



**British Columbia's
Pandemic Influenza Response Plan (2012)
Immunization Response Plan**

September 2012

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1. INTRODUCTION AND BACKGROUND

1.1 Background

Pandemic influenzas are ‘unpredictable but recurring events that have severe consequences on human health and economic well being worldwide’¹. Pandemics are not new, they have been occurring with varying severity and impact between 10 to 50 years, dating back to the 1600s, and likely well before that. In the last century alone, the world has suffered from the Spanish flu in 1918 to 1919, the Asian flu in 1957 – 1958, and the Hong Kong flu in 1968 – 1969, the most recently, the H1N1 virus in 2008-2009.

In 2009, all levels of government and the health industry banded together to quickly immunize over two million British Columbians in under two months and rein in the effects of the H1N1 virus. There were many successes and lessons learned, making this the ideal time to reflect on previous plans and improve them. This plan builds on the H1N1 Pandemic Influenza Response Plan (2009) and the British Columbia Pandemic Influenza Preparedness Plan (2005).

1.2 Purpose of this guideline

The purpose of this plan is to describe the BC Health Sector’s strategic response to mass immunization in the occasion of a pandemic influenza.

The response to a pandemic influenza in BC will require collaboration between the federal and provincial government, Health Authorities and health sector organizations at all levels together with many partner organizations and the public. This plan is aimed at aligning these stakeholders around a common strategic approach.

This plan is sponsored by the Provincial Health Officer and the Health Employers Association of British Columbia (HEABC) and has been prepared with input and collaboration from the Ministry of Health, the Health Authorities, First Nations Inuit Health and other supportive stakeholders including the BC Centre for Disease Control.

1.3 Scope

The scope of this Immunization Response Plan is to:

- ▶ Focus on immunization following declaration of a pandemic influenza
- ▶ Outline the high level provincial approach to mass immunization
- ▶ Align stakeholders around a common approach
- ▶ Provide a strategic provincial framework for planning the response to a pandemic in a coordinated, integrated fashion
- ▶ Provide guidance to Health Authorities as they develop and/or revise their regional pandemic influenza immunization response plans

1.4 Out of scope

The scope of this Immunization Response Plan excludes:

¹ WHO guidance document: Pandemic Influenza Preparedness and Response 2009: www.who.int/csr/disease/influenza/PIPGuidance09.pdf

- ▶ Detailed planning, and planning at a Health Authority level
- ▶ Identifying vaccine priority groups
- ▶ Funding and budgeting – as this will be determined by the Ministry of Health at the time of the pandemic

1.5 Audience

The plan is intended for all organizations involved in immunization during a pandemic, from planning, vaccine distribution, communications, immunization, data management, resourcing etc. These include, but are not limited to:

- ▶ Ministry of Health (MOH)
- ▶ BC Centre for Disease Control (BCCDC)
- ▶ Health Authorities
- ▶ First Nations Inuit Health
- ▶ Community vaccine providers
- ▶ Other Ministries

1.6 Guiding principles

The principles guiding the development of this Immunization Response Plan are:

- ▶ The priority in the case of a pandemic influenza is to reduce the impact on the health of the public (i.e. reduce illness and save lives). Interventions are therefore to be applied in a fashion that achieves maximum health benefit.
- ▶ However, essential services also need to be maintained. Should there be a conflict between these two aims, values-based decisions will need to be made about priorities for interventions.
- ▶ At the very core of a pandemic influenza is a strain of virus that has not been seen before. Because the impacts of a pandemic influenza are hard to predict, this plan and all associated plans should be built to be flexible and scalable.
- ▶ Existing vaccination delivery models, distribution systems, communication and decision making forums are the easiest to bolster and deploy during a pandemic. Additional delivery models should only be added when existing delivery models are at capacity.
- ▶ During the inter-pandemic period, the health care sector should work together to increase the number of community vaccine providers.

2. ASSUMPTIONS AND TRENDS

2.1 The importance of flexibility:

The only true assumption during a pandemic is that it will be different to anything seen before. Plans must be flexible. The unexpected must be expected. As such, this Immunization Response Plan endeavours not to be overly prescriptive and not to make too many assumptions.

That said, it is important to set targets and assumptions around a severe pandemic to ensure that this plan, and subsequent and related plans, will prepare the province for such an eventuality. This type of planning is also supported by the fact that it is easier to scale down a plan, then to scale up.

Further advice on how to scale this plan in accordance with the nature of the actual pandemic is provided in Section 4. Scalability.

2.2 Key assumptions for a severe pandemic

It is a goal of this plan to prepare the province for a severe pandemic. The key assumptions around such a pandemic are:

- ▶ Although the vaccine will be offered to all who would benefit from it and want to receive it and there will be sufficient vaccine available to vaccinate the entire population, it is likely that only up to 75% of the BC population would present for immunization in six weeks. The goal is to immunize 75% of the population in six weeks
- ▶ Vaccination will be publicly funded
- ▶ Health Authorities will be responsible for facilitating the immunization of the population in their region
- ▶ The immunization approach will include a mix of mass immunization clinics, community vaccine providers, a tailored approach to Aboriginal communities, and tailored approaches to target ‘seek and immunize’² population groups
- ▶ Vaccine priority groups may be used to phase immunization – priority groups will be determined based on the epidemiology of the specific pandemic
- ▶ Vaccine development, testing and production will be undertaken by industry and managed federally
- ▶ BCCDC will be responsible for distribution of vaccine to Health Authorities
- ▶ One dose of vaccine will be provided.³
- ▶ The pandemic vaccine will be given in place of the seasonal vaccine (not in addition to a seasonal vaccine).

² “Seek and immunize” populations are groups that should have tailored or additional vaccination delivery models because they are either Vulnerable (because of epidemiological reasons, social reasons or both) or at increased risk of spreading influenza (such as health care workers).

³ If two doses of the vaccine are required, the plan should be extended in line with Section 4.

- ▶ Decisions during a pandemic occur through a collaborative Federal/Provincial/Territorial process and unanimous agreement is not always possible.

2.3 Trends observed in pandemic influenzas

By its very nature, a pandemic influenza is a new virus with unique characteristics. The following general characteristics of pandemic influenzas should not be taken as fact, but those involved in preparing for or responding to pandemic influenzas should be aware of them.

- ▶ Pandemic influenzas are recurring events that are not preventable.
- ▶ Only about 50% of those infected actually have clinical symptoms. Of those with clinical symptoms, many will not require treatment by health professionals.
- ▶ British Columbia will likely have little lead time between when a pandemic is first declared somewhere in the world and when it spreads to the province.
- ▶ A pandemic influenza spreads in two or more waves either in the same year or in successive years.– each lasting about eight weeks, but could be up to 15 weeks overall across B.C.
- ▶ The second wave may occur within three to nine months of the initial outbreak and may cause more serious illness and deaths than the first.
- ▶ A pandemic could arise at any time of year, but is more likely to begin in the spring with the first wave in late spring / early summer, and the second wave in the fall.
- ▶ If the virus arrives close to the normal flu season, the period to the peak of the first wave could be very short.
- ▶ Vaccines are likely to take six months to be developed, tested and distributed. They should be available prior to the peak of the second wave and should mitigate the potential effects of the second wave.
- ▶ The general rate of infection of health care workers during a pandemic will be similar to the rate of infection in the community because influenza is a community-acquired disease



3. APPROACH

3.1 Overview of the approach

The key planning elements on which the Immunization Response Plan is built are described below. The chapters which follow provide additional details on each component of the plan.

3.1.1 Coordination and planning

The approach to coordination and planning for a pandemic influenza is described below:

- ▶ Planning for a pandemic influenza is to be coordinated across the BC health sector.
- ▶ This Immunization Response Plan (IRP) outlines the provincial approach. It is to be owned by the Provincial Health Officer (PHO) and should be maintained with input from key stakeholders from across the health sector.
- ▶ Health Authorities need to develop and maintain detailed immunization response plans, which will be built on the provincial approach described in this plan and developed with input from key stakeholders within their regions.
- ▶ Health Authority plans should be shared to encourage knowledge transfer and easier coordination.
- ▶ Existing committees, decision making methods and forums will be used where appropriate. Additional interim governance structures and a project team can be deployed to supplement existing decision making forums for the purpose of: providing quicker decision making, and allocating additional resources to meet timelines and increased workloads.
- ▶ The Ministry of Health will lead central coordination and liaison with Ministries.
- ▶ Continuous improvement and evolution will be a key element of the immunization response planning process. This provincial immunization response plan, and the immunization response plans of each Health Authority should be reviewed at least every three years and there should be a comprehensive review of plans after each pandemic.

3.1.2 Vaccine delivery models

The vaccine delivery models to be used during a pandemic influenza are described below:

- ▶ A vaccination delivery model describes the way in which vaccinations are given, encompassing venue, vaccine provider and target audience. For example, mass immunization clinics in the community and at pharmacies are two potential delivery models.
- ▶ Priority should be given to using existing vaccination delivery models. These delivery models have the benefit of being well rehearsed (reducing risk and making them easier to administer at short notice and require less incremental support) as well as being more familiar to the public (improving the uptake rate). Existing delivery models may be sufficient during vaccine shortages and in mild pandemics.
- ▶ Additional resources may need to be allocated to existing delivery models to increase capacity.
- ▶ Additional delivery models should be planned for to provide additional capacity in the case of a moderate to severe pandemic.

- ▶ Health Authorities will use a mix of mass immunization clinics as well as community vaccine providers for immunizing the general population. This mix will be based on local experience, capacity, conditions and needs.
- ▶ The Ministry of Health and Health Authorities should work closely with First Nations Inuit Health (FNIH) and Aboriginal communities to develop tailored approaches for immunizing Aboriginal people.
- ▶ Health Authorities should provide tailored approaches to immunizing target 'seek and immunize' population groups – using mostly delivery models which bring the vaccine to the priority groups.

3.1.3 Vaccine providers

The vaccine providers to be engaged during a pandemic influenza are described below:

- ▶ Efforts should be made during inter-pandemic periods to increase the number of healthcare workers involved in vaccination (providers both in public health and private health).
- ▶ Use existing vaccine providers in existing vaccination delivery models in the first instance.
- ▶ In a moderate to severe pandemic, both community vaccine providers and public health vaccine providers may need to recruit additional vaccinators and administrative support.
- ▶ Additional vaccine providers may be sourced from:
 - ▶ Additional capacity in the health care sector (casual work force, those looking for work, part-time workers able to take on additional hours for short-term).
 - ▶ Health Authorities and community vaccine providers may choose to scale back non-essential services in order to redeploy health care workers to immunization delivery as well as influenza diagnosis and treatment.
 - ▶ Recruiting casual vaccine providers.
 - ▶ In the case of severe staff shortages, additional vaccine providers may need to be educated and engaged.
- ▶ Health Authorities need to develop more detailed resource plans on how they will source additional immunizers in order to be able to vaccinate 75% of the population in six weeks. Care should be taken to avoid double counting resources that may be allocated to other roles during a pandemic, such as acute care. More detail on human resources planning is provided in the BC Pandemic Influenza Human Resources Plan.

3.1.4 Allocation of vaccine

Vaccine allocation during a pandemic influenza is described below:

- ▶ Vaccine will be distributed equally to each Health Authority based on population. This rule may be modified by the Provincial Health Officer based on a number of factors:
 - ▶ Movement of population and/or location of workforce⁴
 - ▶ Type of vaccine delivery model⁵

⁴ Material portions of the population live in one region and work in another. It has been the experience of recent immunization programs that many clients will chose to be vaccinated closer to their work than their home.

⁵ Health Authorities that rely more heavily on using many small community vaccine providers may need more vaccine as they have to distribute it in small quantities to many providers.

- ▶ Location of target groups for the specific pandemic
- ▶ Geography of where the pandemic has hit hardest
- ▶ Groups in federal facilities (such as jails) who are not typically counted in Health Authority population metrics.
- ▶ Depending on the nature of the influenza and the supply of vaccine, immunization may need to be sequenced based on priority groups.
- ▶ Vaccine priority groups will be determined nationally and may be used to sequence vaccinations. Where BC is able to influence the use of vaccination by priority groups, careful consideration will be given to balancing the science and epidemiology of the specific pandemic virus with the social and administrative risk factors. (Use of priority groups can lead to increased anxiety or apathy and greater inconvenience for the public, which can decrease uptake. Administration of vaccine priority groups creates an increased workload for the health care sector).
- ▶ Based on previous pandemics, it is likely that priority will be given to health care workers (including caregivers and First Responders, both paid and unpaid), pregnant women, young children, populations at risk, First Nations people, and people living in remote communities.

3.1.5 Distribution of vaccine

Vaccine distribution during a pandemic influenza is described below:

- ▶ Vaccine development, testing and production will be undertaken by industry.
- ▶ Health Canada will be responsible for vaccine procurement and approval for use.
- ▶ The federal government has a contract in place with GSK to develop and manufacture vaccine(s) for all Canadians in the case of a pandemic influenza.
- ▶ Timing is of the essence in the production and distribution of vaccine.
- ▶ BC Centre for Disease Control (BCCDC) will transport the vaccine to BC and distribute it to Health Authorities.
- ▶ Vaccines will come packaged in large boxes by the manufacturer and will be repackaged by BCCDC before being distributed to Health Authorities in most cases.
- ▶ Each Health Authority will be responsible for distributing vaccines to mass immunization clinics and community vaccine providers within their region. BCCDC will support the Health Authorities in the distribution of vaccine by distributing vaccine to multiple health units and other locations within the region.

3.1.6 Stockpiling and distribution of supplies

Stockpiling and distribution of supplies during a pandemic influenza is described below:

- ▶ Health Authorities are responsible for maintaining a stockpile of supplies for health authority facilities in their region in case of a pandemic influenza.
- ▶ At the request of a Health Authority, Health Shared Services BC (HSSBC) will be able to maintain a stockpile of supplies on behalf of the Health Authority. In this case, HSSBC will be able to assist in the distribution of supplies to Health Authorities.
- ▶ Community vaccine providers will be responsible for maintaining their own stockpiles of supplies.

- ▶ First Nations Inuit Health can receive supplies from Health Authorities if they are unable to source their own supplies.
- ▶ Health Authorities may want to provide private health care companies that are not reimbursed for giving immunizations with supplies along with vaccine so these health care providers are not out-of-pocket for assisting with vaccination during a pandemic.

3.1.7 Data collection, monitoring and reporting

The approach to data collection, monitoring and reporting during a pandemic influenza is described below:

- ▶ The Ministry of Health and BCCDC are responsible for defining data collection requirements prior to a pandemic. Data collection requirements should be defined in consultation with Health Authorities and community vaccine providers.
- ▶ Once data collection needs have been defined and agreed, vaccine providers will be responsible for ensuring they have adequate systems in place to capture and collate the necessary information.
- ▶ The Province is moving towards using Panorama for inventory management and certain components of data collection. Panorama needs to support data capture at the speed that data reporting is required during a pandemic.
- ▶ Community vaccine providers are required to report adverse events to the Medical Health Officer in the local health unit and Health Authorities report all adverse events to BCCDC. BCCDC is responsible for communicating adverse events to the Ministry of Health and Health Canada.

