with other countries and international organizations.
- ❑ Allocating scarce influenza vaccine on an equitable basis to P/T based on the recommendations of PIC.
- ❑ Collaborating with other government departments, in consultation with *Public Safety and Emergency Preparedness Canada (PSEPC)* to activate emergency response teams (e.g., RCMP, military, others) as required.
- ❑ Communicating on an urgent basis with P/T Ministers of Health to resolve any urgent policy and operational issues identified by PIC or others that will impact any pandemic influenza response capacity.
- ❑ Considering in a timely manner the recommendations of PIC and taking steps to adopt those that fall within the federal scope of responsibilities set out in the Working Agreement.

P/T Responsibilities

- ❑ Activating, operationalizing and/or implementing their respective contingency plans.
- ❑ Communicating on an urgent basis together with their federal colleague to resolve any urgent policy and operational issues identified by PIC or others that will affect any pandemic influenza response capacity.

POST-PANDEMIC

Joint F/P/T Responsibilities

- ❑ Reviewing, evaluating and taking measures to improve or enhance their respective roles following the conclusion of an influenza pandemic; the pandemic influenza response capacity.
- ❑ Collaborative research activities.

PIC Responsibilities

- ❑ Recommending post-pandemic studies to assist in evaluations of the pandemic influenza response capacity including, any medical, scientific and technical aspects; and submitting to F/P/T Ministers of Health a report together with its recommendations for future pandemics.

ANNEX I: INFECTION CONTROL GUIDELINES FOR PANDEMIC INFLUENZA MANAGEMENT

During an influenza pandemic, adherence to infection control practices is extremely important to prevent transmission of influenza. These guidelines for the management of pandemic influenza in traditional and non-traditional health care settings are based on published guidelines from the Population and Public Health Branch of the Public Health Agency of Canada and the Canadian Pandemic Influenza Committee. The web sites and ordering instructions for these resources are at the end of this annex.

I.1. Mode of Transmission

Influenza is transmitted by:

- Droplet contact of the oral, nasal or possibly conjunctival mucous membranes with the oropharyngeal secretions of an infected individual.
- Indirect contact from hands and articles freshly soiled with discharges of the nose and throat of an acutely ill individual.
- Droplet transmission from the respiratory tract of an infected individual.
- Possibly by the airborne route (controversial) during aerosolizing procedures.

Incubation and Period of Communicability:

- Incubation period of 1-3 days.
- Influenza is communicable for 24 hours before onset of symptoms and 3-5 days after onset of symptoms (may be longer in children and some adults).

Note: Influenza A and B can survive on hard surfaces for 24-48 hours, on softer (porous) surfaces for 8-12 hours, and on the hands for up to 5 minutes.

I.2. Basic Guidelines/Strategies

Most health care settings use similar systems of Infection Control Precautions, but may call them different names, e.g., body substance precautions, universal precautions or standard precautions. These systems may vary slightly from area to area but the guiding principles are the same. The term Routine Practices will be used in this document when referring to Infection Control Precautions.

To assist with communication and consistency in applying the evidence based precautions, it is recommended that each region/area attempt to develop a standard system of Infection Control Precautions that can be used through all phases of the pandemic influenza planning.

The Public Health Agency of Canada provides two guidelines: (to obtain copies, see resources at end of this section):

1. *Routine Practices and Additional Precautions for Preventing the Transmission of Infection in Health Care* has current infection control recommendations for acute care; long term care and ambulatory care facilities and home care. It also provides tools to assist in the implementation of these practices.
2. *Infection Control Guidelines for Hand Washing, Cleaning, Disinfection and Sterilization in Health Care* has recommendations for hand washing, gloves, cleaning and processing of patient care equipment, housekeeping, laundry and waste management.

I.3. Routine Practices and Additional Precautions to Prevent the Transmission of Influenza

Pre-Pandemic Phase

During the inter-pandemic years, Public Health Agency of Canada guidelines recommend routine practices for the care of all patients with the addition of droplet and contact precautions for adults presenting with acute respiratory illness and pediatric patients. Children and adults, who have the physical and cognitive abilities, should be encouraged to practice good hand hygiene and good personal hygiene.

Routine Practices:

Routine practices are the infection prevention and control practices used in the routine care of all patients at all times in all health care settings. Routine practices emphasize the importance of hand washing; the need to use gloves, masks/eye protection/face shields, and gowns when splashes or sprays of blood, body fluids, secretions or excretions are possible. These same precautions should be taken when cleaning patient-care equipment, the environment, soiled linen, waste disposal, and during patient placement. These routine practices reduce the possibility of HCW exposure to blood borne pathogens and other infectious pathogens.

Additional precautions are required when routine practices are not sufficient to prevent transmission.

Droplet precautions:

Droplet precautions include the use of personal protective equipment, such as mask, goggles/face shield when providing care, placing the patient in a private room or cohorting the patient with another patient with influenza. Droplet precautions should be practiced during any procedure that may result in aerosolization, e.g., respiratory intubations, bronchoscopy, cardio-pulmonary arrest management.

