

## Victorian health management plan for pandemic influenza

Department of Health, Victoria

October 2014



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## **Acknowledgements**

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## Chief Health Officer's foreword

Pandemic influenza should still be fresh in everyone's minds. In late April 2009 the World Health Organization (WHO) announced the emergence of a novel influenza A virus. This particular H1N1 strain had not circulated previously in humans. The virus spread easily from person to person, and from one country to another, so on 11 June 2009 WHO's Director-General raised the global influenza pandemic alert level from phase 5 to phase 6 and declared that the world was at the start of the pandemic (H1N1) 2009.

Globally, the 2009 influenza pandemic was considered to be of moderate severity, with the overwhelming majority of cases experiencing only mild symptoms and making a rapid and full recovery. However, severe cases did occur in people with underlying chronic conditions such as respiratory disease, cardiovascular disease, diabetes, autoimmune disorders and obesity. Pregnant women were also at an increased risk of complications.

It is difficult to predict with any certainty how quickly a pandemic will progress. Based on experience from the 2009 pandemic (H1N1), together with data and assumptions drawn from previous pandemics and seasonal influenza, it is anticipated that a pandemic could last from seven to 10 months in Australia, with the social, economic and health system impacts potentially lasting longer depending on the severity of the health impacts of the virus.

There is still concern that the circulating avian influenza virus strain known as H5N1 or the newly emerged (2013) avian influenza virus affecting humans in China (H7N9) may mutate and trigger a human influenza pandemic. While this *Victorian health management plan for pandemic influenza* (VHMPPI) is based on the assumption that an influenza pandemic virus would first emerge overseas, it is also the case that it could emerge here first.

Unfortunately it is impossible to predict when the next pandemic will occur or how virulent it will be; however, the potential for widespread human infection, accompanied by severe illness and death, cannot be dismissed. Preparation and planning can mitigate the direct health, social and economic impacts of an influenza pandemic, so we must be prepared. The Victorian Government has developed a number of plans and will lead the state's response to an influenza pandemic. This plan aims to provide an effective health response framework to minimise the morbidity and mortality associated with an influenza pandemic and its impact on the Victorian community, healthcare system and the economy.

The plan builds on the foundations established by the 2007 VHMPPI and plans developed by the Australian Government Department of Health and the Council of Australian Governments (COAG). It is the local reflection of the *Australian health management plan for pandemic influenza* (AHMPPI) and complements its content. It describes the government health response to the planning and preparedness arrangements, response and recovery from a pandemic.

A notable difference from the previous plans is the characterisation of severity associated with influenza pandemics (mild, moderate and severe) linked to a suite of actions that are available to be implemented based on the best evidence. There has been a shift from using the previous WHO phases to a more operational focus using stages. These are described further in the document. Supporting appendices

provide a framework for the Department of Health's preparedness activities and describe essential functions for communications, surveillance, case investigation and treatment, as well as preventing spread of the disease in the community. It includes actions that the state government would take to protect public health and safety. The plan concentrates in particular on the actions of the Victorian Department of Health. It is an overarching guide that provides a framework for coordinating actions between federal, state and local government as well as key response partners and stakeholders in Victoria such as private healthcare providers.

Since 2007 there have been advances and changes in many areas of preparedness and response planning. There is increased understanding of past pandemics, strengthened outbreak communications, greater insight on disease spread and approaches to control, and increasingly sophisticated statistical modelling of various aspects of influenza. Extensive practical experience has been gained from responding to outbreaks of highly pathogenic avian influenza A (H5N1) virus infection in poultry and humans (overseas), from responding to the 2009 influenza pandemic and from conducting pandemic preparedness and response exercises. There is greater understanding that pandemic preparedness requires the involvement of not only the health sector but the whole of society.

Public confidence in decision-making processes at all stages of a pandemic is vital. The Victorian Government has been working closely with a range of government agencies at the Commonwealth and local government levels, as well as with professional, community and industry stakeholders, to ensure that organisations are prepared and that agreed processes are in place.

While the Victorian Government will lead the state's response to a pandemic, we also need organisations and individuals to be properly prepared for this threat.

I urge you to read this plan and to ensure you have the necessary plans in place to protect yourself and your organisation.

A handwritten signature in blue ink, appearing to read 'Rosemary Lester', is positioned above the printed name.

Dr Rosemary Lester PSM  
Chief Health Officer, Victoria

# 1. Introduction

## 1.1 Pandemic influenza background

### Definition

*An influenza pandemic occurs when a new influenza virus emerges and spreads around the world, and most people do not have immunity (WHO 2013b).*

Influenza is a viral illness that attacks the respiratory tract (nose, throat and lungs) in humans. The virus is transmitted in most cases by droplets, but it can also be transmitted in certain situations by direct contact or aerosols. Although mild cases may be similar to an upper respiratory tract infection, influenza is typically much more severe, usually comes on suddenly, and may include fever, headache, tiredness, cough, sore throat, nasal congestion and body aches. It can result in complications such as pneumonia. Seasonal influenza occurs annually and primarily causes complications and/or death in people aged over 65 years and those with chronic medical conditions. The vast majority of people exposed will recover and develop immunity to that strain of virus.

Since 2003, documents produced by the World Health Organization (WHO) have stated an influenza pandemic occurs 'when a new influenza virus appears against which the human population has no immunity, resulting in several, simultaneous epidemics worldwide with enormous numbers of deaths and illness' (WHO 2013c). However, following the emergence of influenza A(H1N1)pdm09, initially referred to as 'swine flu', this description became controversial and was amended as evidence indicated the majority of cases had a generally mild clinical course and the presence of protective immunity in older people, and questions were raised as to whether influenza A(H1N1)pdm09 constituted a pandemic at all (Doshi 2011).

### Pandemic influenza history

Three pandemics of influenza caused by different subtypes of influenza A virus occurred in the 20th century: an H1N1 virus in 1918; an H2N2 virus in 1957; and an H3N2 virus in 1968. Estimates of the number of cases and deaths in each pandemic vary and reflect the difficulty in using historical data to ascertain absolute numbers. However, each pandemic was characterised by a shift in the virus subtype, a high symptomatic infection risk, elevated mortality risks that were highest in young adults, an onset not restricted to the typical influenza season with successive pandemic waves, and replacement of the seasonal influenza A virus subtype with the pandemic strain as the dominant strain circulating (Kilbourne 2006; Mathews et al. 2009; Miller et al. 2009).

The influenza pandemic of 1918–1919 is widely regarded as the most serious, with estimated symptomatic infection rates of 20–60 per cent in most countries and between 20 and 50 million deaths, or 1–2.5 per cent of the world's population. The pandemics of 1957 and 1968–1969 were comparatively milder with respect to estimated symptomatic infection and mortality risks; there were two to three million excess deaths worldwide (about 0.7 per cent of the global population) in 1957 and one million deaths (0.3 per cent) in 1968–1969 (Johnson & Mueller 2002; Mathews et al. 2009). The age distribution of symptomatic infection rates also varied between the three pandemics: in 1918–1919 proportions were highest among children and young adults and declined with increasing age over the age of 30; in 1957

proportions were highest in school-aged children, intermediate in young and middle-aged adults and lowest among adults aged 50 years or older; in 1968–1969 symptomatic infection risks were stable across all age groups (Brundage 2006).

Influenza A(H1N1) virus was reintroduced into the human population in 1977. Although disease was characterised by classical influenza symptoms, cases were generally mild and almost entirely restricted to people aged 25 years or younger. The age distribution has been attributed to the absence of circulating H1N1 since 1957 (when it was replaced by H2N2) and a corresponding lack of exposure and immunity to H1N1 viruses in those born after then. Furthermore, the H1N1 strain did not replace the H3N2 that emerged in the 1968–1969 pandemic and thus strains of both subtypes have co-circulated in humans since 1977 (Kilbourne 2006).

The ‘swine flu’ pandemic of 2009 was the first pandemic of the 21st century and also differed virologically and epidemiologically from the three 20th-century pandemics. The pandemic virus, designated influenza A(H1N1)pdm09, emerged from a triple (avian, swine and human) reassortment rather than antigenic shift (Garten et al. 2009). Furthermore, it replaced only the previously circulating seasonal H1N1 and not the H3N2 subtype. The cumulative incidence of infection was estimated by serological studies to be in the range of 11–21 per cent (Kelly et al. 2011) and the majority of infections were relatively mild; between 30 and 50 per cent of infections were estimated to be asymptomatic (Bandaranayake et al. 2010; Cowling et al. 2010; Jackson et al. 2011), with approximately 0.25 per cent and 0.04 per cent hospitalised and fatal respectively (Darwood et al. 2012; McVernon et al. 2010). Exposure to H1N1 viruses prior to the 1957 pandemic is believed to account for the very low proportion of adults aged over 60 years infected with influenza A(H1N1)pdm09 (Kelly et al. 2011).

A challenge during the initial stages of the pandemic was to reassess assumptions regarding clinical severity and transmissibility, and hence strategies to best control the disease. The 2009 H1N1 pandemic reinforced the idea that the impact of a pandemic cannot be predicted precisely because it will depend on the virulence of the virus, its transmissibility, the availability of vaccines and antiviral medications, and the effectiveness of pharmaceutical and non-pharmaceutical community containment measures. The lessons learnt from 2009 have been valuable in helping to shape influenza pandemic planning to better reflect the flexibility required to respond to a high probability threat in an ever-changing, and often unpredictable, environment.

## 1.2 Aim

The aim of the *Victorian health management plan for pandemic influenza* (VHMPPI) is to provide an effective health response framework to minimise transmissibility, morbidity and mortality associated with an influenza pandemic and its impacts on the health sector and community.

## 1.3 Purpose of the plan

The purpose of this plan is to provide tools and strategies to support the health response framework. It should be used to assist and advise the health sector in their response to an influenza pandemic. The plan describes activities needed to reduce the impact of an influenza pandemic in Victoria that includes:

- surveillance systems to rapidly and efficiently identify the emergence of new strains of influenza in the Victorian community

- timely implementation of measures seeking to limit or prevent the transmission of pandemic influenza in the various stages of a pandemic
- continuing surveillance to monitor the status of the outbreak
- maximising the use of resources
- public health strategies to best meet the needs of the current situation based on the best surveillance data
- informing staffing needs and requirements
- implementing policies on the use of personal protective equipment (PPE) and antivirals
- communicating accurate, consistent and comprehensive information about the situation to the general public, the media, our partners in the health sector and other key stakeholders.

## 1.4 Scope of the plan

This plan addresses Victoria's preparedness and emergency response to an influenza pandemic caused by a new strain of virus to which the human population has not developed immunity. It includes those actions that the state government would take to minimise morbidity and mortality and to protect public health and safety. This plan concentrates in particular on actions of the Department of Health, including informing community and sector responses.

## 1.5 Stakeholders

This plan is targeted at the health sector, which encompasses health services, primary care, residential facilities and includes health planning considerations for schools and education and care facilities, local government and emergency services.

## 1.6 Pandemic stages

The Department of Health will function under the pandemic stages detailed in Table 2 (see section 4). This plan takes an emergency response approach as its framework, to allow it to be integrated into broader emergency arrangements. Consistent with Victoria's strategic approaches to emergency management the VHMPPI acknowledges the importance of seeing the management of an influenza pandemic like any hazard, with an ongoing cycle of activities in the four areas of prevention, preparedness, response and recovery.

The focus of this plan is mainly in preparedness and response, to reflect the changes in priorities as the pandemic progresses and to facilitate the more detailed planning required. Response activities will be further developed into three stages: standby; initial action and targeted action; and standdown.

## 1.7 Maintenance and administration of the plan

The VHMPPI is managed by the department's Health Protection Branch and is a dynamic document that will be updated periodically to reflect new developments in our understanding of any novel influenza virus with potential to cause a pandemic and its transmission, prevention and treatment. It will be exercised to identify operational challenges and promote effective implementation. Plan updates will also incorporate

changes in response roles and improvements in response capability developed through ongoing planning efforts.

## 2. Context

### 2.1 Legal framework and authorities

The actions detailed in this plan are authorised under the following Acts and Regulations:

#### ***Public Health and Wellbeing Act 2008 and Public Health and Wellbeing Regulations 2009***

This Act aims to protect the health and wellbeing of the population and establishes provisions for managing infectious diseases. It confers authority to the Chief Health Officer to investigate, eliminate or reduce public health risks and provides for delegated powers to be exercised by authorised officers appointed under the Act.

#### ***Emergency Management Acts 1986 and 2013***

The *Emergency Management Act 1986* outlines Victoria's emergency management structure and authorises state authorities to take control of specific aspects of an emergency when declared by the Premier. The principles of preparedness, prevention, response and recovery are all addressed within this Act.

The *Emergency Management Act 2013* commenced on 1 July 2014, implementing many of the reforms from the *Victorian Emergency Management Reform White Paper* (December 2012). The 2013 Act repeals the *Fire Services Commissioner Act 2010* and several parts of the 1986 Emergency Management Act. The key reforms in the 2013 Act include:

- formally establishing the State Crisis and Resilience Council
- discontinuing the Victoria Emergency Management Council
- establishing Emergency Management Victoria
- establishing the Emergency Management Commissioner
- establishing the Inspector-General for Emergency Management
- discontinuing the Emergency Services Commissioner.

Under the Emergency Management Acts, pandemic is classified as an emergency 'due to the actual or imminent occurrence of an event which endangers or threatens to endanger the safety or health of any person in Victoria or which destroys or damages, or threatens to destroy or damage, any property in Victoria or endangers or threatens to endanger the environment or an element of the environment in Victoria'.

#### ***Quarantine Act 1908***

This Act aims to prevent the introduction and spread of specified diseases into and within Australia. It confers power to order compliance to a range of control activities, including observation, examination, detention, segregation and isolation of people. The Commonwealth Minister for Health and the Minister for Agriculture, Fisheries and Forestry share responsibility for quarantine measures and the

administration of the *Quarantine Act 1908*. The Department of Agriculture, Fisheries and Forestry (DAFF) has primary responsibility for implementing the Act at Australia's borders. It administers the human quarantine provisions on behalf of the Commonwealth Department of Health. It gives powers to the Governor-General to authorise response actions to epidemics. Human quarantine officers have delegations under this Act on behalf of the Commonwealth in the area of human illness and quarantine of returned travellers.

### ***National Health Security Act 2007 (NHS Act)***

This Act allows for exchange of public health surveillance information (including personal information) between the Commonwealth and the states and territories and, where relevant, WHO.

### ***International Health Regulations 2005 (IHR)***

These regulations are a legally binding public health treaty administered by WHO. They aim to prevent, control and provide a public health response to the international spread of disease while avoiding unnecessary interference with international traffic and trade. They establish global standards for the reporting, verification, assessment and notification of public health events of international concern, the implementation of WHO-recommended control measures, the development of core capacities for surveillance and response, and inter-country collaboration.

## **2.2 Ethical framework**

When a pandemic occurs, many people, ranging from government to healthcare workers, will face a range of difficult decisions that will affect people's freedoms and their chance of survival. There will be choices about the level of risk healthcare workers should face while caring for the sick, the imposition of restrictive measures such as quarantine, the allocation of limited resources such as medicines (antivirals and vaccine) and the use of travel restrictions and other measures to contain the spread of disease.

These decisions will affect all people, whether they are members of the public, leaders of government, healthcare workers or other people involved in the essential functioning of society.

There could be conflicts between the needs of the population and those of the individual. Ethical issues may also arise about privacy, confidentiality, provision of healthcare and safety of employees.

In the *Australian health management plan for pandemic influenza* (AHMPPI), the Australian Health Protection Principal Committee (AHPPC) has agreed on an ethical framework to guide the health sector response. The following ethical values are taken into account when planning and implementing actions:

- protection of the public – ensuring that the protection of the entire population remains a primary focus
- stewardship – that leaders strive to make good decisions based on best available evidence
- trust – that health decision-makers strive to communicate in a timely and transparent manner to the public and those within the health system
- equity – providing care in an equitable manner, recognising the special needs, cultural values and religious beliefs of different members of our community – this is especially important when providing health services to vulnerable individuals, such as Aboriginal and Torres Strait Islander peoples and people who are culturally and linguistically diverse



- proportionality – ensuring that measures taken are proportional to the threat
- reciprocity – ensuring that when individuals are asked to take measures or perform duties for the benefit of society as a whole, their acts are appropriately recognised and legitimate need associated with these acts are met where possible
- provision of care – ensuring that healthcare workers are able to deliver care appropriate to the situation, commensurate with good practice and their profession's code of ethics
- individual liberty – ensuring that the rights of the individual are upheld as much as possible
- privacy and confidentiality - of individuals is important and should be protected, however, under extraordinary conditions during a pandemic it may be necessary for some elements to be overridden to protect others.

## 2.3 Relationships with other plans

This plan describes actions relating specifically to influenza pandemics and how they link into other frameworks.

- The *Emergency management manual Victoria* (EMMV) outlines the emergency management arrangements for command and control of any emergency incident in Victoria. The VHMPPI relies on existing arrangements, roles and responsibilities, and communication channels across government, external agencies and stakeholders. The VHMPPI provides operational detail and guidance for appropriate health actions for the specific threat of an influenza pandemic.
- The *State health emergency response plan* 3rd edition (SHERP) (Department of Health 2013b) outlines the arrangements for coordinating a health response to emergency incidents that go beyond day-to-day business arrangements.
- The *Public health control plan 2012* (PHCP) is a guide for managing public health incidents and emergencies by the Department of Health. It describes the responsibilities of the Department of Health as the Control Agency for the protection of health. The responsibility for responding to infectious diseases emergencies such as pandemic influenza lies with the department's Communicable Disease Prevention and Control Section, under the authority of the Chief Health Officer.
- The AHMPPI (Australian Government Department of Health 2014) is the national document of strategies, actions and assumptions for all governments in Australia to prepare for an influenza pandemic. The VHMPPI will be implemented under the framework of the AHMPPI and will rely on the agreed policy established through this plan and supporting documents.
- In addition to these Victorian plans, the *Fluborderplan* and the *National pandemic influenza airport border operations plan* are the operational plans that support and are consistent with the health response actions described for Victorian border control measures outlined in the VHMPPI.
- The *Victorian action plan for human influenza pandemic* (VAP) (Department of Human Services 2012b), formally known as the *Victorian human influenza pandemic plan* (VHIPP), complements the VHMPPI and describes the whole-of-government governance arrangements and key strategies to prepare for, respond to and recover from an influenza pandemic in Victoria. It achieves this by describing the relationship between existing public health and emergency



management arrangements and by outlining key responsibilities, authorities, mechanisms and actions. Under the VAP, state government departments and agencies are responsible for developing and maintaining influenza pandemic plans. Some departments and agencies have specific roles and responsibilities under the EMMV in support of the Department of Health, as the Control Agency during a pandemic. The VAP also assists agencies in preparing their own pandemic incident response plan to manage any business impacts. As State Controller, the Chief Health Officer will provide strategic advice for whole of the Victorian Government in responding to a pandemic, through a priority statement of strategic intent, as outlined in the *National action plan*.

## 3. Incident management command and control

### 3.1 Authority

Under Victoria's new *Emergency Management Act 2013* a pandemic would be classified as a Class 2 emergency. As it relates to communicable disease control and has links to national structures and arrangements, the department would fill the role of lead agency within Victoria. The Chief Health Officer or delegate would assume the role of State Controller and liaise closely with the Emergency Management Commissioner.

The Chief Health Officer in Victoria holds the authority to activate the VHMPPI. The plan will be implemented under the framework of the AHMPPI and the State Controller will establish an incident control system to support implementation. The State Controller will liaise with the AHPPC and pursue actions based on consensus positions established at this committee for rollout in Victoria.

During the 'standby' stage the State Emergency Management Centre will be established to provide support to the State Controller. During the 'initial and targeted action' stage it is likely that the State Control Centre will be established to provide support to the State Controller. The support required in these response stages (standby and initial and targeted action) will be specifically in investigation, intelligence, planning, operations, public information, logistics, finance and administration of the response.

### 3.2 Department of Health as the Control Agency

The Department of Health is the lead agency for the state's pandemic influenza response. In this role, the department will communicate directly with other state agencies and coordinate activities across organisations. The department will work closely with emergency management organisations in coordinating the public health and medical response.

The health response will be led by the Chief Health Officer, who will form a State Health Incident Management Team (SHIMT) (further detailed in SHERP). The department has primary responsibility for activating the pandemic influenza response at the level appropriate to the specific stage of the pandemic.

The SHIMT is drawn from the specialist skills within the department and a range of other departments and support agencies. The SHIMT provides the incident control functions of investigation, intelligence,

planning, operations, public information and logistics, to support the health response in Victoria. The VHMPPI outlines the suite of response measures to integrate into the incident action plan in the case of a pandemic.

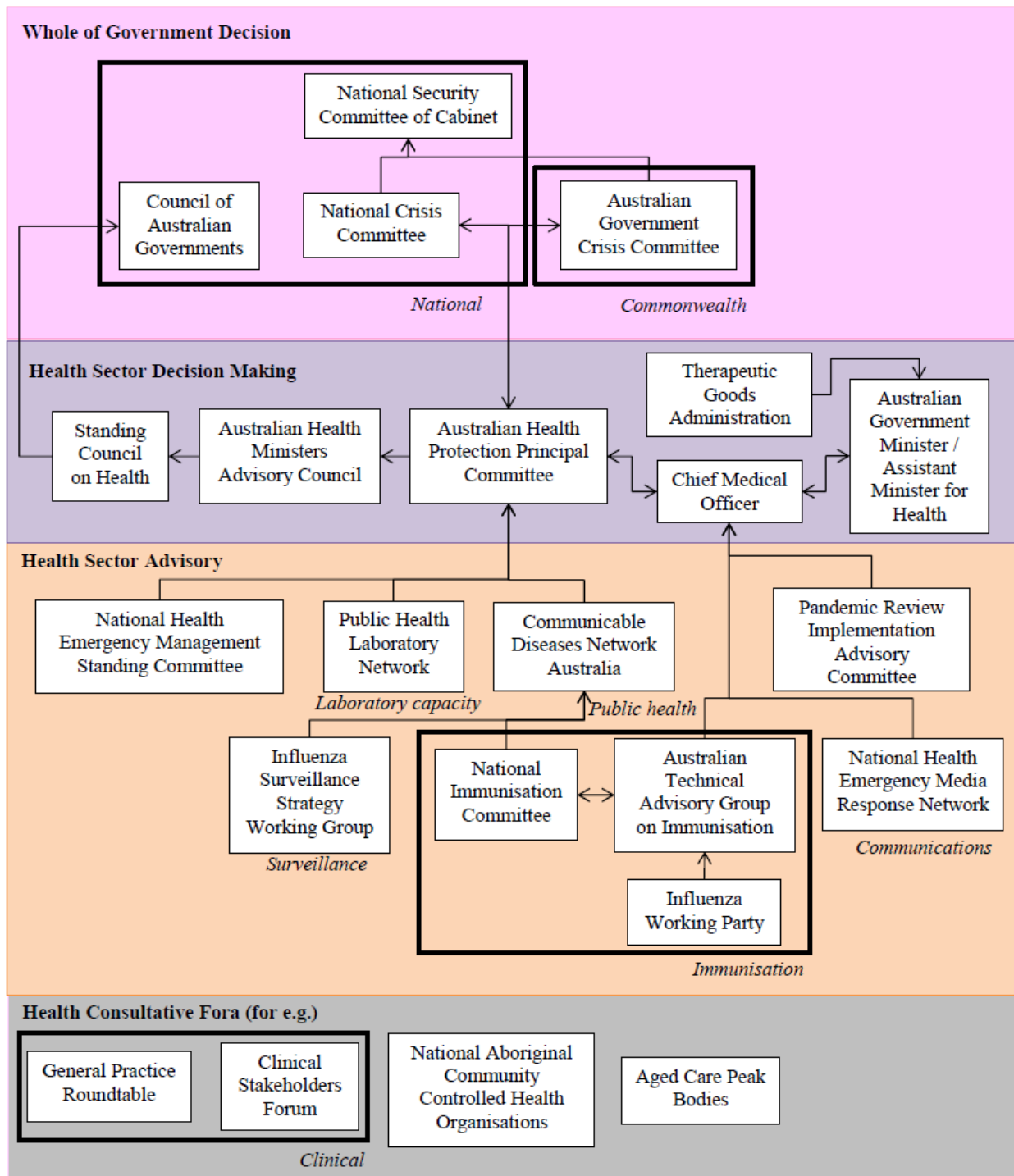
The State Controller will establish and chair the State Emergency Management Team with agency leads (or representatives) and emergency response coordinators and may include other key advisory bodies as required.