3.1.8 Communication

The approach to communication during a pandemic influenza is described below:

- ▶ Communication is to be managed at several levels – Federal, Ministry of Health, Media, BCCDC and Health Authorities to communicate information based on a centrally managed communications approach.
- ▶ The detailed Provincial health sector communication strategy is included in the PIOPP Communications and Education Plan.

3.2 Approach by stage

The key stages of a pandemic influenza (most relevant to immunization planning) are:

- ▶ Pandemic preparedness
- ▶ First signs of a potential pandemic
- ▶ Pandemic declared
- ▶ Pandemic defined
- ▶ Immunization campaign underway
- ▶ Post pandemic period

The following table arranges the key elements of the approach by stage:

Stage	Approach	Timing considerations
Pandemic preparedness (WHO Pandemic Preparedness Phase 1) ⁶	<ul style="list-style-type: none"> ▶ Determine provincial approach and review at least every three years ▶ Ensure provincial approach is in alignment with national approach ▶ Health Authorities create plans, test and review at least every three years ▶ Consult with community vaccine providers and establish liaisons ▶ Consult with communities and First Nations and establish liaisons ▶ Consult with other ministries and establish liaisons ▶ Consult with local governments and establish liaisons ▶ Draft emergency legislation ▶ Ongoing engagement and education of health care workers inside public health as well as in the private sector to increase number of vaccine providers in case of a pandemic ▶ Maintain stockpiles 	
First sign of a potential pandemic (WHO pandemic preparedness phase 2 and 3) ⁷	<ul style="list-style-type: none"> ▶ Review plans ▶ Prepare response team and establish interim governance structures ▶ Begin communications 	Generally occurs during the spring
Pandemic declared (WHO Pandemic response and mitigation phases 4 to 6) ⁸	<ul style="list-style-type: none"> ▶ Ongoing communications ▶ Vaccine procured and approved (federal responsibility) ▶ Register and educate community vaccine providers and provide additional education to public health and community vaccine providers ▶ Detailed tactical planning for mass immunization clinics (including securing staff, securing venues, staff education) ▶ Distribute non-vaccine supplies to immunizers (syringes, swabs, personal protective equipment, etc.) 	The first wave of influenza typically occurs in late spring / early summer

⁶ WHO Pandemic Preparedness Phase 1 - An animal influenza virus circulating among animals have been reported to cause infection in humans.

⁷ WHO Pandemic Preparedness Phase 2 - An animal influenza virus circulating in domesticated or wild animals is known to have caused infection in humans and is therefore considered a potential pandemic threat.
 Phase 2 – An animal or human-animal influenza virus has caused sporadic cases or small clusters of disease in people but has not resulted in human to human transmission sufficient to sustain community level outbreaks.

⁸ WHO Pandemic Response and Mitigation Phase 4 – Human to human transmission of the virus able to sustain community level outbreaks has been verified.
 Phase 5 – Virus has caused sustained community level outbreaks in two or more countries in one WHO region

Stage	Approach	Timing considerations
Pandemic defined (WHO Pandemic response and mitigation phases 5 and 6) ⁹	<ul style="list-style-type: none"> ▶ Ongoing communications ▶ Determine vaccine priority groups ▶ Enact legislation as required ▶ Revise plans as necessary based on specifics of pandemic 	As determined
Immunization campaign underway (Likely to occur after WHO Pandemic response and mitigation phases 6 ¹⁰ and proceed through WHO Post Peak Period and Possible New Wave) ¹¹	<ul style="list-style-type: none"> ▶ Ongoing communications ▶ Distribute and store vaccine ▶ Manage vaccine inventory ▶ Scale back non-essential services if necessary ▶ Run mass immunization clinics and work with community vaccine providers to vaccinate population ▶ Work with Health Canada and communities to immunize First Nations ▶ Immunize remote communities and target 'seek and immunize' population groups – using tailored approaches ▶ Record immunizations and monitor participation ▶ Review plans in case of second wave 	<p>Vaccine is typically available six months after a pandemic is declared. (19 weeks from production of the vaccine to the release of the first batch).</p> <p>A second wave typically hits in the fall (approximately 3 months after the first wave)</p>
Post pandemic period (WHO Post Pandemic Period) ¹²	<ul style="list-style-type: none"> ▶ Return to normal services ▶ Close mass immunization clinics ▶ Finalize budgets and payments ▶ Evaluate and update plans 	

⁹ Ibid

¹⁰ Phase 6 – Virus has also caused sustained community level outbreaks in at least one other country in another WHO region. (World Health Organization Pandemic Phase Description)

¹¹ WHO Pandemic Response and Mitigation Phase 6 – Virus has also caused sustained community level outbreaks in at least one other country in another WHO region.

Post Peak Period – Levels of pandemic influenza in most countries with adequate surveillance have dropped below peak levels

Possible New Wave – Level of pandemic influenza activity in most countries with adequate surveillance rising again. (World Health Organization Pandemic Phase Description)

¹² WHO Post Pandemic Period – Levels of influenza activity have returned to the levels seen for seasonal influenza in most countries with adequate surveillance. (World Health Organization Pandemic Phase Description)

4. SCALABILITY

4.1 The importance of flexibility

Scalability refers to changing and tailoring the Immunization Response Plan to accommodate the varying severities and scenarios that could eventuate in the case of a pandemic influenza.

As described in the approach and the governance sections, as soon as a pandemic has been identified, the governance structure at all levels should begin to think about how to tailor the Immunization Response Plan based on the forecasts of the current pandemic. These should be reconsidered as new information becomes available.

Plans need to be flexible to adapt to emerging information. However, as decisions get made to change plans, particularly at the time that the vaccine is available, it is important to give considerable weight to the administrative burden, the social / communication complications of changing course as well as ‘the ideal solution’ ..

4.2 Levers

Levers refer to areas of the immunization approach which can be tailored to suit the specific pandemic, and engaged when necessary. The key levers available to the Ministry of Health and the Health Authorities are:

- ▶ Types of immunization clinics – tailored immunization approaches for target 'seek and immunize' population groups, use of community vaccine providers, use of mass immunization clinics
- ▶ Use of sequencing – strict enforcement of vaccine priority group order vs. open to all
- ▶ Scaling back of services – order and magnitude of scaleback of health services
- ▶ Which community vaccine providers – current immunizers, add additional vaccine providers, where additional vaccine providers are sourced from
- ▶ Venue selection – ‘priority’ takeover of venues, use existing venues if possible, cost sensitivity in venue selection, transportation, bus routes, parking availability, wheelchair access, size.
- ▶ Distribution delivery models – where repackaging occurs, required turnaround times, alternative distribution models
- ▶ Governance – whether interim governance structures are necessary, and how they should be resourced

4.3 Sample scenarios

The following matrix can be used as a starting point to think through different eventualities, but the health sector should be ready to tailor plans in real time as the realities of the particular influenza become known. It should be noted that scenario planning is not effective when plans lock stakeholders into a small number of scenarios..

Scenario	Highly infectious, fast spreading influenza		Moderate, slower spreading influenza	
	Limited supply of vaccine	No supply shortages	Limited supply of vaccine	No supply shortages
Vaccination delivery models	Use vaccination delivery models which are targeted to target 'seek and immunize' population groups. No mass immunization clinics	No prioritization – use a range of vaccination delivery models with a focus on mass clinics for the general public and targeted delivery to target 'seek and immunize' population groups	Targeted vaccination delivery models to target 'seek and immunize' population groups, similar delivery models to the seasonal flu vaccine program. Limited used of mass clinics	No prioritization – use a range of delivery models with a focus on mass clinics for the general public and targeted delivery to target 'seek and immunize' population groups
Sequencing by priority group ¹³	Yes	No	Limited	No
Service delivery	Scale back service delivery to focus more resources on immunization and treatment	Scale back services to prioritize immunization and treatment	No	Limited scale back
Vaccine providers	Existing delivery models and vaccinators, with a focus on those not involved in treatment	Add additional delivery models and vaccinators to increase speed of immunization	Existing vaccinators	Existing vaccinators and delivery models
Venue	Limited priority venue takeovers	Wider scale priority venue takeovers	Existing / regular venues	Existing / regular venues and additional venues that are available (without force)
Distribution networks	BCCDC manages distribution in decentralized repackaging facilities	Speed driven distribution jointly delivered by BCCDC and other distributors based on centralized repackaging locations	BCCDC managed distribution	BCCDC managed distribution
Security	Important that security is engaged at all locations and where vaccine is stored	Important that security is engaged at all locations and where vaccine is stored	Risk based security, focused on early release of vaccine	Risk based security, focused on early release of vaccine

4.4 Multiple dose vaccines

Where a two dose vaccine schedule is required, the timeframe for vaccinating the population will likely need to be lengthened. The plan for rolling out a two dose vaccine campaign will need to be determined based on a risk assessment.

¹³ Sequencing by priority group will be determined nationally, but this table gives some examples of different directions that could be set.

Assuming that there is a need for two doses with at least a four week time lapse between dose one and dose two, Health Authorities can plan to immunize all individuals with the first dose of the vaccine before commencing the second round. However, where there is capacity, Health Authorities are encouraged to conduct both rounds of vaccinations in parallel.

5. ORGANIZATION, ROLES, RESPONSIBILITIES AND DECISION MAKING

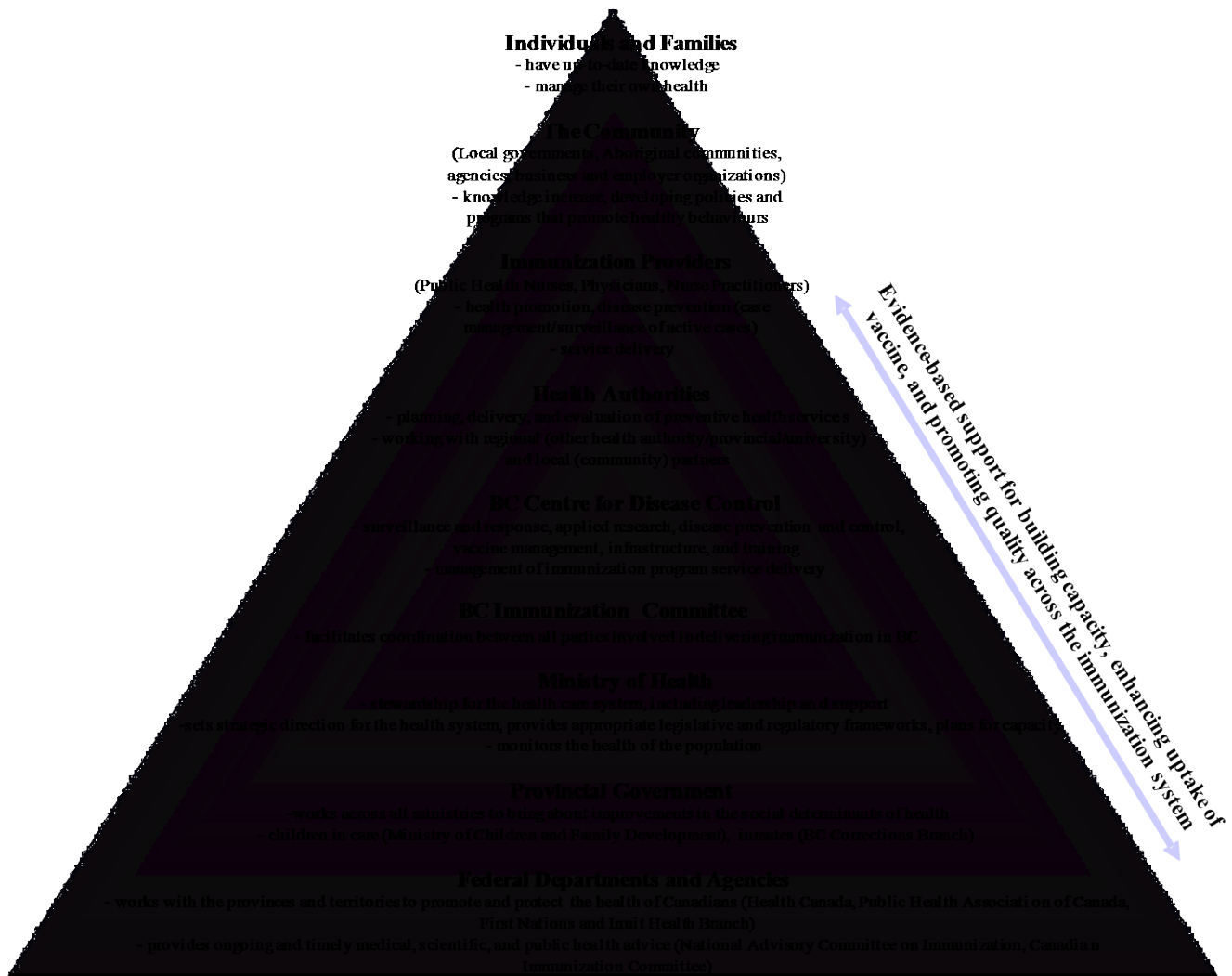
5.1 Guiding principles

The guiding principles determining organization structures, roles, responsibilities and decision making during a pandemic influenza are described below:

- ▶ Keep governance simple and decision making authority clear
- ▶ Where possible, use pre-existing committees, groups, and governance structures – these groups already know how to work together; others in the province will be more likely to know who to contact and how to work with them
- ▶ Decision making authority needs to be crystal clear and those with the authority need to ensure they keep time available to turn decisions around quickly
- ▶ A “command and control structure” governed by well informed decision makers makes sense during emergencies and pandemics – both at the provincial and Health Authority level.

5.2 Overview of roles and responsibilities

The following framework is an extract from “Immunize BC – A Strategic Framework for Immunization in BC” and it describes the key stakeholders and their interest in immunization.



5.3 Roles and responsibilities by organization

This section outlines the key roles and responsibilities of the organizations involved in the immunization response to a pandemic influenza.

5.3.1 Ministry of Health

The Ministry of Health is responsible for provincial planning for a pandemic and coordination of the pandemic influenza immunization response across BC.

Key roles of the Ministry of Health sorted by phase include:

- ▶ Prior to a pandemic
 - ▶ Determine the provincial approach to immunization during a pandemic (including maintaining and testing this Immunization Response Plan)
 - ▶ Ensure that Health Authorities have developed and tested immunization response plans for their region

- ▶ Coordinate with Health Canada around the national response to pandemics and production of vaccines
- ▶ Support initiatives to engage and educate vaccine providers in BC
- ▶ Set mandatory data gathering and reporting requirements and develop systems to support this (including Panorama and other electronic health databases)
- ▶ Draft emergency legislation
- ▶ 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
- ▶ Engage stakeholders – coordinating with all the different levels of government, with the stakeholders in the health sector
- ▶ First signs of a pandemic
 - ▶ Review provincial plans and approach
 - ▶ Establish and staff interim governance structures within the Ministry of Health
- ▶ Pandemic defined
 - ▶ Work with Health Canada to set the priority groups for the sequencing of immunization
 - ▶ Coordinate with Health Canada around the development and production of a vaccine
 - ▶ Coordinate with Health Authorities around the expected volumes and timing of vaccine distribution
 - ▶ Provide advice to the Minister of Health around enacting emergency legislation if required
- ▶ Vaccine produced
 - ▶ Monitor the fair distribution of vaccine across Health Authorities
 - ▶ Review response to immunization (including vaccine safety and uptake rates) and plan for a second wave if required
- ▶ Post pandemic
 - ▶ Evaluate the effectiveness of the immunization response
 - ▶ Update this Immunization Response Plan
- ▶ Ongoing responsibilities
 - ▶ Stakeholder engagement: Coordinate with community vaccine providers at a provincial level, including the BC Pharmacy Association, the Society of General Practitioners of BC, College of Midwives of BC, etc., including educating them on how they need to plan for a pandemic
 - ▶ Overall responsibility for media relations
 - ▶ Pan-Provincial communication, including public service announcements
 - ▶ National and international communications – connecting with influenza experts around the world
 - ▶ Developing provincial communications plan and consistent messaging

5.3.2 Health Authorities

Health Authorities are responsible for immunizing their population through operating mass immunization clinics, engaging community vaccine providers, working with First Nations, and implementing tailored approaches to target 'seek and immunize' population groups.

