Victorian Influenza Pandemic Plan

November 2005

Victoria
The Place To Be

Contents

Section D: Appendices

Acknowledgements

We would like to thank all the members of the Victorian Influenza Pandemic Planning Steering Committee and Sub Committees, who are all individually listed in Section C.

Their generosity in giving up their time and expertise is greatly appreciated.

Published by the Communicable Diseases Section, Rural & Regional Health and Aged Care Services, Victorian Department of Human Services, 2005.

Glossary of acronyms

AAHL	Australian Animal Health Laboratory
ADRAC	Adverse Drug Reactions Advisory Committee
AFDA	Australian Funeral Directors Association
AHDMPC	Australian Health Disaster Management Policy Committee
AI	avian influenza
AMA	Australian Medical Association
AQIS	Australian Quarantine and Inspection Service
AUSVETPLAN	Australian Veterinary Emergency Plan
CDS	Communicable Diseases Section (of the Department of Human Services)
CDNA	Communicable Diseases Network of Australia
CGRC	Central Government Response Committee
CHO	Chief Health Officer
COAD	chronic obstructive airways disease
CQMO	Chief Quarantine Medical Officer
CVO	Chief Veterinary Officer
DECC	Departmental Emergency Coordination Centre
DERC	Divisional Emergency Response Committee
DHS	Department of Human Services
DoHA	Australian Government Department of Health and Ageing
DOI	Department of Infrastructure
DOJ	Department of Justice
DPI	Department of Primary Industries
ECC	Emergency Coordination Centre
ED	(Hospital) Emergency Department
EI	equine influenza
EMA	Emergency Management Australia
EMMV	Emergency Management Manual Victoria
GPDV	General Practice Divisions Victoria
GPs	General Practitioners
HCW	Health Care Worker
HPAI	highly pathogenic avian influenza
HSSC	Health Service Support Centre
ICU	Infection Control Unit
IFDA	Independent Funeral Directors Association
IPPC	Influenza Pandemic Planning Committee
MECC	Municipal Emergency Coordination Centre
MOH	Medical Officers of Health
NEMRN	National Emergency Media Response Network
NHMRC	National Health & Medical Research Council
NIC	National Influenza Centres
NIPAC	National Influenza Pandemic Action Committee
NIR	National Incident Room
NMS	National Medicines Stockpile
NPRs	Negative pressure rooms
OIE	The International Office for Epizootic Diseases

PCR	polymerase chain reaction
PHEMA	Public Health Emergency Management Arrangements
PPE	Personal Protective Equipment
RACGP	Royal Australian College of General Practitioners
RDNS	Royal District Nursing Service
RERPC	Regional Emergency Recovery Planning Committee
SARS	Severe Acute Respiratory Syndrome
SECC	Security and Emergency Committee of Cabinet
SERO	State Emergency Response Officer
SI	swine influenza
VIDRL	Victorian Infectious Diseases Reference Laboratory
VIFM	Victorian Institute of Forensic Medicine
WHO	World Health Organization
WHOCC	World Health Organization Collaborating Centre

SECTION A: INTRODUCTION

1. Foreword

Outbreaks of Severe Acute Respiratory Syndrome (SARS) and avian influenza overseas have brought the issues of pandemic preparedness to the forefront.

An influenza pandemic occurs when a new viral strain appears which has had a significant antigenic shift to produce a new subtype for which there is little or no immunity in the population, and which is readily transferred between humans to produce infection in a high proportion of those exposed. The potential result is very significant morbidity and mortality and associated massive social and economic disruption.

Planning and preparedness is the best way to mitigate the potentially serious consequences of a new influenza pandemic. It is important that effective strategies for control be activated as early as possible in response to all potential new pandemic threats[1].

Early warning of unusual or unexpected influenza cases will rely upon a well-functioning animal and human influenza surveillance system. Influenza vaccines and antiviral drugs are essential components of a comprehensive pandemic response. Immunisation with a suitable vaccine during a pandemic will be a critical component of response strategies aimed at reducing resulting morbidity and mortality and social and economic disruption. Manufacture of the appropriate vaccine must be implemented as early as possible using predetermined guidelines for increased substrate supplies, manufacturing equipment and staffing. As it may be impossible to vaccinate everyone during an influenza pandemic, priority groups must be identified in advance and quantified to enable appropriate vaccine supplies to be available. Distribution of vaccine must be well planned and target the priority groups. Antiviral drugs play two principal roles in the management of influenza: prophylaxis, aimed at decreasing the likelihood of developing influenza, and treatment, aimed at reducing the severity and duration of influenza. The indications for the use of antiviral medication should also be clear and health professionals well acquainted with them. Information dissemination in the event of an influenza pandemic must be from a centralised and credible source so that mass panic can be avoided.