### **3.3 Coordination across and between governments**

#### **Australian Government**

The Australian Government will coordinate national pandemic measures (see Figure 1). It will support the health response in any jurisdiction if jurisdictional capacity becomes overwhelmed.

**Figure 1: Whole-of-Australian-Government, health sector, health advisory and consultative committees involved in decision making for an influenza pandemic**



The Australian Government and state and territory governments will work together to: consider surveillance, resources and political information to determine whether and when a national response is required; provide advice on thresholds for escalation; share information on resource availability; and coordinate access to resources to maximise the effectiveness of the response.

Decision making and consultation at this level in relation to an influenza pandemic will be in line with existing emergency arrangements described in the *Australian Government crisis management framework* (AGCMF).

The **Council of Australian Governments** (COAG) will lead the national whole-of-government response.

The **National Crisis Committee** (NCC) is the primary forum for coordinating the cross-government response. The NCC will consolidate information and coordinate information exchange and advice to ministers. It will also coordinate ministerial decisions across the Australian Government, state/territory and local governments.

The **Australian Health Protection Principal Committee (AHPPC)** is chaired by the Commonwealth Chief Medical Officer, and comprises chief health officers of all jurisdictions and health disaster management experts. It is the key policy and coordinating body that plans for and responds to public health emergencies including influenza pandemics in Australia. AHPPC reports to the Australian Health Ministers Advisory Council. The Australian Government Department of Health supports the AHPPC as secretariat and operates the National Incident Room, which is responsible for monitoring the global and domestic pandemic situation as well as coordinating distribution of items from the National Medical Stockpile.

The **COAG Health Council** represents the highest decision-making body for developing policy related to managing a pandemic. AHPPC will brief the COAG Health Council and manage implementation of the national health sector response, in accordance with their advice.

The AHMPPI further details governance arrangements.

### **Regional government**

One of the operational activities of the department's regions is emergency management (incident response). In conjunction with the Health Protection Branch, regions aim to improve the capacity to manage public health incidents and emergencies in accordance with the *Public health control plan* to:

- undertake risk assessments and risk evaluations as part of the preparedness or response to potential or actual emergency events according to agreed protocols with the department
- develop a control structure in the region
- provide support to local government public health emergency management planning processes
- review regional public health emergency management plans in line with public health policy in consultation with key stakeholders within the region and the state
- use regional (and/or divisional) emergency management committees to maximise knowledge and understanding of public health issues raised by emergency service organisations.

The department will liaise with the regions through existing mechanisms, and directions will be set centrally through the department. Regions can establish an incident management team structure if it is considered necessary.

### Local government

Municipalities need to ensure they are able to continue delivering essential local services through effective business continuity planning. In an influenza pandemic, local authorities will be asked to provide additional public health services, community support and recovery services. In addition, local authorities should:

- assist in preventing transmission by implementing infection prevention and control measures as appropriate
- provide services to people who are isolated or quarantined (such as providing food)
- plan for increased absenteeism in local government and ensure that essential local government services are continued during the pandemic
- assist with providing vaccination services to the local community as appropriate
- assist in communicating with staff, clients and the public about essential local government services.

Municipal emergency management planning committees should consider establishing specialist subcommittees in order to prepare for local arrangements.

Further details of the role of local government for an influenza pandemic is described in **Appendix 10: Local government**.

## 4. Assumptions and planning principles

As an influenza pandemic is likely to affect everyone in Victoria, no amount of planning will allow 'business as usual' in any sector of society or government. Some of the assumptions used to formulate this plan include the following:

- Properties of the novel virus, including virulence, principal mode of transmission, timing/duration of viral shedding and attack rate in different risk groups may differ from those of seasonal influenza strains.
- The best available evidence will be used to guide actions at each stage and actions will be based on the severity of the pandemic.
- A range of preparedness and response activities are necessary to detect, respond to and control an influenza pandemic. These will be implemented based on the severity of the pandemic and are listed in section 2: ***Preparedness and response activities***.
- Activities identified in any given pandemic stage may not necessarily be completed during that stage; they may continue into subsequent stages.

- The Department of Health will implement policy on the use of antivirals (and vaccines when available) in accordance with national recommendations endorsed by the AHPPC and as detailed in the AHMPPI.
- The Department of Health will be responsible for managing and distributing PPE, vaccines and antivirals contained in the National Medical Stockpile and the Victorian Medical Stockpile.
- State and local governments may need to redirect resources from other programs. Planning for surge capacity and continuity of governance at the state and local levels and continuity of business is an essential component of pandemic influenza preparedness.
- Coordination of pandemic management with representatives from neighbouring jurisdictions, both nationally and internationally, will occur using existing coordination measures and will be essential for an effective response (Australian Government Department of Health 2014).
- Consideration of high-risk population needs will be assessed and included within the planning and response stages.

## 5. Epidemiology of pandemic influenza

Given the virus that will cause the next pandemic is yet to emerge, we cannot know exactly how it will behave. Having sensitive and timely surveillance systems ensures that, once the pandemic virus does emerge, we can quickly reassess the assumptions used in our planning. This will ensure our planned responses are valid, and it allows us to make any adjustments quickly that might be needed if the pandemic virus behaves differently than anticipated.

### 5.1 Susceptibility

It is expected that most individuals will be vulnerable to pandemic influenza; however, a level of partial protection may occur in some groups.

### 5.2 Immunity following natural infection

Individuals who have recovered from natural infection will have a reasonably high degree of protection from a second infection. However, as subsequent waves may be due to 'antigenic drift' in the virus, it cannot be assumed that an individual who had pandemic influenza in an initial wave would be fully protected in any subsequent waves.

*Antigenic drift* is the progressive change in proteins coating the virus that produces new virus strains that escape immunity induced by earlier strains.

The other type of change is *antigenic shift*, which is a major change in the virus that produces a new subtype to which most people do not have immunity. These novel viruses usually emerge from animals and may cause a pandemic if they can sustain spread from person to person (Cox & Subbarao 2000).

### 5.3 Presenting symptoms

The predominant presenting symptoms during a pandemic will be respiratory symptoms and fever usually accompanied by systemic symptoms such as myalgia and fatigue.

Fever may not be present in older people and atypical presentations may be more common at the extremes of age.

## 5.4 Incubation period

The average incubation period is two days, with a range between one and four days.

## 5.5 Attack rate

The unmitigated attack rate (the proportion of people showing symptoms of pandemic influenza in the absence of preventative measures) could be in the order of 40 per cent. The mitigated clinical attack rate could be as low as 10 per cent if preventative measures are as effective as current estimates indicate.

Also:

- The attack rate in children will be higher than in adults.
- The attack rates in healthcare settings will be very high unless effective infection prevention and control is implemented.
- The attack rate in household settings and other closed settings (such as military barracks and other institutional settings) is likely to be higher than other settings (except healthcare settings).
- The attack rates may be higher in some population groups than others, but it is difficult to predict which groups will be most affected prior to the pandemic.

## 5.6 Case fatality rate

In an unmitigated pandemic (no antivirals, no antibiotics) the clinical case fatality ratio (deaths per diagnosed cases) could be between 2.4 and three per cent. The *case fatality ratio* is the ratio expressed as a percentage of deaths within a designated population of people with a particular condition, over a certain period of time.

With the appropriate medical care (early antiviral and antibiotic therapy as needed and supportive care for those with more severe illness) the death rate could be halved.

A W-shaped mortality distribution, similar to that seen in the 1918 pandemic, has been assumed for planning purposes, with three mortality rate peaks: under five year olds, over 65 year olds and 20–35 year olds.

## 5.7 Modes of transmission

Respiratory and contact spread will be the major modes of transmission in the community.

- **Respiratory** – when an infected person exhales, coughs or sneezes, their respiratory droplets can spread into the eyes, nose and mouth of an uninfected person. The uninfected person needs to be relatively close by – usually within a metre.
  - **Aerosol** – spread occurs through specific procedures within the healthcare setting that may lead to the generation of clinically significant aerosols (intubation and bronchoscopy).

- **Contact spread** – if an uninfected person has virus on their hands and they touch their own eyes, nose or mouth they can infect themselves. A person's hands may be contaminated by touching used tissues, doorknobs or other items or surfaces that an infectious person has contaminated. Virus may be present in faeces, blood or other body fluids, but this is unlikely to be a significant route of transmission.

## 5.8 Period of communicability

Cases within all age groups can be infectious from 24 hours before the onset of symptoms onwards; that is, people who become ill may shed virus (and transmit infection) as much as one day before the onset of symptoms. Peak shedding occurs in the first two days of illness. Children will shed greater amounts of virus and may shed for longer, up to 21 days. Adults aged over 65 years may also be infectious for a longer period. It is likely that, for the vast majority of cases of all ages, infectiousness will decline rapidly after five days of illness, particularly if symptoms are declining.

## 5.9 Survival of the virus on surfaces

The virus can survive if not cleaned/undisturbed and is potentially infectious for the following lengths of time:

- On hard non-porous surfaces such as stainless steel and plastic it can last up to 48 hours.
- On cloth, paper and tissues it can last up to 12 hours.
- On surfaces contaminated with blood or faeces it can last up to five days.
- On unwashed hands it can last up to 30 minutes.
- Virus may be found within a cadaver for several days, possibly weeks after death, particularly if the body has been refrigerated.
- In low temperature, protected by organic matters, the virus might survive for up to five weeks (H5N1 data).

## 5.10 Serial interval

The serial interval is defined as the average length of time between a primary case developing symptoms and the secondary case (infected by the primary case) developing symptoms. The current assumption is that the serial interval will be approximately two days.

## 5.11 Case definitions of pandemic influenza

Clinical and surveillance case definitions will vary according to the stage of a pandemic and will need to be updated as more is learnt about the transmission characteristics and severity of disease associated with a particular strain.

## 5.12 What type of pandemic are we planning for?

We need to plan for a pandemic that could happen very quickly, could disproportionately and severely affect some members of our society, and could put a significant strain on our health services. Important



considerations include transmission resulting from rapid international travel, the significant numbers of people living with chronic health issues and our high expectations of modern medicine. Table 1 compares the characteristics of a severe pandemic in an unprepared population with those experienced under conditions of effective preparation.

**Table 1: Pandemic impact, unprepared vs prepared**

	Pandemic as severe as the one that occurred in 1918 and we were not prepared and unable to respond	Pandemic as severe as that in 1918, but we were prepared and were able to respond effectively
Estimated population showing clinical signs of infection	40 per cent (2.2 million people)	10 per cent (540,000 people)
Estimated deaths	2.4 per cent of those affected would die (around 53,000 people)	1.2 per cent of those clinically affected would die (around 6,500 people)
Work absenteeism	50 per cent	30–50 per cent
Duration of the pandemic	Several waves each, lasting up to 12 weeks	7–10 months, in a single wave
Disruption of services	As long as two years	7–10 months

These figures are based on the Australian Bureau of Statistics 2011 census data for Victoria.

To put the mortality figures in context, about 2,800 Australians (mainly older people) die each year from seasonal influenza and pneumonia.

## 6. Pandemic impact

The level of impact that the pandemic has will depend on a number of factors:

- The **clinical severity** of the disease will affect the number of people that present to primary care and who need to be hospitalised. It will also affect the number of deaths and the level of concern in the community.
- The **transmissibility** of the virus between humans will affect the breadth and speed of spread across the globe and Australian community. A pandemic influenza virus is usually estimated to have a basic reproductive number ( $R_0$ )<sup>1</sup> of 1.2–2.5.
- The **capacity of the health system** will influence the way healthcare is provided. There is a limit to the services that are able to be provided, which may be tested during a pandemic. A pandemic will increase the demand on specialist expertise, particularly in acute care such as intensive care nursing, emergency medicine and ambulance services.
- The **effectiveness of interventions** such as antivirals will affect individual health and levels of morbidity and mortality that need to be managed by the health system.

<sup>1</sup> The basic reproductive number of an infection is the number of cases one case generates on average over the course of its infectious period, in an otherwise uninfected population. Generally, the larger the value of  $R_0$ , the harder it is to control the pandemic.

- The **vulnerability** of our population will influence the spread and clinical severity of the disease. Vulnerability (within unique risk groups) is unique and will make comparisons with the experience of the pandemic overseas indicative only.

## 6.1 Application of pandemic impact levels to decision making

While it will only be possible to quantify the overall impact of the pandemic once it has run its course, as part of surveillance activities, an estimate of the anticipated level of impact will be made early in the response and will be used to guide the response measures.

Characterisation will be undertaken as early as possible in the pandemic and revised regularly as more information becomes available. While all the pandemic factors mentioned above will be considered as part of the decision-making process, they will have different degrees of influence.

While each pandemic is unique the VHMPPI will consider the severity of illness caused by the virus and categorise it as low, moderate or high, based on the available evidence and emerging epidemiology.

### Scenario 1: If clinical severity is low

The level of impact on the community may be similar to severe seasonal influenza or the 2009 H1N1 pandemic.

### Scenario 2: If clinical severity is moderate

The number of people presenting for medical care is likely to be higher than for severe seasonal influenza. Pressure on health services will be more intense. The level of impact may be similar to the 1957 Asian influenza.

### Scenario 3: If clinical severity is high

Widespread severe illness will cause concern and challenge the capacity of the health sector. The level of impact may be similar to the 1918 Spanish influenza.

Responses will be proportionate to the observed impact and may fall between these scenarios.

## 7. Pandemic management

This plan identifies the recommended approach to managing an influenza pandemic in the four emergency management areas of:

- prevention
- preparedness
- response
- recovery.

### 7.1 Prevention activities

Close collaboration with the animal health sector is an important strategy and detailed in *Animal health issues* under *Preparedness and response activities* below.

Many prevention activities also form the emphasis of preparedness.

## 7.2 Preparedness and response activities

Priorities will change with the different pandemic stages and as new information becomes available. The department's response priorities to a pandemic form the basis for the State Controller's strategic intent, which is to limit the morbidity and mortality from pandemic influenza, and to limit the impact on the health and wellbeing of the community by:

- ensuring rapid and early detection of the novel virus in the community
- implementing sound surveillance strategies to monitor the progress of the pandemic and to identify particular populations at risk
- controlling the spread of influenza through various containment strategies, including but not limited to isolation, quarantine, other social distancing measures, infection prevention and control, antiviral prophylaxis and treatment and eventually vaccination
- communicating accurate and timely information to all relevant stakeholders and the public
- providing clear direction for the public health response activities of local public health stakeholders.

### Laboratories

The Victorian Infectious Diseases Reference Laboratory (VIDRL) will have a critical role in the diagnosis and characterisation of pandemic influenza. In a pandemic all laboratories will face a significant surge in demand for diagnostic testing. Collaboration between the World Health Organization Collaboration Centre (WHOCC), VIDRL, all laboratories and the department will be essential.

Further details on laboratory issues are available at **Appendix 16: Laboratories**.

### Surveillance

An effective surveillance system is a vital component of pandemic preparedness and response, integrating data on disease incidence with virological and clinical data. A sensitive early warning system is critical to defining the first human cases after the emergence of a potential pandemic influenza strain and signalling the first instances of human-to-human transmission.

The surveillance plan is intended to guide surveillance activities in the event of a pandemic in order to ensure the collection of useful, consistent and high-quality data across Victoria to enable informed decision making by public health officials. This plan draws heavily on experience from the 2009 pandemic.

Further details on surveillance are available at **Appendix 9: Surveillance**.

### Animal health issues

#### Animal surveillance

Surveillance for animal influenza in Victoria is the responsibility of the Department of Environment and Primary Industries (DEPI). Avian, swine and equine influenza are notifiable exotic diseases under the *Livestock Disease Control Act 1994*. Any person (including owners, veterinarians and laboratory staff)

who knows or suspects that one of these diseases is present must notify an Inspector of Livestock immediately by the quickest means of communication available.

Diagnostic opportunities to rule out influenza in horses, pigs and poultry are regularly undertaken using syndrome-based diagnostic sampling. A wild-bird surveillance program is also in place. Screening tests are carried out at the DEPI AgriBio laboratory at Bundoora, while confirmatory tests including virus characterisation are carried out at the Australian Animal Health Laboratory (AAHL) at Geelong.

Nationally agreed procedures for surveillance during disease outbreaks of animal influenza and for proof of freedom following an outbreak are included in AUSVETPLAN disease strategies.

### **Measures to limit transmission of viruses between humans and animals**

Influenza viruses can be transmitted from animals to humans (zoonosis) and also from humans to animals (anthroponosis). Measures should be applied to reduce the transmission of viruses between humans and animals with the aim of preventing co-infection with different influenza viruses, thereby reducing the likelihood of emergence of reassortant viruses.

- It is recommended that all those who work with pigs and poultry are routinely vaccinated with seasonal influenza vaccine.
- People handling animals that are infected or suspected of being infected with influenza should wear appropriate PPE, including overalls, shoe covers, gloves, mask and goggles. Appropriate farm entry and exit biosecurity procedures should also be applied.
- People with clinical symptoms of influenza should avoid contact with livestock or wildlife.

### **Animal health communication**

Timely, ongoing and regular exchange of information on human and animal surveillance occurs between DEPI and the Department of Health.

### **Suite of measures available for use in responding to a pandemic**

The following sections describe in summary the suite of measures available to manage a pandemic.

These measures were developed based on: the previous application of health measures to pandemics (in Australia and overseas); research and modelling; and application to seasonal influenza or other related diseases. A summary table of implementation of these measures by stage is available in the AHMPPI.

See **Appendix 1: Guide to implementation of the suite of measures.**

Choice of appropriate measures will be based both on the severity of the virus and the likely effectiveness of the measure. It will require an evaluation based on the best available evidence available at the time and will be guided by the existing policy and advice provided at a national level under the AHMPPI.

## Pharmaceutical measures

These include antivirals, candidate pandemic vaccines (vaccines based on a strain of influenza virus considered to have pandemic potential) and customised pandemic vaccines (vaccines based on the actual pandemic virus).

### Antiviral medications (antivirals)

#### Use of antivirals during a pandemic

The aims of antiviral use in an influenza pandemic are to:

- reduce/minimise mortality and morbidity
- reduce transmission of the virus
- minimise the impact on healthcare services.

Antiviral strategies consist of a combination of treatment of cases, post-exposure prophylaxis and pre-exposure prophylaxis.

The choice of antiviral strategy depends on the stage of the pandemic, the relative importance of the different aims, the epidemiology (transmissibility and clinical severity), virological (antiviral resistance) characteristics, pre-existing immunity, vaccine availability and practicalities such as logistics of antiviral delivery and availability.

During the initial response, little will be known about the severity and impact of the pandemic. Under these circumstances all three aims are important.

As surveillance information becomes available, the anti-viral strategy can be modified to more effectively manage the specific pandemic. For example, in a pandemic with high mortality and morbidity, preventing illness in all individuals is important to minimise mortality/morbidity, reduce transmission to others and maintain the health workforce. Where severity is lower, protecting those at risk of severe outcomes becomes the focus.

#### State and national stockpiles

The National Medical Stockpile (NMS) was established by the Commonwealth Government and contains a range of items including PPE and antivirals for use in a health emergency such as an influenza pandemic. The department has a smaller stockpile for initial use in the state, the Victorian Medical Stockpile (VMS).

During an influenza pandemic the Department of Health will access antivirals and PPE through the VMS and the NMS.

The Commonwealth Government is responsible for the NMS and related deployment plans. The Chief Health Officer is able to request items from the NMS. If demand is significant, requests may need to be prioritised.

The VMS provides rapid access to supplementary medical stocks in the initial stages of a pandemic while requests for access to the NMS are processed. Antiviral medication from the stockpile will be used for post-exposure prophylaxis and treatment, and possibly pre-exposure prophylaxis. Distribution of

antivirals from the stockpile will be coordinated by the department in accordance with pre-arranged contracts.

Further details about antiviral use are described in **Appendix 2: Antiviral medications**.

## Immunisation

The most effective way of preventing infection with an influenza virus is vaccination. A pandemic vaccine can only be developed once the nature of the virus is known, and is likely to take some time before being available. Pandemic vaccines are produced by pharmaceutical companies under prearranged contracts with the Commonwealth Government. Victoria has a range of immunisation providers, such as local government and general practices, who will play an active role (in varying degrees) in delivering a pandemic vaccination program, be it mass vaccination or any other means deemed suitable at the time.

Further details about vaccine use (seasonal, candidate and customised) are provided in **Appendix 3: Immunisation**.

## Social distancing

This comprises community-level interventions to reduce normal physical and social population mixing, in order to slow the spread of a pandemic throughout society.

Social distancing measures may complement measures applied to individuals to decrease the likelihood of spread of pandemic influenza.

Interventions may include the following:

- **Proactive school closure**

Not generally recommended, however could be considered when there is evidence of high clinical severity and/or high transmissibility specifically in children. The level of disruption is likely to outweigh benefits.

- **Reactive school closure**

Not recommended unless the disease has high clinical severity or children are a group at particular risk of complications.

- **Workplace closure**

Not generally recommended. Although some specific workplaces may be able to accommodate closure, it is unlikely that a large enough percentage could participate to significantly affect the pandemic's impact. This measure is only relevant if clinical severity is moderate to high.

- **Working from home**

This measure should be considered for pandemics with a moderate to high clinical severity, and where working from home can be reasonably accommodated. Working from home may not be practical for many workplaces.

- **Cancellation of mass gatherings**

Not generally recommended; however, may be considered if the disease has a high clinical severity rate and moderate to high transmissibility, at certain stages in the progress of the pandemic.

- **Voluntary isolation of cases**

Recommended (particularly as the clinical severity of the disease increases) to be used in conjunction with infection control measures to reduce the risk of transmission to household contacts. Most likely to influence the course of the pandemic when clinical severity is high and transmissibility is low.

- **Voluntary quarantine of contacts**

Recommended in the initial action stage, and to be considered in the targeted action stage, particularly if consequences of infection are high.

- **Contact tracing**

Important part of initial enhanced surveillance activities. If it is aimed at reducing morbidity and mortality, consider if clinical severity is high.

Further details on quarantine and isolation in the community are available in **Appendix 5: Quarantine and isolation – community settings and at the border**.

## Border measures

These are measures that can be taken at airports and seaports to delay the entry and spread of illness to or from affected countries (or jurisdictions).

### Quarantine and isolation

During the standby stage of the plan, the health response is focused on efforts to detect illness coming from overseas as early as possible so that appropriate quarantine and isolation measures can be implemented.

Further details on quarantine and isolation at the border are available in **Appendix 5: Quarantine and isolation – community settings and at the border**.

## Infection prevention and control

These are measures to promote infection prevention and control measures in a range of settings, individual measures and the use of PPE.

### Infection prevention and control measures

The aim of infection prevention and control measures during an influenza pandemic is to minimise the risk of exposure to the virus, and to reduce transmission, infection and illness. These measures should be used in a range of settings including households and healthcare organisations.

Health services should implement the *Australian guidelines for the prevention of infection in healthcare* (NHMRC 2010), particularly contact and droplet precautions. Airborne precautions may be required in specific circumstances.