Key roles of the Health Authorities sorted by phase include:

- ▶ Prior to a pandemic
 - ▶ Determine the approach that the Health Authority will follow for immunization during a pandemic (including maintaining, updating, and testing detailed immunization response plans)
 - ▶ Maintain relationships and engage with current and new community vaccine providers in the region and ensure that there are sufficient numbers of community vaccine providers to deliver on plans
 - ▶ Determine the percentage of the population that can be immunized by community vaccine providers. I.e. 10% by physicians; 20% by pharmacists; 5% by others
 - ▶ Significantly increase the number of health care workers involved in vaccination (both within public health and in the private sector)
 - ▶ Maintain awareness of venues for mass immunization clinics and relationships with schools and municipalities that manage or own the venues
 - ▶ Support initiatives to engage and educate vaccine providers in their region
 - ▶ Continue to work with Emergency Response teams in each community
 - ▶ Engage stakeholders
- ▶ First signs of a pandemic
 - ▶ Review regional plans and approach
 - ▶ Establish and staff interim governance structures within the Health Authority
- ▶ Pandemic defined
 - ▶ Prepare detailed tactical plans for immunization (including staffing, governance and venues)
 - ▶ Plan the distribution of vaccine within the region around the specific priorities, volumes, and timeframes of the pandemic
 - ▶ Coordinate the distribution of supplies across the region with support from HSSBC
 - ▶ Determine if, when and how to scale back of non essential services in order to redeploy resources towards immunization if required
 - ▶ Hire or redeploy additional vaccinators and support staff as needed to implement the plans, including recruiting and educating
 - ▶ Propose and implement (if approved) the scaling back of non essential services in order to redirect resources towards immunization
 - ▶ Support the Colleges to educate additional vaccinators and re-educate existing vaccinators as required
- ▶ Vaccine produced

- ▶ Coordinate the fair distribution of vaccine within the region, which may include redistribution of vaccine within the region or sharing of vaccine across regions as needed
- ▶ Manage vaccine inventory and security within the region and report back to the Ministry of Health and BCCDC
- ▶ Comply with the priority sequencing of vaccinations as defined by the Ministry of Health
- ▶ Run mass immunization clinics (including staffing, other resources, venues, security)
- ▶ Work with community vaccine providers and provide ongoing communications
- ▶ Work with First Nation stakeholders to support their immunization initiatives
- ▶ Implement tailored approaches to immunizing target 'seek and immunize' population groups
- ▶ Surveillance and reporting of adverse events following immunization to BCCDC
- ▶ Report on incidents that involve staff and/or clients or both (such as abuse at clinics or anti-vaccine campaigns)
- ▶ Monitor immunization uptake in the region and adjust plans as necessary
- ▶ Record required data and share data with BCCDC and/or the Ministry of Health
- ▶ Review response to immunization and plan for a second wave if required
- ▶ Manage budget for immunization
- ▶ Coordinate with other Health Authorities around elements of the response
- ▶ Post pandemic
 - ▶ Restore service levels
 - ▶ Discontinue mass immunization clinics
 - ▶ Finalize budgets and payments
 - ▶ Evaluate the effectiveness of the immunization response
 - ▶ Update the Health Authority's immunization response plan
- ▶ Ongoing responsibilities
 - ▶ Fund immunization activities
 - ▶ Coordinate with community vaccine providers within the region
 - ▶ Ongoing consultation and engagement with community stakeholders
 - ▶ Cascading communications to staff within the Health Authority and with community vaccine providers in the region
 - ▶ Ongoing monitoring of influenza rates
 - ▶ Ongoing liaison and sharing of knowledge with the Ministry of Health, other Health Authorities and BCCDC.

5.3.3 BC Centre for Disease Control (BCCDC)

Key roles of BCCDC for a pandemic influenza immunization response are:

- ▶ Develop and maintain immunization guidelines
- ▶ Maintain ImmunizeBC website, including updating the flu locator
- ▶ Support initiatives to engage and educate vaccine providers in BC
- ▶ Estimate vaccine requirements
- ▶ Distribute vaccines to the Health Authorities
- ▶ Monitor vaccines distributed throughout the province. May recommend redistribution of vaccine within different Health Authorities based on demand
- ▶ Collect data from Health Authorities, manage and analyze the data during and post pandemic
- ▶ Develop a sensitive, effective and efficient system to monitor adverse vaccine effects
- ▶ Share research on the vaccine with the health sector
- ▶ Be a centre of knowledge on influenza and pandemics
- ▶ Contribute to national evaluation and research protocols for immunogenicity testing, adverse effect assessment, dosage determination, geographic spread, and strain mutation monitoring

5.3.4 Health Shared Services BC (HSSBC)

Key roles of HSSBC for a pandemic influenza immunization response are:

- ▶ Maintain a stockpile of immunization-related supplies for the provincial health sector, including syringes, swabs, needles, masks and gloves
- ▶ Distribute supplies around the province after a pandemic has been declared
- ▶ Develop and ensure that Health Authorities are aware of the ordering process and who to contact for supplies

5.3.5 Health Canada

Key roles of Health Canada related to the BC response to a pandemic influenza immunization response are:

- ▶ Arrange for design, testing and production of vaccines by industry
- ▶ Arrange for vaccine to be distributed fairly amongst the provinces
- ▶ Arrange for BC's share of the vaccination to be delivered to BCCDC

5.3.6 Community Vaccine Providers

Key roles of community vaccine providers for a pandemic influenza immunization response are:

- ▶ Maintain knowledge, skills and authorization required to provide vaccines
- ▶ Maintain supplies for a pandemic based on guidance provided by the Ministry of Health
- ▶ Maintain communications with the local Health Authorities/health units and with their accrediting body
- ▶ Order vaccine in accordance with vaccine providers capacity, local demand and Health Authority guidelines
- ▶ Immunize clients/patients in accordance with BCCDC guidelines for immunization

- ▶ Ensure that vaccine maintains potency (optimal transportation, storage and handling), and report in a timely manner to the local health unit any cold chain incidents
- ▶ Submit accurate records on inventory counts and immunization uptake to the Health Authority
- ▶ Not bill patients directly for immunization – see section 7.6 for further details

5.3.7 Professional bodies, colleges and associations

Key roles of professional bodies such as colleges and associations for a pandemic influenza immunization response are:

- ▶ Participate in pandemic planning
- ▶ Encourage members to get and maintain education and authorization to vaccinate
- ▶ Provide education and support to vaccine providers in their profession
- ▶ Maintain up-to-date records of qualified vaccine providers (where appropriate)
- ▶ Help communicate plans and guidance relating to pandemic planning and responses

5.3.8 Ministry of Education and Ministry of Advanced Education

Key roles of the Ministry of Education and Ministry of Advanced Education for a pandemic influenza immunization response are:

- ▶ Support Health Authorities by providing venues for immunization
- ▶ Encourage students and staff to get vaccinated
- ▶ Support in-school vaccination programs (if applicable as determined by Health Authorities)

5.3.9 Ministry of Children and Family Development

Key roles of the Ministry of Children and Family Development for a pandemic influenza immunization response are:

- ▶ Maintain up-to-date pandemic response plans
- ▶ Work with local Health Authorities to support children and their care providers to be vaccinated
- ▶ Inform families, children, foster families and children in care about the pandemic and immunization

5.3.10 Municipal governments

Municipal governments will be relied on to support Health Authorities by providing venues for immunization during a pandemic influenza.

5.4 Governance

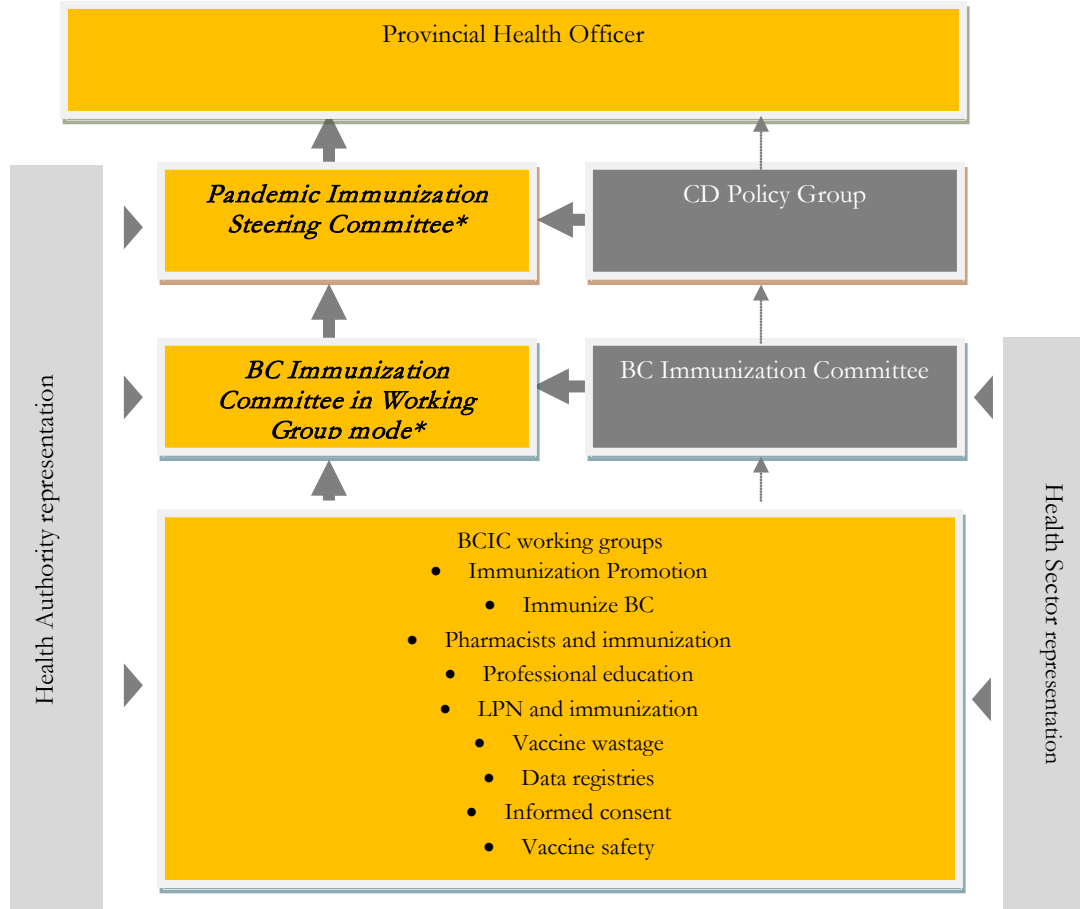
The diagram below describes the governance framework that will oversee immunization during a pandemic influenza. The key features of this structure are:

- ▶ The Provincial Health Officer maintains overall responsibility for the province’s response.
- ▶ The Provincial Health Officer will be supported by two governance bodies namely: a Pandemic Immunization Steering Committee (which is an interim governance body to be created at the first

sign of a pandemic), and the BCIC (which will operate using specialist working groups during a pandemic).

- ▶ The Steering Committee will have significant representation from members of the CD Policy Group.
- ▶ Health Authorities will have representation at the Steering Committee, and BCIC Working Group levels.
- ▶ The broader health sector has representatives on the BCIC and on select BCIC working groups.

Pandemic Influenza Immunization Governance Structure



Key

	Key governance structures and reporting relationships for overall decision making and management of provincial immunization during the period of a pandemic influenza
	Reporting relationships during inter-pandemic periods
	Interim governance structures to be set up at the first signs of a potential pandemic influenza

The table below provides more details on the key groups involved in immunization governance, both during pandemic influenza and between pandemics (inter-pandemic periods).

Group	Membership	Responsibilities (relating to pandemic influenza immunization)
Provincial Health Officer (PHO)	Provincial Health Officer	<ul style="list-style-type: none"> ▶ Overall responsibility for pandemic influenza preparedness and response ▶ Chairs the CD Policy Group and the Pandemic Immunization Steering Committee
Communicable Diseases Policy Group (CD Policy Group)	<ul style="list-style-type: none"> ▶ A large senior working group with representatives from: <ul style="list-style-type: none"> ▶ Ministry of Health ▶ BCCDC ▶ Health Authorities (Medical Health Officers and Public Health Nursing) ▶ Regional Health Protection Directors' Council ▶ First Nations and Inuit Health (Health Canada representative) ▶ Chaired by the PHO 	<p>Intra-pandemic period</p> <ul style="list-style-type: none"> ▶ Make recommendations to the PHO on strategic priorities relating to pandemic influenzas and communicable diseases more broadly. ▶ Review decisions, issues and risks escalated from the BCIC <p>Pandemic period</p> <ul style="list-style-type: none"> ▶ Decides to create the Pandemic Immunization Steering Committee ▶ Nominate members to create the Pandemic Immunization Steering Committee
Pandemic Immunization Steering Committee	<ul style="list-style-type: none"> ▶ A subset of the CD Policy Group, and other groups the PHO identifies, to be set up at the first signs of a pandemic. ▶ Members to be nominated by the CD Policy Group and approved by the PHO. ▶ Must contain representation from the following organizations at a minimum: <ul style="list-style-type: none"> ▶ Ministry of Health (Health Services Communications Office) ▶ Health Authorities (MHO) ▶ BCCDC ▶ FNIH ▶ Chaired by the PHO 	<p>Inter-pandemic period</p> <ul style="list-style-type: none"> ▶ No role <p>Pandemic period</p> <ul style="list-style-type: none"> ▶ Minimum twice-weekly meetings ▶ Advise the PHO on: <ul style="list-style-type: none"> ▶ Tailoring the BC Pandemic Influenza Immunization Response Plan (this document) to the specific pandemic ▶ When to declare a pandemic influenza in BC ▶ Vaccine priority groups ▶ Scaling back service delivery ▶ Allocation of vaccine ▶ Key public service announcements ▶ Other issues as requested by the PHO

Group	Membership	Responsibilities (relating to pandemic influenza immunization)
BC Immunization Committee (BCIC)	<p>A large operationally focused committee with representatives from:</p> <ul style="list-style-type: none"> ▶ Ministry of Health ▶ BCCDC ▶ Health Authorities ▶ BC Pharmacy Association ▶ Physician Organization ▶ BC Pediatric Society ▶ College of Family Physicians of BC ▶ First Nations and Inuit Health ▶ Chaired by the Director of Immunization, Ministry of Health <p>Chaired by the Deputy PHO during pandemic period</p>	<p>Inter-pandemic period</p> <ul style="list-style-type: none"> ▶ Responsible for facilitating coordination between all parties involved in delivering immunization in BC. ▶ Resourcing and overseeing key working groups (as listed in the governance diagram) <p>Pandemic period</p> <ul style="list-style-type: none"> ▶ Move into ‘working group mode’ ▶ Provide support in coordinating the response amongst the health sector by distributing information and lessons learned amongst members ▶ Developing content and making recommendations in the following areas <ul style="list-style-type: none"> ▶ Tailoring the BC Pandemic Influenza Immunization Response Plan (this document) to the specific pandemic ▶ Immunization promotion ▶ Use of Immunize BC website ▶ Pharmacist involvement and engagement in immunization ▶ Professional education ▶ LPN involvement and engagement in immunization ▶ Vaccine wastage ▶ Data registries and management ▶ Informed consent ▶ Vaccine safety ▶ Evaluation of pandemic plan and response effectiveness ▶ Reporting to the Pandemic Influenza Steering Committee ▶ Facilitating reporting

Group	Membership	Responsibilities (relating to pandemic influenza immunization)
BCIC working groups <ul style="list-style-type: none"> ▶ Immunization Promotion ▶ Immunize BC ▶ Pharmacists and immunization ▶ Professional education ▶ LPN and immunization ▶ Vaccine wastage ▶ Data registries ▶ Informed consent ▶ Vaccine safety 	Subsets of the BCIC	Inter-pandemic period <ul style="list-style-type: none"> ▶ Developing content and making recommendations relevant to the specific working group Pandemic period <ul style="list-style-type: none"> ▶ Supporting the BCIC by tailoring content and making recommendations to the pandemic leads in the area of focus for the specific working group.