[1] Communicable Diseases Network Australia New Zealand 1999, *A framework for an Australian influenza pandemic plan.* Commonwealth Department of Health and Aged Care. Version 1. Canberra, Commonwealth Department of Health and Aged Care. Technical Report Series No.4.

2. Aim and objectives

The aim of this plan is to minimise the morbidity and mortality associated with an influenza pandemic as well as its impacts on the Victorian community, health care system and economy.

Objectives

- To identify the planning and preparedness activities that would reduce the impact of an influenza pandemic in Victoria, including ensuring:
    - A surveillance system that is able to detect emerging threats;
    - Timely implementation of activities in the various phases of a pandemic;
    - Rapid characterisation of a new virus subtype and early detection, notification and response;
    - Early containment through disease control measures;
    - Limitation of morbidity and mortality;
    - Maintenance of essential services; and
    - Provision to the public, health care workers, the media and other service providers of timely, accurate information about the pandemic.
- To ensure intersectoral collaboration in the planning for, and implementation of, Victoria's Influenza Pandemic Plan.
- To clarify the arrangements that would be put in place and actions that would be taken in the event of an influenza pandemic in Victoria.
- To clarify the roles and responsibilities of the agencies involved.

3. Planning and preparedness

Planning and preparedness are essential to minimise the effect of an influenza pandemic on the Victorian community. This chapter outlines planning and preparedness that has occurred for pandemic influenza that is relevant to the state of Victoria and briefly describes planning at the local and national levels.

3.1. Likely impact of an influenza pandemic in Victoria

Influenza pandemics have commonly been associated with attack rates of 25–30 per cent of the population. However attack rates of up to 70 per cent have occurred in some communities. Mortality, hospitalisations and staff absenteeism rates have increased substantially during pandemics. In the 1957 influenza pandemic in the United Kingdom (UK), the recorded staff absentee rates in some organisations were between 5 and 30 per cent.

Estimates of morbidity and mortality in Victoria

If a pandemic with an attack rate of 30% (ie 30% of the population affected) were to occur in Victoria and there was no pandemic vaccine or treatment available over a 6–8 week period it could lead to:

- 2,265 – 10,145 deaths
- 6,236 – 24,323 hospitalisations
- 602,229 – 713,513 outpatient visits[2].

Estimating the potential impacts of an influenza pandemic is difficult given we are unable to predict the virulence and infectivity of the particular strain involved, as well as the epidemiology of the specific strain and the rapidity and effectiveness of the response.

In the absence of actual data on the specific strain, it is possible to model various pandemic scenarios given a series of pre-determined assumptions and limitations.

3.2. Influenza pandemic planning at global and national levels

In April 1999, the World Health Organization (WHO) published the document, *Influenza Pandemic Plan. The Role of the WHO and Guidelines for National and Regional Planning.* The document was prepared to assist medical and public health leaders with their response to future threats of pandemic influenza. The document outlined the roles and responsibilities of WHO and national health authorities and pandemic planning committees. It defined the preparedness levels and phases of an influenza pandemic, and the various actions that would be undertaken by WHO and other health authorities in these periods.

[2] These estimates are based largely on the work of Meltzer et al.

In May 2005, the WHO developed the *WHO global influenza pandemic plan – The role of the WHO and recommendations for national measures before and during pandemics*. This plan updates, significantly revises and replaces the 1999 plan.

In June 1999, the Influenza Pandemic Planning Committee (IPPC), a subcommittee of the Communicable Diseases Network of Australia (CDNA) developed *A Framework for an Australian Influenza Pandemic Plan.* This plan provided a strategic framework for the detection and management of pandemic influenza in Australia.

Following publication of the framework, IPPC developed the *Australian Action Plan For Pandemic Influenza 2003,* which provided direction for the development of actions at the Federal, State and Territory, and local levels. The aim of the *Action Plan* was to increase awareness of national pandemic preparedness during the interpandemic period. The Action Plan indicated that the States and Territories should prepare their own Action Plans. The Plan also provided guidance to health service providers and other agencies whose services are likely to be of critical importance during an influenza pandemic.