Contact Precautions

Contact precautions include: wearing gloves and gowns when providing care to the patient and when in contact with frequently touched environmental surfaces or objects that may be contaminated, placing the patient in a private room or cohorting the patient with another patient with influenza.

Droplet and contact precautions are described in Routine Practices and Additional Precautions for Preventing the Transmission of Infection in Health Care for each of the health care settings.

Hand Hygiene

Hand hygiene is an important step in preventing the spread of infectious diseases, including influenza. Hand hygiene procedures using soap/water or alcohol based hand rubs are outlined in Appendix 3 of Annex F (<http://www.phac-aspc.gc.ca/cpip-pclcpi/pdf-cpip-03/cpip-appendix-f.pdf>) in the *Canadian Pandemic Influenza Plan*

Strict adherence to hand washing/hand antisepsis recommendations is the cornerstone of infection prevention and control and may be the only preventive measure available during a pandemic.

Note: The influenza virus is readily inactivated by hospital germicides, household cleaning products, soap, hand wash or hand hygiene products. Therefore, neither antiseptic hand hygiene products in health care settings nor antibacterial hand hygiene products in home settings are required because regular products, when used correctly will inactivate the influenza virus.

Patient Placement

If possible, patients with influenza or influenza-like symptoms should be separated from patients without symptoms. In order of preference ill patients should be:

- Placed in a single room.
- Cohorted in a semi-private room.
- Cohorted in a ward room.
- Separated by at least one meter in other locations (avoid crowding).

Other Activities to Limit Spread of Influenza

Staff working with symptomatic patients should avoid working with patients who are not symptomatic, as much as possible (staff cohort). This can be accomplished as follows:

- Attempt to rearrange staffing assignments to accommodate as many of the same staff as possible working with symptomatic residents
- Keep symptomatic patients in room until symptoms cease
- Limit movement/activities of patients including transfers within the facility
- Avoid group activities

Pandemic Phase

Routine practices and additional precautions to prevent the transmission of infection during a pandemic are important. Some infection control strategies may be achievable only in the early phases of the pandemic and other recommendations may not be achievable as the pandemic spreads and resources (equipment, supplies, private rooms, and workers) become scarce.

The complexity of management of high-risk patients will be greatest in acute care hospitals where patients with other respiratory communicable diseases will also continue to be admitted. Therefore, infection control resources may need to be prioritized to the acute care settings.

*Mask Use During an Influenza Pandemic**

(*Refers to surgical masks, not special masks or respirators)

There is a lack of evidence that the use of masks has prevented the transmission of influenza during previous pandemics.

Masks may be useful in the early phase in the acute care hospital during face-to-face contact with coughing individuals, especially when immunization and antivirals are not yet available. The use of masks is not practical or helpful when transmission has entered the community. However, masks should be worn by health care workers for other known or suspected respiratory communicable diseases.

Masks should be worn by HCWs as outlined in routine practices when splashes or sprays of blood, body fluids, secretions or excretions to the mucous membranes of the mouth are possible or as described under contact droplet precautions. A particulate respirator (N95 mask) is required for organisms spread by the airborne route, e.g. TB, measles, chickenpox, and during aerosolizing procedures with patients suspected or known to have organisms spread by droplet transmission.

Public Health Restrictions and Public Gatherings

The Medical Health Officer has the authority under the Communicable Disease Regulations of the *Public Health Act* to institute community-based infection control measures such as:

- Closure of community facilities (e.g. schools, community centers)
- Cancellation of group events

Medical Health Officers should work together to develop a predetermined strategy for closing public gatherings. If public gatherings are restricted, they should be restricted early enough to affect disease transmission. The strategy should include (but is not limited to):

- The definition of what constitutes a public gathering.
- Specifying the time period within the pandemic strategy to implement the strategy.
- Applicability and consistency across jurisdictions.
- Availability and priority use of vaccine and antivirals.

- ❑ Considerations as to whether school aged children are included in the high priority for immunization or antivirals in the early phase of the pandemic.

Resources

- ❑ Routine Practices and Additional Precautions for Preventing the Transmission of Infection in Health Care:
<http://www.hc-sc.gc.ca/hpb/lcdc/publicat/ccdr/99vol25/25s4/index.html>
- ❑ Infection Control Guidelines for Hand Washing, Cleaning, Disinfection and Sterilization in Health Care: <http://www.hc-sc.gc.ca/hpb/lcdc/publicat/ccdr/98pdf/cdr24s8e.pdf>

To obtain additional copies or subscribe to the Canada Communicable Disease Report, please contact the Member Service Centre, Canadian Medical Association, 1867 Alta Vista Drive, Ottawa, Ontario Canada, K1G 3Y6. Telephone 613-731-8610, ext 2307 or 888-855-2555 or by fax 613-236-8864 or visit their web page:

<http://www.hc-sc.gc.ca/pphb-dgspsp/publicat/ccdr-rmtc/04vol30/index.html>

ANNEX J: NON-TRADITIONAL SITES

J.1. Introduction

During an influenza pandemic, it is predicted that 15-35% of the population will become clinically ill. The majority of illnesses and death will tend to occur over a six to eight week period in any locality. Consequently, the number of outpatient visits and hospitalizations will rise well beyond our current capacity. Estimates of the health and economic impact of a pandemic in Canada and British Columbia have been performed using a model developed by Meltzer and colleagues, CDC Atlanta (see [Annex B](#)).