In health services, visitor and staff restrictions should be implemented during a pandemic. All visitors and staff with influenza-like illness should be excluded from health services until well.

## Individual measures

The use of individual measures (hand hygiene, respiratory hygiene, cough etiquette and immunisation) is encouraged at all stages of an influenza pandemic and during influenza season in a range of settings.

Further information on these measures is available at <[www.health.vic.gov.au/influenza](http://www.health.vic.gov.au/influenza)>.

## Personal protective equipment

The use of PPE and other organisational measures (including patient or resident placement, flow and segregation of the ill and well) should be implemented during the response stages (initial and targeted) of an influenza pandemic. PPE is appropriate in all healthcare settings, including primary care, influenza clinics and hospitals and, when advised by the Chief Health Officer, for border health agencies.

Further details on infection prevention and control measures are available in **Appendix 4: Infection prevention and control measures**.

## Communication

Communication strategies are an essential component of managing any infectious disease outbreak and will be essential in the event of a pandemic. Effective communication during the various stages of a pandemic is vital in helping to minimise transmission, manage cases of human infection, provide continuity of government and essential services, and in providing community support and recovery.

The Victorian Department of Health (as lead agency) has developed a whole-of-Victorian-Government communication strategy that maximises stakeholder engagement and use of existing networks. It will be supported by departmental and agency plans to target a distinct but diverse group of key influencers who will channel the appropriate messages and planning actions through to their respective sectors. These key influencers include government departments, the health sector, local government, emergency services, infrastructure services, community services and business associations.

Further details on communications are available in **Appendix 8: Communication**.

## 7.3 Recovery activities

It is important that response activities for a pandemic be selected and implemented in a manner most likely to promote robust recovery.

National coordination and support required during this stage will occur through existing emergency management channels.

## 7.4 Application to seasonal influenza

In many ways the response to seasonal influenza and a pandemic would be the same – wherever possible the VHMPPPI uses existing arrangements. The key difference will be the capacity of a pandemic to overwhelm normal arrangements and the requirement to enhance our systems and approaches to cope with an increased demand. This is further detailed in the AHMPPI.



## 7.5 Emergence of the novel virus first in Australia

Though this plan focuses on activities in response to the emergence of a novel virus with pandemic potential overseas, it may also be applied should the novel virus emerge first in Australia. Variations to the plan would be required in the areas of escalation, implementation, communication and surveillance. This is further detailed in the AHMPPI.

## 8. Mental health and wellbeing

Uncertainty and unknowns characterise the very nature of an influenza pandemic (such as when it will happen, how severe it will be, who will be affected and how long it is likely to last). Many, if not most, people find any uncertainty and change stressful. Research shows that humans are better able to adapt to acute, short-term stress rather than long-term, chronic stress. The prolonged nature and uncertainty of an influenza pandemic is likely to result in levels of chronic stress that, for some, will be associated with psychological and physiological health and social problems, behavioural consequences and surges in demand for psychosocial support (British Columbia 2009).

Emotional reactions are a normal response to the distress and trauma associated with an emergency. In the case of an influenza pandemic, they can occur regardless of whether an individual is directly affected with pandemic influenza, whether their family or close friends are affected or whether they are indirectly affected.

The stress associated with an emergency event affects children and adults and any response needs to include working with children in their developmental context. Some people may be at risk of serious, long-term psychological disorders, and research suggests lack of post-event support may be a significant risk factor in these outcomes. The literature stresses the need for immediate psychosocial support alongside and integrated with the incident response (Department of Health 2013b).

Children have different physiological, psychological and developmental needs, and the type of care they require in an emergency will depend on their stage of life. The priorities in managing children in emergencies are to protect them from further harm, treat injuries, minimise psychological trauma and, where possible, prevent their separation from family.

Separation from family significantly increases the psychological impact on children. The level of vulnerability increases in children and young people if the adults who support them are also affected by the emergency. It is important to keep children with their families if possible. If children are separated from their families or guardians, they should be reunited as quickly as possible.

Individuals may develop mental health concerns following experiences with sick and dying loved ones, with prolonged isolation or with other significant changes to their daily lives. These effects may be long-lasting.

Acute illness, such as influenza, can worsen depression, which can complicate the risk assessment, treatment and recovery for some mental health service users (National Health Service 2012).

Mental health services need to continue providing core services during a pandemic as well as providing support to other providers where possible. A pandemic may impact on mental health services. This should be monitored as detailed in the SHERP.

Resources for coping with the impact of natural disasters are available on the Australian Centre for Posttraumatic Mental Health at <[www.acpmh.unimelb.edu.au](http://www.acpmh.unimelb.edu.au)>.

## 8.1 Psychosocial support

A key focus of psychosocial support in the early stages of a pandemic is providing personal support to affected individuals and families.

The Department of Human Services is the coordinating agency for emergency relief and recovery (including psychosocial support) at the state and regional levels, working in collaboration with municipal councils that have that responsibility at a local level.

As detailed in the SHERP, personal support and psychological support arrangements are documented within municipal emergency management plans as a part of the local relief and recovery arrangements. These arrangements are documented in section 4 of the EMMV.

Relief and recovery plans describe a range of services that can be activated in response to an event to assist with relief and recovery. Emergency relief can help to provide shelter, water, food and psychological support. The local municipal emergency management plan will detail the agencies responsible for providing personal support.

Health services' and primary care services' emergency/pandemic planning should also address psychosocial support needs for their staff.

It is important that an integrated approach between mental health and psychological support occurs during a pandemic, as would occur during any other emergency.

## 8.2 Health sector resilience

Building preparedness within Victoria's health systems will contribute to the resilience and sustainability of our systems. The resilience of individuals will be promoted by empowering them to manage their own exposure to the disease through public messaging about:

- the status of the disease in Australia and internationally
- hygiene and cough/sneeze etiquette
- disease transmission
- understanding of how to recognise the signs and symptoms of the disease and when to seek medical assistance
- access to support and advice, including mental health services (Australian Government Department of Health 2014).

To build resilience within our most vulnerable populations, communications within the health sector will be used to raise awareness of at-risk groups and their associated needs. Measures will also be implemented, with consideration of necessary adaptations to meet the needs of these individuals and communities. The needs and challenges of communicating with low socioeconomic communities, which may have reduced access to healthcare, will also be considered.

## 9. Aboriginal health

The particular needs and concerns of Aboriginal and Torres Strait Islander peoples should be recognised in the plans of every primary healthcare practice/service.

At a population level there is a significant gap between the health status of Victoria's Aboriginal population and the non-Aboriginal population. Hospitalisation rates for most causes are higher for Aboriginal people in Victoria. Presentations to hospital emergency departments for Aboriginal people in Victoria are double the rate for non-Aboriginal people (Department of Health 2012).

Acute respiratory infections such as colds, influenza and pneumonia can worsen symptoms and lead to serious consequences for people with chronic respiratory conditions. Aboriginal people are more likely to have chronic respiratory diseases such as asthma and chronic obstructive pulmonary disorders (Australian Health Ministers' Advisory Council 2012).

Primary healthcare services that focus on Aboriginal people will need to consult widely with the communities that they service to help protect cultural sensitivities, as much as is practicable, while maintaining infection prevention and control standards.

The *Whole-of-Victorian-Government communication strategy* will address the specific needs of Aboriginal and Torres Strait Islanders.

## 10. Culturally and linguistically diverse Victorians

Victoria has a diverse population drawn from many different cultures and language backgrounds. Primary healthcare services may want to use this information or develop their own material based on their known specific client needs, or adapt their plans for their specific patient/client population. It is important, however, to maintain consistency of local plans within the infection prevention and control and other public health principles set out in this plan.

The *Whole-of-Victorian-Government communication strategy* will address the specific needs of culturally and linguistically diverse Victorians.

## 11. Business continuity

While it is impossible to predict the timing or severity of a human influenza pandemic, it is certainly possible to be prepared and have appropriate management plans in place to minimise the impact of, and expedite recovery from, a pandemic.

An influenza pandemic in Australia will be unlike any other modern disaster and will create new challenges for business continuity planners. Businesses will need to rethink their existing continuity strategies to cope with such an event.

The Commonwealth, state and territory governments encourage advanced preparation by both private and public sector organisations to ensure business continuity during a pandemic. This planning is critical in controlling a pandemic, and its potential social and economic impacts, by helping to maintain core functions and services in the business and general community.

Organisations should enhance their business continuity plans to prepare for the direct impacts of extended staff absences during a human influenza pandemic – 40 per cent during the peak of the pandemic.

All businesses – from small enterprises to large organisations delivering essential services – can minimise the impact of an influenza pandemic on their operation by undertaking business continuity planning to prepare for a changing work environment. Although governments can assist, it is up to businesses to ensure they are in the best position to manage the effects of a pandemic, and to recover as quickly as possible.

The *Victorian action plan for human influenza* (Department of Human Services 2012b) outlines the Business continuity planning responsibilities for government and local councils and provides recommendations for businesses and non-government organisations on preparedness.

## 12. Influenza services

### 12.1 Primary healthcare

Primary healthcare, namely general practice, community pharmacy, community nursing and community health services, will form part of the frontline of Victoria's pandemic response.

Most people will be able to manage their illness at home so that hospital care can be provided on the basis of clinical need.

In the targeted stage of response patients may increasingly be sent home with information on how to look after themselves and advice on minimising the risk of transmission to other people in the household.

All information provided from the Department of Health will be communicated using the *Whole-of-Victorian-Government communication strategy*.

Further details on primary care are available at **Appendix 6: Primary healthcare**.

### 12.2 Health services

An influenza pandemic impacts on health services in several ways. These include, but are not limited to, increased demand, admissions, deaths, staff absenteeism, numbers of complex cases requiring isolation (some of whom will require intubation and respiratory management including the use of nebulisers and suction) and need for respiratory samples. Other measures including quarantine of household contacts may increase the number of staff absences during a pandemic.

The Department of Health's two key responsibilities are to act as the Control Agency for the protection of health and to manage pre-hospital and hospital responses to emergency incidents. The SHERP describes the arrangements for this second responsibility.

Patients with suspected pandemic influenza may present at any health service (or general practice) during any stage of a pandemic. All health services need to develop a process for separating, triaging, assessing and admitting people with influenza-like illness during a pandemic.

The most accurate information available on clinical case definition, contact definition, infectious period, incubation period and transmission (respiratory droplets or airborne) will be communicated by the department to health services during the pandemic.

All information provided from the department will be communicated using the *Whole-of-Victorian-Government communication strategy*.

Further details about health services role in a pandemic are outlined in **Appendix 7: Health services**.

## 13. Residential facilities

Residential facilities such as Aged care, Disability Accommodation Services and Custodial facilities will be impacted by a pandemic due to the nature of close living arrangements, as well as the presence of chronic/underlying diseases found in residents.

Further details are available in **Appendix 12: Residential aged care**, **Appendix 13: Disability Accommodation Services** and **Appendix 14: Custodial facilities**.

## 14. Pandemic plan activation

### 14.1 World Health Organization pandemic phases

WHO phases detailed in *Pandemic influenza risk management, WHO interim guidance* (WHO 2013a) are based on a conceptual framework of public health functions (preparedness and communication; surveillance and detection; and response and containment).

### 14.2 Australian (AHMPPI) pandemic stages

The decision to formally escalate the AHMPPI through each of its stages will be made by the chair of AHPPC, in consultation with AHPPC members.

The AHMPPI stages will be independent of activation of whole-of-government or jurisdictional plans. It is also independent of the WHO pandemic phases, as these are informative in giving an overview of the global progress of the pandemic but not for guiding response management at an individual country level.

### 14.3 Victorian (VHMPPI) pandemic stages

The Department of Health will adopt and function under the AHMPPI stages. The stages in Victoria may differ from stages in other states and territories, and other global jurisdictions. Because of the varied nature and impact of a pandemic, different operational priorities will apply in different pandemic stages.

# 15. Victorian pandemic stages

The operational priorities will form the basis of the State Controller's (Chief Health Officer) intent for each stage.

**Table 2: Victorian pandemic stages and actions**

Stage		Description	Key actions
Prevention		<i>Prevention is not the primary focus of this plan</i>	
Preparedness		No novel strain detected (or emerging strain under initial detection)	<ul style="list-style-type: none"> <li>Establish pre-agreed agreements by developing and maintaining plans</li> <li>Research pandemic-specific influenza management strategies</li> <li>Ensure resources are available and ready for rapid response</li> <li>Monitor the emergence of diseases with pandemic potential, and investigate outbreaks if they occur</li> </ul>
Response	Standby	Sustained community person-to-person transmission detected overseas	<ul style="list-style-type: none"> <li>Prepare to commence enhanced arrangements</li> <li>Identify and characterise the nature of the disease (commenced in preparedness)</li> <li>Communicate measures to raise awareness and confirm governance arrangements</li> </ul>
	Action (initial and targeted)	Cases detected in Australia	<p><b>Initial (when information about the disease is scarce)</b></p> <ul style="list-style-type: none"> <li>Prepare and support health system needs</li> <li>Manage initial cases</li> <li>Identify and characterise the nature of the disease within the Australian context</li> <li>Provide information to support best practice healthcare and to empower the community and responders to manage their own risk of exposure</li> <li>Support effective governance</li> </ul> <p><b>Targeted (when enough is known about the disease to tailor measures to specific needs)</b></p> <ul style="list-style-type: none"> <li>Support and maintain quality care</li> <li>Ensure a proportionate response</li> <li>Communicate to engage, empower and build confidence in the community</li> <li>Provide a coordinated and consistent approach</li> </ul>
	Standdown	Public health threat can be managed within normal arrangements Monitoring for change is in place	<ul style="list-style-type: none"> <li>Support and maintain quality care</li> <li>Cease activities that are no longer needed, and transition activities to seasonal or interim arrangement</li> <li>Monitor for a second wave of the outbreak</li> <li>Monitor for the development of antiviral resistance</li> <li>Communicate activities to support the return from pandemic to normal business services</li> <li>Evaluate systems and revise plans and procedures</li> </ul>
Recovery		<i>Recovery is not the primary focus of this plan</i>	

## Appendices





## Appendix 1: Guide to implementation of the suite of measures

**(adopted from the AHMPPI)**

In the table below, recommended measures are listed in coloured cells. General practicalities that apply to this measure across all stages of the *Victorian health management plan for pandemic influenza* (VHMPPI) are addressed in the far right column. Comments specific to using a measure in one particular stage only are included in the coloured cell appropriate for the column representing that stage.

The definition of 'contact' in healthcare setting will be as per influenza infection: Communicable Diseases Network of Australia (CDNA) *National guidelines for public health units* (July 2011), unless alternative advice is issued at the time of the pandemic. Advice regarding the definition of contacts for the purposes of contact tracing, provision of prophylaxis and advice will be provided by CDNA at the time of the pandemic.

If the Menu of Actions recommends that an action as a whole should not be used, it has not been included in the *Guide to implementation*.

Table 3: Guide to implementation

## Pharmaceutical measures

Measures	Preparedness	Standby	Initial action	Targeted action: low CS	Targeted action: moderate CS	Targeted action: high CS	Standdown	Practicalities
<b>Antivirals: treatment</b>	Used for seasonal influenza	As for seasonal influenza	Treat cases if appropriate	Move away from treating mild cases to protecting those at risk of severe outcomes	Delivery capacity will become an issue	Delivery capacity will become an issue	Cases as required by condition	Use for all cases Effectiveness strongly dependent on timely delivery and compliance Risk of stockpile depletion with widespread distribution
			As transmissibility increases the likelihood of altering the course of the pandemic decreases. Control of the pandemic is most likely when CS is high + transmissibility is low					
<b>Antivirals: post-exposure prophylaxis</b>			Close contacts, possible at-risk contacts, HCWs	Contacts at risk of severe illness	Close contacts and HCWs increasingly as CS rises  Contacts at risk of severe illness	Close contacts, contacts at high risk of severe illness, HCWs (depending on exposure risk)  Delivery capacity will become an issue		
			Control of the pandemic is most likely when CS is high + transmissibility is low					
<b>Antivirals: pre-exposure prophylaxis</b>						HCW (depending on exposure risk)		
<b>Candidate vaccine</b>						If vaccine proves to be effective		Unlikely to offer full protection
			It is important to include transmissibility in any risk assessment					Useful if pandemic strain and candidate are same subtype
								Possible adverse events
<b>Customised pandemic vaccine</b>			Transmissibility and the associated level of population immunity achieved at the time of vaccine availability will need to be considered in decisions for use of customised vaccine				At-risk groups	Not initially available Access is a key goal of the response

CS = clinical severity; HCW = healthcare worker

## Social distancing measures

Measures	Preparedness	Standby	Initial action	Targeted action: low CS	Targeted action: moderate CS	Targeted action: high CS	Standdown	Practicalities
Cancel mass gatherings						Consider		High impact on businesses
Proactive school closures						Consider		High impact on workplace absenteeism
Reactive school closures			In the presence of differentially higher transmissibility in children, the impact of school closures is likely to be greater.					High impact on workplace absenteeism
Workplace closures						Substantial costs to businesses and employees; disruption of services and supplies		Potential for high costs to employees from lost work days
Home working								Not feasible for all
Voluntary isolation of cases				Disruption to workplaces and the economy	Disruption to workplaces and the economy	Disruption to workplaces and the economy		Household contacts at risk of infection
			Control of the pandemic is most likely when CS is high + transmissibility is low					
Voluntary quarantine of contacts						High impact on workplace absenteeism  Benefits and compliance will be highest if disease is severe		Impact is dependent on early application  Compliance is dependent on information and understanding of patients/contacts
Contact tracing			Essential for early surveillance activities			Benefits are most likely if disease severity is high  Continue in targeted action if CS is high and case identification is effective		Impact depends on early application

CS = clinical severity

## Border measures

Border measures	Preparedness	Standby	Initial action	Targeted action: low CS	Targeted action: moderate CS	Targeted action: high CS	Standdown	Practicalities
In-flight messages		Encourage awareness and appropriate behaviours						Low cost Promotes prompt presentation
			Relevant for all levels of transmissibility					
Communication materials for travellers								Relatively low cost Promotes prompt presentation
			Relevant for all levels of transmissibility					
Exit screening			Consider use if virus emerges first in Australia					High cost May be recommended under IHRs; consider upon request Evidence does not support effectiveness

## Infection prevention and control measures

Measures	Preparedness	Standby	Initial action	Targeted action: low CS	Targeted action: moderate CS	Targeted action: high CS	Standdown	Practicalities
Organisational infection control measures: patient			Isolate suspected confirmed patients	Isolate/cohort suspected/ confirmed patients	Isolate/ segregate patients Consider clinical care models e.g. flu clinics	Isolate/ segregate patients in the practice or ward Flu clinics or separate sites at hospitals		Surgical masks for patients Patients self identify
The intensity of infection control measures increases as transmissibility increases.								
Organisational infection control measures: staff			Separate flu and non-flu staff if possible or required		Cohort staff	Cohort staff		Stay home if sick Vulnerable staff – avoid flu patients, ensure appropriate PPE
PPE for HCWs	Used as part of national infection control guidelines		The intensity of infection control measures increases as transmissibility increases.					Use as per national infection control guidelines Effectiveness dependent on compliance/ correct usage. Contact and droplet precautions plus eye protection. Airborne precautions for aerosol generating procedures.
Public messages re: hygiene etc.	Used for seasonal influenza		Relevant for all levels of transmissibility.					Empowers individuals Needs to be in line with seasonal approach Relevant for all levels of transmissibility.
Public messages re: situation and response efforts			Relevant for all levels of transmissibility.					Builds public confidence

CS = clinical severity; IHR = international health regulation

## Appendix 2: Antiviral medication (antivirals)

This appendix reflects the current recommendations from the *Australian health management plan for pandemic influenza* (AHMPPI), providing guidelines for using antivirals and outlining the strategies that will be considered in the event of an influenza pandemic.

Antivirals are available for treating infected cases and for prophylaxis of exposed contacts. Treatment with antivirals aims to reduce the severity of symptoms in individuals and lower morbidity and mortality rates. Prophylactic use of antivirals aims to reduce infection and potentially lower the disease attack rate. The antivirals that are approved for use in Australia are the neuraminidase inhibitors (NAI) oseltamivir (trade name Tamiflu) and zanamivir (trade name Relenza).

The appropriate strategy for using antivirals depends on the stage of the pandemic, the epidemiology (transmissibility and clinical severity), virological (antiviral resistance) characteristics, pre-existing immunity and vaccine availability and practicalities such as logistics of antiviral delivery and availability.

Consideration of the currently available antivirals and their effectiveness against the circulating pandemic influenza strain will be undertaken.

This information will only be available after the initial cases of pandemic strain influenza have been diagnosed. As more information becomes available the strategy on how antivirals are used may change.

Strategies to consider for using antivirals during a pandemic are:

- Treat individuals who have pandemic influenza.
- Prevent infection in people who have been exposed to the virus (post-exposure prophylaxis).
- Provide continuous prevention of infection in priority individuals who are at risk of becoming ill (pre-exposure prophylaxis, or PrEP).

During an influenza pandemic the Department of Health will access antivirals through the Victorian Medical Stockpile (VMS) and the National Medical Stockpile (NMS).

The NMS was established by the Commonwealth Government and contains a range of items including antivirals for use in health emergencies such as an influenza pandemic. The department has a smaller stockpile for use in the state (the VMS).

The VMS provides rapid access to supplementary medical stocks in the initial stages of a pandemic while requests for access to the NMS are processed. Antivirals from the stockpile will be used for post-exposure prophylaxis, treatment and possibly PrEP. Distribution of antivirals from the stockpile will be coordinated by the Victorian Department of Health in accordance with prearranged contracts and possibly through other suppliers such as community pharmacies.

## Using antivirals as treatment

There is good evidence that using antivirals as treatment can reduce symptoms. There is some also evidence that it reduces complications and visits to hospital and prevents death. Evidence from studies of households suggests that antivirals can reduce the likelihood of people in the household infecting each other with the virus. The most effective use is during the early stages of the illness; however, up to eight days after the onset of illness the antivirals may be an effective treatment.

## Using antivirals to prevent infection in people who have been exposed

Using antivirals appropriately can reduce the risk of infection in people exposed in households by 70–90 per cent. However, this is based on administering the medication within 48 hours of first exposure.

## Using antivirals for continuous prevention in priority groups at risk of becoming ill

There is less convincing evidence that the use of antivirals can prevent healthy ‘at-risk’ adults who are exposed due to their occupation. Using antivirals is estimated to reduce the risk of infection among these groups by 50–75 per cent.

## Key actions by stage

### Preparedness

- For seasonal influenza, antivirals are used as directed by the treating clinician.
- The Department of Health will use the best evidence available from overseas and Australia to collaborate in developing policy on the use of antivirals during a pandemic. This will be done through the Australian Health Protection Principal Committee (AHPPC) and with specialist advice from the Communicable Diseases Network of Australia (CDNA).
- The Department of Health will maintain resources including the VMS and will monitor these stocks and ensure there are systems in place to distribute them in the very early stages of the pandemic.

### Standby

- Health alerts on pandemic influenza will be available on the Chief Health Officer’s website at <[www.health.vic.gov.au/chiefhealthofficer/alerts](http://www.health.vic.gov.au/chiefhealthofficer/alerts)>.

The alerts for health professionals will detail the use of antivirals, the case definition, the strategy on testing and other information relevant at the time. The alerts will be updated as necessary during an influenza pandemic.

## **Initial action**

- Use antivirals to treat cases.
- Use antivirals for post-exposure prophylaxis (PEP) of contacts.
- Use antivirals for PEP for 'at-risk' groups.
- Use antivirals for PrEP for healthcare workers (HCWs) (not routinely recommended).

As surveillance information becomes available, the antiviral strategy can be modified to more effectively manage the specific pandemic strain. For example, in a pandemic with high mortality and morbidity, preventing illness in as many individuals as possible is important to minimise mortality/morbidity, reduce transmission to others and maintain the health workforce. Where severity is lower, protecting those at risk of severe outcomes becomes the focus.