One of the recommendations of the Action Plan was to establish the National Influenza Pandemic Action Committee (NIPAC). The role of NIPAC is to assist the Australian Government in progressing pandemic preparedness by providing expert advice on policy issues in the inter-pandemic period.

In June 2005 the Australian Government Department of Health and Ageing (DoHA) released the *Australian Management Plan for Pandemic Influenza*. This document aims to provide a detailed guide for the Australian response to a pandemic influenza threat. The plan targets the wide range of people who will be involved in planning and responding to an influenza pandemic: health planners, public health and clinical care providers, border workers, state and territory health departments, essential service providers and those involved in the media and communications.

3.3. Influenza pandemic planning in the context of emergency management planning for Victoria

While planning and preparation for illness/epidemics is part of normal business activities of the Department of Human Services (DHS), the occurrence of an influenza pandemic would constitute an emergency under the *Emergency Management Act 1986*. The Emergency Management Manual Victoria (EMMV) details the emergency roles and responsibilities of agencies in relation to the prevention, mitigation, risk reduction, response and recovery components of emergencies. The DHS, Public Health Group is the designated control agency for human illnesses/epidemics.

Public Health Response

The DHS *Public health emergency management arrangements* (PHEMA) outlines the policies, procedures and emergency management arrangements for public health emergencies, including infectious disease incidents. The Victorian Influenza Pandemic Plan is a sub-plan of the PHEMA. Under the PHEMA, the responsibility for controlling infectious disease emergencies, such as pandemic influenza, lies with the Communicable Diseases Section of DHS.

Additional emergency management arrangements will also be put in place by DHS to ensure that there is clarity about the command and control of the incident, the management and control of the incident is adequately resourced, and there is adequate communication about the incident within DHS and the government and with external agencies and the community.

The National Medicines Stockpile (NMS) was established by the Australian Government in 2002, initially as a national strategic reserve of essential vaccines, antibiotics, antiviral drugs, chemical and radiological antidotes. The NMS supplements existing medical stocks kept in the Australian health system and provides rapid access to large quantities of medications that may not be regularly used.

The process to activate the NMS deployment plan is through DoHA. Each state/territory requesting agency has developed distribution plans, including details of security measures and arrangements for dispensing.

Incident category classification

DHS emergency response arrangements will be put into place according to the scale/severity of the incident. The scope of an influenza pandemic would result in immediate classification as a Category One – High Level incident, due to the need to manage issues across regions, state-wide media interest, the need for a community call centre and management of whole of government interests.

Category One incidents activate the DHS State Level Emergency Management Plan. The Executive Director, Operations will command departmental state-wide emergency management operations. The Chief Health Officer would assume the role of Incident Controller, which may be delegated to an appropriate senior Public Health manager.

The Departmental Emergency Coordination Centre (ECC) would be activated to manage the department's response and recovery operations. Appropriate staff would be sourced to act as liaison officers representing response and recovery interests, assess and monitor the incident and its impacts, provide information and advice to senior management and ministers, approve distribution of written and verbal information, and maintain liaison with state government through the Central Government Response Committee (CGRC).

National level coordination will involve the Australian Health Disaster Management Policy Committee (AHDMPC), which is chaired through the DoHA, which along with CDNA will coordinate responses across the states and territories.

Communications and media

In most cases, where available, the Chief Health Officer will be the spokesperson for the DHS. If unavailable, an appropriate senior Public Health manager may be appointed to this role. All media communication must occur through the DHS Corporate Communications Branch (Media Unit), who will work with the Department of Premier and Cabinet to ensure a consistent whole of government message.

Consideration must also be given to information provided through the Police Emergency Information Line during an influenza pandemic. Advice on public

messages will be communicated to the Department of Premier and Cabinet through the Corporate Communications Branch, based on expert advice from Public Health staff and the DHS Emergency Operations Centre.

A Community Call Centre will be established to provide a central contact point for members of the public to obtain personal health and safety advice. The DoHA has an Information Hotline for the general public that provides national information, as opposed to the local information provided by the Community Call Centre. The DOHA Information Hotline number is 1800 004 599.

The DHS Health Service Support Centre (HSSC) will be established to collect and collate information regarding the impact of an influenza pandemic on DHS portfolio interests, in order to monitor the capacity of health and community services and local government across the state, and provide advice and information on health and safety matters to industry. Issues raised by industries affected by the influenza pandemic will be communicated to the ECC through the HSSC, to enable decisions regarding industry needs and priorities. Further information about the HSSC can be found in Appendix 5: Hospital Issues.