Due to the large number of patients who will require medical services during an influenza pandemic, communities and healthcare organizations must put in place guidelines to follow if/when healthcare organizations are overwhelmed. The use of non-traditional sites (NT sites) for the provision of medical care and the need for additional human resources must be considered as strong possibilities and planned for accordingly.

Human Resource issues must be addressed when considering plans for the use of non-traditional settings. HR planning should include: spectrum of practice for both HCWs and volunteers; staff mobility between sites and/or jurisdictions; and compensation.

J.2. Definition of a Non-Traditional Site (NT Site)

A non-traditional site is a site that is:

- Currently not an established healthcare site; or
- Is an established healthcare site that usually offers a different type or level of care.

The functions of a non-traditional site will vary depending on the needs of the community but will focus on monitoring, care and support of influenza patients during an influenza pandemic.

J.3. Use and Selection of Non-Traditional Sites

The role of any NT site will depend on the needs of the community and the resources available. It is expected that NT sites will be used during the pandemic for several purposes:

- Extensions of overloaded hospitals and clinics, for the care of influenza patients that are not critically ill or not well enough to return home.
- Domiciliary care, for individuals unable to care for themselves at home.
- Triage Settings: Upon declaration of the Pandemic in BC, triage settings will be established to facilitate efficient and consistent assessment for those with influenza like illness.
- Temporary Influenza Hospitals: Upon declaration of the Pandemic in BC, triage settings will be established to provide care for patients who are unable to be cared for at home and not ill enough for an acute care hospital.

- ❑ Self Care Settings: Care is provided at home by family members, neighbors, volunteers or individuals themselves.

See the Canadian Pandemic Influenza Plan Annex J (<http://www.phac-aspc.gc.ca/cpip-pclcpi/pdf-cpip-03/cpip-appendix-j.pdf>) for infection control guidelines for all non-traditional settings.

The following issues should be considered when selecting a NT site:

- ❑ Patients in these settings will either be ill with the pandemic strain of influenza or will have recovered from the pandemic strain of influenza; thus patient to patient transmission of influenza will not be a concern.
- ❑ Care at NT sites should be limited to supportive or palliative care for influenza patients. Critical care would likely not be possible within these sites and should remain in acute care settings.
- ❑ Persons with immunosuppressive illness or other communicable diseases (e.g. tuberculosis, chickenpox) should not be admitted to these sites.
- ❑ In communities with a high proportion of elderly or high risk persons, the role of the NT site may need to be expanded to include the provision of health care services specifically related to dealing with the exacerbation of co-morbidities.

J.4. Administrative Options for Non-Traditional Sites

NT sites may be established as a “satellite site” of an acute care facility or other health care facility (also known as the parent organization), or as a “free-standing site”. The “satellite site” model is advantageous since it does not require establishment of a separate administrative structure. Linkage with an existing acute care facility or other health care facility would facilitate the following:

- ❑ Prompt implementation of an administrative structure.
- ❑ Ordering, tracking and maintenance of equipment and supplies.
- ❑ Implementation of record keeping and patient tracking systems.
- ❑ Implementation/establishment of nursing protocols and patient care guidelines.
- ❑ Sharing of expertise and human resources between sites.
- ❑ Access to services such as sterilization, laboratory services, pharmacy services, laundry, food services.
- ❑ Establishment of triage, transfer and transport agreements between the NT site and the affiliated health care facility or referral hospital.
- ❑ Extension of liability, workers compensation and other site insurance.

Free-Standing Sites

Where it is not possible to set-up a “satellite site” the establishment of “free-standing sites” will be necessary. Planning for the administration of “free-standing sites”, including how the issues listed above will be dealt with at the site, will need to be completed during the inter-pandemic period.

Designating an Administrator

Regardless of the administrative structure of the site, an individual or team needs to be designated to oversee the care provided in each NT site. This person/team should:

- monitor patient flow,
- maintain a log of patient activity including patient outcomes, and
- monitor availability of supplies.

Delegation of these responsibilities to ensure ongoing and consistent administration of the site needs to be planned for in advance.

J.5. National Emergency Stockpile System (NESS)

In the event of a pandemic, specific kits or units from the stockpile could potentially be used to facilitate reception, intake, triage and provision of medical and social services at a NT site. The National Emergency Stockpile System (NESS) was developed primarily for use in crises such as natural disasters, earthquakes, or other emergencies in which there is a sudden need for supplies and equipment to deal with a large number of people with varying medical needs. The program involves the purchase, packaging, shipping and storing of supplies and equipment organized into kits designed to meet specific emergency medical needs. The components of the kits are packaged and stored in warehouses across Canada to facilitate timely distribution. The NESS should not be confused with provincial emergency stockpiles that may exist within each province or territory.