5.5 Decision makers

The following table outlines some of the key decisions that will need to be made during a pandemic that have implications for the health sector, and describes who will make the decision and who will be consulted in the decision making process.

Decision	Decision maker	Consulted
Approve BC Pandemic Influenza Immunization Response Plan (this document)	Provincial Health Officer	<ul style="list-style-type: none"> ▶ CD Policy Group ▶ BCIC
Declare a pandemic influenza in BC	Provincial Health Officer	<ul style="list-style-type: none"> ▶ Ministry of Health ▶ BCCDC ▶ Pandemic Influenza Steering Committee
Set targets for vaccination speed and uptake	Provincial Health Officer	<ul style="list-style-type: none"> ▶ Pandemic Influenza Steering Committee
Determine vaccine priority groups	Provincial Health Officer	<ul style="list-style-type: none"> ▶ Pandemic Influenza Steering Committee ▶ BCIC
Set clinical guidelines for use of the vaccine	CD Policy Group? BCCDC	<ul style="list-style-type: none"> ▶ Pandemic Influenza Steering Committee ▶ BCIC

Decision	Decision maker	Consulted
Allocate vaccine between Health Authorities	Provincial Health Officer	<ul style="list-style-type: none"> ▶ Pandemic Influenza Steering Committee ▶ BCIC
Allocate vaccine within Health Authority (and to community vaccine providers)	Chief Medical Health Officer of the Health Authority	<ul style="list-style-type: none"> ▶ Health Authority
Scaling back service delivery (in order to increase immunization staffing)	Health Authority	
Approve key public service announcements	Provincial Health Officer	<ul style="list-style-type: none"> ▶ Pandemic Influenza Steering Committee ▶ BCIC

6. MASS IMMUNIZATION CLINICS

6.1 What is a mass immunization clinic

A mass immunization clinic is a clinic that is organized by public health to immunize large numbers of the population in a short period of time after the outbreak of a pandemic. Immunization clinics can be temporary or permanent in nature.

6.2 Use of mass immunization clinics

Mass immunization clinics are a key mechanism for promoting immunization during a pandemic in most Health Authorities.

Mass immunization clinics provide an efficient process and venue for moving the population through the vaccination process. A typical mass immunization clinic consists of a shortened registration process, a number of immunizers able to immunize one client every seven minutes per vaccine provider, and a waiting area where patients can sit for at least 15 minutes post injection.

Mass immunization clinics and community vaccine providers will be engaged to ensure the swiftest immunization of the population in the case of a pandemic. Other mechanisms for immunization will also be required to reach certain target 'seek and immunize' population groups. Refer to sections 7, 8 and 9 for more detail.

It will be up to the Health Authorities to determine the balance of mass immunization clinics and community vaccine providers appropriate for their region. The use of mass clinics may vary from 20% to 75% of the immunizations in a region. Refer to section 4 for further guidance on selecting the right mix of vaccine delivery models for a given type of pandemic.

6.3 Health Authority planning requirements

Health Authority immunization response plans should include details about how they would deploy mass immunization clinics in their region during a pandemic. In the spirit of preparedness and flexibility, it is recommended that at a minimum, Health Authorities prepare for a scenario where 75% of the population needs to be immunized in six weeks. This IRP and Health Authority plans should also give consideration to how mass immunization clinics would be scaled back for less severe pandemics.

Health Authority mass immunization clinic plans should include:

- ▶ The expected dependence on mass immunization clinics and community vaccine providers
- ▶ The number of clinics needed for a severe pandemic
- ▶ List of potential locations across the health authority – including location, capacity, features, contact information (the plan should list at least as many locations as the estimated number of clinics)
- ▶ Proposed schedule, including how best to reach populations in urban, rural, and remote areas including those who are socially and/or geographically isolated
- ▶ Proposed opening hours
- ▶ Number of staff required and where they would be sourced from (redirected from within public health , additional hires and volunteers)

6.3.1 Considerations in tailoring the plan

Once an outbreak has been declared, Health Authorities should refine this plan in light of the following:

- ▶ Urgency and nature of the outbreak
- ▶ Staff availability and other resource considerations
- ▶ Vaccine availability and timing
- ▶ The priority groups for the particular pandemic
- ▶ Geography of the population and where the influenza has hit hardest
- ▶ The intervals between vaccines in a series (if necessary).

6.4 Estimating the number of mass immunization clinics required

Key assumptions that Health Authorities can use in estimating and scheduling mass immunization clinics include:

- ▶ It is estimated that it takes one immunizer between 5 to 10 minutes to complete the immunization / intervention plus 5 minutes for check in. Clients should remain in the clinic for 15 minutes for observation after receiving the injection.
- ▶ Includes an allowance for clinic set-up, material maintenance and end-of day close
- ▶ Typically, mass immunization clinics are larger (more space and more immunizers) in more heavily populated areas and in the weeks shortly after the vaccine becomes available. Smaller clinics are more effective in smaller towns and towards the end of the vaccine campaign.
- ▶ Immunizers typically work no more than four hour shifts of actual immunization, five days per week to avoid repetitive stress. Shifts may need to be shorter (or involve more rotations) when immunizing children.

6.4.1 Factors that can slow down the speed of immunization at mass immunization clinics

Plan for additional time in the following cases:

- ▶ Whilst vaccine priority groups are in effect (whilst prioritization is underway, throughput is slowed as staff need to assess eligibility)
- ▶ Where there are a large number of children
- ▶ For the first few days when a new type of vaccine (or syringe etc) is introduced
- ▶ In rural environments or as the volume of patients decrease.
- ▶ Cases of anaphylaxis or adverse reactions
- ▶ Low availability of volunteers to assist with traffic flow and check-in

6.5 Location of clinics

Consider the following factors in selecting locations and venues for mass immunization clinics:

- ▶ Physical location

- ▶ Size in relation to numbers being served and personnel required
- ▶ Dry, covered, preferably with indoor space to accommodate line-ups
- ▶ Layout should include a pre and post immunization/intervention area, administrative space, first aid area as well as immunizing/intervention stations
- ▶ Seating for the elderly and people with disabilities
- ▶ Play area for children who are waiting
- ▶ Ease of access to communities, available parking, and transit stops
- ▶ Safe storage area for vaccines and supplies
- ▶ Access to facilities: sinks, washrooms and kitchen
- ▶ Access to: tables, chairs and privacy screens
- ▶ Safety and security needs for staff, clients, and supplies
- ▶ Communication needs/equipment such as telecommunications, wireless/docked computer access, electrical and phone outlets

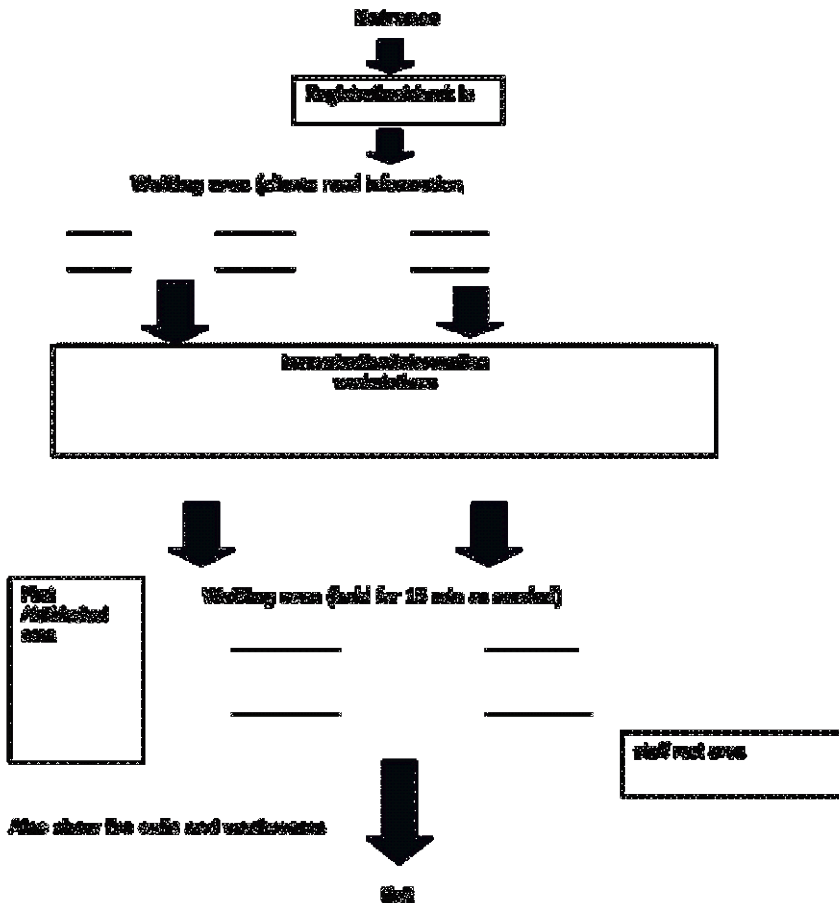
Consider the use of other government properties, such as schools and local halls.

6.6 Layout of mass immunization clinics

The following diagram provides guidance on an efficient set up of a mass immunization clinic which aligns the physical space to the flow of the clinic.

- ▶ Entrance
- ▶ Greeting and registration
- ▶ Intake screening and consent
- ▶ Waiting area before immunization
- ▶ Immunization/intervention stations
- ▶ Post immunization/intervention waiting area
- ▶ First aid station and phone
- ▶ Exit

Flow of clinic:



6.7 Staffing

Mass immunization clinics are funded and staffed by public health care providers. It is likely that during a moderate or severe pandemic, Health Authorities will staff mass immunization clinics with nurses and other staff that have been redeployed from other duties, additional temporary hires and volunteers.

A clinic should have the following staff as a minimum:

- ▶ 1 clinic coordinator (an experienced public health nurse)
- ▶ 2 administrative and registration staff (can be volunteers)
- ▶ 5 -20 nurses / vaccine providers
- ▶ 0-2 security personnel (for clinics, where risk is present (such as a severe pandemic or vaccine shortages))
- ▶ Volunteers to help greet, register and monitor clients
- ▶ A Manager on site to deal with complaints

For additional details on human resources, refer to section [12.](#)

6.8 Informed Consent

Vaccine providers must follow the informed consent process as per the BC Immunization Manual, Section IB of the Communicable Disease Control.¹⁴

6.9 Educating staff for mass immunization clinics

Educating staff for mass immunization clinics is the responsibility of the Health Authorities with support from BCCDC. Best practice suggests that involving as many potential immunizers as possible in seasonal or other ongoing vaccine campaigns is the best way to keep knowledge, skills and learner-centered educational approaches fresh.

In addition, Health Authorities may need to provide additional and refresher education after the pandemic has been declared and while the vaccine is being developed and produced. Education should be based on the BC Immunization Manual and BCCDC on-line immunization course..

6.10 Promotion of mass immunization clinics

Refer to promotions, communications and education section of this plan – section 14.

¹⁴ Communicable Disease Control Immunization Program Section IB – Informed Consent

7. COMMUNITY VACCINE PROVIDERS

7.1 Who are community vaccine providers?

Community vaccine providers are individuals, nurses or physicians not employed by public health who are qualified and able to assist with immunization.¹⁵ For both seasonal immunizations and during times of a pandemic, engaging community vaccine providers is a crucial component of the immunization response plan.

Priority will be given to those community vaccine providers who are regularly involved in seasonal and ongoing immunization programs that are publically funded. These community vaccine providers have the advantage of having established working relationships and communication protocols with the Health Authorities and more experience with immunizing clients. They typically include:¹⁶

- ▶ Physicians
- ▶ Pharmacists
- ▶ Registered nurses
- ▶ Nurse Practitioners
- ▶ Licensed Practical Nurses
- ▶ Registered Psychiatric Nurses
- ▶ Registered Midwives
- ▶ Corporations with seasonal influenza programs

During a severe pandemic, additional community vaccine providers may be required. Additional community vaccine providers may be sourced from:

- ▶ Dentists
- ▶ Military medical or nursing personnel
- ▶ Retired doctors
- ▶ Retired nurses
- ▶ Student or graduate nurses

7.2 Approach to engaging community vaccine providers

Health Authorities are responsible for:

- ▶ Including community vaccine providers in their plans
- ▶ Maintaining current knowledge of community vaccine providers (and their capacity) within their region

¹⁵ Canadian Immunization Guide

¹⁶ Communicable Disease Control Immunization Program Section IA – Introduction

- ▶ Working with potential community vaccine providers and with professional bodies to encourage more healthcare workers to take part in vaccinations during the seasonal influenza immunization program so that they are ready to support the Health Authority in case of a pandemic
- ▶ Regularly engaging with community vaccine providers – having established communications and ensuring that community vaccine providers understand their role during a pandemic
- ▶ Communications during a pandemic

It is the responsibility of the Health Authorities to determine the extent to which community vaccine providers are engaged and relied upon for pandemic immunization, however, it is anticipated that they will be engaged at least to the extent to which they are involved in publicly funded immunization.

See recommendation in Appendix D.

7.3 Qualification requirements by profession

Community vaccine providers can come from a variety of professions and backgrounds. The following table outlines the qualification requirements vary by profession. Each Health Authority should identify the pool of available community vaccine providers by type, and remain familiar with the scope of their qualification.