Clinical Management

At the start of a pandemic Victoria will use a "designated hospital" model for the management of patients. Suspected cases will be referred to predetermined hospitals. As cases increase, to support these designated hospitals, a community model of assessment at Infectious Diseases Assessment Clinics (or “fever clinics”) will be established. These clinics may be established within a "designated hospital" or venues such as community halls or other non-hospital sites. Duties of the assessment clinics may include:

- Triage (to home, to a designated hospital, or to another location nominated by the Department).
- Immunisation (when available).
- Providing prophylaxis or treatment with antivirals (according to departmental guidelines).

3.4. Influenza pandemic planning for other agencies

DHS has prepared this plan for the state of Victoria. However, individual agencies (including government agencies and essential services) are responsible for ensuring that their own business continuity plans make provision for maintaining high priority activities and infrastructure in the face of predicted increased absentee rates associated with pandemic influenza.

Health care providers (including hospitals) need to ensure that they have contingency plans to deal with an influenza pandemic. Local government should undertake influenza pandemic planning with Municipal Emergency Management Committees.

3.5. Review of the plan

Due to the changing nature of influenza and changes within State and Federal planning, this will document will be reviewed on an ongoing basis.

3.6. Training and testing of the plan

To maximise effectiveness of the plan, staff will require adequate training and the plan will require regular testing.

3.7. Surge capacity and business continuity

All agencies potentially affected by an influenza pandemic should consider their surge capacity/business continuity needs and plan accordingly.

Department of Human Services

The following briefly summarises some key issues that DHS has identified as surge capacity/business continuity needs of DHS.

Staffing issues associated with an influenza pandemic include the following:

- Existing levels of technical and administrative staff will be decreased by the increased staff absenteeism associated with an influenza pandemic
- There will be an increased demand for additional staff to be involved in the investigation and control functions of an influenza pandemic
- Staff will be needed to backfill positions/programs vacated by staff who are involved in the response to the pandemic
- Staff will be required for manning industry and community call centres.

Contingency planning and other processes to deal with these issues include the following:

- The DHS Business Continuity Plan identifies contingency arrangements that are in place to support the continuity of critical business activities in the event that normal processes are interrupted. This approach analyses the DHS's dependency on key resources and services. Contingency arrangements that provide alternative access to these critical resources enable the DHS to respond to an incident regardless of type or cause, including incidents resulting in high levels of staff absenteeism (such as an influenza pandemic)
- Trained staff will be seconded to the incident investigation and control team from other programs within the Communicable Diseases Section
- DHS has identified staff with medical and nursing backgrounds, and other associated health professionals. These staff may be seconded to assist with DHS's response to the influenza pandemic, to backfill in the Communicable Diseases Section performing other essential functions or to staff the community and industry call centres
- DHS has a register of volunteers for staffing call centres. This register identifies staff with telephone training (which includes dealing with distressed callers).

Workforce issues

All agencies may be affected by staff absence because of illness or isolation of suspected cases, the need to take time off to care for others, or fear of contracting pandemic influenza. This will occur at a time when, for some agencies, the workload may be greater than normal.

The following briefly summarises some key issues that agencies should consider:

- Establishing minimal staffing levels
- The need for staff to work in areas they are not formally trained in
- Utilising volunteers, retired or trainee staff
- Accommodation for staff in between shifts, when transport home may be disrupted or not advised
- Staff immunisation policy (for normal seasonal influenza and pneumococcal vaccine)
- Stockpiling of personal protective equipment (PPE) and antiviral medication
- Psychological support for staff.

Particular issues for staff with occupational exposures to pandemic influenza and other essential workers who may be provided with antivirals and PPE include:

- Monitoring of staff for illness and adverse reactions to antiviral medications
- Implementing six week rotations of staff on antivirals
- Recorded dosing of antivirals.

SECTION B: BACKGROUND

4. Background

4.1. Disease description

Influenza is an acute respiratory disease caused principally by influenza type A or B viruses. Symptoms usually include fever, cough, lethargy, headache, muscle pain and sore throat. Infections in children, particularly type B and A (H1N1) may also be associated with gastrointestinal symptoms such as nausea, vomiting and diarrhoea. Clinical features in babies and children may result in fever alone, fever and cough, croup, poor feeding or features suggestive of meningitis. One of the earliest indicators of the influenza pandemics in Melbourne in 1957 and 1968 was an increased prevalence of croup.