In the event of a local emergency that overwhelms municipal resources, the municipality must contact the provincial/territorial emergency management authorities to access the NESS program. Release of equipment or supplies must then be coordinated through the Provincial/Territorial Ministry of Health Emergency Management Branch, or Manager of Emergency Social Services Office. In certain cases the distribution of drugs is directed by the provincial Chief Medical Officers of Health.

J.6. Pre-Pandemic (Inter-Pandemic) Period

The following activities should take place during the inter-pandemic period.

Review Emergency Legislation

Emergency preparedness legislation makes many provisions for the management of a crisis including obtaining and accessing materials and other resources, as well as implementation of a crisis plan and a crisis management structure. Pandemic Planning should be integrated with the emergency plans of the jurisdiction in order to make best use of existing plans and resources.

IMPORTANT NOTE Regional Pandemic Plans should not assume that a National or Provincial Emergency will be declared, as this may not occur during a pandemic

Identify Triggers for Implementation

Since it is unlikely that the pandemic will start in Canada, the first trigger for the consideration of establishing NT sites may be reports of the severity and epidemiology of the pandemic from other countries. This will likely be the first indicator of what to expect when the pandemic reaches Canada in terms of demand on traditional health services.

Once the Provincial Health Officer has declared the pandemic in British Columbia, it will be up to each health authority and health care organization/facility to activate its emergency health services plan which includes the establishment of NT sites.

Assess Locations for Potential NT Sites

It is strongly recommended that a multi-disciplinary team approach be used to assess potential NT sites in a jurisdiction, to ensure suitability of a potential site. Ideally, the assessment team (see [Appendix J-1](#)) should include:

- emergency personnel, including police, fire and ESS;
- health care personnel, including public health, infection control, etc.;
- engineering, maintenance, public works staff; and
- others as required.

Possible Sites

This team should conduct a community-wide space and site inventory to determine the location and availability of potential sites for NT hospitals. This assessment should be repeated at regularly scheduled intervals during the inter-pandemic period to ensure the identified sites remain suitable. Potential NT sites include, but are not limited to:

- schools;
- hotels;
- banquet facilities;
- arenas;
- churches and temples;
- closed hospitals; and
- daycare centers.

For each location, assess the feasibility of its use and its role as a NT site based on the information below and the intended use for the facility. Locations which are not suitable for inpatient care may be considered for another purpose such as triage or education/counselling services.

Because the agencies or companies which own these facilities must be aware of and may assist in this process, planners are encouraged to develop and maintain relationships with school boards, religious organizations and community businesses. This will help to ensure a smooth transition if and when these facilities are required. *Do not assume that other agencies maintain these relationships – contact your Health Authority Emergency Planner, local Emergency Social Services, Ministry of Health Emergency*

Management Branch, Ministry of Health Services, Ministry of Education and others to determine what protocols or plans have been made to use local facilities.

Characteristics and Services Required for an Inpatient Setting

Each building under consideration for a NT site must meet the National Building Code standards for its currently designated building type. Once building codes have been assessed, the following issues need to be considered:

- ❑ Adequacy of external facilities:
 - public accessibility (including public transport, parking, directions);
 - off-loading;
 - traffic control;
 - disabled access; and
 - other as needed.

- ❑ Adequacy of internal space:
 - washrooms and sinks, amenities, function;
 - kitchen, refrigerator, dishes, dishwashing capability, food prep areas etc.;
 - secure space for administration/patient records;
 - space for reception, waiting, patient care, patient family education, counselling/support;
 - secure storage capability for pharmacy and other supplies;
 - mortuary space (contact local funeral directors); and
 - ability to maintain a 1 meter separation between inpatient beds.

- ❑ Adequacy of critical support systems for site to provide patient care:
 - ventilation systems (adequate air flow, air conditioning, heating);
 - physical plant/building engineering;
 - electricity – power for lighting, sterilizers, refrigeration, food services;
 - natural gas supply – e.g., for heating or electricity or cooking;
 - water supply; and
 - sanitation (including number of toilets, showers or washing facilities).

- ❑ Arrangements to provide essential support services required for in-patient care:
 - security;
 - communications capacity;
 - maintenance;
 - laundry/environmental services;
 - sterilization services—trained and experienced personnel using certified equipment should be responsible for sterilization of equipment. Appropriate arrangements for sterilization services e.g., with a hospital, may be required;
 - pharmaceutical services;
 - medical waste disposal/storage;
 - mortuary funeral services;
 - food services; and
 - facilities for staff lodging and feeding.

Infection Control

(See [Annex I](#))

- ❑ When planning for a NT site it is important to establish whether the site will focus only on the care of influenza patients or whether other types of patients will be receiving services at these sites. Infection control issues will be greater if transmission of influenza to other patients is a possibility.
- ❑ All patients should be separated by at least one meter, as is the norm for patients with any medical condition.
- ❑ If non-influenza patients will be seen at these sites, separate waiting areas should be considered for potential influenza patients.
- ❑ For NT sites focusing on influenza, there appears to be no infection control basis for segregating people at various stages of illness.
- ❑ In either situation healthcare workers and visitors to the site will need to be educated regarding appropriate infection control practices.
- ❑ Infection Control Guidelines for this setting can be found in the Canadian Pandemic Influenza Plan (Appendix J, Part C Sections 1 and 3).