In the initial stages, antivirals may be provided to cases and contacts while test results are pending.

## **Targeted action**

- Depending on the severity of the influenza pandemic strain, clinicians will be encouraged to continue to provide antivirals for treatment if the virological data on the circulating virus demonstrates that the virus is sensitive.
- The department will consider alternative ways of distributing antivirals and tracing of cases such as call centres and through influenza clinics.

## **Low severity**

- In scenarios with low clinical severity, to reduce mortality/morbidity, PEP is best directed towards those at greatest risk of severe illness. There is less benefit in reducing transmission of the virus in the general population.
- PrEP for HCWs is not recommended as a measure of maintaining the health workforce as in low severity pandemics other measures of protection (such as infection prevention and control measures including personal protective equipment (PPE), general hygiene and cough etiquette) are likely to be adequate.

## **Moderate severity**

- In the event of a moderate-severity influenza pandemic strain, administration of antiviral medications will be managed and distributed carefully in order not to exhaust stocks.
- Close contacts and HCWs may be administered antiviral medications as PEP.
- As the stocks of antiviral medications are reduced, those who are at high risk of severity will be prioritised.

## **High severity**

- If clinical severity is high, all cases should be treated to reduce mortality and morbidity.





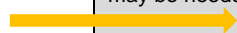




- In scenarios of high severity, PEP for close and 'at-risk' contacts is important to reduce mortality/morbidity and to reduce transmission of the virus, and hence risk of illness. With high clinical severity, PrEP for HCW may be considered as part of a package of protection needed to maintain workforce capacity.

## **Standdown**

- Assess and monitor the current stockpile of antiviral medications in the VMS.
- Review and consider the efficacy of the antiviral medications and their relative impact in this pandemic to inform policy for use in future pandemics and in seasonal influenza.
- Administration of antiviral medications should be given to confirmed cases decided on a case-by-case basis by the treating doctor.

**A summary of antiviral strategies by pandemic stage is detailed in the table below, which was adopted from the AHMPPI.**

**Table 5: Antiviral strategies by pandemic stage**


Antiviral strategies	Initial response	Targeted response		
		Low severity	Moderate severity	High severity
Treatment	Severity and impact of pandemic unknown, but early information likely to suggest higher severity. Therefore all three aims are important.	In the overall population the risk of a poor outcome is low, therefore to reduce mortality and morbidity treatment is best directed towards those with severe illness and at highest risk.		As the risk of a poor outcome is high, all cases will need to be treated to reduce mortality and morbidity.
Severe or established complications	Recommended*	Recommended	Recommended	Recommended
At risk of complications	Recommended*	Recommended	Recommended	Recommended
All cases	Recommended*	Not routinely recommended		Recommended
Post-exposure prophylaxis (PEP)	Severity and impact of pandemic unknown, but early information likely to suggest higher severity. Therefore all three aims are important.	In scenarios of lower severity, to reduce mortality/morbidity, PEP is best directed towards those at greatest risk of severe illness. There is less benefit in reducing transmission of illness to the general population.		In scenarios of high severity, PEP for close and at-risk contacts is important to reduce mortality/morbidity and to reduce transmission of the virus, and hence risk of illness. PEP for HCW may be needed to maintain workforce capacity.
Contacts at risk of complications	Recommended*	Recommended	Recommended	Recommended
Close contacts – household members <sup>^</sup>	Recommended*	Not routinely recommended		Recommended
HCW contacts <sup>#,§</sup>	Recommended*	Not routinely recommended		Recommended
Pre-exposure prophylaxis (PrEP)		The main benefit of PrEP is to maintain the health workforce; however, in low-severity pandemics other measures of protection are likely to be adequate.		Higher severity pandemics may cause a significant negative impact on the healthcare workforce. PrEP may reduce this impact and assist in maintaining an adequate healthcare workforce.
HCW <sup>§</sup>		Not routinely recommended		Recommended

\* Treatment and prophylaxis should be started for confirmed, probable and suspect cases in the initial response – do not wait for laboratory confirmation.

<sup>^</sup> Other settings such as schools may be considered in certain circumstances.

<sup>#</sup> HCW contact – exposed to infectious case within one metre for > 15 minutes without a mask (as per influenza infection: CDNA *National guidelines for public health units* (July 2011)).

<sup>§</sup> Dependent on exposure and infection risk assessment – type and length of exposure, PPE use, transmissibility and severity

 Antiviral strategy for a 'moderate' severity pandemic will sit between recommendations for a low and high severity pandemic. Factors that will influence when high-severity recommendations are included are surveillance information, early information on effectiveness of antivirals, capacity and resources to deliver and stockpile.

## Appendix 3: Immunisation

The most effective way of preventing infection with an influenza virus is vaccination with a customised pandemic vaccine.

By definition a pandemic will be caused by a novel virus, so it is likely to be some time before a vaccine becomes available. To ensure that a new vaccine can be accessed as quickly as possible if required, the Australian Government maintains contracts with vaccine manufacturers for their rapid development and supply.

### Seasonal influenza vaccine

*Seasonal influenza vaccines* refer to vaccines, updated yearly, that protect against seasonal influenza viruses. These vaccines will not provide adequate protection against a pandemic virus.

The availability and uptake of vaccinations for seasonal influenza increases the capacity to manage the impact of seasonal influenza. Australia's National Immunisation Program supports access to seasonal influenza vaccines in 'at-risk' groups. According to the *Australian immunisation handbook* (10th edition 2013), at-risk groups include: pregnant women; people who are immunocompromised; people with chronic respiratory conditions, cardiac disease, Down syndrome, diabetes mellitus, chronic renal failure, chronic neurological conditions, alcoholism, haemoglobinopathies or chronic inherited metabolic diseases; people who are obese; children receiving long-term aspirin therapy; Aboriginal and Torres Strait Islander peoples; children aged under five; and people aged over 65 years. Pandemic vaccination campaigns will build on seasonal immunisation programs.

Seasonal influenza vaccine has been included here to consider its capacity to provide protection against related influenza variants and as the familiarity of the public with seasonal influenza vaccines will influence attitudes, behaviours and existing health system arrangements.

Information on seasonal influenza vaccination is available at [www.health.vic.gov.au/immunisation/seasonal-influenza-vaccine.htm](http://www.health.vic.gov.au/immunisation/seasonal-influenza-vaccine.htm).

### Influenza immunisation for workplaces

Influenza can seriously affect the workplace. The Department of Health encourages all workplaces to take influenza seriously and offer free workplace vaccinations to staff.

The *Workplace influenza kit* contains all the information required to arrange and promote a workplace vaccination program, whether workplaces offer an in-house clinic, provide a mobile clinic to reach workers off-site or arrange vaccinations for staff at their local general practice clinic. The kit is available at [www.health.vic.gov.au/immunisation/workplace-immunisation.htm](http://www.health.vic.gov.au/immunisation/workplace-immunisation.htm).

### **Healthcare worker immunisation (including laboratory staff)**

Healthcare workers may be exposed to, and transmit, vaccine-preventable diseases such as influenza. Maintaining immunity in the healthcare worker population helps prevent transmission of vaccine-preventable diseases to and from healthcare workers and patients.

Medical facilities are encouraged to formulate a comprehensive immunisation policy for all healthcare workers.

The Victorian Government also provides free influenza vaccine for healthcare workers in public hospitals.

Further information is available at <[www.health.vic.gov.au/immunisation/resources/health-care-workers-guide.htm](http://www.health.vic.gov.au/immunisation/resources/health-care-workers-guide.htm)>.

Local government should consider assisting community health workers to achieve high immunisation coverage.

### **Immunisation of people who work with pigs and poultry**

Influenza vaccination in this group aims to minimise the risk of virus reassortment and the potential generation of a pandemic virus.

Further information is available at  
<[www.betterhealth.vic.gov.au/bhcv2/bhcarticles.nsf/pages/flu\\_immunisation?open](http://www.betterhealth.vic.gov.au/bhcv2/bhcarticles.nsf/pages/flu_immunisation?open)>.

### **Immunisation for people who work with children**

People who work with children in early childhood education and care are at an increased risk of catching and passing on infectious diseases and are recommended to have seasonal influenza vaccination. Further information is available at

<[www.health.vic.gov.au/immunisation/factsheets/immunisation-for-people-who-work-with-children.htm](http://www.health.vic.gov.au/immunisation/factsheets/immunisation-for-people-who-work-with-children.htm)>.

Immunisation should be offered as part of a workplace prevention program that also includes encouraging staff to practise good hygiene, seek appropriate treatment and stay home when unwell.

### **Pneumococcal vaccine**

The emergence of antibiotic-resistant strains of *Streptococcus pneumoniae* and the difficulties in implementing a mass pneumococcal vaccination program amid an influenza pandemic, support the importance of high coverage with pneumococcal vaccine in the 'at-risk' population prior to a pandemic. Pneumococcal vaccination may reduce complications of secondary pneumococcal infection in cases of pandemic influenza.

Information on pneumococcal vaccination is available at  
<[www.health.vic.gov.au/immunisation/factsheets/pneumococcal.htm](http://www.health.vic.gov.au/immunisation/factsheets/pneumococcal.htm)>.

## Candidate pandemic vaccines

*Candidate pandemic vaccines* are based on a viral strain that is thought to have 'pandemic potential' – avian-origin H5, H7 and H9 viruses, and swine-origin H3N2 variant viruses are all presently considered strains of pandemic potential, against which vaccine seed strains have been developed.

The virus strain from which these types of vaccines are made is unlikely to be an exact match to the strain that eventually causes the pandemic. If these vaccines are used they may reduce the severity of illness in those who become infected, or prevent infection in some people, but not to the extent of a customised pandemic vaccine. They may also 'prime' the immune system – potentially shortening the amount of time it takes to mount an immune response to the customised vaccine, and possibly decreasing the number of doses of customised vaccine that are required.

## Customised pandemic vaccine

*Customised pandemic vaccine* is a specific vaccine against the pandemic virus based on the actual pandemic viral strain. As such, production of this vaccine can only begin once the actual virus has emerged. It is likely that customised pandemic vaccines will provide a significant level of protection against both infection and the development of severe illness. The exact level of protection and particular effectiveness of the vaccine in different groups (for example, the elderly, children and people with severe medical conditions) will not be known until the pandemic has begun and rapid studies are performed.

The public's perceived risk-benefit profile for vaccination is likely to be dynamic, becoming less favourable over the course of a pandemic response. For this reason, clear communication throughout the pandemic response is critical to ensure good uptake of the customised vaccine.

## Pandemic vaccination program

In response to a pandemic and on the availability of a suitable vaccine, the Australian Government will introduce a vaccination program in order to minimise the amount of influenza virus circulating in the community.

At the time of such a program, guidelines will be developed to provide useful information, forms, guidelines and tips to be used to implement such as program. One such example is the *Panvax<sup>®</sup> H1N1 vaccine – Guidelines for administration – December 2009*.

The purpose of such guidelines would be to assist immunisation providers in a range of settings to meet their professional responsibilities and community expectations for a quality program and safe service delivery.

Victoria has a wide range of immunisation providers, who may play an active role in the delivery of a pandemic vaccination program, be it mass vaccination or any other means

deemed suitable at the time.

### **Principles of a pandemic vaccination program**

The following areas will need to be detailed once a pandemic virus emerges:

- priority groups
- immunisation providers
- vaccine presentation and distribution
- cold chain storage
- valid consent
- pre-vaccination screening
- preparation of vaccine
- administration of vaccine
- immediate post-vaccination care
- recording and documentation
- adverse events following immunisation
- recognition and management of anaphylaxis
- reporting adverse events
- forms
  - vaccine order form
  - consent form
  - information sheet
  - anaphylaxis observation record.

## **Key actions by stage**

### **Preparedness**

- Encourage and deliver the National Immunisation Program (including seasonal influenza and pneumococcal program).
- Promote seasonal influenza vaccination to the community including workplaces.
- Educate vaccination service providers about influenza immunisation.
- Deliver vaccination services as appropriate.
- Report adverse events following immunisation to SAEFVIC (Surveillance of Adverse Events Following Vaccination in the Community) via <[www.saefvic.org.au](http://www.saefvic.org.au)>.

### **Standby**

Pandemic vaccination program

- Provide input into development of a pandemic-specific immunisation program.
- Receive and manage the distribution of vaccination equipment.
- Prepare to deliver a pandemic immunisation program.

**Initial/targeted action**

- Coordinate a pandemic immunisation program (if/when vaccine is available).

**Standdown**

- Return to preparedness activities.

## Appendix 4: Infection prevention and control measures

This appendix provides advice on a range of infection prevention and control measures that can be used during an influenza pandemic.

The aim of infection prevention and control measures during an influenza pandemic is to minimise the risk of exposure to the virus, thus reducing transmission, infection and illness. Infection prevention and control measures should be used in a range of settings (healthcare, residential facilities, schools and education and care services and households).

### Infection prevention and control in healthcare settings

Preventing transmission and infection during a pandemic will require a package of related measures:

- individual measures – hand hygiene, respiratory hygiene, cough etiquette and immunisation
- appropriate personal protective equipment (PPE)
- organisational and environmental measures – patient placement, flow and segregation, and cleaning.

The overall aim of these measures is to minimise the risk of exposure to the influenza virus, reducing transmission, infections and illness. All three components are essential.

The *Australian guidelines for the prevention and control of infection in healthcare* (NHMRC 2010), as the current evidence-based recommendations for infection prevention and control practices in healthcare settings in Australia, provides the basis for pandemic influenza advice.

#### Individual measures

The use of individual measures (hand hygiene, respiratory hygiene, cough etiquette and immunisation) is encouraged at all stages of an influenza pandemic and during the influenza season in a range of settings.

Further information on these measures is available at <[www.health.vic.gov.au/influenza](http://www.health.vic.gov.au/influenza)>.

#### Personal protective equipment

The use of appropriate PPE is recommended in all healthcare settings, including primary care and health services, and when advised by the Chief Health Officer for border health agencies.

Where the use of appropriate PPE is recommended the equipment must be suitable and maintained. Appropriate training must be provided to the individual using the PPE at a time prior to a pandemic to ensure they become competent and proficient in its use.

PPE should be used in healthcare settings according to a risk assessment that considers the ways that the influenza is being transmitted; that is, contact and droplet precautions should be



implemented and airborne precautions in some instances. Details on specific PPE policy will be communicated as required.

Health services and primary care should have a stockpile of PPE (four weeks' supply is recommended).

The decision to deploy PPE from the Victorian medical stockpile to healthcare and other settings will be taken by the Chief Health Officer.

## **Organisational and environmental measures**

Patient placement, flow and segregation are essential factors for healthcare services, general practice and other healthcare settings where patients with influenza may be encountered.

Early triaging and patient management can reduce the risk of transmission from patients with influenza. Identifying patients with suspected influenza (such as by telephone triage or self-identification), placing a surgical mask on them, and separating them quickly is important in reducing the spread.

Systems can separate patients with suspected and confirmed influenza throughout their interaction with healthcare. Designating separate sites, such as influenza clinics, to direct people with possible influenza is one method. Within settings, patient isolation and cohorting, is used to protect non-influenza patients from influenza patients. Separate staffing arrangements for influenza and non-influenza patients may also assist in protecting patients, as well as staff members at particular risk of influenza complications.

Encourage staff vaccination when a customised pandemic vaccine becomes available.

The following table is a summary of the package of infection prevention and control measures in healthcare settings for pandemic influenza (Australian Government Department of Health 2014).

**Table 6: Package of infection prevention and control measures in healthcare settings for pandemic influenza**

Preparedness and standby stages will be the same as initial response

Strategies		Initial response	Targeted response		
			Low severity	Moderate severity	High severity
Individual measures	Hand hygiene Respiratory hygiene and cough etiquette	Standard precautions	Standard precautions	Standard precautions	Standard precautions
Organisational measures 1. Patient placement, flow and segregation	Early and timely identification, triage and separation of potential cases	Patients self-identify, timely triage and separation of potential cases	Patients self-identify	Patients self-identify prior to (telephone triage) or on presentation	Patients self-identify prior to presentation (telephone triage) – and are directed to specific/separate sites
	Single-use face masks for patients with influenza-like illness	Yes	Yes	Yes	Yes
	Reduce mixing of non-influenza, possible and influenza patients	Isolation <sup>2</sup> of suspected/confirmed patients	Isolate/cohorting of suspected/confirmed patients	Consider clinical care models: <ul style="list-style-type: none"> <li>dedicated influenza clinics</li> <li>dedicated influenza (and non-influenza) GP clinics</li> <li>specific parts of a hospital</li> </ul> Isolate/segregate patients	Influenza clinics or hospitals at separate sites Isolate/segregate patients in the practice or ward
2. Staff management, resourcing	Stay home if sick	Yes	Yes	Yes	Yes
	Conduct risk assessment for vulnerable staff	Vulnerable staff – avoid influenza patients, ensure appropriate PPE	Vulnerable staff – avoid influenza patients, ensure appropriate PPE	Vulnerable staff – isolate from settings where risk of influenza exposure	Vulnerable staff – isolate from settings where risk of influenza exposure
	Separate influenza and non-influenza staff	If possible or required	If possible or required	Cohort staff	Cohort staff
PPE		Contact and droplet precautions plus eye protection <sup>3</sup> Airborne precautions for aerosol-generating procedures <sup>4</sup>	Contact and droplet precautions plus eye protection <sup>3</sup> Airborne precautions for aerosol-generating procedures	Contact and droplet precautions plus eye protection <sup>3</sup> Airborne precautions for aerosol-generating procedures	Contact and droplet precautions plus eye protection <sup>3</sup> Airborne precautions for aerosol-generating procedures <sup>4</sup>
Environmental measures	Environmental cleaning	Standard precautions	Standard precautions	Standard precautions	Standard precautions
	Open environment– outside clinics, verandahs, open doors/windows	Consider	Consider	Where possible	Where possible

<sup>2</sup> Where possible/available use negative pressure rooms<sup>3</sup> Gowns, gloves, mask.<sup>4</sup> There is a small possibility that where growing evidence shows the virus to be causing severe infection risks, the use of airborne precautions may need to be re-examined.

## Appendix 5: Quarantine and isolation – community settings and at the border

**Under the Public Health and Wellbeing Act 2008** and **Public Health and Wellbeing Regulations 2009**, which aim to protect the health and wellbeing of the population and establish provisions for managing infectious diseases, the Chief Health Officer has the powers to investigate, eliminate or reduce public health risks. The aim of isolation and quarantine in an influenza pandemic is to decrease community transmission by reducing contact between infectious cases and uninfected persons.

**Isolation** is the separation of infected persons (cases) from other people for the period they are likely to be infectious, in order to prevent or limit the direct or indirect transmission of the virus.

**Quarantine** is the limitation of freedom of movement for a period of time for well persons who are likely to have been exposed to the virus (contact) to prevent their contact with people who have not been exposed.

### Quarantine and isolation – community settings

Isolation in the community in preparedness, initial and targeted response stages should be voluntary and home-based.

In the targeted response stage the benefits of isolation will be reassessed on the evidence available at the time on the transmissibility of the virus and the severity of the illness. In this case the practicalities of supporting individuals and households who are isolated may outweigh the benefit of isolating them.

Factors that should be considered in recommending isolation and quarantine include:

- the stage of the pandemic
- the epidemiology of the illness (transmission and severity) and virology (antiviral resistance)
- the effectiveness of the measure
- practicalities such as public acceptability, appropriate venues and support for isolated households, including any social, financial or economic impacts.

A summary of isolation and quarantine (voluntary) in community settings for an influenza pandemic is found in the table below. Further details can be found in the *Australian health management plan for pandemic influenza* (AHMPPI).

**Table 7: Isolation and quarantine (voluntary) in community settings for an influenza pandemic**

Population group	Initial response	Targeted response			Duration
		Low severity	Moderate severity	High severity	
Case*	Yes	Possible (compliance likely to be low)	Yes	Yes	Antiviral treatment – isolate for two days post starting treatment No antiviral treatment – five days post onset of symptoms
Close contacts^ – household members, HCW contacts#	Yes	No/unlikely (compliance likely to be low)		Quarantine may be considered if consequences of infection are high	Antiviral PEP – quarantine for one day post starting treatment No antiviral PEP – seven days post last exposure to infectious case

\* Case as defined by CDNA by pandemic response stage. For initial response all confirmed, probable and suspect cases should be included. Advice may change as the pandemic progresses.

^ Other settings such as schools may be considered in certain circumstances.

# Close contact for HCW – exposed to infectious case within one metre for > 15 minutes without a mask (as per Influenza Infection: CDNA *National guidelines for public health units* (July 2011)).

Contact quarantine for a 'moderate' severity pandemic will sit between recommendations for a low and high severity pandemic. Factors that will influence when high-severity recommendations are included are surveillance information (for example, proportion of asymptomatic cases, transmissibility), early information on effectiveness, capacity and resources to deliver and support.

## Quarantine and isolation – border measures

Border measures include a range of measures that can be taken at airports and seaports to delay the entry or minimise the spread of illness to or from affected countries (or jurisdictions).

Australia's border measures will therefore aim to minimise transmission of the disease into the Australian community.

Public health measures related to communicable diseases of concern are in place at Australia's borders every day. In circumstances where a new or changing public health risk arises, such as an influenza pandemic, a range of options exist to strengthen these measures. The potential public health benefit of these options depends on the characteristics of the virus and disease, the behaviour and extent of spread internationally, and practicalities of implementation.

In selecting the most appropriate border measures for use during an influenza pandemic, it is important to have an understanding of the full suite of public health actions being used to reduce the spread of the disease across the Australian community. In Australia there is a comprehensive and well-resourced public health system that is able to detect and manage those with the disease and their contacts at multiple points in the healthcare system. Border measures will be selected to complement this public health response in the most efficient and effective way to ensure that the public health action is maximised.

*Border measures fall into the two main categories of communications and case identification (identifying and managing cases at the border).*

A summary of case and contact management, including isolation and quarantine (voluntary), at the border for an influenza pandemic is found in the table below. Further details can be found in the AHMPPI.

**Table 8: Case and contact management, including isolation and quarantine (voluntary), at the border for an influenza pandemic**


Population group	Initial response	Targeted response		
		Low severity	Moderate severity	High severity
Case <sup>*</sup>	No isolation Reduce risk of transmission <sup>^</sup> <ul style="list-style-type: none"> <li>• provide single-use mask</li> <li>• refer for medical assessment on leaving airport</li> <li>• provide information</li> </ul>	No isolation No routine measures to reduce risk of transmission		No isolation Reduce risk of transmission <sup>^</sup> <ul style="list-style-type: none"> <li>• provide single-use face mask</li> <li>• refer for medical assessment on leaving airport</li> <li>• provide information</li> </ul>
Close contacts – airplane co-travellers <sup>#</sup>	No quarantine Contact identification and management <sup>§</sup> <ul style="list-style-type: none"> <li>• provision of antivirals</li> </ul>	No quarantine No routine measures to identify and manage contacts		No quarantine Contact identification and management <sup>§</sup> <ul style="list-style-type: none"> <li>• provision of antivirals</li> </ul>

<sup>\*</sup> Case as defined by CDNA by pandemic response stage. For initial response all confirmed, probable and suspect cases should be included. Advice may change as the pandemic progresses.

<sup>^</sup> Activities to reduce risk of transmission may be considered in some circumstances, for example, when information suggests a high-severity illness.

<sup>#</sup> Passengers in same row as or within two rows of a case.

<sup>§</sup> Contact identification and management may be considered in some circumstances, for example, when information suggests a high-severity and low-transmissibility virus.

 Case and contact management for a 'moderate' severity pandemic will sit between recommendations for a low and high severity pandemic. Factors that will influence when high-severity recommendations are included are surveillance information, early information on effectiveness, capacity and resources to delivery and support.