The incubation period for influenza virus is 1–7 days, usually 2–3 days. Adults have been shown to shed the influenza virus from 1 day before developing symptoms to up to 7 days after the onset of the illness. Young children can shed the influenza virus for longer than 7 days. Generally, shedding peaks early in the illness, typically within a day of symptom onset.[3] The influenza virus remains infectious in aerosols for hours, viability being facilitated by low relative humidity, and potentially remains infectious on hard surfaces for one to two days.

Most symptoms resolve within 2–7 days although the cough may persist longer. Complications of influenza include middle ear infection, primary viral pneumonia, secondary bacterial pneumonia, a range of rare non-pulmonary complications, and exacerbations of underlying chronic health conditions.

Reye's Syndrome is a rare complication of influenza involving CNS disturbance, coma and death in 10–40% of affected persons. It is associated with infections in children, infections with H1N1 strains and with the use of aspirin or other salicylates to treat influenza symptoms. Aspirin and other salicylates should not be given to children with fever due to influenza or an influenza-like illness.

4.2. Transmission

Transmission of human influenza virus is mainly by **droplet transmission**. This occurs when droplets from the cough or sneeze of an infected person are propelled through the air (generally up to 3 feet) and land on the mouth, nose or eye [4] of a nearby person.

Influenza can also be spread by **contact transmission.** This occurs when a person touches respiratory droplets that are either on another person or an object - and then touches their own mouth, nose or eyes (or someone else's mouth, nose or eyes) before washing their hands.

In some situations, **airborne transmission** may result from procedures that produce very fine droplets (called fine droplet nuclei) that are released into the air and breathed in [5]. These procedures include:

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[3] Centres for Disease Control and Prevention, *Key facts about the flu,* http://www.cdc.gov/flu/keyfacts.htm

[4] World Health Organization 2005, *Practical guidelines for infection control in health care facilities* Hhttp://www.wpro.who.int/sarsH

[5] World Health Organization 2004, *WHO interim guidelines on clinical management of humans infected by influenza A (H5N1)* www.who.int/csr

- Intubation
- Taking respiratory samples
- Performing suctioning
- Use of a nebuliser.

Personal protective equipment

Summary of personal protective equipment use

To help protect oneself (eg health care workers, poultry cullers etc) wear a full gown (or coveralls), gloves, eye shield and P2 mask.

To minimise the risk of infecting others, infected persons should wear an appropriate mask.

Detailed information on infection control can be found in Appendix 9: Infection control.

4.3. Infectious agents

Three types of influenza are recognised, types A, B, and C, although most human infections involve either type A or B. Type C, causes a common cold-like syndrome.

Influenza viruses are named according to type, sub-type and antigenic characterisation. Only Type A viruses are sub-typed.

Influenza A is the more important epidemiologically and is responsible for pandemics. Within influenza A there are:

- 15 distinct forms of hemagglutinin (HA) designated as H1-H15
- 9 distinct forms of neuraminidase (NA) designated as N1-N9

HA and NA are viral surface proteins (referred to as antigens) recognised by the body's immune system and are involved in viral replication:

- HA is responsible for attachment to cell receptors following which infection occurs and then virus replication
- NA digests the cell receptor allowing the newly synthesised virus to escape from the cell surface.

There may often be more than one type/strain of influenza circulating, however, one strain will usually predominate in a given season/location.

4.4. Emergence of new strains and subtypes

Influenza viruses undergo two types of antigenic change, these being antigenic drift and antigenic shift.

4.4.1. Epidemics (antigenic drift)

Antigenic drift refers to small antigenic changes in the HA and NA surface antigens due to the high rate of mutation in the virus RNA. This is an ongoing process, which results in new epidemic strains of influenza A and B virus. These minor antigenic changes often result in localised outbreaks or regional epidemics. Epidemics of influenza usually occur between late autumn and early spring and last for up to two months in individual regions but may also occur progressively across the country. Populations with high susceptibility to epidemic strains of influenza include the elderly, the chronically ill and children.

4.4.2. Pandemics (antigenic shift)

Antigenic shift refers to major change in the HA and NA surface antigens of influenza A, resulting in the evolution of pandemic strains. This may involve the process of genetic re-assortment between human and avian influenza viruses possibly taking place in animal populations. These events occur at widely spaced intervals of many decades. The majority of the pandemics of the 20th Century seem to have arisen in Southern China. Novel influenza A strains arising through antigenic shift are usually associated with pandemics i.e. rapid worldwide spread and a high incidence of infection and disease. However the H3N2 strain arising in 1968 was an exception to this, the mildness of this pandemic, is thought to result, in part, from protection against severe disease conferred by the pandemic of 1957. If the human population has not been exposed to the new subtype, or has not been exposed to a similar subtype for many years, it will be highly susceptible. Current and past vaccines do not afford protection against new strains, as they do not stimulate cross reactivity by the immune system.