Security and Safety

- ❑ Safety of buildings will be based on the National Building Code and CSA Standards.
- ❑ Security includes security of access, security of medications, and the security of patients and staff.
- ❑ Security must be considered in choosing sites as well as when planning staff needs.

Plan for Critical Equipment and Supplies

(Also see General Health Service Planning Principles, [Annex E](#))

- ❑ During the inter-pandemic period planners should identify critical equipment and supplies necessary for the establishment and operations of NT sites. Sources of supplies need to be identified; expected needs during a pandemic and the ability to meet those needs should be discussed with all possible suppliers. Potential access to the NESS should also be addressed.
- ❑ A pandemic will likely result in shortages of medications, medical supplies and potentially operational supplies. Since other jurisdiction - including other countries - will potentially be affected by these shortages, the response plan should NOT rely heavily on outside assistance in terms of the provision of supplies and equipment.

Transportation and Supply Logistics

Each health authority and health care organization (facility) needs to plan how supplies will be managed. Transportation planning for NT sites should include consideration of the types of supplies and products that will need to be transported to and from the NT sites, who will provide these services and whether the site has appropriate delivery access.

Stockpiling

- ❑ Each region and local health authorities may wish to review the possibility of rotating stockpiles of supplies for NT sites within their own jurisdiction, e.g. beds, ventilators. An assessment should be made of the maintenance and training required to ensure the safety and effectiveness of any older equipment that is stored.
- ❑ Stockpiling of antiviral drugs will be addressed on a national level.
- ❑ The feasibility of stockpiling critical medications for the care and management of patients with influenza and secondary pneumonia should also be explored.

Equipment and Supplies

(See other Annexes of this plan, and Annex J of the Canadian Pandemic Influenza Plan: <http://www.phac-aspc.gc.ca/cpip-pclcpi/pdf-cpip-03/cpip-appendix-j.pdf>)

The services offered at each NT site will dictate equipment and supply needs. The following is a preliminary list for NT sites:

- ❑ beds, bedding;
- ❑ lights;
- ❑ intravenous equipment;
- ❑ sterilizers;
- ❑ sphygmomanometer, stethoscopes, thermometers;
- ❑ miscellaneous supplies (e.g., dressings, antiseptics, bandages, steristrips, gloves, alcohol based hand sanitizers, alcohol sponges, gauze sponges, arm boards, pulse oximeter, batteries, flashlights, scissors, tongue blades, portable lamps);
- ❑ emergency drugs;
- ❑ airway supplies (masks, ambu-bags, oxygen equipment, oral airways);
- ❑ suction equipment;
- ❑ patient identification tools;
- ❑ privacy screens;
- ❑ communications (telephone, fax, cell, radio or alternatives for isolated communities); and
- ❑ computer and internet access.

Plan for the Triage Process

Triage is defined as a process whereby a group of casualties or patients is sorted according to the seriousness of their illness or injuries, so that treatment priorities can be allocated among them. In emergency situations it is designed to maximize the number of survivors.

In order to reduce demand on hospital emergency departments and, potentially, on family physicians and walk in clinics, it may be necessary to perform triage at NT sites during the pandemic. The use of such a system requires a significant public awareness campaign since ill people tend to seek services from their usual healthcare providers.

Designation of NT sites as triage centres specifically for influenza-like illness has the added advantage of potentially reducing exposure of other patients to influenza. It also ensures consistent

application of current recommendations through the use of patient care protocols and controls the number and type of other services, such as laboratory testing and chest x-rays that are being ordered. Non-traditional sites may be established at public health clinics/units, specifically identified walk-in clinics, or triage centres adjacent to or associated with acute care institutions.

Triage sites will need to be organized to provide streamlined and efficient service. The following table is provided for planning purposes and suggests how a site may be organized.

Table J-1: Suggestions for Triage Site Planning

Zone	Service	Training Required
Registration Zone	register in-coming patients; infection control practices	trained non-medical workers
Waiting Zone	awaiting primary assessment	medical professional with trained non-medical workers
Primary Assessment Zone	vital signs/chest auscultation and assessment	trained non-medical workers, medical professional (physician/nurse)
Secondary Assessment Zone	on-site lab tests/secondary assessment	medical personnel; physicians, nurses, lab workers, x-ray technicians
Advanced First Aid & Transfer Zone	service to patients while they await transfer to emergency department	advanced first aid for trained non-medical workers, ambulance/transport attendants and nurses
Education Zone	education resources/advice	trained non-medical/nurses
Discharge Zone	follow-up/transfer	trained non-medical

J.7. Pandemic Period

The following activities should occur during the pandemic, when there are indications that NT sites will be required:

Re-evaluate plans based on WHO and Public Health Agency of Canada epidemiological projections

Regional and local planners may need to re-evaluate what sites and services are required based on attack rates and the demographics of the groups most affected.