Profession	Qualification required to give a vaccination	Limitations on and/or conditions of immunization	List of qualified vaccinators
Physician	All physicians and surgeons able to practice in BC are qualified to give vaccinations		College of Physicians & Surgeons of BC
Pharmacists	Pharmacists need to take an online course, complete a practical element and pass a test to be authorized to administer vaccinations.	Can only immunize people age 5 and older	College of Pharmacists of BC (CPBC) maintains a list of pharmacists who are authorized to administer immunizations
Nurse Practitioner (NP)	All NPs able to practice in BC are qualified to give vaccinations. Influenza vaccinations can be given independently. (This includes ordering, administering, compounding or dispensing vaccines)		Certified Registered Nurse BC (CRNBC) (Note, there are only 119 NPs in BC in 2009)

Profession	Qualification required to give a vaccination	Limitations on and/or conditions of immunization	List of qualified vaccinators
Registered Nurse (RN)	All RNs able to practice in BC are qualified to give vaccinations. (This includes Compounding, dispensing and administering vaccines) Can provide immunization services independently provided that they follow the decision support tools.	RNs must adhere to the standards, limits and conditions established by the CRNBC. This includes: Must use the decision support tool established by BCCDC ¹⁷	Certified Registered Nurse BC (CRNBC)
Licensed Practical Nurse (LPN)	Immunization falls within the scope of practice for LPNs for influenza and pneumococcal vaccination. LPNs must have successfully completed an immunization course approved by the College of Licensed Practical Nurses British Columbia (CLPNBC). LPNs need to be recertified every three years.	The scope, limits and conditions for practice are determined by CLPNBC. ¹⁸ This includes: <ul style="list-style-type: none"> ▶ LPNs can independently administer influenza vaccinations without an order ▶ An RN must be in the same facility as the LPN to provide clinical guidance to the LPN upon request ▶ Must use the decision support tool established by BCCDC ▶ Can only administer immunization to clients 4 years old or older ▶ Can immunize eligible school-age children and youth for influenza ▶ Can immunize patients of long-term care facilities for influenza ▶ LPNs are not authorized to independently diagnose and treat anaphylaxis. 	College of Licensed Practical Nurses British Columbia (CLPNBC)

¹⁷ Tool can be found at bccdc.ca

¹⁸ Refer to the clpnb.org website for specifics and limitations of nurse immunization qualifications requirements and regulations

Profession	Qualification required to give a vaccination	Limitations on and/or conditions of immunization	List of qualified vaccinators
Registered Psychiatric Nurse (RPN)	RPNs have the competencies to administer intramuscular and subcutaneous injections. It is recommended, but not required, that RPNs successfully complete an immunization course approved by the CRPNBC. It is also recommended that they only administer immunization to clients 4 years old or older		Certified Registered Nurse BC (CRNBC) (Note – scope of practice is under review)
Midwives	Able to provide influenza vaccinations	Can only provide certain vaccines, influenza for pregnant women is included.	College of Midwifery of BC
Dentists	Can take online education sessions to be licensed to provide immunization		
Nursing and medical students	Nursing students are able to provide influenza immunization provided they meet certain competency criteria (generally set by their nursing school in conjunction with the Health Authority)	Comply with Nursing School and Health Authority Guidelines. Must be supervised by a clinical instructor.	Nursing schools
Retired physicians	Will need to work with the College of Physicians & Surgeons of BC to ensure that they have up-to-date license sufficient to cover immunization. The high cost of obtaining insurance coverage in the short-term may present a barrier.		College of Physicians & Surgeons of BC

7.4 Responsibilities of community vaccine providers

Community vaccine providers are responsible for:

- ▶ Following BCCDC’s guidelines for immunization
- ▶ Ensure that vaccine maintains potency (optimal transportation, storage, handling, and conservation), and report in a timely manner to the local health unit any cold chain incidents
- ▶ Reporting on immunizations given in a timely manner to the local health unit
- ▶ Report adverse events following any immunization to the local health unit¹⁹

¹⁹ Refer to BCCDC’s Communicable Disease Control Manual, Chapter 2, and the BCCDC website – monitoring and response, adverse events following immunization for more information

7.5 Education for community vaccine providers

BCCDC has developed an online Immunization Course that is available to Registered Nurses, RPNs, Licensed Practical Nurses, and Pharmacists. Course content is based on the Immunization Competencies for BC Health Professionals, available at <http://www.bccdc.ca/imm-vac/ForHealthProfessionals/ImmsCompetency.htm>

The online course includes a Basic Competency exam for all providers, and a Renewal of Competency exam developed by and for public health nurses working in the Health Authorities and in Aboriginal communities. This competency exam is for a full scope immunization practice. It can be tailored to a limited scope. i.e. Specific to a one vaccine such as influenza, in specific practice settings, etc.

The education and coordination of individual professions is managed by their individual associations (i.e. BC pharmacy association).

In addition Health Authorities may choose to open their yearly flu school to community vaccine providers.

NACI statements will be available on the Health Canada website to provide community vaccine providers with information on the specific vaccine.

7.5.1 Preparing for additional community vaccine providers

During a moderate or severe pandemic, additional vaccine providers may be required to be educated and qualified to administer vaccines. Health Authorities should develop a plan for where they could source additional vaccinators and how they could educate them during the time period in which the vaccine is being discovered and produced.

7.6 Fee guidelines

If there are specific fee guidelines and reimbursement plans, they should be communicated by the Ministry of Health prior to the release of the vaccine.

7.7 Distribution of vaccine and other supplies to community vaccine providers

Vaccine will be distributed to community vaccine providers by Health Authorities. For further information, refer to Section 10..

7.8 Record keeping

Community vaccine providers will be responsible for maintaining current records of immunizations.

Pharmacists must record vaccinations using PharmaNet for reimbursement and also to report data to the Health Authorities. Physicians and other vaccine providers need to submit records in the format specified by the Health Authority which provided them with vaccine.

For further information, refer to Section 13.

8. FIRST NATIONS

First Nations people in Canada, especially populations living in remote areas, have historically suffered worse outcomes and have had higher transmission rates than the general population and as such, they are likely to be a priority group for early immunization. As a result, some of the policies and guidelines concerning the pandemic influenza response differ, not only from general (non-First Nations) guidelines, but also for First Nations people living in urban areas as compared to remote areas.

First Nations and Inuit Health (FNIH) is part of Health Canada, and is the federal organization responsible for immunizing on-reserve, as well as the delivery of other public health and health promotion services to the population.

It is expected that Health Authorities will support First Nation communities in their region and work collaboratively with local communities, FNIH, the First Nations Health Society (FNHS)²⁰ in the planning for and delivery of immunization response plans.

The guiding principles for the First Nations response are:

- ▶ Consultation
- ▶ Collaboration
- ▶ Cultural sensitivity
- ▶ Community centric care

8.1 Pandemic preparedness

Immunization planning should be conducted before a pandemic and should be developed in a collaborative fashion, led by First Nations Inuit Health.

Consultation should involve First Nation communities, FNIH, FNHS, the Ministry of Health, Health Authorities and BCCDC at a minimum.

FNIH and each First Nations community should have a pandemic influenza response plan. The plans should be updated each year, and periodically tested to make sure they are practical and able to be implemented. Each Health Authority is also required to include how they will support First Nations in their region. These plans should be shared and reviewed at least every three years.

8.2 At first signs of a pandemic

Collaboration will be the key to success. Convene a working group that has representatives from:

- ▶ First Nations Inuit Health
- ▶ Aboriginal Medical Health Advisor
- ▶ BC First Nations Health Society
- ▶ Health Authorities
- ▶ Communities
- ▶ Office of the Provincial Health Officer

²⁰ The First Nations Health Society is the operating arm of the First Nations Health Council

▶ BCCDC

Review plans in place and tailor the approach and specific action plan to the specifics of the actual pandemic.

Considerations should include;

- ▶ Coordinating mass immunization clinics on reserve and near reserves
- ▶ Working in collaboration with First Nations nurses to provide additional public health and community vaccine providers as required
- ▶ Sourcing additional immunization supplies as needed
- ▶ Tailored communication messages delivered by First Nations to First Nations
- ▶ Consolidated data entry (which worked effectively during H1N1)

8.3 Approach to vaccination

8.3.1 On reserve

Vaccination will be given using mass immunization clinics on-reserve. The clinics will be staffed by local vaccine providers. Clinic staffing can be supplemented by public health nurses and community vaccine providers as needed.

8.3.2 Off reserve

First Nations are welcome to be vaccinated at mass immunization clinics or by their local community vaccine provider.

8.3.3 Other considerations

Consideration should be given to cultural sensitivity of vaccination approaches. For example, in most communities, it is not appropriate to not serve elders first. These factors should be given weight in determining the vaccination approach, in addition to the specific epidemiological risks.

Vaccine providers working on reserve should be immunized to respect cultural and historical sensitivities relating to outsiders bringing illnesses into communities.

8.4 Supplies and logistics

Health Authorities will likely need to give priority to distributing vaccine to First Nation communities in their region as they are likely to be considered a priority group. For First Nation communities that are geographically dispersed, Health Authorities may want to give communities all the vaccine that they need up front, to allow efficient clinics and avoid multiple long distance trips to collect vaccine. This will need to be tempered based on the availability of vaccine and the epidemiological risks of the specific influenza. As with other vaccine providers, First Nations plans should remain flexible in case of changes to the available quantity of vaccine or other factors.

FNIH and communities are responsible for stockpiling the supplies that they will need to respond to a pandemic. However, if additional supplies are needed, communities can work with Health Shared Services BC, who will maintain a stockpile large enough for the entire BC population.

8.5 Communications

On-reserve, FNIH and local communities should work together to prepare a local communications approach to encourage the population to get vaccinated.

Off reserve, Health Authorities and FNIH are encouraged to work with off-reserve First Nation organizations (such as Aboriginal Affairs and Northern Development Canada and urban community centers) to help promote the importance of getting vaccinated.

For more information on communications, refer to section 14.

8.6 Reporting

FNIH is responsible for collecting the minimum documentation for immunizations on reserve. This information should be reported both to Health Canada, Health Authorities and BCCDC. For more information on minimum documentation requirements, refer to section 13.

9. TAILORED ‘SEEK AND IMMUNIZE’ APPROACHES

This section outlines the additional vaccination delivery models and other considerations for populations that are either:

- ▶ Vulnerable (because of epidemiological reasons, social reasons or both)²¹
- ▶ At increased risk of spreading influenza (such as health care workers)

‘Seek and Immunize’ target groups include:

- ▶ Health care workers
- ▶ Pregnant women
- ▶ Young children
- ▶ Populations at risk
- ▶ Elderly
- ▶ Remote communities
- ▶ Homeless
- ▶ Foreign born

Tailored approaches will be needed to better ensure that these target group populations are immunized in a timely manner. Most of the approaches described below bring the vaccine directly to the target group through a ‘seek and immunize’ approach. These target group populations will also be encouraged to use vaccination delivery models targeted at the general population (such as mass immunization clinics and community vaccine providers).

9.1 Vaccine priority groups

Vaccine priority groups will be determined nationally and may be used to phase the immunization by prioritizing those most at risk. Vaccine priority groups will be reviewed once epidemiological data on the specific pandemic virus is known, but should also consider social and administrative risk factors.

Whilst it is likely that the populations discussed in this section will form part of a vaccine priority group, vaccine priority groups determined for the specific pandemic influenza will take precedence over the recommendations provided in this section.

9.2 Health care workers

Health professionals have the responsibility to prevent vaccine-preventable diseases in those under their care. Failure to maintain adult immunization results in significant individual risk, increased mortality and community risk for preventable diseases. Society not only expects health practitioners to promote newly

²¹ Vulnerable populations may have one or more of the following characteristics; limited resources, negative external stigma/stereotypes, limited knowledge or information, illness of disabling condition, history of abuse, loss of culture or historical roots, does not speak an official language, relative power imbalance

approved interventions that maintain health and prevent disease but also to ensure that the population under their care has continuing and updated protection through appropriate immunization. Health care providers are recognized as leaders in their community, and their behaviours and attitudes can be a positive force for health promotion.

Health Authorities will be encouraged to set up immunization clinics at their workplace for staff.

Community vaccine providers and other private health care providers are encouraged to immunize themselves and their staff early only.

Given the historically low take-up rates of immunization amongst health care workers, it is recommended that Health Authorities continue to focus on initiatives to immunize staff during the normal flu season.

9.3 Pregnant women

Pregnant women are considered to be more at risk from a pandemic influenza, and so are often prioritized to be early receivers of the vaccine. Additional vaccine delivery methods should be made available to encourage pregnant women to get immunized. Consideration should be given to incorporating obstetrics / gynecology (OBGYN) and midwives medical professionals as vaccine providers to pregnant women. To support this, Health Authorities may choose to allocate additional vaccine upfront to women's hospitals, OBGYNs, midwives and at maternity clinics.

9.4 Young children

Children are often at risk from a pandemic influenza and are prioritized recipients of vaccines. However vaccination rates of children have been low in recent pandemics.

Health Authorities should develop targeted strategies to help increase the uptake of vaccine amongst children. This can include:

- ▶ Early liaison and collaboration with school districts to plan for in school vaccination programs and to develop plans for how schools to aid in communications to parents
- ▶ Plan for separate spaces and use more experienced immunizers to work with children, as they need greater attention
- ▶ Where possible, create opportunities for family groups to be immunized together.

Health Authorities should plan for additional breaks or shorter work shifts for vaccine providers working with children as it is often more demanding.

9.5 Populations at risk

Populations at risk is a broad category to encompass people with existing medical conditions which increase their vulnerability to severe illness or fatalities if they contract influenza. Similarly to pregnant women, it is recommended that Health Authorities provide populations at risk with additional vaccine delivery methods that align to health care services that the populations are already accessing. These may include:

- ▶ Asthma clinics and centres
- ▶ Heart and stroke clinics and centres

- ▶ Cancer clinics and centres
- ▶ Diabetes Clinics

9.6 Elderly

Depending on the epidemiology of the pandemic influenza, elderly people may be at a greater risk.

The elderly generally have a high uptake rate of vaccinations, but mobility issues may prevent them from accessing the vaccine from mass immunization clinics. Mass immunization clinics with long line up or limited seating are particularly troublesome for seniors.

Vaccine delivery models likely to provide easier access to the vaccine for elderly include:

- ▶ Provide vaccine to long term care facilities and home care nurses
- ▶ Local physicians and pharmacists who work with the elderly (at their surgery /pharmacy or through home visits).

9.7 Remote communities

Remote communities include both socially isolated or geographical isolated communities. Vaccinating populations in remote communities can be achieved by using immunization clinics that travel from community to community, and involving local community vaccine providers.

Specific guidance for immunizing remote communities include:

- ▶ Plan for slower throughput of clients at rural locations
- ▶ Remember that people in remote communities will likely have to travel further to the nearest immunization clinic, so communications will also need to be conducted with more care and with as much advanced notice as possible
- ▶ Given the time required to organize small immunization clinics (including the travel time of vaccinators), it may be more efficient to front load vaccinations in small and remote communities
- ▶ It is more difficult for potential community vaccine providers in remote settings to become qualified to give vaccinations as they may need to travel further or have less flexibility in timing of courses and exams. Health Authorities and professional bodies are encouraged to work together to provide potential rural vaccine providers with easy access to education, exams and support. To this end, some Health Authorities are putting the influenza vaccine competencies on line.