An influenza pandemic is defined as:

- An antigenic shift resulting in a new type of influenza A virus in the human population;
- A high proportion of the population susceptible to the new virus;
- The new virus is capable of transmission from person to person and infecting a high proportion of exposed individuals; and
- A new virus spreading rapidly and causing disease.

Pandemics, as opposed to epidemics, occur globally at unpredictable intervals, are trans-seasonal, and can last for up to 2 to 3 years.

During the 20th Century there were three recognised influenza pandemics (Spanish Influenza 1918–1919; Asian Influenza 1957–58;and Hong Kong Influenza 1968). All three pandemics were associated with increased mortality rates in Australia.

The influenza pandemic of 1918–1919 was unprecedented in terms of loss of human life. The illness was notorious for its rapid onset and progression to respiratory failure and death, and it is estimated that between 20 and 40 million people died worldwide, with the highest numbers of deaths among those aged 20 and 40 years. By the end of 1919, 11,500 people in Australia had died of influenza, with 60% of deaths in people aged 20 to 45 years. In these same age groups the male rates were 1.5 to 2-fold higher than in females.

The Asian influenza of 1957 – 1958 had infection rates reported to range between 20 % to 70%, but case fatality rates were low, ranging from 1 in 2000 to 1 in 10 000 infections. In Australia mortality rates were 2 to 5-fold greater than in non-pandemic years. Age-specific mortality rates showed that those aged over 65 years were most affected.

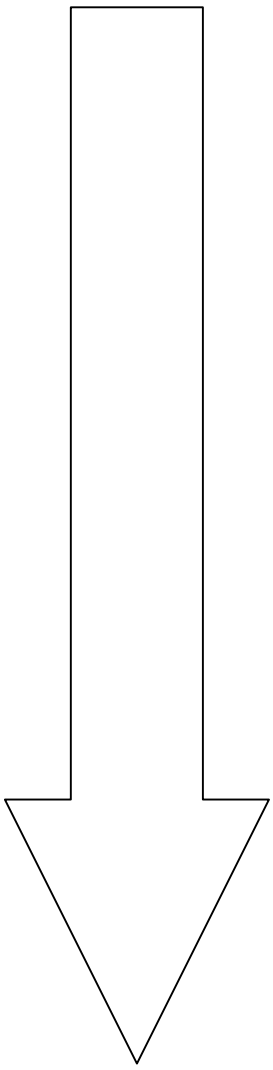
The Hong Kong influenza of 1968 had mortality rates similar in magnitude to those caused by the Asian influenza. Age-specific mortality rates were highest for those over the age of 65 years. Infection rates were around 25% to 30%.

The differences in past pandemics show the need for flexible contingency plans capable of responding efficiently to a pandemic threat.

SECTION C

5. PANDEMIC ACTION PLAN

The stages of this plan are aligned with the stages used in the Australian Management Plan for Pandemic Influenza – June 2005 and the WHO Phases used in the WHO global influenza preparedness plan – March 2005.

Period	Global Phase	Australian Phase	Description of phase	Main strategy
Inter-pandemic	0	Aus 0	No circulating animal influenza subtypes in Australia that have caused human disease.	Containment  Maintain essential services
	1	Overseas 1	Animal infection overseas: the risk of human infection or disease is considered low.	
		Aus 1	Animal infection in Australia: the risk of human infection is considered low.	
	2	Overseas 2	Animal infection overseas: substantial risk of human disease.	
		Aus 2	Animal infection in Australia: substantial risk of human disease.	
Pandemic alert	3	Overseas 3	Human infection overseas with new subtype(s) but no human to human spread or at most rare instances of spread to a close contact.	
		Aus 3	Human infection in Australia with new subtype(s) but no human to human spread or at most rare instances of spread to a close contact.	
	4	Overseas 4	Human infection overseas: small cluster(s) consistent with limited human to human transmission, spread highly localised, suggesting the virus is not well adapted to humans.	
		Aus 4	Human infection in Australia: small cluster(s) consistent with limited human to human transmission, spread highly localised, suggesting the virus is not well adapted to humans.	
	5	Overseas 5	Human infection overseas: large cluster(s) but human to human transmission still localised, suggesting the virus is becoming increasingly better adapted to humans, but may not yet be fully adapted (substantial pandemic risk).	
		Aus 5	Human infection in Australia: large cluster(s) but human to human transmission still localised, suggesting the virus is becoming increasingly better adapted to humans, but may not yet be fully adapted (substantial pandemic risk).	
Pandemic	6	Overseas 6	Pandemic overseas – not in Australia: increased and sustained transmission in general population.	
		Aus 6a	Pandemic in Australia: localised (one area of country).	
		Aus 6b	Pandemic in Australia: widespread.	
		Aus 6c	Pandemic in Australia: subsided.	
		Aus 6d	Pandemic in Australia: next wave.	