Appoint Site Administrators/Managers or Teams

Each NT site will require a site administrator/manager or team to locate the site, set up, manage adaptations, schedule staff, oversee movement of supplies, maintenance etc. and continue to operate the site. Depending on the size and function of the NT site, this may require on site-management 24 hours a day, 7 days a week for the duration of the epidemic wave. The nature of the task and the fact that anyone may fall ill or be incapacitated requires that all such managers have people to whom they can delegate authority.

Implement Plans to Prepare the Site(s)

The ESS Office, Ministry of Public Safety and Solicitor General, has developed Reception Centre Operational Guidelines for the planning and operation of a Reception Centre. Every ESS team in the province has been provided a copy of these guidelines and are also available on the ESS Program Office website at <http://www.mhr.gov.bc.ca/ess/reception.htm>.

Tasks to prepare the Site(s):

- Contact those currently responsible for the site.
- Conduct a walk through of the site to determine any problems or needed emergency upgrades.
- Ensure heat/light/power/water/telephone is operational.
- Ensure adequate furniture and position.
- Remove any obstructions, tripping hazards, impediments to flow, etc.
- Affix or erect any directional signs.
- Identify various rooms/areas for specific functions (rest, food services, intake, etc.).
- Ensure adequate hand hygiene stations are available.
- Document and report any deficiencies in facilities.
- Arrange to move out and store any equipment that will not be needed (e.g. desks, chairs).
- Clean and disinfect the site.
- Contact any required transportation providers.
- Pre-determined spokesperson will notify media for public direction.
- Determine staff support, e.g. electrician, plumber, public health inspector, public health nurse, Occupational Health and Safety personnel.
- Determine municipal support.
- Address financial implications, ideally using previously established accounts.
- Notify garbage, biomedical waste and recycling removal contractors as required.
- Notify staff, volunteer agencies, and specialty personnel.
- Ensure permit for changing use of the facility has been obtained from the municipality.
- Ensure insurance is in place.

Coordinate Procurement of supplies

- Contact stationary, office and support equipment providers, arrange transportation if required.
- Contact identified food suppliers and transporters (allow as much lead time as possible).

J.8. Post-Pandemic Period

- The possibility of subsequent waves of the pandemic, and the resources that would be required during those waves, will be considered before decommissioning NT sites.
- The PHO will declare when the influenza pandemic is over.
- Direction for the decommissioning of NT sites will come from health authority medical health officers.

Activities at NT sites during the post-pandemic period will focus on:

- Discharging or re-location of patients.
- Redeployment of human and other resources.
- Redistribution of supplies, to be stored or returned to stockpiles.
- Storage of medical records.
- Notifying insurers of the date the site was decommissioned in order to discontinue coverage.

- ❑ Evaluation of the effectiveness of NT sites in a pandemic and revision of the plan accordingly.

APPENDIX J-1: NON-TRADITIONAL SITES ASSESSMENT TEAM

Table J-2: NT Sites Assessment Team

Service	Names	Telephone	E-mail
Health Services, Acute Care			
Health Services, Residential Care			
Health Services, BC Ambulance Services			
Local Government, Emergency Social Services			
Public Health Services			
Environmental Health Services			
Other(s)			

APPENDIX J-2: NON-TRADITIONAL SITE LIST

Table J-3: NT Sites List

Location	Type of Care	Beds & # of Rooms	Storage	Receiving	Waiting area/Triage	Parking & Traffic flow	Communications telephone/fax, data	Administrator(s)

ANNEX K: COMMUNICATIONS PLANNING - MINISTRY OF HEALTH/BCCDC

INTRODUCTION

An influenza pandemic occurs when a new influenza virus appears that is transmitted from human-to-human and against which humans have no immunity. This can result in several, simultaneous epidemics worldwide with large numbers of illness and death. The World Health Organization (WHO) experts are predicting that with the increase in global travel and goods, and with the increased numbers of people living in urban environments, when a new strain of influenza emerges it will spread rapidly around the globe.

Planning and preparation at all levels – provincial, regional, local and personal – is key to helping deal with and mitigate the effects of a pandemic. However, pandemics pose a unique set of problems, which distinguish them from other types of emergencies:

- it is likely a pandemic will originate outside of North America, and we may have advance warning of its arrival
- outbreaks will occur simultaneously across the country, preventing reallocation of human and other resources from one jurisdiction to another
- a pandemic could last for several months, which sets it apart from other emergencies which may last for several hours or days
- health care workers and other first responders will likely face a higher risk of infection than the general population, reducing response capacity
- widespread illness will increase the likelihood of personnel shortages in other key areas such as police, fire, utility and transportation services

The Province and the BC Centre for Disease Control (BCCDC) has developed the B.C. Pandemic Influenza Preparedness Plan to ensure the province is prepared to deal with this kind of event. Each B.C. ministry, Crown Corporation, Health Authority and local governments is also responsible for planning for a pandemic, with the requirement that their plans be consistent with British Columbia's. All provincial planning underway for pandemic influenza is consistent with the plans of both the World Health Organization (WHO) and the Public Health Agency of Canada (PHAC) Pandemic Plans and principles.