9.8 Homeless

As is the case in most Health Authorities for the seasonal flu vaccine, it is recommended that public health nurses set up clinics in areas where socially marginalized people congregate (such as soup kitchens and hostels) and where they are already familiar with the staff during the early stages of immunization.

The Ministry of Health and Health Authorities are also encouraged to work with related ministries, such as the Ministry of Employment and Income Assistance to help communicate the benefits of vaccination to homeless people, and support them in finding a venue for immunization.

9.9 Foreign born / non English speakers

Foreign born and/or non English speakers may be vulnerable as they are less likely to receive accurate information on the pandemic and vaccination options, and they are also less likely to be familiar with the normal vaccine delivery models.

To support foreign born and non English speakers to get vaccinated, consideration should be given to:

- ▶ Translating key communications and advertising with foreign language media sources
- ▶ Distributing information and coordinating mass immunization clinics through immigrant organizations, local community and religious groups

10. VACCINE, SUPPLIES AND LOGISTICS

10.1 Vaccine

Influenza vaccination has long been considered the cornerstone of influenza prevention and control and also serves as the central preventive strategy during the next pandemic.

The speedy development, production and distribution of the vaccine is critical to containing a pandemic, and this plan assumes that a vaccine will be produced and ready for deployment.

Additional details on vaccine logistics and security can be found in the “British Columbia’s Pandemic Influenza Response Plan – Pandemic Influenza Vaccine Storage, Transfer and Security Plan”.

10.1.1 Vaccine procurement

Public Works and Government Services Canada (PWGSC) has a contract in place with GlaxoSmithKline (GSK) and a back up contract with Sanofi Pasteur Ltd to manufacture a vaccine during a pandemic influenza. BC participated in the procurement process and enough vaccine will be procured to allow everyone in BC to be vaccinated.

10.1.2 Vaccine procurement and allocation

Health Canada will procure enough vaccine for population of Canada and distribute it to the provinces and territories on a per capita basis. Within BC, vaccine will be distributed to each Health Authority based on population or as determined by the Provincial Health Officer.

10.1.3 Vaccine storage and cold chain requirements²²

Influenza vaccines are temperature sensitive. Vaccines must be stored and distributed using cold chain procedures to keep the vaccine at between 2°C and 8°C.

BCCDC is responsible for having sufficient cold chain storage and distribution capacity to meet the planning assumptions for a severe pandemic as described in section 2.2. That is, BCCDC need to distribute vaccine at a rate which would allow 75% of the population to be immunized in 6 weeks. At a minimum, this means 562,500 doses per week.²³ BCCDC should also have additional capacity to account for contingencies (such as potential spoilage, in case vaccine delivery is delayed or cannot keep pace with the supply of the vaccine.

Health Authorities are also required to have sufficient cold chain capacity to meet the planning assumptions for a severe pandemic as described in section 2.2. A good rule of thumb is that Health Authorities should have capacity to store ¼ population worth of vaccine.

Community vaccine providers are also required to maintain a cold chain in collecting and storing vaccine. This is typically done through using cooler boxes in transit and storing the vaccine in dedicated fridges equipped with temperature monitors.

Resources on how to maintain cold chain can be found at bccdc.ca

10.1.4 Vaccine repackaging

Vaccines will likely come packaged in large volumes.

²² British Columbia’s Pandemic Influenza Response Plan – Pandemic Influenza Vaccine Storage, Transfer and Security Plan

²³ Assuming that 75% of the population needs to be immunized in 6 weeks (4.5m doses x 75% x 6 weeks)

BCCDC will repackage boxes into smaller units so that they can be more easily distributed within the Health Authorities amongst vaccine providers.

All repackaging undertaken by BCCDC will occur in BCCDC pharmacy in Vancouver.

10.1.5 Vaccine distribution to Health Authorities

BCCDC is responsible for distributing vaccine to the Health Authorities. The timing and volumes of receiving vaccines have a critical impact on Health Authority planning. BCCDC is responsible for maintaining frequent communications during a pandemic with GSK and the Canadian Immunization Committee (via the federally coordinated vaccine working group) on the status of vaccine development and distribution and sharing this information with the Health Authorities.

To distribute vaccines, BCCDC will embrace a hybrid model of:

- ▶ Refrigerated trucks (known as reefers)
- ▶ Couriers (e.g., DHL or Dynamex).

The majority of delivery will be undertaken using reefers as this has been shown to have less wastage. BCCDC have two reefer trucks in provincial circulation during inter-pandemic periods, and an additional four reefer trucks can be added during a pandemic.

BCCDC will collect the vaccine using reefers from GSK's Ontario warehouse and bring them to BCCDC's Vancouver pharmacy for repackaging. Drops of vaccine that have not yet been repackaged may be made to Health Authorities en route if the health authority agrees to accept the vaccine in large dose boxes.

After the vaccine has arrived in BCCDC and been repackaged into smaller boxes, BCCDC will distribute the vaccine to Health Authorities using direct drops to Health Units and a select number of other locations in the region.

Health Authorities should work closely with BCCDC to provide direction on a vaccine delivery plan that best suits the Health Authority storage capacity and implementation plan.

10.1.6 Vaccine distribution within Health Authorities

Health Authorities are responsible for distributing vaccine within their Health Authority and to the community vaccine providers they engage in their region.

Health Authorities should include details of how they will distribute vaccine in their Immunization Response Plans.

Typically, distribution within the Health Authority consists of:

- ▶ BCCDC drops at designated Health Unit and may also deliver to other locations within the region as long as BCCDC has sufficient capacity
- ▶ A minimum of one large storage facility which holds surplus vaccine
- ▶ Community Vaccine Providers to collect vaccine from their nearest Health Unit (as is the case for seasonal vaccination programs)
- ▶ Public health nurses to bring vaccine with them to mass immunization clinics in cooler boxes preferably equipped with temperature monitors.

Health Authorities must have a system in place for verifying the authenticity of community vaccine provider staff sent to collect vaccine.

10.1.7 Vaccine inventory management

BCCDC is responsible for inventory management and reporting from collecting the vaccine from GSK to delivering it to Health Authorities.

Health Authorities are responsible for inventory management from receipt of vaccine until it is administered. This includes collecting information on inventory from community vaccine providers that the Health Authorities provide with vaccine.

BCCDC and Health Authorities must be able to provide the Ministry of Health with weekly inventory reports.²⁴

10.2 Supplies

Health Authorities are responsible for determining their supply requirements and maintaining a stockpile in case of a pandemic.

In determining stockpile requirements, consideration should be to:

- ▶ Assume that two doses may be required per person
- ▶ Turnover of stockpile (as certain items may expire)
- ▶ Comprehensive stockpile, which includes:
 - ▶ Syringes:
 - Extra needles assuming either premixed adjuvanted vaccine or an adjuvanted vaccine with a separate antigen which requires mixing
 - Safety syringes
 - Sharps containers
 - ▶ Personal protective equipment:
 - Antibacterial handwash
 - Gloves
 - Masks
 - Gowns
 - ▶ Other supplies:
 - Disinfecting wipes
 - Swabs

²⁴ BCCDC and Health Authorities should aim to be able to provide the Ministry of Health with daily inventory reports. However, it is acknowledged that this would require significant and time intensive manual work in the absence of an inventory management system. This requirement should be reviewed and updated after Panorama is implemented.

Other suppliers needed may include:

- ▶ Cotton balls
- ▶ Tissues
- ▶ Band-aids
- ▶ Garbage bags
- ▶ Paper table covers
- ▶ Paper towels
- ▶ Cleaning products
- ▶ Pens
- ▶ Coolers
- ▶ Intake records
- ▶ Adverse reactions reporting form
- ▶ Individual client record for personal keeping
- ▶ Information for consent and take home i.e. health files

At the request of a Health Authority, Health Shared Services BC (HSSBC) are able to maintain a stockpile of supplies required for pandemic influenza. HSSBC will assist in the distribution of supplies to Health Authorities.

Community vaccine providers will be responsible for maintaining their own stockpile of supplies.

Health Authorities may want to provide private companies that are not reimbursed for giving immunizations with supplies as they distribute vaccine.

11. SECURITY OF VACCINE AND SUPPLIES

Security will be needed to protect vaccine and supplies during a pandemic influenza.

Security, health and safety for staff is included in Section 12.

BCCDC is responsible for the security of vaccine up to the point at which it is distributed to the Health Authorities. Security of the vaccine will be the responsibility of the Health Authorities once it is received from BCCDC.

BCCDC and Health Authorities should consider security threats and risks in developing security plans and scale the amount of security needed according to the specific conditions present during the vaccine. Security can be provided by Health Authority staff that have experience in security. Health Authorities may also wish to supplement internal staff with private sector security consultants as needed.

11.1 Risk factors

Security risks are heightened in the following cases:

- ▶ During vaccine or supply shortage
- ▶ During severe pandemics
- ▶ When vaccine is first made available
- ▶ At mass immunization clinics and for community vaccine providers expecting long wait times
- ▶ In larger, urban mass immunization clinics

11.2 Security measures

Security measures include:

- ▶ Store vaccine in locked fridges and secure restricted-access buildings
- ▶ Engaging local law enforcement, crowd control and/or security staff at mass immunization clinics
- ▶ Security education for those responsible for distribution and handling of vaccine
- ▶ Security education (or written guidelines and advice at a minimum) for staff working at mass immunization clinics
- ▶ Location of vaccine storage and vaccine delivery schedules should not be widely published

Health Authorities are encouraged to consult with internal security groups and with local law enforcement groups in preparing security plans.

12. HUMAN RESOURCES, UNION ENGAGEMENT AND OCCUPATIONAL HEALTH AND SAFETY

Additional human resources will be required to support the immunization response during a pandemic influenza, in an already stretched healthcare sector.

It is assumed that the public health sector (health authorities) will not have sufficient resources in house to respond to a pandemic influenza on its own, and hence the approach adopted throughout this plan provides for a strong private sector involvement (through community vaccine providers). This section focuses on human resources, union engagement and occupational health and safety for the public health sector.

Additional information can be found in the “BC Pandemic Influenza Human Resource Planning Guideline”.

12.1 Staffing requirements

12.1.1 Vaccine providers

The key demand for additional human resources will be vaccine providers. Assuming 7 minutes per vaccination, immunizing 75% of BC’s population will take 393,750 hours of vaccine provider time. To meet the target of six weeks, this would equate to 1,875 vaccine providers working solely on vaccinations during the 6 weeks.²⁵ Health Authorities need to determine what the mix of Health Authority and community provider staffing will add up to the correct number of immunizers during those 6 weeks. That should be a clear part of their plans, as well as how to get them coordinated and managed.

Obviously, most vaccine providers have other responsibilities and cannot be expected to provide back-to-back vaccinations for 6 weeks – however, these simple calculations demonstrate the scale of support necessary to immunize BC during a moderate to severe pandemic.

Sections 7.1 and 7.3 provide an overview of the professions able to provide vaccinations.

12.1.2 Other staffing requirements

In addition to vaccine providers, an array of other skill sets will be required to support the implementation of the immunization response. Additional resources will also be required to support the following activities:

- ▶ Interim governance bodies and coordination of health sector and organizational responses
- ▶ Management and leadership to implement immunization response plans (tailoring the plan, leadership, coordination, etc.)
- ▶ Mass immunization clinics (scheduling, securing venues, staffing, etc.)
- ▶ Distribution of vaccine and supplies (planning allocation of vaccine, repackaging, transportation, storage, inventory management, etc.)
- ▶ Monitoring adverse events and surveillance

²⁵Calculation: 4,500,000 people x 75% x 7 minutes per injection / 60(mins per hour) = 393,750 hours.
393,750 hours / 6 weeks / 35 hours per week = 1,875 vaccine providers

- ▶ Human Resources (sourcing additional staff, changing staffing schedules etc)
- ▶ Education
- ▶ Communications
- ▶ Security
- ▶ Research and thought leadership
- ▶ Data and reporting (data entry, data analysis, reporting, etc.)
- ▶ Administration

12.2 Factors affecting staffing requirements

The number of staff needed will be dependent on a number of factors:

- ▶ The severity of the pandemic – the more severe the pandemic, the more healthcare workers will be directed towards treatment
- ▶ Immunization targets²⁶ – the higher the targets, the more staff will be required
- ▶ Availability of vaccine – the more vaccine is available, the more vaccine providers will be demanded in the short term
- ▶ Community vaccine provider engagement – the less community vaccine providers are involved in immunization, the more staff Health Authorities will need

Health Authorities will be the hardest hit, and are responsible for developing plans for how they will scale up their human resources and engage the public sector in order to immunize 75% of their region's population within 6 weeks.

12.3 Approach to increasing staffing

12.3.1 Pandemic preparedness

The best way to increase the human resources able to assist with immunization activities during a pandemic influenza is to involve as many staff as possible in the seasonal influenza program.

All parts of the health sector are encouraged to promote the appropriate healthcare workers to get educated in immunization and to practice the skill regularly. This has the benefit of both improving the health sectors' competency in providing vaccinations and it also means that more health care workers will be familiar with the processes surrounding immunization (such as where to source vaccine, documentation requirements, etc.).

12.3.2 During the pandemic

After early signs of a potential pandemic, the following five-layer response strategy can be deployed to increase staffing:

²⁶ What percentage of the population needs to be immunized in what timeframe. E.g., 75% of the population needs to be immunized in 6 weeks

Layer 1: Protect and support current healthcare workers in order to maximize supply

Layer 2: Maximize healthcare workers hours of work

Layer 3: Reassign health care workers to perform their duties where required

Layer 4: Redeploy healthcare workers to duties other than those which they normally perform

Layer 5: Recruit temporary healthcare workers for the pandemic

The logic behind the five layers is that there is an inverse relationship between the layers and their ability to provide additional healthcare workers hours to the system; i.e., the early layers produce the greatest yield of the easy-to-gather resources. Subsequent layers are successively more difficult to implement.

Layer 1: Protect and support existing healthcare workers to maximize supply

The first action to be taken is to protect and support the existing complement of healthcare workers in order to ensure their health and safety. Keeping current employees as healthy as possible will also assist in maintaining the availability of the existing workforce. Measures include prioritizing vaccination for healthcare workers (refer to section 9.1) and education.