## Appendix 6: Primary healthcare

An influenza pandemic impacts on primary healthcare in several ways. These include, but are not limited to, increased demand, deaths, staff absenteeism, increasing numbers of complex cases requiring isolation, and the need for respiratory samples. Other measures, such as quarantine of household contacts, may increase the number of staff absences during a pandemic.

Primary healthcare, including general practice, community pharmacy, community nursing, ambulance services, community health services and telehealth services (NURSE-ON-CALL and GP Helpline) will form part of the front line of Victoria's response for human pandemic influenza. Primary healthcare plays an important role in minimising the spread of pandemic influenza and treatment of people in a community setting.

This appendix provides guidance for the measures that should be taken at every stage of a pandemic. It contains information and concepts that are specific for planning and preparedness at a local level and should be considered together with existing emergency plans.

During a pandemic, the Chief Health Officer, acting in the capacity of the Victorian State Controller, will provide advice on when to implement the measures described through the *Whole-of-Victorian-Government communication strategy*.

### General practice

#### Service provision

General practice plays an integral role in providing essential health services and supporting public health goals in disease control. In a pandemic the community will turn to general practice and, depending on the stage of the pandemic, the department will direct them to general practice if symptomatic (RACGP 2014).

#### Service coordination

**Medicare Locals** (MLs) are primary health networks established to coordinate primary healthcare delivery by linking up services and addressing local healthcare needs and service gaps.

**Networking Health Victoria** (NHV) supports MLs to work with the department to meet the health needs of the broader Victorian community. NHV would be a communication point for MLs in the coordination of information, updates and supplies distribution for MLs to assist general practice and other primary healthcare settings as needed.

MLs should have their own plans that reflect state and national plans. They should engage in planning with all primary care providers and interact with all relevant stakeholders (local government areas, hospitals, etc.) They should be the conduit of information from the department to primary care before during and after a pandemic and could assist in the coordination and distribution of supplies (PPE/antivirals/vaccines) if required.

It is planned for July 2015 that primary health networks will be established and cover former ML areas.

The **Royal Australian College of General Practitioners** (RACGP) is Australia's largest professional general practice organisation and represents urban and rural general practitioners. It represents in excess of 27,500 members including more than 22,000 GPs.

The RACGP is committed to supporting GPs and practice teams in delivering quality healthcare.

The RACGP developed the the *Pandemic flu kit* (PFK), which is a set of documents to help general practices prepare for and manage an outbreak of pandemic influenza. It was first published in 2008 and revised in 2009. This second edition of the PFK has been designed as an appendix to the *Managing emergencies and pandemics in general practice: a guide for preparation, response and recovery* ('emergency guide') resource and includes the following documents:

- *Managing pandemic influenza in general practice: a guide for preparation, response and recovery* ('pandemic influenza guide')
- implementation guide
- PFK.

The PFK is available at <[www.racgp.org.au/your-practice/business/tools/disaster/pandemics](http://www.racgp.org.au/your-practice/business/tools/disaster/pandemics)>.

RACGP is a communication point for GPs and practice staff. RACGP provides quality and timely health information via its website and through health alerts.

## Community pharmacy

### Service provision

Community pharmacies are often the first port of call for many people and are a recognised source of health information; they will have a significant responsibility in the event of an influenza pandemic to provide accurate advice and information to the public. They also play a role in early detection and referral when necessary. They may also provide access to antiviral medications to the community and provide access to relevant products/services.

### Service coordination

In an influenza pandemic the Pharmacy Guild of Australia (Victoria Branch) and the Victorian Pharmaceutical Society will provide a leadership role to the profession; they will also act as a conduit for information between pharmacists and government.

## Community nursing

Community nursing agencies, including the Royal District Nursing Service (RDNS) and bush nursing centres, will be important components of the primary healthcare response. Existing clients may require additional care and new clients may be referred from hospitals and general practice.

## Ambulance Services – Ambulance Victoria

In Victoria emergency ambulance services are provided exclusively by Ambulance Victoria (AV).

AV provides pre-hospital care for patients experiencing medical emergencies, and medical transport by road and air to ensure both emergency and non-emergency patients access the appropriate level of healthcare.

Specific ambulance operational arrangements are detailed in the AV *Emergency response plan*, which describes its implementation of the *State health emergency response plan* (SHERP). There is also a bio-event subplan that details AV actions during a declared biological event. Those actions fall into three broad categories:

- demand management
- staff protection
- business continuity.

Existing strategies for clinical intervention may be adjusted based on the epidemiology of the virus. Service-wide decisions will incorporate a strong emphasis on reducing further transmission of pandemic influenza and protecting the available ambulance workforce.

## Community health services

A significant component of state-funded primary healthcare is provided by community health services. Community health services (CHS) are agencies that receive Community Health Program funding from the Department of Health.

CHS sit alongside general practice, privately funded services and other health and support services to make up the primary health sector in Victoria. Primary healthcare predominantly refers to dental, allied health, counselling, nursing services and health promotion.

CHS are a platform for the delivery of comprehensive primary healthcare. They operate from a social model of health and acknowledge the social, environmental and economic factors that affect health, as well as the biological and medical factors.

CHS are active participants in and contributors to their local communities. This strong community connection enables CHS to develop flexible models of care that are responsive to their local communities and reflect actions to address the determinants of health.

## Stockpiles for personal protective equipment

It is vital that all primary care providers have sourced their own adequate supplies of PPE to be able to safely operate during the initial stages of the pandemic (four weeks' supply is recommended). The National Medical Stockpile and the Victorian Medical Stockpile have a range of PPE stored for emergency use. Some primary care providers may be provided with PPE during an influenza pandemic. This will be decided at the time of a pandemic and be directed by the Chief Health Officer.

**Further details about PPE is described in Appendix 4: Infection prevention and control measures.**



## Actions by stage

### Preparedness (all – where applicable)

Develop an (or update an existing) influenza pandemic plan that considers the ability to deliver essential services in the face of a potential increase in demand for healthcare advice and treatment, with a corresponding loss of resources. Incorporated into this planning should be a focus on the health and safety of people. Where applicable:

- The plan may include how the organisation will coordinate any necessary actions (including business continuity planning and surge planning) and should be led by a member of the management team, director or owner as the appointed pandemic coordinator. This will allow for timely and appropriate plans to be developed and for staff training and protocols to be reviewed.
- Ensure the plan considers all components of preventing and managing a pandemic, including the impact on staff (clinical and non-clinical), appointments, schedules, patients/clients, essential supplies and education and management of infection prevention and control (such as how to isolate suspected patients in the waiting areas).
- Ensure access to Chief Health Officer alerts and advice and guidelines/protocols from the Department of Health. These are available at [www.health.vic.gov.au/chiefhealthofficer/alerts](http://www.health.vic.gov.au/chiefhealthofficer/alerts).
- Identify an infection prevention and control coordinator (if applicable).
- Promote influenza prevention activities such as
  - seasonal influenza vaccination for all staff
  - seasonal influenza and pneumococcal vaccination for high-risk patients/clients
  - ongoing education to all staff on infection prevention and control measures for influenza based on the *Australian guidelines for the prevention and control of infections in healthcare* (NHMRC 2010)
  - staying away from work or public gatherings if symptomatic to minimise the risk of infecting others
  - seeking medical advice if symptoms continue or get worse.
- Review stocks of adequate PPE and other supplies and equipment and ensure arrangements are in place to increase capacity. Ensure staff understand and are trained in its use.
- Participate in seasonal influenza surveillance systems if relevant.

### General practice specific

- The Department of Health will liaise with GP peak bodies on pandemic preparedness.
- Notify all cases of influenza (laboratory confirmed) to the department's Communicable Disease Prevention and Control section within five days. Notification requirements are detailed at <http://ideas.health.vic.gov.au/notifying.asp>.

**Community pharmacy specific**

Provide a health promotion/communication role for their communities including:

- education on influenza transmission risks
- information on vaccines and antivirals.

Role of pharmacy bodies:

- The Department of Health will liaise with pharmacy bodies (Pharmacy Guild of Australia (Victoria Branch) and the Victorian Pharmaceutical Society) on pandemic preparedness.

**Community nursing specific**

- Undertake pandemic planning including planning for response activities such as a central call point for staff and clients, developing a triage checklist and creating reporting mechanisms to collect client data.

**NURSE-ON-CALL**

- Maintain liaison with the department.

**Standby (all)**

The standby stage is characterised by activities and key messages that focus on commencing arrangements in preparation for an impending influenza pandemic and increased vigilance for case detection. Where applicable:

- Activate pandemic plans.
- Ensure access to Chief Health Officer alerts, which will provide up-to-date information in relation to circulating novel pandemic influenza strains, case/contact definitions, use of antivirals and laboratory tests.
- Ensure staff have knowledge of PPE and its use. Provide training if required and maintain adequate levels of stock. Where appropriate, PPE should be available at each site providing direct patient/client care.
- Communicate with staff on matters relating to workplace policies and arrangements that are likely to be affected or altered in the event of a pandemic, such as compulsory exclusion due to influenza like illness,<sup>5</sup> cancellation of personal leave, increased overtime, and use of sick and carer's leave.
- Continue to participate in surveillance activity within the organisation and ensure correct data collection processes are in place.
- Continue to promote influenza prevention activities and provide ongoing education to all staff on infection prevention and control measures for influenza based on the *Australian guidelines for the prevention and control of infections in healthcare* (NHMRC 2010).

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<sup>5</sup> Influenza-like illness (ILI) is defined as fever (> 38°), cough and fatigue/malaise (CDNA 2011)

- Consider influenza streams or clinics in community-based organisations if appropriate.

## **NURSE-ON-CALL**

- Maintain liaison with the department.

## **General practice specific**

- Ensure suspected cases of pandemic influenza are notified to the department's Communicable Disease Prevention and Control section on 1300 651 160.

## **Initial response (all)**

The initial response stage is characterised by activities that focus on minimising transmission, morbidity and mortality with limited information. Where applicable:

- Continue to implement pandemic plans.
- Ensure access to Chief Health Officer alerts, which will provide up-to-date information in relation to pandemic influenza case/contact definitions, use of antivirals and laboratory tests.
- Continue to implement enhanced triaging of patients/clients such as segregation, cohorting and use of appropriate PPE.
- All health service sites and cars should carry adequate amounts of PPE (for the number of patients they expect to see and which is accessed from their organisation's stockpile), which should be maintained and restocked regularly.
- Reduce transmission of influenza within primary health services by reducing non-urgent care patients/clients (consider home visits and phone consultations if appropriate).
- Suspected and confirmed mild cases should be advised to isolate themselves at home.
- Liaise with local health services.
- Liaise with local municipal organisations (as per routine community support arrangements) for community support services for isolated cases.
- Provide antivirals as directed by the Chief Health Officer (**further information about antivirals is provided in Appendix 2: Antivirals**).
- Provide patients with information on community support and other community-based provision available from the Department of Human Services.
- Implement changes to staffing levels as appropriate in response to increased demands.

## **Community pharmacy specific**

- Using information provided in Chief Health Officer alerts:
  - provide up-to-date information on the pandemic
  - provide information on ways to avoid transmission of the virus including influenza prevention activities.
- Manage possible cases who present to pharmacy by:

- referring for assessment to the local hospital or health service or general practice, and managing consumer flow, as appropriate with prior warning to allow for use of personal protective equipment
- providing extra supplies of medicines to institutions such as nursing homes via Webster packs
- considering increasing stock holding of analgesics and antibiotics in case of supply chain issues
- anticipating demand for influenza-related items (such as thermometers), respiratory medications and other essential medications.

### **Role of pharmacy bodies**

- Pharmacy Guild of Australia (Victoria Branch) and the Victorian Pharmaceutical Society will provide a leadership role to the profession.
- These will act as a conduit for information to, and from, pharmacists and government.
- Organise and support a committee of regional facilitators to ensure continuity of supply of essential medicines.
- Engage with wholesalers to help support continuity in the supply chain.
- Promote the development of an emergency management plan, which includes influenza pandemic preparedness.

### **Community nursing specific**

- Discuss liaison role with health services.
- Provide clients with access to community information released by the department and intended for staff.
- Request additional resources through the department.
- Carry a personal protective equipment car kit in all cars and restock daily. Discuss health services requirements and coordination of referrals (in order of priority) for admission to community nurse agencies, such as the Royal District Nursing Service, through a central point.

### **NURSE-ON-CALL specific**

- Institute the NURSE-ON-CALL *Health emergency response plan*.
- Make a referral for assessment to the local health service or to general practice as appropriate.
- Provide information on ways to avoid transmission of the virus such as personal hygiene and respiratory hygiene including via recorded voice announcements.
- Provide information and support on self-management to callers who can self-care.

### **General practice specific**

- Notify all suspected cases to the department's, Communicable Disease Prevention and Control section on 1300 651 160.

### **Targeted response (all)**

The targeted response stage is characterised by activities that focus on minimising transmission, morbidity and mortality in the wake of enhanced understanding of the spread of the novel influenza virus, its mode of transmission, its infectiousness, its severity and optimal treatment regimens. Demand for urgent clinical services, combined with staff absenteeism, is likely to be high. Where applicable:

- Continue to implement pandemic plans in line with the up-to-date advice provided through Chief Health Officer alerts.
- Consider activities that were delayed in the previous stage (which were considered non-urgent care) using a risk assessment of the impact on health services and patient wellbeing.
- Continue to triage and cohort suspected cases.

### **Community pharmacy specific**

Continue activities in targeted response.

### **Community nursing specific**

Continue activities in targeted response with the addition of:

- Prioritise current clients to those who could be discharged if required to create capacity.

### **NURSE-ON-CALL specific**

- Liaise with the department.
- Reassess the NURSE-ON-CALL *Health emergency response plan* level of activation.
- Consider establishing an additional health call centre to complement NURSE-ON-CALL by taking calls directly related to the pandemic.

### **General practice specific**

- Notify all suspected cases to the department's Communicable Disease Prevention and Control section on 1300 651 160.
- Increase liaison with local municipal organisations and ensure voluntary isolation of cases with influenza.
- Establishing influenza clinics within primary healthcare may reduce the number of mild cases of pandemic influenza strain illness in health services.

### **Standdown (all)**

The focus of activities within this stage is regaining normal activities and services. Where applicable:

- Prepare for the likelihood of further waves of the pandemic.

- Undertake operational debriefs and update pandemic influenza plans to reflect any lessons learnt.
- Take stock of PPE and replenish supplies for normal healthcare purposes.
- Ensure appropriate support services are offered to staff and patients/clients.

### **Dental practice settings**

Infection prevention and control is the same as for other medical settings. During all stages of a pandemic, it is recommended that suspected and confirmed pandemic influenza patients should not undergo elective consultation and dental procedures during the infectious and symptomatic period. Contacts should not undergo elective consultation and dental procedures until the incubation period has passed. If urgent surgery is required, strict adherence to infection prevention and control procedures, including the appropriate use of PPE, is recommended.

## Appendix 7: Health services

The term *health service* includes all public sector health services, bush hospitals and private hospitals.

An influenza pandemic impacts on health services in several ways. These include, but are not limited to, increased demand, admissions, deaths, staff absenteeism, increasing numbers of complex cases requiring isolation, some of whom will require intubation and respiratory management including the use of nebulisers and suction, and the need for respiratory samples. Other measures, such as quarantine of household contacts, may increase the number of staff absences during a pandemic.

This appendix provides health services with guidance for the measures that should be taken at every stage of a pandemic. It contains information and concepts that are specific for planning at a local level. During a pandemic, the department's two key responsibilities are to:

- act as the Control Agency as specified in the *Emergency management manual Victoria* (the Chief Health Officer, as State Controller, has overall responsibility for managing the pandemic)
- coordinate the health response to emergency incidents that go beyond day-to-day business arrangements. The *State health emergency response plan* (SHERP) describes the arrangements for this second responsibility (available from <[www.health.vic.gov.au/sherp](http://www.health.vic.gov.au/sherp)>).

This guide should be considered together with health service planning for mass casualties, surge capacity and business continuity.

### Pandemic presentation to health services

Patients with suspected pandemic influenza may present at any health service during any stage of a pandemic. In the preparedness stage triage plans for suspected/confirmed patients may be implemented. However, in the response stages the process for separating, triaging and admitting suspected/confirmed patients will have to be implemented. Hospitals and health services may consider establishing influenza wards or influenza clinics as patient numbers increase.

### Health command and coordination

The impact of the pandemic on health services at a state level will be monitored through the State Health Coordinator, a function of the State Health Incident Management Team.

### Communications to health services during a pandemic

Information on the clinical case definition, contact definition, infectious period, incubation period, treatment and laboratory testing will be contained in Chief Health Officer alerts and communicated by the Department of Health. For more information visit <[www.health.vic.gov.au/chiefhealthofficer/alerts](http://www.health.vic.gov.au/chiefhealthofficer/alerts)>.

### Infection prevention and control in health services

Preventing transmission and infection during a pandemic will require a package of related measures:

- individual measures – hand hygiene, respiratory hygiene and cough etiquette
- appropriate personal protective equipment (PPE)

- organisational and environmental measures – patient placement, flow and segregation, and cleaning.

**Further information on these infection prevention and control measures is available in Appendix 4: Infection prevention and control measures.**

## Key actions by stage

### Preparedness

The preparedness stage is characterised by activities that focus on readiness to respond to an influenza pandemic in the near future. Business continuity and surge capacity plans should be developed or updated with the view to be able to deliver essential services in the face of a potentially massive increase in demand with a corresponding loss of resources. Incorporated into this planning should be a focus on the health and safety of staff. Health services should:

- Review business continuity and surge capacity plans. Consider the impact of illness among staff on meeting increased demand for services. Consider the need for increased acute care and which elective procedures and services may need to be restricted or cancelled to maintain essential services.
- Conduct exercises to test pandemic preparedness including business continuity and surge capacity plans. Make provision for alterations to workforce arrangements.
- Promote prevention measures to staff
  - Promote and attain a high level of coverage of seasonal influenza immunisation among staff.
  - Promote infection prevention and control protocols based on the *Australian guidelines for the prevention of infection in healthcare* (NHMRC 2010)  
<<http://www.nhmrc.gov.au/guidelines/publications/cd33>>
- Promote seasonal vaccination of 'at-risk' patients.
- Review stocks of PPE and have arrangements in place to increase capacity. Ensure staff understand the purpose of PPE and are trained in its use, which may include providing opportunities to practise and become accustomed to using enhanced PPE measures prior to a pandemic being declared.
- Establish formal relationships and communication channels with infectious disease clinicians in healthcare groups.
- Notify all cases of influenza (laboratory confirmed) to the department's Communicable Disease Prevention and Control section on 1300 651 160.
- Ensure access to Chief Health Officer alerts for all staff.

### Standby

The standby stage is characterised by activities that focus on commencing preparation for an impending pandemic and increased vigilance for case detection. Relevant staff should be made aware of the



changing global and local influenza situation, and be aware of the impact that a pandemic will have on them in the workforce. Health services should do the following:

- Participate in enhanced influenza reporting and surveillance activity.
- Communicate with staff on matters relating to workplace policies and arrangements that are likely to be affected or altered in the event of a pandemic, such as compulsory exclusion due to influenza-like illness,<sup>6</sup> cancellation of personal leave, increased overtime, and use of sick and carer's leave.
- Monitor and maintain stocks of antivirals, antibiotics and PPE within the hospital
- Ensure that staff with direct patient contact are appropriately trained to use PPE (especially staff performing intubation and other 'high-risk' activities).
- Ensure that arrangements have been made to protect staff at 'high risk' of complications from influenza.
- Ensure that triage plans including influenza streams in emergency departments are in place and that staff are issued with up-to-date case definitions.
- Manage suspected cases by implementing advice in Chief Health Officer alerts.
- Report all suspected cases to the department's Communicable Disease Prevention and Control section on 1300 651 160.

## Initial response

The initial response stage is characterised by activities that focus on minimising transmission, morbidity and mortality given limited information on the novel influenza virus. Health services will need to do the following:

- Participate in enhanced influenza reporting and surveillance activity.
- Implement emergency plans for an influenza pandemic, mass casualties, business continuity and surge capacity. Begin to consider reductions in elective procedures, particularly those who present a higher risk of needing post-surgical intensive or high-dependency care.
- The Department of Health will provide advice on antiviral distribution for cases and post-exposure prophylaxis for contacts. In most cases, in the initial response stage, exposed healthcare workers will be provided with post-exposure prophylaxis (see **Appendix 2: Antivirals**).
- Ensure staff members correctly use appropriate PPE (see **Appendix 4: Infection prevention and control measures**).
- Manage suspected cases by following the advice in Chief Health Officer alerts. Notify cases to the department's Communicable Disease Prevention and Control section on 1300 651 160 as per surveillance instructions.

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<sup>6</sup> Influenza-like illness (ILI) is defined as fever (> 38°), cough and fatigue/malaise (CDNA 2011)

- Prepare for negative pressure isolation rooms to be overwhelmed. If necessary, implement additional measures such as influenza wards, streams and clinics where appropriate.
- Consider discharging patients with mild presentations of pandemic influenza to isolation at home.
- Designated influenza hospitals may be nominated by the department if appropriate.
- Restrict visitors and staff members with influenza-like illness.
- Report to the State Health Coordinator as required.
- Strengthen cross-referrals for healthcare and community support

## Targeted response

The targeted response stage is characterised by activities that focus on minimising transmission, morbidity and mortality with enhanced understanding of the novel influenza virus. Demand for acute clinical services, combined with staff absenteeism, is likely to be high. Health services will need to do the following:

- Participate in necessary enhanced influenza reporting and surveillance activity.
- Implement emergency plans for influenza pandemic, mass casualties, business continuity and surge capacity. Adapt and review if necessary. Minimise elective procedures, particularly for those who present a higher risk of needing post-surgical intensive or high-dependency care.
- Manage suspected cases by following the advice in Chief Health Officer alerts. Notify all cases to the department's Communicable Disease Prevention and Control section on 1300 651 160 as per surveillance instructions.
- Distribute antivirals to staff members according to advice in Chief Health Officer alerts (see **Appendix 2: Antivirals**).
- Ensure staff members use appropriate PPE (see **Appendix 4: Infection prevention and control measures**).
- In-house pharmacies should monitor internal stocks of antivirals, antibiotics and PPE and replace as necessary.
- If negative pressure isolation rooms are overwhelmed implement additional measures such as influenza wards, streams and clinics where appropriate.
- Discharge patients with mild presentations of pandemic influenza to isolation at home. Liaise with local government to provide community care if required.
- Implement plans to support an increase in demand for intensive care unit beds and associated services.
- Implement designated influenza hospitals at the direction of the department if requested.
- Restrict visitors and staff members with influenza-like illness.
- Report to the State Health Coordinator as required.

## **Standdown**

Vigilance must still be maintained to detect a possible subsequent wave of pandemic influenza. The standdown stage is characterised by returning to business as usual activities practised in a typical seasonal influenza period. Time should be dedicated to examining and reviewing the pandemic response through debriefs; plans and protocols should be updated to reflect any lessons learnt. Health services will need to replenish and maintain essential stocks of PPE, antivirals and antibiotics.

## Appendix 8: Communication

This appendix details the Department of Health's use of communication strategies as the lead agency in an influenza pandemic.

Communication strategies are an essential component of managing any infectious disease outbreak and are essential in the event of a pandemic. Effective communication during the various stages of a pandemic is vital to help: minimise transmission; manage cases of human infection; provide continuity of government and essential services and communication; and provide community support and recovery.

The Department of Health has developed a whole-of-Victorian-Government communication strategy that maximises stakeholder engagement and use of existing networks. It will be supported by departmental and agency plans to target a distinct but diverse group of key influencers who will channel the appropriate messages and planning actions through to their respective sectors. These key influencers include government departments, the health sector, local government, emergency services, infrastructure services, community services and business associations. This plan also recognises and supports the work of the Australian Government Department of Health in managing communications at a national level.