Participants involved in pandemic planning for British Columbia include:

- * Ministry of Health Services
- * Provincial Health Officer
- * British Columbia Centre for Disease
- * Provincial Emergency Program, Ministry of Public Safety and Solicitor General
- * Provincial Health Services Authority
- * Medical Health Officers
- * Public Health Nursing
- * Paramedics/Emergency Physicians
- * Ministry of Employment and Income Assistance
- * BC Coroner Service
- * BC Pharmacists Association

- * Union of BC Municipalities
- * Occupational Health and Safety Agency for Healthcare in B.C.
- * Funeral Association of B.C.
- * BC Professionals in Infection Control
- * Workers' Compensation Board
- * Public Health Agency of Canada
- * Health Canada

(Note: where an animal-borne flu strain is involved, Agriculture Canada, Canada Food Inspection and the BC Ministry of Agriculture and Lands will be informed and involved).

Communications planning is a vital part of pandemic planning. The Ministry of Health Public Affairs Branch (HPAB) is working with Health Authorities and other organizations to assist in the development of a coordinated response in the event of a pandemic. The B.C. government, Health Authority and local government pandemic communication plans must be compatible with the BC Emergency Management Structure (BCERMS). BCERMS provides a common organizational structure and control, and enhances communication between agencies responding to an emergency or disaster.

BACKGROUND

The WHO is a United Nations specialized agency for health, established in 1948. The organization is responsible for global surveillance of influenza virus. It has a network of 112 National Influenza Centres on all continents to monitor influenza activity and isolate influenza viruses.

Pandemics generally occur every 40 years, with the last in 1967. Experts at the WHO are predicting a global influenza pandemic could emerge in the near future. It is uncertain which influenza strain will emerge and how severe the impact will be. Avian flu virus has spread throughout the bird population in Southeast Asia and now parts of Europe. Over the last year, about 60 people have died in Southeast Asia from avian flu; this could be the emergence of a possible pandemic virus. With so much uncertainty, all planning is based on hypothetical situations.

The WHO has issued a global alert that governments should have pandemic preparedness plans in place. They have established six phases to define the on-set of a pandemic and help guide nations in their planning:

Interpandemic (before the on-set of a pandemic)

- Phase 1 – no influenza viruses have been detected in humans
- Phase 2 – a circulating animal influenza virus poses a substantial risk of human disease

Pandemic Alert (human infection with new virus)

- Phase 3 – human infection with a new virus but no human to human spread
- Phase 4 – small localized human to human transmission
- Phase 5 – larger localized human to human transmission

Pandemic Period (on-set of a pandemic)

- Phase 6 – increased and sustained transmission in the general population.

The WHO has determined that we are currently between Phase 2 and 3. The identification of the beginning of a pandemic could come from either the WHO's global surveillance network, or from an individual country's health care system where health care professionals are already on the alert. If human to human transmission is first identified in an individual country, it will be the responsibility of that country's health care system to inform the WHO, which will in turn make the global determination and relay that information to countries around the world. In Canada, PHAC will be responsible for making the national declaration, with each province's Provincial Health Officer taking the lead in their jurisdiction.

In the event of a pandemic, communication responsibility and information flow are outlined in the following way:

- The BC Ministry of Health, through the Office of the Provincial Health Officer (PHO), is the lead in the province in the event of a pandemic/communicable disease outbreak. The PHO is the main provincial spokesperson and is responsible, with advice from BC Centre for Disease Control (BCCDC) for the decision to declare a pandemic in the province.
- The Ministry of Health Emergency Management Branch, in conjunction with the Provincial Emergency Program (PEP) under the Ministry of Public Safety and Solicitor General, is responsible for ensuring plans at the provincial, regional and local level are activated. B.C.'s well-tested emergency management structure has established, functional links between ministry emergency operations and the provincial emergency management structure.
- The Public Affairs Bureau (PAB), Ministry of Health, will have primary responsibility for communications support for the PHO. It will work closely with emergency communication contacts at PAB headquarters and PEP to promote coordination and understanding of roles between public health agencies and the agencies responsible for consequence management.
- The British Columbia Crisis Communications Strategy for Major Provincial Emergencies outlines current provincial emergency and disaster communications principals and protocols. It recognizes the importance of coordinating public communications in affected areas, and for linking up all engaged partners under the British Columbia Emergency Response Management Structure.
- Medical Health Officers, in consultation with the PHO and Health PAB, are the designated spokespeople in their provincial region of responsibility.
- The BCCDC will provide technical medical support to the PHO. Information will be shared on a consistent and immediate basis between these offices.
- PHAC will support provincial efforts and continue to lead anti-viral acquisition and vaccine development. PHAC will also continue to link with the WHO for monitoring and surveillance.

Experts predict that it will be between one to six months between the time an influenza pandemic is first identified globally and the time the outbreak begins in B.C. Within three months of the virus arriving in the province, it is expected most communities will be affected. It is anticipated that the pandemic will occur in waves, striking different parts of the province at different times. The estimated impact of a pandemic on B.C. is:

- more than three million people will be infected

- as many as 1.8 million will be clinically ill
- up to 18, 500 will need hospital care, and
- as many as 6,800 people could die from related complications. (Source: BC Pandemic Preparedness Plan May 2005).