Layer 2: Maximize existing healthcare workers' hours

Maximizing existing healthcare workers hours is accomplished through implementing human resource staffing responses under the terms of the existing collective agreements and employment law, such as:

- ▶ Utilize casual employees to the fullest extent
- ▶ Increase part-time employee hours to full-time where possible
- ▶ Maximize overtime
- ▶ Curtail leaves of absence
- ▶ Implement alternative work schedules
- ▶ Reassign health care workers who have commuting issues caused by pandemic
- ▶ Offer telecommuting where possible
- ▶ Cancelling or delaying non-essential internal activities (such as education and conferences)

Layer 3: Reassign existing healthcare employees to perform their duties where required

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

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

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

Layer 4: Redeploy existing healthcare workers to duties other than are normally performed

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

- ▶ Delegating non-qualified staff to perform regulated functions with appropriate oversight, direction or supervision
- ▶ Deploying health care employees have less experience
- ▶ Deploying work teams with full competency in the lead positions only

Layer 5: Recruit temporary healthcare workers for the pandemic

Recruitment of additional temporary healthcare workers is accomplished by adding new staff through a variety of means, including:

- ▶ Recruiting additional casual and contract staff
- ▶ Conduct rapid licensure of additional vaccine providers

12.4 Health Authority staffing plans

Each Health Authority is responsible for preparing a pandemic influenza immunization response plan which addresses human resources. The plan should include:

- ▶ The extent to which community vaccine providers will be engaged
- ▶ Current capacity of Health Authority staff
- ▶ Additional internal capacity from reassigning and redeploying Health Authority staff
- ▶ Plans to hire additional temporary staff
- ▶ Plans to engage additional community vaccine providers (such as dentists)
- ▶ Use of volunteers
- ▶ Plans to scale up and down staffing levels

The human resource management team should be engaged in helping prepare this component of the plan and aligning it with other pandemic plans. The Health Authority HR team will be involved in managing conflicts and prioritizing staffing across the range of competing demands that could arise during a pandemic influenza.

12.5 Safety considerations

The environment under which health care workers will operate during a pandemic will be characterized by:

- ▶ Longer working hours,
- ▶ Shifting service delivery priorities,
- ▶ Illness and absence of co-workers,
- ▶ Heavier patient loads in many cases, and
- ▶ Difficult and stressful conditions.

Line managers, working closely with occupational health and safety, infection control and emergency management staff will need to ensure the safety of healthcare workers to the greatest extent possible. These will include the broad array of personal, engineering and administrative controls and safety measures widely used in the health sector. The imperative will be for health authority managers to brush up and update plans, stock the necessary personal protective equipment and other supplies, and to refresh education and knowledge, all of which will help ensure a healthier and safer work force. Also, based on careful monitoring of the pandemic, managers may need to plan for activation of psychosocial and staff support plans.

As discussed in section 9.2, special efforts should be made to immunize health care workers as early as possible.

12.6 Union engagement

A pandemic will require additional and unusual demands to be placed on health care workers and it may also demand unusual and temporary hiring practices to be deployed. Each organization involved in immunization response should understand the impacts of a pandemic influenza on their workforce and have open conversations with unions around these requirements in the inter-pandemic period.

13. DATA COLLECTION, RECORDING AND REPORTING

13.1 Data requirements

The Ministry of Health and BCCDC are responsible for defining data collection requirements prior to a pandemic. Data collection requirements should be defined in consultation with Health Authorities and community vaccine providers. Reporting requirements should not include personal information.

It is expected that BCCDC and the Ministry of Health will require weekly reports on the number of vaccines distributed. Daily reporting may be requested during the first few weeks of the vaccination campaign

13.2 Reporting

Reporting relationships exist as follows:

Organization	Reporting requirements	Reporting to
Community vaccine providers	<ul style="list-style-type: none"> ▶ Vaccinations given (measured based on vaccines distributed) ▶ Adverse events 	<ul style="list-style-type: none"> ▶ The Medical Health Officer in the local health unit
Health Authorities First Nations Inuit Health	<ul style="list-style-type: none"> ▶ Vaccinations given (at mass immunization clinics, by community vaccine providers and other providers) ▶ Inventory levels ▶ Adverse events 	<ul style="list-style-type: none"> ▶ BCCDC
BCCDC	<ul style="list-style-type: none"> ▶ Summary information on vaccinations given ▶ Summary information on inventory levels ▶ Adverse events 	<ul style="list-style-type: none"> ▶ Ministry of Health ▶ Health Canada
Ministry of Health	<ul style="list-style-type: none"> ▶ Vaccinations given by pharmacists (from PharmaNet) ▶ Vaccinations given by physicians (from MSP billing system) 	<ul style="list-style-type: none"> ▶ BCCDC

13.3 Systems

Once data collection needs have been defined and agreed, Health Authorities and vaccine providers will be responsible for ensuring they have adequate systems in place to capture and collate the necessary information on a daily basis during a pandemic.

At present, Health Authorities each have their own systems in place to collect data on vaccinations, inventory and adverse events. These systems are used during the seasonal vaccination programs. Often, these systems require manual manipulations and data entry, which can be cumbersome during a pandemic when volumes of records increase and resources are stretched.

The Province is moving towards to using Panorama for inventory management and certain components of data collection. Panorama will be rolled out to all Health Authorities to help them more easily gather required data.

Pharmacists currently use PharmaNet for data collection and reporting – which can be accessed by the Ministry of Health.

Physicians should use the MSP billing code created for the pandemic to allow for reporting on vaccines given by physicians. It is unlikely that the MSP billing system will capture enough information to satisfy BCCDC and Ministry of Health reporting requirements, so physicians will likely be asked to provide additional records to Health Authorities.

Most other community vaccine providers have some form of patient administration systems, excel spreadsheets or paper files which they use to record immunizations and report to the Health Authorities.

13.4 Adverse events

An adverse event is a negative, unintended event following immunization. Adverse events are carefully monitored by the Health Authorities, BCCDC, Ministry of Health, Health Canada and by international health organizations, such as the World Health Organization.

All vaccine providers have a responsibility to document and report adverse events that they become aware of.

Health Authorities and community vaccine providers are required to report adverse events to BCCDC, who in turn is responsible for communicating adverse events to the Ministry of Health and Health Canada.

Community vaccine providers are required to report adverse events to the Medical Health Officer in the local health unit and Health Authorities report all adverse events to BCCDC. BCCDC is responsible for communicating adverse events to the Ministry of Health and Health Canada.

14. PROMOTION AND COMMUNICATION

Streamlined, coordinated, consistent, accurate, and timely communications throughout the health care sector is key to ensuring the health sector immunization response is coordinated and that members of the public are educated on how to protect themselves and get immunized.

The guiding principles of communication during a pandemic are:

- ▶ Consistent, clear and accurate messages – centralized development of materials which reinforce key messages
- ▶ Multiple communication methods – centrally developed messages can be shared using multiple and decentralized communication approaches to reach all audiences
- ▶ Regular and timely communications – adopting a communications approach that minimizes the time required to disseminate information
- ▶ Flexibility and management of risks – gather feedback, respond to rumours and provide tailored communications
- ▶ Communicate to healthcare workers first – plan to share information with health care workers and public health staff first so that they are given time to plan and are prepared to respond to public enquiries

Additional information on communications can be found in the “BC Pandemic Influenza Communication and Education Framework”.

14.1 Approach, roles and responsibilities for communications and promotions

Whilst many organizations have responsibilities for communications during a pandemic, only one organization (the ‘owner’) will have responsibility for developing the core communication material for each communication topic. Without having one clear owner for each key message, the province risks sending confusing and contradictory messages. Unless otherwise specified, the Provincial Health Officer will be the key spokesperson and owner.

The owner is responsible for:

- ▶ Gathering information from the relevant parties to prepare the core messages
- ▶ Timely development, review and approval²⁷ of core communication materials
- ▶ Delivering the communications and engaging other organizations to deliver the communication (as required)
- ▶ Using multiple communication methods (as required)
- ▶ Gathering feedback from the audience to make sure key messages have been received as intended (including addressing rumours and misinformation circulating around the topic area).

Whilst there should be only one owner and one core set of communication material for each communication topic, many organizations and communication methods will be used to disseminate this

²⁷ In most cases, the communication owner is also the decision maker

information in order to reach the broad range of audiences impacted by a pandemic influenza. Organizations involved in delivering communications should:

- ▶ Tailor the core communication materials to suit their audiences, but should not deviate from the key messages without seeking approval from the owner
- ▶ Proactively share additional information that they want to communicate with the owner so that it can be incorporated in the core communication material as appropriate
- ▶ Gather feedback from the audience to make sure that key messages have been received as intended and share this feedback with the owner.

The following table summarizes the key communication topics by phase²⁸, the owner, and others responsible for disseminating the communication. The key messages have been organized by phase.

Communication topic	Owner of the core communications and education materials	Others responsible for disseminating the communication
<i>Pandemic preparedness</i>		
BC Pandemic Influenza Immunization Response Plan	Provincial Health Officer	BCCDC Health Authorities
Health Authority Immunization Response Plans	Health Authorities	
Education on immunization (to vaccine providers)	Provincial Health Officer	BCCDC Health Authorities Professional organizations
<i>First signs of a pandemic</i>		
Refresher information on the BC Pandemic Influenza Immunization Response Plan and coordinating provincial response	Provincial Health Officer	BCCDC Health Authorities
Refresher information on the Health Authority Immunization Response Plans and coordinating regional approach	Health Authorities	
Deploying governance structures	Provincial Health Officer	
<i>Pandemic declared</i>		
Declaring a pandemic	Provincial Health Officer	Ministry of Health BCCDC Health Authorities
Staffing plan	Ministry of Health BCCDC Health Authorities (each to develop messages and communicate to their employees)	
<i>Pandemic defined, Immunization campaign underway</i>		
Information on the specific pandemic influenza (including responding to rumours and misinformation)	Provincial Health Officer	BCCDC Health Authorities Health sector (to their patients)

²⁸ Refer to section 3.2 for more information on stages

Communication topic	Owner of the core communications and education materials	Others responsible for disseminating the communication
Vaccine priority groups	Provincial Health Officer	BCCDC Health Authorities Health sector (to their patients)
Promote vaccination	Provincial Health Officer	BCCDC Health Authorities Health sector (to their patients) Other public sector partner organizations (such as Ministry of Education)
About the vaccine (general) (including responding to rumours and misinformation)	Provincial Health Officer	BCCDC Health Authorities
Clinical guidelines for the use of the vaccine and other technical updates to the health sector	BCCDC	Ministry of Health Health Authorities
Distribution of the vaccine (timing, volumes)	BCCDC	Health Authorities
Decrease in service levels	Health Authorities	
Reporting (immunization rates)	Provincial Health Officer	
<i>Post pandemic</i>		
Declare the pandemic over	Provincial Health Officer	Ministry of Health BCCDC Health Authorities
Post pandemic feedback	Provincial Health Officer	BCCDC Health Authorities

14.2 Communication and promotion methods

To effectively communicate and educate with the wide range of diverse audiences, a broad and diverse range of communication methods should be deployed.

The table below summarizes some of the key communication methods that can be used during a pandemic influenza, and describes when they are most effective.

Communication method	Most effective when	Key topics
Media – press releases (TV, newspaper, radio)	<ul style="list-style-type: none"> ▶ Simple messages ▶ Large and wide audiences ▶ Breaking news / new information 	<ul style="list-style-type: none"> ▶ Declaring a pandemic ▶ Announcing vaccine priority groups
Media – advertisements (TV, newspaper, radio)	<ul style="list-style-type: none"> ▶ Simple messages ▶ Large and wide audiences ▶ Need to appeal to emotions / convince population 	<ul style="list-style-type: none"> ▶ Encouraging people to get vaccinated
Websites (general public, and for vaccine providers)	<ul style="list-style-type: none"> ▶ Large and wide audiences ▶ Specific, detailed or technical information ▶ Reference point 	<ul style="list-style-type: none"> ▶ Information for vaccine providers ▶ Vaccine priority groups ▶ Clinical guidelines ▶ Flu clinic location ▶ Information about the vaccine

Communication method	Most effective when	Key topics
Intranets	<ul style="list-style-type: none"> ▶ Communicating with staff ▶ General announcements, reference documents and plans 	<ul style="list-style-type: none"> ▶ Sharing plans ▶ Clinical guidelines
Social media	<ul style="list-style-type: none"> ▶ Fast spreading ▶ Reaching youth ▶ Need to gather feedback 	<ul style="list-style-type: none"> ▶ Encouraging people to get vaccinated ▶ Dispelling myths and answering questions ▶ Gathering feedback
Call centre	<ul style="list-style-type: none"> ▶ Answering questions ▶ Providing facts to people without internet access 	<ul style="list-style-type: none"> ▶ Information about the vaccine ▶ Flu clinic location
Mail outs	<ul style="list-style-type: none"> ▶ Detailed information ▶ Targeted or broad information ▶ Coverage is more important than speed 	<ul style="list-style-type: none"> ▶
Health care providers	<ul style="list-style-type: none"> ▶ Individual communications with priority patients 	<ul style="list-style-type: none"> ▶ Encouraging target seek and immunize population groups to get vaccinated
Phone calls	<ul style="list-style-type: none"> ▶ Small audience ▶ Crucial, time sensitive information 	<ul style="list-style-type: none"> ▶ Changes to distribution of vaccine
Email	<ul style="list-style-type: none"> ▶ Fast ▶ Tailored messages ▶ Targeted audience (particularly those engaged in the health sector) 	<ul style="list-style-type: none"> ▶ Sharing plans with staff and health sector ▶ Distribution of vaccine ▶ Vaccine priority groups
Fax	<ul style="list-style-type: none"> ▶ Vaccine providers without internet access 	<ul style="list-style-type: none"> ▶ Information about the ▶ Fact sheets and forms
Meetings and teleconferences	<ul style="list-style-type: none"> ▶ Collaboration is required 	<ul style="list-style-type: none"> ▶ Sharing immunization plans ▶ Gathering feedback from experts
Posters	<ul style="list-style-type: none"> ▶ Small, like minded audiences in shared location ▶ Simple, tailored messages 	<ul style="list-style-type: none"> ▶ Encouraging people to get vaccinated (schools, workplaces, hospitals)
Videos	<ul style="list-style-type: none"> ▶ Support education ▶ Medium or large audiences 	<ul style="list-style-type: none"> ▶ Refresher or specific education on immunization
Web based learning	<ul style="list-style-type: none"> ▶ Educating large audiences who have base knowledge 	<ul style="list-style-type: none"> ▶ General or specific education in immunization
Learning materials	<ul style="list-style-type: none"> ▶ Detailed technical information 	<ul style="list-style-type: none"> ▶ Clinical guidance on the influenza and vaccine
Technical briefings	<ul style="list-style-type: none"> ▶ Detailed technical information ▶ Small or medium size audiences 	<ul style="list-style-type: none"> ▶ Clinical guidance on the influenza and vaccine

Communication method	Most effective when	Key topics
Via professional organizations	<ul style="list-style-type: none"> ▶ Targeted audience ▶ Tailored messages 	<ul style="list-style-type: none"> ▶ Encourage professionals to get involved in vaccination ▶ Sharing plans ▶ Education

14.3 Additional guidance

Additional guidance and suggestions for those engaged in communications and promotions:

- ▶ Keep messages simple and use plain language
- ▶ Use existing communication and promotion methods where possible
- ▶ Plan to over-communicate (people may need to hear the same message multiple times before it sinks in)
- ▶ Remind managers and leaders that they are responsible for disseminating information to their team
- ▶ Use alert levels to convey the importance of the message (especially in email communications)
- ▶ Maintain central, up to date contact information for key stakeholder
- ▶ Communication goes two ways – build in feedback mechanisms.

15. LEGISLATION AND REGULATION

15.1 Existing legislation and regulations

Legislation that may be employed during a pandemic include:

- ▶ Public Health Act
- ▶ Emergency Management Program Regulation
- ▶ Compensation and Disaster Financial Assistance Regulation
- ▶ Financial Administration Act

Provincial Ministries are required to develop and coordinate emergency plans under the Emergency Program Act. Specific hazard-related duties of the Ministry of Health are prescribed in the Emergency Program Management Regulation. Additionally, the Public Health Act addresses both current and emerging public health issues and provides measures necessary to respond to public health emergencies. In order to fulfill the requirements set out in legislation, the Ministries must develop effective means of coordinating and communicating during an emergency or outbreak response.