### Communication objectives

The communication objectives during an influenza pandemic are to support and guide state-level communications for the whole of government in Victoria, and to engage all Victorians in preparing for, and responding to, a human influenza pandemic, by:

- alerting and mobilising key influencers across Victoria to prepare for a possible human influenza pandemic
- informing Victorians that the Victorian Government is leading the preparations for an influenza pandemic in this state
- encouraging all Victorians to undertake their own proactive protective measures to minimise disease transmission, and help build a more resilient community
- providing timely, accurate and accessible 'whole-of-government' information to all Victorians about
  - the risks related to an influenza pandemic
  - the current stage of the pandemic
  - the measures required and underway to protect individuals and those in their care
  - the measures undertaken to protect the Victorian public
  - the services available to support those diagnosed with influenza.

The strategy outlines approval processes and the numerous channels available to government to disseminate accurate information in a timely manner. Spokespeople are identified and relationships with numerous stakeholders are clearly articulated.

Key messages and dissemination methods have also been addressed and include the addition of

social media, which wasn't available during the last pandemic.

The whole-of-Victorian-Government communication strategy is available online at

<<http://www.health.vic.gov.au/pandemicinfluenza>>

The Department of Health's pandemic webpage at <[www.health.vic.gov.au/pandemicinfluenza](http://www.health.vic.gov.au/pandemicinfluenza)>

contains information on seasonal and pandemic influenza for health professionals, business and the community.

The Australian Government's communication strategy is contained within the Australian Health management plan for pandemic influenza available at

<<http://www.health.gov.au/internet/main/publishing.nsf/Content/ohp-ahmppi.htm>>

## Key actions by stage

### Preparedness

- Ensure communications strategies are up to date and stakeholders are fully briefed.
- Ensure all communication templates, tools and information required to support a pandemic are up to date and available on the department's website at  
<[www.health.vic.gov.au/pandemicinfluenza](http://www.health.vic.gov.au/pandemicinfluenza)>.

### Standby

- Activate the whole-of-Victorian-Government communication strategy, health communication strategy and internal health communication strategy.
- Update collateral relating to the standby phase with key messages including:
  - the current situation – what we know, what we don't know, what we're doing and what you can do
  - what is influenza – describe disease, transmission/prevention and treatment; a definition of pandemic
  - describe Victoria's planned response, where to go for help and information and who are considered 'at-risk' groups
  - that healthcare professionals and laboratories must notify the department of suspected cases of pandemic influenza immediately.
- Liaise with the Australian Government Department of Health regarding media engagement.

### Initial response

- Activate media plan, update and disseminate key messages including:
  - Pandemic influenza has arrived in Australia. The severity and transmission is unknown. The focus is on limiting spread.
- **Add new key messages when influenza is detected in Victoria.**
- Introduce tagline (for example: Pandemic influenza is in Victoria. Protect yourself and those in your care.
- Promote workplace toolkit and containment measures.

## Targeted response

- Messaging focuses on:
  - protecting vulnerable people and those who care for them
  - information about influenza services
  - availability and access to antivirals including the need to prioritise and possibly quarantine 'at-risk' groups
  - personal containment (quarantine or home isolation) and community containment (social distancing)
  - reporting numbers of new cases and cases to date, hospitalisations and deaths, clusters in large institutions.
- Promote workplace measures – presenteeism, absenteeism, business continuity.
- Sustain the response while waiting for a vaccine.
- A vaccine is available.

## Standdown

- The pandemic is under control but remain vigilant while bringing a 'return to normal' situation.
- Remain alert for the next pandemic waves.
- Return to seasonal influenza arrangements.
- Commence a formal evaluation of communication strategies.

## Appendix 9: Surveillance

The *Surveillance plan for pandemic influenza*, detailed in this appendix, is intended to guide surveillance activities in the event of a pandemic to ensure the collection of useful, consistent and high-quality data across Victoria to enable informed decision making by public health officials.

This is an evolving document that will be updated over time based on changes to existing surveillance systems and, in some cases, changes to the underlying assumptions based on emerging research.

### Surveillance data

Data collected through influenza surveillance systems in Victoria largely fall into three main categories:

- epidemiology
- severity
- virology.

Information from these categories will inform the actions of decision-makers throughout a typical influenza season and during a pandemic.

### Surveillance systems

Current surveillance for influenza in Victoria involves several systems operating across various levels of severity, which inform our understanding of the epidemiology of the pandemic virus and its spread. The relative extent of influenza activity indicated across these systems provides an indication of the severity of circulating seasonal and pandemic viruses, with the more severe end of the spectrum represented by trends in hospitalisations, intensive care unit (ICU) admissions and deaths.

Each of these systems is described in more detail here.

### Community levels of influenza-like illness

Community influenza-like illness in Victoria is monitored primarily through the notifications data. These data are complemented by (during influenza season) general practice sentinel sites (GPSS) and the Melbourne Medical Deputising Service (MMDS). These two sentinel systems are used to estimate the percentage of infections that are attributable to the most common circulating strains and, in the case of GPSS, to obtain an assessment of seasonal vaccine effectiveness. They also provide an indication of the proportion of infections that are mild and require basic to no medical intervention.

In addition, NURSE-ON-CALL data was procured by the department's Communicable Disease Epidemiology and Surveillance (CDES) section for the first time in 2013, allowing us to report on the percentage of calls relating to influenza-like illness (compared with a baseline number of calls) on a weekly basis. The department also supports a self-reporting online system (Flutracking), which involves participants answering a few brief questions on an online survey at the beginning of every week during influenza season.

## Hospital surveillance

There is currently no routine reporting of all hospitalisations due to influenza in Victoria – the system relies instead on passive notification by medical practitioners, along with data collected by Influenza Complications Alert Network (FluCAN) at four sentinel hospital sites.

FluCAN operates between April and October each year. This sentinel surveillance system collects enhanced data on all hospitalised cases of influenza, including data on more severe cases (ICU admissions). In 2013 the participating sites were Monash Medical Centre, The Alfred, Geelong Hospital and the Royal Melbourne Hospital.

Enhanced data collected by FluCAN includes vaccination, pregnancy, comorbidities (including obesity) and antiviral treatment. Cases are followed up after they leave hospital, particularly if enhanced data (such as on vaccination status) is incomplete.

The department has access to the FluCAN database and can export data on an hourly or daily basis, if needed. Currently, the system does not provide a proportion, or any sense of the representativeness of the number of hospitalisations being reported by the system.

Emergency department (ED) presentations with influenza-like illness are *not* currently tracked in Victoria, although if reinstated, SynSurv does have the capacity to do so (if the system were expanded to include more EDs).

SynSurv was a pilot syndromic surveillance system set up by the department. It was established in two major metropolitan EDs to alert key staff at the hospitals and the department when a patient presented to an ED with a number of predefined conditions (for example: fever + rash, vomiting + diarrhoea). It also mined the free-text triage notes for symptoms and exposures of interest (keywords such as China, bird and flu). It was set up to conduct hourly analyses of the number of ED presentations and would issue an alert email if the number of presentations hit a predefined threshold that would suggest an increase over the expected number of presentations. It also analysed data for potential geographical clusters.

The Australian Paediatric Surveillance Unit (APSU) currently runs a sentinel system reporting specifically on influenza hospitalisations of children aged younger than 15 years (to provide the paediatric picture).

The department's Hospital and Health Service Performance Division maintains a hospital bed capacity surveillance system known as the Retrieval and Critical Health Information System ('REACH'), which could potentially be used as a point of reference during a pandemic.

## Typing and virology

Victoria's National Influenza Centre (NIC), based at the Victorian Infectious Diseases Reference Laboratory (VIDRL), reports on typing and subtyping of influenza infections, percentage positives and most common respiratory infections during the influenza season, and this reporting would continue throughout a pandemic. The World Health Organization Collaborating Centre for Reference and Research on Influenza (WHO CC) also reports on typing, subtyping, antigenic characterisation and antiviral resistance of circulating influenza viruses. Reporting from both systems will cover both the novel virus and co-circulating seasonal strains in the event of a pandemic.



## Deaths

Currently death data is not collected in Victoria, except when reported through the (passive) notifications. Influenza-related deaths are known to be underreported in the notifications data for two reasons: (1) not all medical practitioners notify cases, and (2) the clinical outcome of cases is not routinely followed up by the department. At a national level, New South Wales is currently being used as a 'sentinel site' by the National Notifiable Diseases Surveillance System (NNDSS) to provide an indication of disease severity; the NSW Births, Deaths and Marriages (NSW BDM) data has a two-week time lag from the date of death to the date data are available for analysis by the NSW Ministry of Health.

NNDSS is operated by the Australian Government Department of Health and collects a set of core data fields from the notifiable disease datasets from every state and territory health department in Australia. It is available at <<http://www9.health.gov.au/cda/source/cda-index.cfm>>.

The Influenza Surveillance Strategy Working Group (ISSWG) is a Communicable Diseases Network of Australia (CDNA) working group responsible for monitoring influenza activity during influenza season, as well as improving influenza surveillance in Australia. It contains representatives from all major stakeholders in influenza surveillance as well as the state and territory influenza epidemiologists,

At a national level, the NSW BDM Register is currently used by the ISSWG as a 'sentinel state' for indicators of severity during seasonal influenza. The data from NSW BDM and other sources will be reported through the ISSWG and/or the CDNA.

During a pandemic, these established systems may be modified or expanded according to the requirements of decision-makers. New systems may also be developed during a pandemic to address specific issues such as:

- health service monitoring
  - workforce planning
  - resources.
- Following the cessation of enhanced data collection, notifications will be transmitted to NNDSS as per usual practice.
- The plan will be modified to account for future changes to the notification and outbreak management systems.

## Flexibility of the plan to adapt to a different disease threat

The notifications and sentinel influenza surveillance systems are flexible enough to adapt to a different disease threat. At a minimum, community-level illness (such as Flutracking), GP presentation data (such as GPSS, MMDS and the Australian Sentinel Practices Research Network (ASPREN)) and hospitalisation data (such as FluCAN) could be collected through existing systems by refining the methodologies based on the symptoms and virology of the disease. The feasibility and practicalities of utilising established systems for a different disease threat will be determined in consultation with the system custodians.

## Key actions by stage

The *Surveillance plan for pandemic influenza* will progress through defined stages that support the changing requirements of decision-makers throughout a pandemic. The aims of the surveillance plan will transition from a focused aim of understanding the epidemiology of the disease overseas and detecting the virus in Australia to detailed investigation of the epidemiology of the disease and monitoring the progress of the pandemic.

## Preparedness

### Surveillance aims

- Prepare plans for testing, establish national and sentinel and enhanced systems for pandemic influenza surveillance.

At this stage, surveillance will continue as per regular seasonal influenza. This includes monitoring community influenza-like illness using:

- notifications data
- GP sentinel sites (GPSS and ASPREN)
- the MMDS
- NURSE-ON-CALL
- Flutracking.

Hospitalisations for influenza-like illness as an indicator of severity will be monitored using FluCAN.

Emergency department (ED) presentations with influenza-like illness are not currently tracked in Victoria; however, SynSurv does have the capacity to do so, if the department chose to roll out the system to more EDs (note: this is not a short-term option – a lot of work needs to go into establishing this system).

VIDRL reports on typing and subtyping of influenza infections, percentage positives and the most common respiratory infections during the influenza season, and this will continue throughout a pandemic.

The WHO CC will also be engaged to report on typing, subtyping, antigenic characterisation and antiviral resistance of circulating influenza viruses.

Currently deaths in Victoria can only be monitored using notifications data (underrepresented)

At the national level, NSW BDM data will be used as a 'sentinel site' by NNDSS to provide an indication of disease severity (with an approximate two-week time lag).

If indications of severity arising from international reports (via WHO) are high, then further work to prompt a coroner's report may have to be activated.

## Standby

### Surveillance aims

- Monitor the situation overseas to gather data on the epidemiology, severity and virus type.
- Prepare for testing, engage national, sentinel and enhanced systems for pandemic influenza surveillance.

- Develop and refine surveillance systems and assess resources and priorities for their sustainability.
- Target laboratory testing to detect the introduction of the virus in Australia. Assess any matches of the emerging virus to existing vaccines.

Following the identification of a novel influenza virus overseas, AHPPC will discuss the potential for a pandemic and the impact on Australia.

Laboratory testing will be developed through the WHO Collaborating Centre for Reference and Research on Influenza (WHO CC), the National Influenza Centres (NICs) and the Public Health Laboratory Network (PHLN). Laboratory tests will be developed following the sourcing, isolation and sequencing of the novel virus.

CDNA will determine a testing protocol and define a suspected, probable and confirmed case (based on the WHO case definitions) for Australia. These case definitions will likely change over time as more information becomes available. CDNA will provide clinicians with testing protocols based on these case definitions.

- The case definition will be based on **virology** of the novel virus (for a confirmed case) and the **epidemiology** as per information available from WHO and affected countries. The key demographic information to inform the case definition will be the countries, or regions of countries, with community transmission of the novel virus. Other case information that may inform the definitions includes age, symptoms, clinical **severity**, comorbidities and risk factors. ISSWG will determine necessary enhancements and changes to existing influenza surveillance systems as well as the protocols for enhanced data collection for identified cases in Australia.
- The preparation of established national and sentinel and enhanced surveillance systems to detect the introduction of the novel virus into Australia will be informed by available information on **epidemiology** and **severity** of confirmed cases overseas. The expected impact on at-risk individuals, including people with comorbidities, pregnant women and Aboriginal and Torres Strait Islanders, will be of particular concern.
- Some of the key surveillance systems (such as FluCAN and Flutracking) are only active during the influenza season. If a novel virus was identified overseas during the inter-seasonal period in Australia, those offline systems would be prepared to restart during this stage.
- Additional surveillance sources might also be considered at this stage, based on available information about the emerging pathogen. For example, the APSU could be requested to provide data on cases in children aged younger than 15 years if the emerging pathogen is shown to be highly pathogenic in this age group.
- Decision-makers will plan for implementing various interventions for reducing the impact of the virus on the Australian population, health system and economy prior to the virus being detected in Australia. Interventions will be selected based on available information on the clinical **severity** and transmissibility of the disease and the **epidemiology** of cases from WHO and affected countries.

- Clinical severity will be assessed using available information on symptoms and outcomes of cases, by age, as reported by WHO and affected countries. It should be noted that apparent severity will likely be skewed towards the severe end of the spectrum and will be affected by socioeconomic factors and the health infrastructure in affected countries.
- Early indicators of the extent of transmissibility will be based on any available information from WHO and affected countries.

## Initial action

### Surveillance aims

- Identify and describe the epidemiology of the disease in Australia through enhanced surveillance of confirmed cases and their contacts.
- Compare the overall pandemic with seasonal influenza to inform appropriate interventions.
- Collate data on severity and potential impact to inform response (from surveillance systems, enhanced data and academic studies).
- Initiate academic studies using enhanced data to test assumptions.
- Monitor the resourcing and priorities of surveillance systems for sustainability.
- Monitor and report on the relative effectiveness of interventions. In order to build a picture of the epidemiology of the disease in Australia, the state and territory health departments will collect and feed detailed **demographic** data on each case to the Australia Government Department of Health for national collation, analysis and reporting.
- In addition to core demographic information (such as age, sex and indigenous status), state and territory health departments will collect detailed enhanced data for each confirmed case.
- Contacts of confirmed cases will most likely be followed up by the Commonwealth Department of Health.

In response to the experience in the 2009 pandemic where state and territory health departments were very quickly overwhelmed by the expectation that they would collect detailed case data for all confirmed cases and follow up all case contacts, short-term enhanced data collection (otherwise known as the ‘first few hundred’ method) has been proposed for when the pandemic is first introduced into Australia. This approach means that, as resources become overwhelmed during the course of the pandemic, the data quality won’t deteriorate. Placing a limit on the enhanced data collection and relying on sentinel surveillance systems and more automated (and sentinel) forms of surveillance will ensure an appropriate allocation of resources by limiting the reporting burden on frontline health professionals and providing a less extensive but more robust dataset.

Various interventions for containing the spread of the virus or for reducing clinical severity may be implemented by decision-makers during this stage. Interventions will be selected, refined and discontinued based on the **epidemiology** and the severity of the virus in Australia, both in terms of clinical outcomes and transmissibility.

- **Clinical severity** will be assessed by the number and rates of hospitalisations, ICU admissions and deaths from the enhanced data collection. Other than through the notifications data, information on hospitalisations and ICU admissions will be provided by FluCAN. This data will support the enhanced data and provide a comparator once the enhanced data collection ceases.
- **Transmission rate** will be estimated through academic studies and enhanced data collection described above. Prior to the results of the enhanced data being available, transmissibility will be based on overseas estimates and the pandemic assumptions.

Laboratory testing of all suspected and probable cases under the case definition will continue throughout this phase and will be reported through the outbreak management system. The WHO CC (their role is detailed in Appendix 15: Laboratories) will provide reports on the antigenic characterisation and resistance of circulating influenza viruses to the department. VIDRL will report on the virology of the virus and the proportion of respiratory tests that are positive for influenza.

## Targeted action

### Surveillance aims

- Continue to monitor the epidemiology and clinical severity of disease to inform decision-makers.
- Monitor for any changes in the virus.
- Confirm *Australian health management plan for pandemic influenza* (AHMPPI) assumptions and test relative effectiveness of interventions using the enhanced dataset.

During this stage, community transmission of the pandemic virus will likely become widespread across Australia. The main surveillance aim during this stage is to continue collecting core data from established surveillance systems to detect any changes in the **epidemiology** of those getting sick, the **severity** of the disease or the **characteristics** of the virus (including the virology). Analysis of surveillance data during this stage will inform the choice of interventions used and appropriate stopping points. The surveillance systems used for monitoring for changes are:

- MMDS
- NURSE-ON-CALL
- FluCAN (might consider an enhanced/extended version)
- NSW BDM.

It should also be noted that, at this stage of the pandemic, data from some surveillance systems may become less representative and sensitive, and the notification fraction may change. For example, once a pandemic virus has established widespread community transmission, public health authorities may attempt to reduce the burden on health systems by encouraging patients with mild influenza-like symptoms to stay at home rather than visiting their GP or ED. In this situation, the available data will be biased towards the more severe end of the spectrum.

Throughout this stage laboratory testing will be targeted to more severe probable cases and those with risk factors.

Academic studies for testing assumptions with the enhanced dataset will continue throughout this phase. All results will be provided to decision-makers as they become available and may inform the decisions related to interventions, including appropriate end points.

## **Standdown**

### **Surveillance aims**

- Review data and update plans to ensure the response to the next pandemic is flexible and acceptable.
- Monitor for the second wave of the outbreak.
- Cease activities that are no longer needed and transition activities to the regular seasonal arrangements.
- Systems that will continue at this stage will include:
  - notifications
  - MMDS
  - NURSE-ON-CALL.

## Appendix 10: Local government

This appendix is intended to guide local government to develop an influenza pandemic plan for their municipality.

Local government is the closest level of government to the community and is often the first point of contact for assistance, advice and information.

### Peak bodies

The Municipal Association of Victoria (MAV) is the legislated peak body for Victoria's 79 councils. Under the *Emergency Management Act 2013*, the MAV represents councils in emergency management through its place on the State Crisis and Resilience Council (SCRC) and the three SCRC subcommittees.

Environmental Health Professionals Australia (EHPA) is a national organisation that is committed to excellence in environmental health practice. It supports environmental health professionals through ongoing education and research and is committed to providing ongoing professional development. Its vision is to protect and improve the public health of the community through the engagement of partners, advocacy, leadership and excellence in professional practice.

### Planning steps

1. Municipal emergency management planning committees (MEMPC) should develop a specialist subcommittee in order to prepare for local arrangements. They should develop an influenza pandemic plan that links to their *Municipal emergency management plan* (MEMP).

Further details about the role of local government arrangements for a pandemic influenza will be detailed in supporting guidance documents.

2. Review your level of preparedness against municipal responsibilities. Local government should:
  - assist in preventing transmission by implementing infection prevention and control measures as appropriate
  - provide services to people who are isolated or quarantined
  - have business continuity arrangements that consider an influenza pandemic –plan for increased absenteeism in local government and ensure that local government essential services are continued during an influenza pandemic
  - assist with providing vaccination services to the local community as appropriate
  - assist with distribution of communication messages for staff and for the public relating to essential local government services.
3. Exercise the plan.

4. Audit the plan as part of the MEMP audit every three years (at a minimum) using the MEMP audit tools available at <<http://www.ses.vic.gov.au/prepare/em-planning/MEMP-audits>>.
5. Undertake a Community Emergency Risk Assessment (CERA) process for pandemic influenza; further information is available at <<http://www.ses.vic.gov.au/prepare/em-planning/risk-assessment>>.
6. Review the plan annually.

For advice on any aspects of the planning process contact your regional Department of Health and Human Services regional recovery manager or regional Department of Health public health manager or environmental health officer.

## Key actions by stage

### Preparedness

- Make one person responsible for coordinating influenza pandemic planning in your municipality.
- Form a MEMP pandemic planning subcommittee and establish reporting processes and timelines.
- Identify vulnerable elements of the community (see the Department of Human Services *Vulnerable people in emergencies policy*).
- Communicate preparedness planning to your staff and develop protocols for staff communication during an influenza pandemic.
- Develop a process for supporting community resilience.
- Develop a process for communicating with the community.
- Develop procedures to support people in home isolation or quarantine.
- Develop procedures to manage mass vaccination if requested.
- Ensure business continuity plans consider an influenza pandemic.
  - Identify the critical business functions your municipality must continue to deliver and what non-critical business could be reduced/ceased.
  - Identify the staff required to deliver these functions.
  - Identify alternate sources of people to assist in delivering those key functions and ensure they are cross-trained to assist.
  - Assess the viability of any suppliers and contractors or third-party providers, including voluntary groups, to continue to deliver their critical functions.
- After planning is complete, and in conjunction with your departmental region, local healthcare providers and other stakeholders, design and conduct an exercise to practise your arrangements.
- Establish an annual review of your planned arrangements.
- Promote influenza prevention activities such as:



- seasonal influenza immunisation of staff
- good hygiene, which includes hand hygiene and respiratory/cough etiquette
- staying away from school, childcare, work or public gatherings if symptomatic to minimise the risk of infecting others
- seeking medical advice if symptoms continue or get worse.

## Standby

- Liaise with your departmental region for up-to-date information.

## Initial/targeted response

- Establish a Municipal Emergency Coordination Centre (MECC), either formally or in 'virtual' form (teleconference), to determine which elements of the *Municipal influenza pandemic subplan* need to be implemented.
- Maintain MECC activity as required throughout the onset of the pandemic.
- Establish arrangements for the recovery of the affected community(s) through the municipal recovery manager.
- Develop a strategy to establish and deliver community support services. The nature of these will vary, depending on the degree of impact. Similarly, how they are delivered (single gathering point for the community or 'delivered services') will also vary.
- Consider arrangements for minimising the risk of infection in the workplace.
  - Implement remote work arrangements if applicable.
  - Use alternate non-face-to-face work arrangements.
- Consider further arrangements for minimising the risk of infection in the workplace.
  - Introduce additional cleaning and disinfecting (of handrails, door handles, lift controls, telephones, rubbish bins).
  - Use personal protective equipment and protective barriers for staff in customer interactive roles.
  - Encourage home quarantine for suspected cases.
- Liaise with your departmental region for up-to-date information.

## Standdown

- Liaise with your departmental region for up-to-date information.
- Implement your plan for resumption of full business capacity.
- Restock inventory and resupply.
- Document financial expenditure and seek advice from your departmental region in relation to any financial support packages available.
- Conduct staff debriefs.

- Review plans and prepare for the next influenza pandemic using lessons learnt.
- Continue recovery processes to assist with community resilience.