* Two phases may be referred to simultaneously, for example, one phase for what is occurring overseas and one phase for Australia. The phases are intended to guide actions rather than be a strict categorisation of the events.

Victoria's approach to pandemic response

Three major strategies are used within Victoria to respond to a pandemic threat. The aim of the strategies is to minimise the morbidity and mortality associated with the pandemic. They are:

Preparedness This refers to the readiness of arrangements to ensure that Victoria is well prepared.

Containment This refers to preventing transmission and spread by border control measures, isolation of the sick, quarantine of contacts and use of antiviral medication.

Maintenance of essential services If there are communitywide cases, containment may not be possible. The prevention of transmission within essential services staff will be necessary to ensure that they are protected and continue to work, while minimising community transmission.

Determination of phases

The determination of global phases, including upscaling and downscaling, will be made by the Director-General of the World Health Organisation.

The Australian phases will be designated by the Australian Government Department of Health and Ageing, in particular the Chief Medical Officer, with advice from an expert advisory group.

Victoria will take guidance from the Australian Government Department of Health and Ageing, as well as determining its own phases, by direction of its Chief Health Officer.

6. Response at different phases

Phase: Australian 0 – Interpandemic period

No circulating animal influenza subtypes in Australia that have caused human disease

Goal: preparedness

Department of Human Services (DHS)

- Develop and maintain the Victorian Influenza Pandemic Plan

National Influenza Pandemic Action Committee (NIPAC) / Communicable Diseases Network of Australia (CDNA)

- Department of Human Services (DHS) representation on NIPAC and CDNA.

Vaccines / antivirals

- Attain high coverage of influenza and pneumococcal immunisation in identified high-risk groups using current vaccines
- Identify supplies of antivirals and protocols for their distribution.

Surveillance

- Maintain a nationally consistent case definition of influenza-like illness, and consistent surveillance methods
- Participate in national surveillance of influenza
- Laboratory capacity for influenza surveillance
- Routine Interpandemic Surveillance - Human surveillance
    - Sentinel surveillance for influenza like illness includes:
        - Sentinel general practitioners throughout Victoria
        - The Melbourne Metropolitan Locum Service
        - Aged Care Facilities (pilot study)
    - Notification by laboratories and practitioners of laboratory confirmed influenza to the Chief Health Officer, DHS.

Communication

- DHS to keep a watching brief on overseas and interstate activity and liaison with other jurisdictions including the DoHA.

Community support and recovery - DHS Branches and Regions

- Facilitate planning arrangements
- Work with local government authorities to assist with influenza pandemic planning
- Work with health care facilities to assist with influenza pandemic planning
- Facilitate influenza pandemic planning within the DHS Regions and DHS program areas eg. Disability services/Community Residential Units/Supported Residential Services

Department of Primary Industries (DPI)

- Animal surveillance
    - Notification by owners, veterinarians and laboratory staff of avian, swine and equine influenza to an Inspector of Livestock, Department of Primary Industries (DPI).

Hospitals

- Create or update existing emergency and disaster plan to include contingencies for an influenza pandemic including business continuity issues.
- Attain high coverage of staff immunisation, particularly for influenza and pneumococcal disease.
- Ongoing education of staff about infection control protocols.
- Ensure all Emergency Departments have appropriate stocks of masks, eye protection, gloves, gowns and antivirals (see Appendix 9: Infection Control) and that staff are trained in their use.
- Notification of laboratory confirmed influenza to DHS.

General practice

Preparedness

- Ensure access to current public health advice, guidelines and protocols (i.e. DHS and DoHA websites, general practice divisions, etc.).
- Ensure office protocols cover pandemic influenza and have processes to update protocols with new public health advice when required.
- It should be normal practice in general practice for dealing with these eventualities to have stocks of appropriate masks, eye protection, gloves and gowns (see Appendix 9: Infection Control).