The Emergency Program Management Regulation also requires Ministries to ensure that their plans are coordinated and consistent with the emergency plans and procedures of every other ministry. As such, the MoH must comply with the BC Emergency Response Management System (BCERMS), a comprehensive all-hazards emergency response structure. BCERMS provides a framework for organizing and managing a coordinated and integrated response to emergencies and disasters in BC. At each level of response - local, regional and provincial - the health system integrates its operations with impacted local authorities, the Provincial Emergency Program and appropriate federal entities.

Within the MoH, the Emergency Management Unit (EMU) is responsible for providing leadership and support to the health sector in the development of emergency management policy, plans, standards and guidelines. In the event of an emergency or outbreak, the EMU also facilitates the provision of emergency-related direction and advice to the regional Health Authorities and enables inter-regional cooperation and coordination in emergency-related health matters.

15.2 New legislation

Draft legislation should be prepared so that it can be quickly enacted as needed during a pandemic.

Legislation currently in draft includes:

- ▶ LPN legislation
- ▶ Pharmacist engagement legislation
- ▶ Other groups that are identified that could be called on in an emergency situation – naturopaths, paramedics, midwives, etc

16. PLAN EVALUATION AND REVIEW

16.1 Provincial plan review

This provincial plan should be reviewed every three years and updated to incorporate lessons learned after each time it is used.

The Ministry of Health Emergency Management Unit with the assistance of the Health Authority Pandemic Planning Leads will oversee the review and update process.

Health Authorities should provide updated plans and their completed checklist (per Appendix A) to the Ministry of Health.

16.2 Health Authority plan and review

Detailed planning for a pandemic influenza is the responsibility of the Health Authorities and should be included in the annual KRA letter.

It is the responsibility of each Health Authority to ensure that this plan is shared and understood by the relevant stakeholders within their region.

Each Health Authority is responsible for developing a pandemic influenza immunization response plan for their region. This plan must be tested and reviewed at least every three years. It is recommended that different scenarios be used to test the plan to assist in ensuring that the plan is sufficiently flexible.

In addition, each Health Authority must review and sign-off on the check list in Appendix A every three years.

Health Authorities should submit their plans to the Ministry of Health by the end of June each year. Plans should be shared for discussion with the other Health Authorities.

APPENDIX A HEALTH AUTHORITY CHECKLIST

Health Authorities are required to return the following checklist every three years to the Provincial Health Officer as administered by the Director, Emergency Management Unit, Ministry of Health.

Ref	Requirement	Complete? (yes or no)	Where is it documented?
	Planning		
1.	Have you prepared a detailed Immunization Response Plan for your Health Authority which aligns with this BC Pandemic Influenza Immunization Response Plan?		
2.	Who signed off on the Health Authority Immunization Response Plan?		
3.	Has your plan been reviewed in the last 12 months?		
4.	Have you tested your plan in the past 12 months? Did the test include scenario planning involving the leaders who will actually be responsible for immunization during a pandemic?		
5.	Have you shared your Health Authority Immunization Response Plan with the Emergency Management Unit, Ministry of Health and other Health Authorities?		
6.	Does your plan enable you to immunize 75% of your region's population within 6 weeks?		
7.	Does your Immunization Response Plan address how your regions response could be scaled? E.g., how the approach would change for mild, moderate or severe pandemics? Or depending on the availability of vaccine?		
8.	Have you educated relevant staff on your Immunization Response Plan?		
	Organization		
9.	Have you defined the governance structures that would be used to oversee your immunization response during a pandemic?		
	Engagement		
10.	Have you involved community vaccine providers in your planning process?		
11.	What number and percent of physicians will be able to deliver the vaccine?		
12.	What number and percent of pharmacists will be able to deliver the vaccine?		

Ref	Requirement	Complete? (yes or no)	Where is it documented?
13.	What number and percent of other private providers will be able to deliver the vaccine?		
14.	What number large businesses will be able to deliver the vaccine to employees, using private immunizers? How many employees would that cover?		
15.	Have you involved First Nations in your planning process?		
16.	How many immunizations will be delivered on reserve?		
17.	Have you involved municipal governments and other public sector organizations in your planning process?		
18.	Have you engaged unions in your planning process?		
19	Does your plan address how you will support target 'seek and immunize' population groups?		
	Vaccine delivery models (mass immunization clinics and community vaccine providers)		
20.	Have you detailed the vaccine delivery models that you will use to immunize your population during a pandemic?		
21.	Does your plan address how you will allocate vaccine amongst vaccine delivery methods, vaccine providers and geographies?		
22.	Do you have documented plans for how you will use community vaccine providers?		
23.	Do you have documented plans for how to set up and run mass immunization clinics?		
24.	Do you have a list of potential venues for mass immunization clinics in your region?		
25	Do you have a list of community vaccine providers in your region?		
	Human Resources		
26.	Do you have detailed human resources plan for staffing during a pandemic?		
27.	Does your plan address how you will source additional vaccine providers (both staff and private sector) during a pandemic?		
28.	Do you have a list of staff in the Health Authority qualified to give vaccinations?		
29.	Have you increased the number of qualified vaccine providers in your region and by how much?		
30.	Have you increased the percentage of healthcare workers who received the latest seasonal influenza vaccine?		
	Vaccine, supplies, logistics and security		

Ref	Requirement	Complete? (yes or no)	Where is it documented?
31.	Does your plan address how you will securely distribute vaccine within your region and to community vaccine providers?		
32.	Can you store enough vaccine for ¼ of your population? (maintain cold chain)		
33.	Do you have a stockpile of supplies available to you to immunize you region's population during a pandemic?		
34.	Do you have a system in place which will allow you to report weekly on vaccine inventory levels?		
Communications			
35.	Do you have initiatives underway to promote seasonal influenza immunization in your region?		
36.	Do you have a pandemic communications plan prepared for your region that addresses internal and external communications?		
Data collection, recording an reporting			
37.	Do you have processes in place for capturing and reporting adverse events that could be deployed during a pandemic?		
38.	Do you have a process in plan for providing weekly reports on vaccines distributed in your region?		
39.	Have you provided clear direction to community vaccine providers on their reporting responsibilities during a pandemic?		

APPENDIX B BCCDC CHECKLIST

BCCDC should complete the following checklist every three years.

Ref	Requirement	Complete? (yes or no)	Where is it documented?
Planning			
1.	Have you prepared a detailed Immunization Response Plan for the BCCDC which aligns with this BC Pandemic Influenza Immunization Response Plan?		
2.	Who signed off on the BCCDC Immunization Response Plan?		
3.	Has your plan been reviewed in the last 12 months?		
4.	Have you tested your plan in the past 12 months? Did the test include scenario planning involving the leaders who will actually be responsible for immunization during a pandemic?		
5.	Have you shared your BCCDC Immunization Response Plan with the Emergency Management Unit, Ministry of Health and other Health Authorities?		
6.	Does your plan enable you to distribute vaccine for 75% of BC's population to Health Authorities within 6 weeks?		
7.	Does your Immunization Response Plan address how your response could be scaled? E.g., how the approach would change for mild, moderate or severe pandemics? Or depending on the availability of vaccine?		
8.	Have you educated relevant staff on your Immunization Response Plan?		
Organization			
9.	Have you defined the governance structures that would be used to oversee your immunization response during a pandemic?		
10.	Have you defined how influenza and immunization specialists will be used during a pandemic?		
Engagement and education			
11.	Have you involved Health Authorities and community vaccine providers in your planning process?		
12.	Have you involved First Nations in your planning process?		
13.	Have you developed, maintained and communicated immunization guidelines across the health sector in BC?		
14.	Have you maintained the Immunize BC website, including updating the flue locator?		

Ref	Requirement	Complete? (yes or no)	Where is it documented?
	Have you shared current knowledge on influenza and vaccination with the health sector in BC?		
	Human Resources		
15.	Do you have detailed human resources plan for staffing during a pandemic?		
16.	Does your plan address how you will source additional staff (both staff and private sector) during a pandemic?		
17.	Have you increased the percentage of qualified vaccine providers in the province and by how much?		
18.	Have you increased the percentage of healthcare workers who received the latest seasonal influenza vaccine?		
	Vaccine, supplies, logistics and security		
19.	Does your plan address how you will securely distribute vaccine around the province?		
20.	Can you store enough vaccine for 1/6 of BC's population? (maintain cold chain)		
21.	Do you have a system in place to collect, analyse and report weekly on vaccine inventory levels?		
	Communications		
22.	Do you have a pandemic communications plan prepared that addresses internal and external communications?		
23.	Does your plan cover how you will communicate vaccine distribution timeframes?		
	Data collection, recording and reporting		
24.	Do you have processes in place for capturing and reporting adverse events that could be deployed during a pandemic?		
25.	Do you have a process in plan for providing weekly reports on vaccines distributed in BC?		
26.	Have you determined the mandatory minimum data collection requirements for a pandemic and clearly communicated these to the relevant parties?		

APPENDIX C MINISTRY OF HEALTH CHECKLIST

The Ministry of Health should complete the following checklist every three years.

Ref	Requirement	Complete? (yes or no)	Where is it documented?
	Planning		
1.	Have you reviewed and updated this BC Pandemic Influenza Immunization Response Plan in the last 12 months?		
4.	Have you tested your plan in the past 12 months? Did the test include scenario planning involving the leaders who will actually be responsible for immunization during a pandemic?		
5.	Have you shared the BC Pandemic Influenza Immunization Response Plan with Health Authorities, BCCDC, other provinces and other key stakeholders?		
8.	Have you educated relevant staff on your Immunization Response Plan?		
9	Have you drafted emergency legislation to support a pandemic immunization response?		
	Have you reviewed Health Authority and BCCDC plans to ensure that they are comprehensive and aligned?		
	Organization		
9.	Have you defined the governance structures that would be used to oversee BC's immunization response during a pandemic?		
	Engagement and education		
11.	Have you coordinated with Health Canada around the national response to pandemics and the production of vaccines?		
	Have you involved Health Authorities and community vaccine providers in your planning process?		
12.	Have you involved First Nations in your planning process?		
	Have you coordinated planning with other government agencies, such as the Ministry of Children and Family Development, Ministry of Education and Ministry of Attorney General?		
13.	Have you proactively supported efforts to engage and educate vaccine providers in BC?		
	Human Resources		
15.	Do you have detailed human resources plan for staffing during a pandemic?		
16.	Does your plan address how you will source additional staff (both staff and private sector) during a pandemic?		

Ref	Requirement	Complete? (yes or no)	Where is it documented?
18.	Have you increased the percentage of healthcare workers who received the latest seasonal influenza vaccine?		
	Vaccine, supplies, logistics and security		
19.	Does your plan cover how you will allocate and monitor the fair distribution of vaccine across the province?		
	Communications		
22.	Do you have a pandemic communications plan prepared for BC that addresses internal and external communications?		
	Data collection, recording and reporting		
23.	Do you have processes in place for capturing and reporting adverse events that could be deployed during a pandemic?		
24.	Have you determined the mandatory minimum data collection requirements for a pandemic and clearly communicated these to the relevant parties?		
25.	Does your plan include practical support for Health Authorities, BCCDC, community vaccine providers and others you require to gather data for the Ministry.		

APPENDIX D FUTURE WORK

A. Investigate different options for distributing vaccine:

- (i) Use the pharmacist distribution system in the distribution of vaccine

Pharmacists have an efficient system for distributing drugs, including those that require cold chain, throughout the province. Consider a project to evaluate whether it would be more efficient for vaccines to be given by pharmacists to be delivered through their network. If successful, this could potentially also be used as a distribution network for other vaccine providers.

- (ii) Engage HSSBC and use their facility in Langley and in the interior to speed up repackaging and allow BCCDC staff to concentrate on other activities (such as the allocation of vaccine and supporting Health Authorities with inventory management

- (iii) BCCDC to support the interior and the north to set up local repackaging operations in order to save time transporting the vaccine to Vancouver and back again.

The plan for distributing vaccines should be developed in combination with the plan for distributing antiviral medications.

B. Have HSSBC maintain the stockpile of supplies for the whole province

HSSBC could maintain the stockpile of supplies needed for a pandemic for the province. They have supply chain expertise, and would be able to distribute the supplies to Health Authorities before the vaccine is developed.

HSSBC will also be able to supply First Nation communities and on-sell supplies to community vaccine providers on a contingency basis if they do not have sufficient stockpile and cannot source supplies from their regular supply delivery models. (Note, pharmacists and physicians will be required to pay for these suppliers as the fee paid to pharmacists and physicians for giving a vaccine includes an allowance for supplies).

This should also provide cost savings due to better economies of scale.

Suggest a working group with representatives from each Health Authority work with HSSBC to detail what should be included in the stockpile.

C. Create a community vaccine provider planning network

Investigate setting up a network of community vaccine providers who are engaged on a part time basis to plan for pandemics with local emergency response planners and encourage others in their professions to get involved.

This could be used as one tool to help address the difficulties currently faced by the Ministry of Health, Health Authorities and BCCDC in estimating the capacity of community vaccine providers to support immunization efforts during a pandemic.

D. Need to increase the vaccine uptake rate of health care workers

The BC population in general needs to be better informed of the importance of immunization in order to increase immunization participation rates. Health care workers are not only an at-risk population, they are also role models for the rest of society. A review is needed to better understand health care

worker reluctance towards immunization. Following this, an education and change management project should be undertaken to increase uptake.

E. Define minimum data collection needs and develop a simple electronic data collection tool

Data collection is currently decentralized, inconsistent and time-consuming, making it difficult to manage during a pandemic. Our understanding is that Panorama may eventually be able to support both Health Authorities and community vaccine providers in data collection. However it may be several years until all the required functionality is rolled out to all vaccine providers.

During the inter-pandemic period, a group of representatives from across the health sector (BCCDC, MOH, each HA, physicians and pharmacists) should agree what the minimum mandatory information needs are. A simple web based system could be sourced or built to capture this information across the province. It could include an interface with PharmaNet, which seems to be reasonably comprehensive. It should also ideally link in with Panorama. Barcoding functionality for each location would help speed up the process.

The system should be backed up with a paper based form for those occasions where computer access is not possible.

F. Plan to mitigate key person risk

There are only a handful of people in BC (and in Canada) with deep and specialist knowledge of pandemic influenzas. These key people will be incredibly valuable during a pandemic. A plan should be developed to outline the role that they will play during a pandemic. The plan should also test whether BC has enough specialists, and it should include a succession plan.

G. Health sector wide coordination of HR planning

The private sector and the public sector will be competing for the same resources during a pandemic. Immunization will be competing with those involved in treating sick patients for resources as well. There is a need for a tactical plan for how HR coordination will work in practice across the health sector.

H. Define severe, moderate and mild pandemic

This standard terminology does not have an agreed upon definition. Once agreed, this plan should be updated to reflect the definition.

I. Adopt a coordinated provincial approach (Ministry + Health Authority) to engaging unions in the planning process