## Appendix 11: Schools and children's services

This appendix provides schools and education and care services (referred to as 'children's services') with guidance on the actions and measures that should be taken in the various stages of an influenza pandemic. It contains information, concepts and points of consideration specific for influenza pandemic planning and preparedness at a local school and children's service level. It should be used in conjunction with the *Human influenza pandemic incident response procedures* prepared by the Victorian Department of Education and Early Childhood Development (DEECD).

Schools and children's services will be essential partners in protecting the public's health and safety when an influenza pandemic occurs. The *Human influenza pandemic incident response procedures* provide guidance to schools and children's services, describing how they might prepare for and respond to an influenza pandemic.

When an influenza pandemic occurs the Department of Health will recommend actions to protect the community's health. Community mitigation recommendations will be based on the severity of the pandemic and will include a number of strategies.

The spread of influenza in schools and children's services is a significant factor in the transmission of the disease. Once influenza is in the school or children's service environment it can spread quickly, impacting on families and the community. Therefore schools and children's services play a major role in pandemic influenza preparedness and management.

### The impact of schools, childcare and children

Previous influenza pandemics have shown that children, and the environments in which they tend to gather, contribute uniquely to the spread of influenza in the community for the following reasons:

- Children typically have higher rates of infection than adults. Children with no pre-existing immunity to circulating influenza virus may be more susceptible than adults to novel strains.
- Children are typically infectious for longer than adults. Compared with adults, children usually shed more influenza virus, and they shed for a longer period.
- Children are less able to comply with hygiene measures than adults.
- Children are in close proximity with other children for long periods of time.

### State-level governance

During a pandemic, the Chief Health Officer as Victorian State Controller will provide advice on when Victoria moves through the stages (prevention, preparedness, response and recovery) described in this appendix. This guide should be considered alongside other emergency management plans.

### The Department of Education and Early Childhood Development

The Department of Health will work closely with DEECD to coordinate any school and children's service related emergency management activity.

During an influenza pandemic, DEECD will:

- liaise with the department regarding reporting requirements
- implement actions to contain/implement social distancing measures to minimise transmission
- liaise with private sector school associations
- mobilise the school nursing workforce to take appropriate action.

Throughout all stages of a pandemic, DEECD will provide up-to-date and timely pandemic information to its workforce and sector, which includes government schools, children's services, the Catholic Education Office, Independent Schools Victoria and Higher Education and Skills Group (to forward to their providers, universities, the Victorian TAFE Association and the Australian Council for Private Education and Training as appropriate).

## **School sector preparation and planning**

In planning for an influenza pandemic, schools and children's services should evaluate their current emergency management plans and ensure that procedures are in place. *Human influenza pandemic incident response procedures* covers concepts such as communication to students and families and the responsibilities of schools and children's services and the department and should be followed.

Ensure your school's or children's service's influenza pandemic plan is explained and understood by faculty, staff and parents in advance of a pandemic, including expected roles/actions for staff and others during implementation.

Schools and children's services need to provide information to their parents/families on what they can do to prepare themselves and their families in advance of an influenza pandemic. Resources are available at <[www.health.vic.gov.au/influenza](http://www.health.vic.gov.au/influenza)>.

## **Business continuity planning**

DEECD will follow the Department of Health's advice (based on the State Controller's strategic intent) if containment activities need to be implemented.

Business continuity planning should be conducted to address common issues such as sick leave, salaries and the use of relief teachers. Schools and children's services should identify employees who may need extra assistance to stay home when they are ill. Schools and children's services should also develop a workplace culture that recognises and encourages behaviours such as voluntarily staying home when sick with an infectious disease. Schools and children's services should determine and plan ways to maintain continuity of student learning in periods of closure or during prolonged child absences.

## **Social distancing, school and children's services closures and exclusions**

Children are together at school and children's services for a significant proportion of their day. Combined with their poorer capacity to adopt appropriate hygiene practices, plus their increased infectiousness, actions such as school and children's services closures, exclusion of cases and contacts, and social distancing within and outside school and children's services can assist in minimising the spread of disease. A combination of these actions may be taken, with the ultimate goal being to protect children and to decrease influenza transmission, both within the school or children's service and its community.

The Department of Health will provide advice to DEECD on social distancing strategies appropriate to the pandemic stage. Social distancing measures may include cancelling extra-curricular activities, modifying core activities (for example, avoiding bringing students from an entire year level together into a hall for a group activity) and cancelling after-school activities.

The exclusion of sick students from school and children's services, or students with a sick household member, may also assist in slowing the spread of infection. Recommendations will be made at the time whether to close the school or service or to exclude an entire class where a student has been confirmed as having pandemic influenza. This action acknowledges the uniquely close contact that a sick student is likely to have had with their classmates that, in many instances, is closer contact than with their household contacts. In the event that currently well students are asked not to attend, schools and children's services should provide education to the families affected about the importance of preventing social mixing of their children in alternate settings, and that social distancing should be practised even outside the school's or children's services grounds.

Schools and children's services should acknowledge how site closures affect the families involved. Workplace absenteeism as a result of either an adult remaining at home to care for sick family members or subjecting minors to isolation is a major issue for both employers and the employees affected. Schools and children's services should examine alternative ways to engage students (particularly teenagers) in isolation through methods such as online learning.

## **Immunisation**

The Victorian immunisation schedule lists the routine schedule of vaccines provided free under the National Immunisation Program and is available at <http://www.health.vic.gov.au/immunisation/factsheets/schedule-victoria.htm>.

### **Children's services**

Current Victorian legislation for childcare immunisation requirements is contained within the *Children's Services Act 1996* and the *Children's Services Regulations 2009*.

This legislation states the requirement of children's services to record the immunisation status of the child, but no other action is required. Children are not excluded from enrolling in children's services if they are not immunised. This legislation is administered by DEECD.

### **Primary schools**

Under the *Public Health and Wellbeing Act 2008*, parents must provide an immunisation status certificate in respect of each vaccine-preventable disease to the person in charge of the primary school that the child is to attend. It also states that the person in charge of the school must take reasonable steps to obtain an immunisation certificate in respect of each child attending the primary school. This legislation is administered by the Department of Health.

### **Secondary schools**

Secondary schools should work with local government to promote school-based immunisation programs (such as human papillomavirus (HPV) vaccine, chickenpox (varicella) vaccine, diphtheria, tetanus, pertussis (whooping cough) vaccine and others as required).

## People working with children

People who work with children are at an increased risk of catching and passing on infectious diseases. Immunisation is recommended for school and children's services staff (including teachers, school nurses, out-of-school carers and welfare coordinators) for a range of diseases including influenza. Staying up to date with immunisations is the most effective way you can protect yourself and the children you work with from vaccine-preventable diseases. For further information talk to your doctor or visit

<[www.health.vic.gov.au/immunisation/workplace-immunisation](http://www.health.vic.gov.au/immunisation/workplace-immunisation)>.

Further information on seasonal influenza is available at

<<http://ideas.health.vic.gov.au/bluebook/influenza.asp>>.

## Key actions by stage

The *Human influenza pandemic incident response procedures* (DEECD 2014) outline the pandemic stages and the key actions to be taken by:

- Emergency Management division and regional directors
- schools
- children's services.

These three sectors are required to familiarise themselves with the procedures and to ensure they are able to respond to the key actions within each pandemic stage.

## Appendix 12: Residential aged care

This appendix provides information for residential aged care services to assist them with planning for an influenza pandemic, and to maintain the care and protection of residents and staff during, and after, a pandemic.

It provides information to assist aged care services in developing their own action plans and/or business continuity plans to meet the needs of the residents for whom they provide services.

Like seasonal influenza, a pandemic strain is expected to cause serious illness, hospitalisation and death in older people. Transmission may be exacerbated by close living arrangements found in aged care services, as well as the presence of chronic disease in residents.

Protecting the health and safety of residents, staff, business interests and assets are key responsibilities of governing boards, company directors, CEOs and senior managers of residential aged care services. Therefore aged care services need to have effective plans in place to respond to potential or actual threats and situations that put them, residents and staff at risk.

While this appendix focuses on residential aged care, the planning guidance could also be used for supported residential services and other residential facilities.

### Context and intersection with other plans

The **Victorian action plan** (Department of Human Services 2012b) is a whole-of-government plan that describes the Victorian governance arrangements and key strategies to prepare for, respond to and recover from an influenza pandemic. This document is available at <http://docs.health.vic.gov.au/docs/doc/Victorian-Action-Plan-for-Human-Influenza-Pandemic-June-2012>.

The **Respiratory illness in residential aged care: guidelines and information kit** (Department of Health 2013a) provides general information on influenza, its risks to health and how to manage a respiratory outbreak in an aged care service. This document is available at <http://ideas.health.vic.gov.au/guidelines/respiratory-illness.asp>.

The **Residential aged care services natural hazards ready resource** (Department of Human Services 2012a) was developed to assist Victorian residential aged care service providers to develop plans that equip them to effectively respond to natural hazards. Aged care providers can use the principles of the natural hazards resource to plan for other types of hazards such as an influenza pandemic. This document is available at <http://health.vic.gov.au/agedcare/publications/racsnathazards/index.htm>.

### Key actions by stages

#### Preparedness

- Have current emergency management plans and systems in place that link with local emergency planning arrangements, incorporate a comprehensive risk management approach taking an 'all hazards' approach, and consider the local environmental context. Ensure these plans consider

an influenza pandemic as per the ***Residential aged care services natural hazards ready resource***.

- Prevent/control outbreaks of respiratory illness in residential aged care services as per the ***Respiratory illness in residential aged care: guidelines and information kit*** mentioned above. The main strategies include:
  - early influenza vaccination prior to influenza season commencement by
    - promoting seasonal influenza vaccination for staff and residents
    - promoting pneumococcal vaccination for 'at-risk' residents as per the National Immunisation Program or clinical need
  - recognising outbreaks
  - introducing stringent infection prevention and control measures including restricting movement between affected and unaffected areas within the service
  - using antiviral medication if indicated
  - minimising contact between affected and unaffected people (residents/staff/visitors) during an outbreak.
- Notify the department's Communicable Disease Prevention and Control section on 1300 651 160 of suspected outbreaks as soon as possible. The public health officers will provide you with advice and guidance on how to proceed.

## Standby

- Continue measures outlined for preparedness.
- Ensure access to Chief Health Officer alerts available at [www.health.vic.gov.au/chiefhealthofficer](http://www.health.vic.gov.au/chiefhealthofficer).
- Maintain liaison with the Department of Social Services on 1800 078 709.

## Initial/targeted response

- Continue measures outlined for standby with an increase in infection prevention and control measures (in particular guidelines on resident movement and visitors) and infection prevention and control measures noted in the *Respiratory illness in residential aged care information kit*.

Health services and general practice are likely to become overwhelmed and it may be difficult to get a medical assessment or a hospital transfer. Involve the resident's medical doctors in patient management.

**For more information on infection prevention and control measures refer to Appendix 4: Infection prevention and control measures.**

## Standdown

- Return to normal business.



- Review actions taken and update plans.
- Continue influenza prevention activities outlined for preparedness.

## Appendix 13: Disability Accommodation Services

This appendix provides information for Disability Accommodation Services to assist them with planning for an influenza pandemic, and to maintain the care and protection of residents and staff during, and after, a pandemic.

Protecting the health and safety of residents and staff, as well as business interests and assets, are key responsibilities of Disability Accommodation Services. Therefore Disability Accommodation Services need to have effective plans in place to respond to a pandemic.

Disability Accommodation Services consist of group homes and institutions where people with a range of disabilities live with 24-hour staff support.

There are approximately 1,050 Disability Accommodation Services in Victoria, with approximately 53 per cent of these services managed by the Department of Human Services (DHS), and the remainder managed by community services organisations (CSOs). There were approximately 5,100 people with a disability living in these services according to the department's Client Relationship Information System (CRIS) in December 2013.

According to the Australian Institute of Health and Welfare, despite overall improvement in population health over time, the gap between Australians with a disability and those without a disability remains large. In 2007–08 almost half (46 per cent) of people aged 15–64 years with a severe or profound disability reported poor or fair health compared with five per cent for those without a disability. People aged under 65 years with a severe or profound disability had a higher prevalence rate of all types of selected long-term health conditions than people without a disability.

Like seasonal influenza, transmission of pandemic influenza may be exacerbated by close living conditions found in Disability Accommodation Services.

DHS-managed Disability Accommodation Services are guided by the DHS policies and the *Residential services practice manual* (RSPM) outlines the required practice. CSO-managed accommodation services are encouraged to use this manual to inform their own practice requirements.

### Key actions by stage

#### Preparedness

- Disability Accommodation Services should adhere to the infection prevention and control practices in section 3.10 of the RSPM, and the Department of Health's 'Blue Book'..

This section of the RSPM is on the intranet at <<http://intranet.dhs.vic.gov.au/resources-and-tools/guides-and-manuals/residential-services-practice-manual/3.-ensuring-a-safe-environment/3.10-infection-prevention-and-control-overview>>. The entire RSPM is also located on the department's internet site.

- Residents of accommodation services all receive a comprehensive annual health review (RSPM section 5.3 located at <<http://intranet.dhs.vic.gov.au/resources-and-tools/guides-and>

[manuals/residential-services-practice-manual/5.-supporting-health-and-wellbeing/5.3-annual-health-review>](#)) whereby an evidence-based, research validated tool (the Comprehensive Health Assessment Program (CHAP) is used by staff and medical professionals to review each resident's health. The CHAP tool prompts medical professionals to provide vaccinations and is located on the intranet at [http://intranet.dhs.vic.gov.au/resources-and-tools/forms-and-templates/chap-form-version-13\\_0813.pdf](http://intranet.dhs.vic.gov.au/resources-and-tools/forms-and-templates/chap-form-version-13_0813.pdf)>. The tool operates under licence and a licence has been purchased for all CSO accommodation providers, who have been informed the tool is available for them on the Funded Agency Channel.

- Promote influenza prevention measures such as the following:

- **Respiratory hygiene and cough etiquette**

*Cover your mouth and nose when you sneeze or cough.*

When you cough or sneeze you should do the following:

- Turn away from other people.
- Cover your mouth and nose with a tissue. If you don't have a tissue, cough or sneeze into your elbow, not your hands.
- Use disposable tissues.
- Put used tissues into the nearest bin, or in a plastic bag that you seal and dispose of as soon as practicable.
- Wash your hands, or use an alcohol hand rub, as soon as possible afterwards.

- **Hand hygiene**

Wash your hands regularly with soap and water, or use an alcohol-based hand rub (gels, rinses, foams) that doesn't require water – even when they aren't visibly dirty. This is the single most effective way of killing the flu virus. Both these methods are effective, with products available at supermarkets and pharmacies. Always wash your hands:

- after you've been to the toilet
    - after coughing, sneezing or blowing your nose
    - after being in contact with someone who has a cold or flu
    - before touching your eyes, nose or mouth
    - before preparing food and eating.
  - Promote seasonal influenza vaccination for all staff.
  - Promote seasonal influenza and pneumococcal vaccination for high-risk patients/clients.
  - Promote staying away from work or public gatherings if symptomatic to minimise the risk of infecting others.
  - Promote seeking medical advice if symptoms continue or get worse.

- If you suspect an outbreak may be occurring, notify the Department of Health's Communicable Disease Prevention and Control section on 1300 651 160 as soon as possible. The public health officers will provide you with advice and guidance on how to proceed.

**For more information on infection prevention and control measures refer to Appendix 4: Infection prevention and control measures.**

### **Standby**

- Continue measures outlined for preparedness.
- Ensure access to Chief Health Officer alerts available at [www.health.vic.gov.au/chiefhealthofficer](http://www.health.vic.gov.au/chiefhealthofficer).

### **Initial/targeted response**

- Continue measures outlined for standby, with the addition of building on infection prevention and control principles.
- Be aware, that as a pandemic progresses, health services and general practices become overwhelmed and it may be difficult to get a medical assessment (from a GP or locum service) or to arrange a hospital transfer.
- If being cared for within the facility, residents with suspected pandemic influenza should be segregated from well residents. Strategies for achieving this include:
  - Isolate the patient immediately in a single room (if available).
  - Keep the door of the room closed.
  - Restrict the patient's exposure to unaffected residents or staff as much as practical.
  - Limit admission of influenza patients to health services to those who cannot be cared for at the residential facility.
- The order of priority for patient room placement in residential facilities is:
  - single room
  - area designated for cohorting of pandemic patients.

### **Standdown**

- Return to normal business.
- Review actions taken and update plans.
- Continue influenza prevention activities outlined for preparedness.

## Appendix 14: Custodial facilities

*Custodial facilities* are defined as correctional facilities, youth justice facilities and police cells.

This appendix provides information for custodial facilities to assist them with planning for an influenza pandemic, and to maintain the care and protection of staff, clients, prisoners, visitors and offenders during, and after, a pandemic.

The custodial environment is unique and requires tailored planning of traditional mainstream public health interventions. Influenza is likely to spread rapidly in closed establishments such as prisons, where people are in close contact and where they may also be in higher risk groups. The populations of prisons are dynamic, with prisoners frequently entering and leaving these facilities. The fluidity of movement of individuals between custodial facilities and their communities can have serious public health implications were pandemic influenza to occur.

### Correctional facilities

Victoria's corrections system is overseen by Corrections Victoria (CV) – a business unit of the Department of Justice. CV is responsible for prison management in Victoria and all prisoners in both publicly and privately managed prisons.

Justice Health is a business unit of the Department of Justice and is responsible for delivering health services to people in Victoria's prisons. In Victoria, health services are contracted out to health service providers. Justice Health sets the policy and standards for healthcare in prisons, contract manages the health service providers in the public prisons and monitors and reviews health service provider performance.

Across Victoria there are 12 publicly operated prisons, two privately operated prisons (Fulham Correctional Centre and Port Phillip Prison) and one transition centre (Judy Lazarus Transition Centre), which provide a range of correctional services from maximum security imprisonment to reparation and treatment programs. Two of the prisons are for female prisoners only – Dame Phyllis Frost Centre and Tarrengower Prison; the remaining prisons are for male prisoners only.

The Security and Emergency Services Group (SESG) provides high-level support to all areas of CV through its service delivery and ongoing policy commitment including emergency management.

Thomas Embling Hospital is a secure forensic mental health hospital that provides acute and continuing care for patients from the criminal justice system who are in need of psychiatric assessment and/or treatment and care, together with treatment of patients from the public mental health system who require specialised management. Thomas Embling Hospital is part of Forensicare, a statutory agency responsible for providing forensic mental health services in Victoria. Forensicare was established and operates under the *Mental Health Act 2014*. This facility will face the same issues as correctional facilities in a pandemic and may need to consider integrated planning with its partners.

### Youth justice facilities and DFATS

The Secure Services branch provides well-managed, secure and safe facilities that focus on services for clients that reduce the risk of recidivism and re-entry into the system, and support offenders to

reintegrate into the community. The Secure Services branch is accountable for the management and oversight of Youth Justice Custodial Services (YJCS), Secure Welfare Services (SWS) and Disability Forensic Assessment and Treatment Services (DFATS).

Secure Services manages two youth justice custodial precincts in Victoria: Parkville Youth Justice Precinct and the Malmsbury Youth Justice Centre. The Parkville Youth Justice Precinct houses male offenders on youth justice custodial orders from age 10 to 17, and female offenders from age 10 to 21. The Malmsbury Youth Justice Centre houses male offenders aged from 18 to 21.

Secure Services also manages SWS, a specialist statewide service providing two 10-bed gender-specific residential units at Maribyrnong (Girls Unit) and Ascot Vale (Boys Unit). For a child to be placed in SWS, there must be a 'substantial and immediate risk of harm to the child'.

At both SWS sites, as well as both the Parkville and Malmsbury Youth Justice Precincts, health services are provided by the Youth Health and Rehabilitation Service (YHaRS). YHaRS is operated by a consortium consisting of the Youth Support + Advocacy Service (YSAS), St Vincent's Hospital Melbourne and Caraniche. YHaRS provides health services and rehabilitative programs with a trauma-informed, holistic focus for children and young people in secure settings.

DFATS is a disability forensic service that provides time-limited treatment and support to adults with a disability who display high-risk antisocial behaviour and are involved in, or at risk of being involved in, the criminal justice system.

Children have been shown to be particularly susceptible in a pandemic. However, Secure Services, through its established business continuity planning process, is equipped to manage its residential facilities through a pandemic should this be necessary.

## Police cells

In addition to prisons, prisoners can be held in police cells. Victoria Police operates cells where people may be detained by police to await an interview, to attend a bail hearing or to enter into the prison system. Police cells also include holding rooms, which are used to hold people in custody for up to 12 hours.

However, keeping prisoners in police cells presents increased health and safety risks as police cells are not designed for long-stay detention and typically contain three beds per cell.

## Context and intersection with other plans

The **Victorian action plan** (Department of Human Services 2012b) is a whole-of-government plan that describes the Victorian governance arrangements and key strategies to prepare for, respond to and recover from an influenza pandemic. This document is available at [www.health.vic.gov.au/pandemicinfluenza](http://www.health.vic.gov.au/pandemicinfluenza).

The **Corrections pandemic plan** presents the Department of Justice's approach to prepare and respond to an influenza pandemic in Victoria's correctional settings. The plan provides prison and Community Correctional Locations with a framework for developing influenza pandemic plans as part of emergency planning processes.

## Key actions by stages

### Preparedness

- Have current business continuity plans and emergency/incident management plans and systems in place, incorporate a comprehensive risk management approach taking an 'all hazards' approach, and consider the local environmental context. Ensure these plans consider an influenza pandemic.
- Promote infection prevention and control measures including cough etiquette and hand hygiene.
- Prevent/control outbreaks of respiratory illness in custodial facilities. The main strategies include:
  - early influenza vaccination prior to influenza season commencement
    - promote seasonal influenza vaccination for staff, clients, prisoners and offenders
    - promote pneumococcal vaccination for 'at-risk' staff, clients, prisoners and offenders as per the National Immunisation Program or clinical need
  - recognise outbreaks
  - introduce stringent infection prevention and control measures, including restricting movement between affected and unaffected areas within the facility
  - minimise contact between affected and unaffected people (staff, clients, prisoners, visitors and offenders) during an outbreak
  - the use of antiviral medication if indicated
- Notify the Department of Health's Communicable Disease Prevention and Control section on 1300 651 160 of suspected outbreaks as soon as possible. The public health officers will provide you with advice and guidance on how to proceed.

### Standby

- Continue measures outlined for preparedness.
- Ensure access to Chief Health Officer alerts, which are available at [www.health.vic.gov.au/chiefhealthofficer](http://www.health.vic.gov.au/chiefhealthofficer).

### Initial/targeted response

- Continue measures outlined for standby, with an increase in infection prevention and control measures (in particular guidelines on client/prisoner/offender movements and visitors).

**For more information on infection prevention and control measures refer to Appendix 4: Infection prevention and control measures.**

### Standdown

- Return to normal business.
- Review actions taken and update plans.
- Continue influenza prevention activities outlined for preparedness.

## Appendix 15: Management of the deceased

This appendix outlines the issues to be considered by organisations involved in caring for the deceased during an influenza pandemic.

### Planning considerations

During a pandemic, existing mortuary services will undoubtedly experience an increased workload, potentially over and above their capacity. The magnitude of the impact will be largely dependent on a range of factors including, but not limited to, the clinical severity of the disease and transmissibility of the virus.

In order to develop guidelines or adjust existing plans to suit the pandemic situation, the following organisations need to be involved in planning:

- the State Coroner's Office of Victoria, Victorian Institute of Forensic Medicine (VIFM)
- the Australian Funeral Directors Association (AFDA)
- Cemeteries and Crematoria Association of Victoria (CCAV).

Existing plans may include provisions for an increased number of deaths but should be reviewed to determine if these plans are appropriate for the relatively long period of increased demand that may occur during a pandemic, as compared with the short response period required for most disaster plans.