A prolonged pandemic influenza event will impact directly or indirectly a large part of the provincial population and will require ongoing cross-government support at the provincial level. Throughout this event, the PHO along with the Executive Director of PEP will advise and make recommendations on response and strategic management to the key provincial ministers.

AUDIENCES

External

- Public; those directly affected by the pandemic
- Aboriginal communities
- Ethnocultural communities
- Major employers
- Regional, national and international media
- Community emergency social services
- Local government emergency services/public works
- Police/RCMP
- Utilities companies -- Terasen Gas, Telus, BC Hydro
- First responders
- Essential service workers
- Industry representatives (pharmaceutical sector, medical supply sector, etc)
- Non-government organizations (Red Cross, BCMA, BC Pharmacy Association, BC Nurses Association, BC Dental Association)

Internal

- Federal, provincial, territorial and international health agencies
- Health care professionals
- Infectious disease experts
- B.C. Health Authorities/Medical Health Officers
- BC Ambulance Service
- Emergency Health Services
- Fire Departments
- MLAs and legislature
- Federal, provincial, territorial and international governments

OBJECTIVES

HPAB is responsible for working in partnership with the BCCDC, health authorities and regional and local agencies to:

- provide a coordinated provincial communications response to the pandemic
- support the Provincial Health Officer in his role as lead spokesperson.
- inform British Columbians about pandemic influenza, its effects and the provincial response
- educate the public, media, health authorities, local governments and stakeholders about provincial:
 - communications networks that are in place to disseminate information in the event of a pandemic
 - structures in place to assist in the event of a pandemic.
 - role in the coordination of information around a pandemic.

- contact information for assistance in the event of a pandemic.
- inform the public and media about where to access information
- inform the media about protocols in emergency situations

Health Authority Communications

HA Communications is responsible for working with HPAB and local stakeholders to:

- develop and test communication plans and networks for use at the regional, local and facility levels for all three pandemic phases
- ensure that local media and other key stakeholder, such as municipal governments and emergency responders, are aware of and involved in the planning process
- support the development of a provincial infrastructure for the dissemination of influenza-related information

STRATEGIES

PHASE	STRATEGIES
Phase 1 - no influenza viruses have been detected in humans	Promote annual influenza immunization campaign Strategies: <ul style="list-style-type: none"> ● Promotional materials ● Provincial launch event ● Website with general information on flu vaccination, eligibility and links to the Health Authorities
Phase 2 & 3 – a circulating animal influenza virus poses a substantial risk of human disease – human infection with a new virus but no human to human spread	<ul style="list-style-type: none"> ● Develop a provincial website dedicated to pandemic influenza ● Develop a pandemic video for education and awareness ● Review capacity of health information lines ● Review and update emergency contact lists and information sharing systems ● Test emergency and communication networks ● Stage technical briefings for the media, external experts and other stakeholders ● Inform the public, media and health care officials of the provincial pandemic and emergency response plans ● Demonstrate leadership and coordination between jurisdictions ● Continue communication with national and international partners ● Liaise with Health Authorities to assist in developing regional and local communications plans

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	<ul style="list-style-type: none"> • Development of communication materials/tools to support public and media information, education, awareness, preparedness and prevention • Continue to promote the importance of the annual influenza vaccine
<p>Phase 4 & 5 - small localized human to human transmission – larger localized human to human transmission</p>	<ul style="list-style-type: none"> • Ensure that hospitals and health care professionals around the province are alerted • Increase public and media education and awareness on preventative measures and pandemic preparation • Continue to promote the importance of the annual influenza vaccine
<p>Phase 6 – increased and sustained transmission in the general population</p>	<p><i>News Conference</i></p> <ul style="list-style-type: none"> • PHO declares the pandemic has reached British Columbia • Issue province-wide news release <p>Website</p> <ul style="list-style-type: none"> • Provincial website with comprehensive pandemic information • Regional websites with local information <p>Daily Conference Calls</p> <ul style="list-style-type: none"> • Daily conference calls with key provincial players (Health Authorities, hospitals, community care, public health, BCCDC, PEP and PHAC and Health Canada) <p>Media Briefings</p> <ul style="list-style-type: none"> • Establish regular media briefings (federal, provincial, regional) • Ensure public and media receive appropriate, timely accurate information <p>Toll-free Line</p> <ul style="list-style-type: none"> • Call centers for public information (1-800 numbers) • Establish a media center <p>Communications Systems</p> <ul style="list-style-type: none"> • Provide media, public and stakeholders with regular updates • Work with the PHO, BCCDC, PHAC, health authorities and local government to establish key messages, key spokespeople and media availability • Share surveillance data with national and international partners • Use broad-based network for disseminating information including key agencies and stakeholders in getting the message out • Modify communications plan as needed

<p>Post Pandemic - no evidence of any human infection due to the pandemic strain</p>	<ul style="list-style-type: none">• PHO conducts news conference declaring an end to the pandemic• Review of emergency management structure and operations during pandemic• Surveillance continues along with international and national partners
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BC Pandemic Influenza Preparedness Plan: Annex K

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Health Emergency Communications Network

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