The majority of deaths related to a pandemic will not be coronial cases and normal funeral industry arrangements will apply.

Since it is expected that most fatal influenza cases will seek medical services prior to death, hospitals, nursing homes and other institutions must plan for management of the deceased.

To deal with the increase in fatalities, some municipalities may need to establish temporary mortuary facilities. Plans should be based on the capacity of existing facilities compared with the projected demand.

### Mortuary/crematoria capacity

It is estimated that public and private mortuary providers have the capacity to hold approximately 2,000<sup>7</sup> bodies in refrigeration throughout mortuaries in Victoria. Further capacity in holding rooms and refrigerated vehicles could increase this capacity by approximately 500.

The daily normal graves capacity in Victoria is 368 and daily normal cremations capacity is 227.

### Victorian Institute of Forensic Medicine

VIFM is the state provider of forensic pathology and other services related to medical investigation of

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<sup>7</sup> Estimate based on information provided by the AFDA and the VIFM, 2014.



deaths reported under the *Coroners Act 2008*. It is established as a body corporate under the *Victorian Institute of Forensic Medicine Act 1985*, which empowers VIFM to enter into agreements for its services. Key to VIFM's service provision is the operation of its newly redeveloped mortuary, which has storage capacity for 270 deceased bodies. Mortuary storage is primarily used in relation to deaths reported to the coroner; however, VIFM also provides a service to manage storage of bodies where arrangements for burial or cremation must be made by State Trustees, due to there being no family available.

VIFM is responsible for contingency planning required for body management in the event of a mass casualty disaster in Victoria. This planning is adaptable so it can manage deaths due to a pandemic, in which case hospital mortuaries may be overwhelmed. In the event of a major disaster involving mass fatalities such that VIFM's mortuary is likely to go beyond its peak capacity, contingency plans entail refrigerated 'pantecs' containers being placed at various locations in the CBD of Melbourne, with each container fully organised as a temporary cool store with all necessary equipment.

There are sufficient supplies of necessary equipment on hand for emergency situations including body bags, safety equipment, plastic overalls, boots, respirators, single-use gloves, white coveralls and identification tags. The VIFM also has arrangements in place for the immediate provision of additional supplies, as required.

## Cemeteries/crematoria in Victoria

Victoria has 550 public cemeteries and nine crematoria, which contain 21 cremator units.

The need to increase services will be made at the time of the pandemic, with the following assumptions:

- no interruption to natural or LP gas supply
- no cremator malfunctions
- availability of operational staff or modern assisted operation.

## Social/religious considerations

A number of religious and ethnic groups have special requirements for managing the deceased and these needs must be considered as part of pandemic planning. As an example, Aboriginal people, Torres Strait Islander people, Jews, Hindus and Muslims all have specific requirements for the treatment of bodies and funerals.

Religious leaders should be involved in planning for funeral management, bereavement counselling and communications, particularly in ethnic communities with large numbers of people who do not speak English.

During a pandemic it may not be possible for these religious considerations to be met, due to overriding public health measures.

## Care of the deceased

### Infection prevention and control

Infection prevention and control policies and procedures used in the funeral industry are no different from those used in healthcare settings.

Standard precautions should be taken when caring for deceased pandemic influenza cases.

Standard precautions are detailed in the AFDA's *Funeral industry infection control guideline* (2008 edition) and include:

- individual measures such as hand hygiene, respiratory hygiene, cough etiquette and immunisation
- appropriate personal protective equipment (PPE).

### Autopsy

If a patient dies during the infectious period, the lungs may still contain viable virus. There is less risk to employees from aerosols (airborne or droplet transmission) from the lungs of the deceased than from the living.

Standard and transmission-based precautions should be undertaken. The transmission-based precautions are contact and droplet precautions plus eye protection and airborne precautions for aerosol-generating procedures (Australian Government Department of Health 2014).

### Mortuary care

Mortuary or funeral home staff should be informed that the deceased had pandemic influenza and that standard precautions are all that is required in the event of exposure to the body. Embalming and the hygienic preparation of the deceased (cleaning, tidying of hair, shaving) may be conducted as routine.

### Funerals

There is potential for the virus to be transmitted among those attending funerals. This risk is related to the gathering of people in an enclosed space, not to any risk placed by the body of the deceased.

However, because of the potential adverse psychological impact, it is not anticipated that funerals will be banned. To minimise transmission, however, the department may place restrictions on the type and size of the gathering, if the disease has a high clinical severity rate and moderate to high transmissibility, at certain stages in the progress of a pandemic (Australian Government Department of Health 2014).

## Key actions by stage

### Preparedness

- The Department of Health will liaise with VIFM, AFDA and CCAV to ensure preparedness for an influenza pandemic regarding mass fatality planning.
- Organisations should develop business continuity plans that consider an influenza pandemic.
- Promote influenza prevention activities such as:

- seasonal influenza immunisation of staff
- good hygiene, which includes hand hygiene and respiratory/cough etiquette
- staying away from school, childcare, work or public gatherings if symptomatic to minimise the risk of infecting others
- seeking medical advice if symptoms continue or get worse.

### **Standby**

- Continue activities outlined for preparedness.
- Activate business continuity plans.

### **Initial/targeted response**

As per standby.

### **Standdown**

- Return to normal business.
- Review actions taken and update plans.
- Return to influenza prevention and control activities outlined for preparedness.

## Appendix 16: Laboratories

This appendix provides a summary of the key activities of laboratories during an influenza pandemic.

### Diagnostic testing

During a pandemic, laboratories will face a significant surge in demand for diagnostic testing.

In the event of a pandemic strain entering Victoria, there will be a need to rapidly and accurately identify the influenza type (as influenza A or B) and to subtype influenza A virus haemagglutinin to determine whether it is the pandemic strain. While many laboratories can provide identification of influenza, only a limited number can provide the diagnostic capacity required for pandemic influenza.

In order to have adequate capacity to detect novel influenza strains in humans the Victorian Infectious Diseases Reference Laboratory (VIDRL) has been resourced to have the capacity to develop tests for novel influenza strains with pandemic potential.

The World Health Organization Collaborating Centre for Reference and Research on Influenza (WHO CC) conducts detailed genetic and antigenic analysis of strains. The WHO CC expects to be able to provide reference material (nucleic acid) from the pandemic virus to laboratories to use as a positive control for setting up their diagnostic polymerase chain reaction (PCR). The WHO CC may be able to provide advice on primer design and undertake PCR testing and/or sequencing of unusual viruses.

In the standby stage it is important that tests with high sensitivity and specificity are used to ensure accurate identification. Viral culture and nucleic acid detection by PCR are the preferred methods. Although it is possible that no PCR – based tests will be designed or available at the beginning of a pandemic (as was evident in 2009) so initial detection may rely on gene sequencing.

In the standby and initial action stages, all patients with suspected pandemic influenza should have a suitable nucleic acid determination and cell culture performed. All diagnostic testing will be performed at VIDRL on the authorisation of the Department of Health.

Ideally any sample that tests positive for influenza from a patient with suspected pandemic influenza would be referred for viral culture at the WHO CC.

An agreement will be reached when it is appropriate for laboratories other than VIDRL to perform primary testing.

Testing should be undertaken for other significant viral and bacterial infections that may cause a similar illness, or that might occur as a secondary complication of influenza infection.

When the pandemic becomes more widespread, the pre-test probability of the pandemic influenza strain being the cause of the influenza-like illness will be high and laboratory confirmation will be less important.

During the later stages of a pandemic, limited testing for new outbreaks and monitoring of changes in the virus will be required, with a focus on cases that have been admitted to hospital or where the outcome affects clinical management of patients. Monitoring for changes in the virus (antigenic properties, gene sequences and antiviral drug sensitivity) will be a primary responsibility of the WHO CC, although the WHO's National Influenza Centres (NICs) may undertake some of those assays also.

## Laboratory diagnosis

Common symptoms of influenza are shared with several other pathogens and clinical criteria are often not reliable indicators of infection. Laboratory testing is therefore required for a more definitive diagnosis.

With higher sensitivity and shorter turnaround times compared with viral culture, reverse-transcription PCR has become the most common diagnostic method for influenza virus detection. In 2013, 92 per cent of influenza testing for notified cases was PCR, compared with eight per cent serology tests. While viral culture is still essential for antigenic characterisation of circulating and novel influenza viruses, antiviral susceptibility testing using neuraminidase inhibitor assays and vaccine production, PCR assays are also able to test for several targets concurrently (such as influenza types/subtypes and other respiratory viruses), can be adapted rapidly for the detection of novel targets and are highly automated with high throughput capacity (Kumar & Henrickson 2012).

A range of serological tests are available for influenza diagnosis, including haemagglutinin inhibition assay, complement fixation test and enzyme immunoassay. They are generally not practical in the clinical setting because antibodies to influenza virus do not appear until approximately two weeks after infection, and a fourfold or greater increase in antibody titre from paired acute- and convalescent-phase sera is required for diagnosis. Furthermore, increases in antibody titres are more difficult to detect in those who have received inactivated influenza vaccine (Petrie et al. 2011). However, serological testing is useful for retrospective diagnosis (such as identification of asymptomatic and resolved infections where the patient is no longer shedding virus) and seroepidemiological studies (such as determining the cumulative incidence of infection or levels of cross-protective immunity prior to a pandemic in a given population). Caution is required when interpreting the results of seroepidemiological studies because correlates of protection are not well defined and the titre cut-off level may under- or over-estimate the extent of infection (Kumar & Henrickson 2012).

Rapid antigen tests can be conducted at the point of care and are technically simple and low cost, thus expediting clinical decision making and appropriate allocation of limited supplies (such as antivirals in the early stages of a pandemic). While the tests generally have high specificities and positive predictive values during periods of high prevalence, reported sensitivities vary widely from 20 to 90 per cent (Kumar & Henrickson 2012).

Further details on specimen collection and testing will be provided at the time of a pandemic.

## Notification

Laboratory-confirmed influenza is a group B notifiable disease under the Public Health and Wellbeing Regulations 2009 and requires written notification upon initial diagnosis within five days.

## Case definition

A confirmed case of influenza is defined as a person with influenza virus infection identified by one or more of the following tests:

- from an appropriate **respiratory tract specimen**
  - isolation of influenza virus by culture

- detection of influenza virus by nucleic acid testing
- detection of influenza virus antigen by fluorescent antibody
- from **serologic testing**
  - IgG seroconversion or a significant increase in antibody level or a fourfold or greater rise in titre to influenza virus
  - single high titre by complement fixation testing (CFT) or haemagglutination inhibition (HAI) assay to influenza virus.

The latest version of the National Notifiable Diseases Surveillance System (NNDSS) influenza case definition can be found at <[www.health.gov.au/casedefinitions](http://www.health.gov.au/casedefinitions)>.

## Specialist laboratories – Victorian Infectious Diseases Reference Laboratory

VIDRL is Victoria's reference laboratory and is part of the Peter Doherty Institute for Infection and Immunity. It provides the department with virology and mycobacteria public health reference laboratory services, including surveillance, outbreak investigation, reference testing and research. VIDRL also performs diagnostic testing, mainly in virology, for Victorian hospitals. It also provides Victorian hospitals, clinics and private pathology laboratories with reference and diagnostic support.

VIDRL has WHO Collaborating Centre designations for Reference and Research on Influenza and is a WHO NIC.

On-call services to detect many viruses (such as novel influenza strains) is offered 24/7 to inform important clinical management or public health decisions.

Issues such as turnaround times for testing, specimen type, collection and transport, and liaison for results, will be further detailed at the time of an influenza pandemic.

VIDRL is a part the Public Health Laboratory Network (PHLN), which is a collaborative group of laboratories that have expertise and provide services in public health microbiology.

The central purpose and role of PHLN is defined as the provision of leadership and consultation in all aspects of public health microbiology and communicable disease control. This is achieved through the continued development of a proactive network of public health laboratories to protect and improve the health of people of Australia. One of its terms of reference is to build on the existing capacity of public health laboratories to respond to communicable disease outbreaks and newly emerging infectious diseases.

In 2013 VIDRL undertook approximately 10 per cent of testing for notified cases of influenza, with primary laboratories undertaking the remainder.

## Business continuity considerations

As part of pandemic preparedness all laboratories are encouraged to consider how an influenza pandemic will affect clinical laboratory functions and human resources issues.

## Laboratory Liaison Committee

This committee was established by the department's Health Protection Branch to: bring together all the relevant pathology services in Victoria; increase communication between the department and notifying pathology services; provide a forum to discuss the process of reporting notifiable conditions; and improve the consistency in reporting processes by pathology services across Victoria. The Laboratory Liaison Committee consists of representatives from each of the pathology services in Victoria that test and diagnose notifiable conditions plus representatives from the Health Protection Branch. Communication to pathology services during a pandemic will use the contacts from this committee to communicate Chief Health Officer alerts.

## Key actions by stage

### ***Australian Government, state and territory governments***

- Provide leadership and consultation in aspects of public health microbiology and communicable disease control through PHLN.
- Provide strategic advice to the Australian Health Protection Principal Committee (AHPPC) to identify gaps and needs in laboratory capacity through PHLN.

### **All laboratories**

#### **Preparedness**

- Notification of laboratory-confirmed influenza by pathology services to the department's Communicable Disease Prevention and Control section at <http://ideas.health.vic.gov.au/notifying.asp>.
- Maintain laboratory capacity for influenza surveillance.
- Develop a surge capacity plan (including business continuity planning).
- Promote influenza prevention activities for staff such as:
  - influenza immunisation
  - good hygiene, which includes hand hygiene and respiratory/cough etiquette
  - staying away from work or public gatherings if symptomatic to minimise the risk of infecting others
  - seeking medical advice if symptoms continue or get worse.

Further information on prevention measures is available at [www.health.vic.gov.au/influenza](http://www.health.vic.gov.au/influenza).

#### **Standby**

Continue preparedness activities with the addition of:

### ***Australian Government, state and territory governments***

- Develop and maintain the laboratory case definition (LCD). The LCD will provide definitive and suggestive criteria that must be met to report a laboratory-confirmed diagnosis.
- The LCD will be developed by PHLN and is likely to be included in Communicable Diseases Network of Australia (CDNA) case definition information.

- Acquire relevant nucleic acid or isolates (most likely through the WHO CC) and sequencing data for test development; distribute this information. (If well-established elsewhere, may acquire test itself) (PHLN).
- Share specimens and/or isolates with the WHO CC for characterisation (PHLN).
- Develop laboratory testing protocols.
- Determine triggers for: authorising laboratory testing in the early phase; transferring testing from reference laboratories to general laboratories; and restricting testing to clinically relevant patients only (when it is no longer necessary to test all suspect cases).
- Determine point during pandemic at which it is no longer necessary to test all suspect cases and inform stakeholders. Advise on likely turnaround times for testing (PHLN).

### **All laboratories**

- Ensure access to Chief Health Officer alerts, which are available at [www.health.vic.gov.au/chiefhealthofficer/alerts](http://www.health.vic.gov.au/chiefhealthofficer/alerts).

### **Initial/targeted response**

Continue preparedness activities with the addition of:

#### ***Australian Government, state and territory governments***

- Share testing technologies, including with private laboratories through PHLN.

#### **Specialist laboratories (VIDRL)**

- Undertake testing, prepare to increase testing.
- Implement testing protocol developed by PHLN.

#### **Routine laboratories (public and private)**

- Undertake pandemic testing, prepare to increase testing.
- Provide surveillance information to the department including denominator data on testing.
- Implement testing protocols developed by PHLN.
- Support case management and surveillance needs.
- Provide reference material to public health laboratories to aid the development of diagnostic assays (WHO CC).

### **Standdown**

- Prepare for the likelihood of further waves of the pandemic.
- Undertake operational debriefs and update pandemic influenza plans to reflect any lessons learnt.
- Take stock of personal protective equipment and replenish supplies for normal healthcare purposes.
- Ensure that appropriate support services are offered to staff and patients/clients.



## Appendix 17: Emergency services

Emergency services include ambulance services, fire services (Country Fire Authority, Metropolitan Fire Brigade and Department of Environmental and Primary Industries), Victoria Police, the Victorian State Emergency Service and any other prescribed agencies such as the Emergency Services Telecommunications Authority.

Ambulance services are covered in **Appendix 6: Primary healthcare** and specific ambulance operational arrangements are detailed in the Ambulance Victoria *Emergency response plan*, which describes its implementation of the *State health emergency response plan* (SHERP).

This appendix provides information for emergency services to assist them with planning for an influenza pandemic.

The work of emergency services (except ambulance services) does not put them at any greater risk than the general community, but if emergency services are to continue in a pandemic, advance planning is recommended.

Fire services undertaking first responder medical roles should also consider the requirements covered under **Appendix 6: Primary healthcare**.

### Context and intersection with other plans

The **Victorian action plan** (Department of Human Services 2012b) is a whole-of-government plan that describes the Victorian governance arrangements and key strategies to prepare for, respond to and recover from an influenza pandemic. This document is available at [www.health.vic.gov.au/pandemicinfluenza](http://www.health.vic.gov.au/pandemicinfluenza).

### Key actions by stages

#### Preparedness

- Incorporate a comprehensive risk management strategy that takes an 'all hazards' approach. Include influenza pandemic as a specific hazard that needs to be considered. Have current business continuity plans, emergency/incident management plans and relevant systems in place.
- Ensure that influenza pandemic plans and/or emergency management plans that incorporate influenza are linked directly with the *Victorian health management plan for pandemic influenza* (VHMPPI). It is recommended that the Victorian pandemic stages be used to guide agencies planning structures.
- Communicate pandemic plans with staff.
- Regularly review, exercise and update plans.
- Promote individual influenza prevention activities for staff such as:
  - influenza immunisation
  - good hygiene, which includes hand hygiene and respiratory/cough etiquette
  - staying away from work or public gatherings if symptomatic to minimise the risk of infecting others

- seeking medical advice if symptoms continue or get worse.
- Promote and implement infection prevention and control measures including:
  - individual measures that are mentioned above
  - appropriate personal protective equipment (PPE) use that is context specific
  - organisational and environmental measures – patient placement, flow and segregation, and cleaning
  - consider appropriate social distancing interventions.

**Table 9: Summary table of infection prevention and control measures to be considered in the response stages**

Aim	Type of measure	Example of measure in pandemic response (initial and targeted response)
Reduce spread from suspected or confirmed influenza patients to emergency services response staff	Organisational measures to protect emergency services staff	Consider the addition of a question regarding influenza symptoms or the status of the person requesting (Police/Fire/Ambulance) 000 or SES services If the response is yes, the responder should adhere to droplet precautions by wearing a surgical mask and gloves
	Patient measures	Where possible, potential or confirmed influenza patients are asked to: <ul style="list-style-type: none"> <li>• adhere to hand hygiene</li> <li>• follow respiratory/cough hygiene</li> <li>• wear surgical masks</li> </ul>
Reduce exposure to influenza among emergency services staff	Staff management	Procedures for managing staff include: <ul style="list-style-type: none"> <li>• advising staff to stay home if sick, including influenza-like symptoms</li> <li>• sending staff home who are exhibiting influenza-like symptoms in the workplace</li> <li>• identifying staff at high risk of influenza complications and organise altered duties so these staff are not in contact with potential or confirmed influenza patients</li> </ul>

**Patient** in this context refers to a person being assisted by emergency services (through call out or other means).

**Responder** refers to emergency services staff involved in response.

For more information on infection prevention and control measures refer to **Appendix 4: Infection prevention and control measures**. For more information on social distancing interventions refer to *Suite of measures available for use in a pandemic – social distancing* in section 7.2

## Standby

- Continue measures outlined for preparedness.
- Ensure access to Chief Health Officer alerts, which are available at [www.health.vic.gov.au/chiefhealthoffice](http://www.health.vic.gov.au/chiefhealthoffice).

### **Initial/targeted response**

- Continue measures outlined for standby, with an increase in infection prevention and control measures.

### **Standdown**

- Return to normal business.
- Review actions taken and update plans.
- Continue influenza prevention activities outlined for preparedness.
- Undertake recovery activities (ensure psychosocial health of responders).

## Appendix 18: Abbreviations

<b>AHMPPI</b>	<i>Australian health management plan for pandemic influenza</i>
<b>AHMAC</b>	Australian Health Ministers Advisory Council
<b>AHPPC</b>	Australian Health Protection Principal Committee
<b>ASPEN</b>	Australian Sentinel Practices Research Network
<b>BDM</b>	Births, Deaths and Marriages
<b>CALD</b>	culturally and linguistically diverse
<b>CDNA</b>	Communicable Diseases Network of Australia
<b>HCW</b>	healthcare worker
<b>GP</b>	general practitioner
<b>ML</b>	Medicare Local
<b>NICs</b>	National Influenza Centres
<b>NNDSS</b>	National Notifiable Disease Surveillance System
<b>NMS</b>	National Medical Stockpile
<b>PHLN</b>	Public Health Laboratory Network
<b>PPE</b>	personal protective equipment
<b>RACGP</b>	Royal Australian College of General Practitioners
<b>VHMPPI</b>	<i>Victorian health management plan for pandemic influenza</i>
<b>VIDRL</b>	Victorian Infectious Diseases Reference Laboratory
<b>VMS</b>	Victorian Medical Stockpile
<b>WHO</b>	World Health Organization
<b>WHO CC</b>	World Health Organization Collaborating Centre
<b>WHO NIC</b>	World Health Organization National Influenza Centre

## Appendix 19: Glossary of terms

**At-risk groups** are groups at increased risk of experiencing complications from influenza infection.

**Candidate vaccine** is a vaccine based on a strain of influenza virus considered to have pandemic potential. This vaccine may provide partial protection if it develops into a pandemic strain that is easily transmissible between humans.

**Case definition** is a set of uniform criteria used to define a disease for public health surveillance.

**Community transmission** is the passing of a disease from an infected individual to another individual outside of a known group of contacts, and outside healthcare settings.

**Contact tracing** is the process of identifying and managing people who have been 'in contact' with someone who has an infectious illness.

**Cough and sneeze etiquette** are measures individuals can take when we cough, sneeze or blow our nose to reduce the chance of spreading the virus. This is sometimes referred to as respiratory hygiene.

**Customised pandemic vaccine** is a vaccine based on the actual pandemic virus, which cannot be developed until the next pandemic virus emerges.

**Epidemic** is an outbreak or unusually high occurrence of disease or illness in a population or area.

**Health sector** refers to the government departments responsible for health, the public and private health system and health professionals.

**High-risk groups** are groups at increased risk of experiencing complications from influenza.

**Isolation** is the separation of infected persons (cases) from other people for the period they are likely to be infectious. This prevents or limits the direct or indirect transmission of the virus.

**Morbidity** is a state of disease. The term morbidity refers to the number of cases of illness in a population divided by the total population considered at risk of the disease.

**Mortality** is death. The mortality rate is the measure of the number of dead (in general or due to a specific cause) in a population scaled to the size of that population, per unit time.

**Post-exposure prophylaxis** is a dose or doses of drug (usually antibiotic or antiviral) given before exposure to disease, to protect the person from being infected.

Pre-exposure prophylaxis (PrEP) is a dose or doses of a drug (usually antibiotic or antiviral) given before exposure to a disease, to protect the person from being infected.

**Prophylaxis** is a medical or public health procedure designed to prevent infection rather than treat or cure existing disease.

**Reproductive number** (of an infection) is the number of cases one case generates on average over the course of its infectious period, in an otherwise uninfected population. Generally, the larger the value of  $R_0$ , the harder it is to control the pandemic.

**Resilience** is the capacity to cope with stress or change, and the capacity to adapt.

**Serial interval** is the average length of time between an initial primary case developing symptoms and subsequent secondary cases developing systems.

**Quarantine** is the limitation of freedom of movement for a period of time for well persons who are likely to have been exposed to the virus (contact) to prevent their contact with people who have not been exposed.

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