Prevention

- Promote vaccination for influenza and pneumococcal vaccine for the identified high-risk groups.
- Provide education on influenza to the general community, its complications and requirements of personal protective measures.
- Advise on antiviral prophylaxis to patients and staff during outbreaks of seasonal influenza in aged care facilities.

Laboratories

- Notification of laboratory confirmed influenza to DHS.

Ambulance Services

- Maintain liaison with DHS.
- Maintain staff immunisation schedules.
- Ongoing education of staff about infection control procedures.

Community support and recovery

Local Government

- Undertake influenza pandemic planning.
- Make provisions for business continuity in face of increased absenteeism and demand on services.
- Promote vaccination for influenza and pneumococcal vaccine for the identified high-risk groups.

Agencies

(Examples include Victoria Police, Victorian State Emergency Service, Country Fire Authority, Metropolitan Fire Brigade, Royal District Nursing Service, and any other agencies)

- Create or update existing emergency and disaster plan to include contingencies for an influenza pandemic including business continuity issues. (See also 3.4: Influenza pandemic planning for other agencies.).
- Immunisation coverage.
- Infection control.

Phase: Overseas 1 and Overseas 2 – Animal infection overseas

No human or animal cases in Australia

Goal: containment

DHS

Communication

As per phase 0.

Community support and recovery – DHS Regions

As per phase 0.

Prophylaxis

- Upon entering Australia if a person fills out the Incoming passenger card and ticks that they have visited a rural area or been in contact with, or near, farm animals outside Australia in the past 30 days, an Australian Quarantine and Inspections Services (AQIS) officer will assess the situation and contact the Chief Quarantine Medical Officer (CQMO) for advice if necessary.

- Any returning traveller who has had close contact with poultry, poultry farms, or poultry products (for example in food markets) in an affected area* or with a confirmed human case, or a laboratory worker possibly exposed to avian influenza should be advised that if they develop symptoms of an influenza like illness they should inform their doctor of their symptoms and the fact that they had contact overseas so that they may be isolated and properly tested.

DPI

Routine interpandemic surveillance with the addition of the following:

- Chief Veterinary Officer of DPI to:
    - Provide advice on recommending changes to border security measures at airports for high risk countries (passengers and baggage checks for high risk items) (AQIS responsibility)
    - Provide advice on recommending that import quarantine protocols for live birds (few are permitted in) and poultry products be amended (AQIS responsibility)
    - Renewed communication with the poultry industry stressing the need for biosecurity on farms
    - Enhanced passive surveillance, including the investigation of unexplained morbidity/ mortality in commercial poultry flocks, pigs or horses – an example of this would be putting avian influenza on the differential diagnosis list for poultry disease outbreaks and taking diagnostic opportunities as they present to rule out highly pathogenic avian influenza as the cause of disease and mortality incidents in poultry.

*An affected area is defined as a country currently or recently experiencing avian influenza in poultry. Information on affected areas can be found at the website of the World Organization for Animal Health (OIE) at http://oie.int/eng/en_index.htm

Hospitals

As per phase 0.

General practice

As per phase 0.

Laboratories

As per phase 0.

Ambulance Services

As per phase 0.

Community support and recovery

As per phase 0.

Phase: Australia 1 and Australia 2– Animal infection in Australia

No confirmed human cases in Australia
Goal: containment

DHS

As per stage 0 with the addition of:

Communication

- Liaison with DPI/DoHA on suitable industry/public communication.

DPI

Surveillance

As per stage 1 with the addition of DPI activation of emergency animal disease response arrangements based on the relevant AUSVETPLAN response plan.

Australian Veterinary Emergency Plan (AUSVETPLAN) is a series of technical response plans that describe the proposed Australian approach to an emergency animal disease incursion. There is an AUSVETPLAN disease strategy for Highly Pathogenic Avian Influenza (for further information on animal influenza policy see Appendix 2: Surveillance).

Prevention

Poultry cullers

- Appropriate PPE use (see Appendix 9: Infection Control).
- Education on infection control and staff health monitoring.

Prophylaxis

- Poultry cullers – antivirals to be given for at least 7 days after the last contact and vaccination with current vaccine (to prevent possible dual infection and reassortment).

Hospitals

As per phase 0, with the addition of:

Prophylaxis

- Asymptomatic person who had direct contact with a sick animal in an affected area – antivirals for 7 days after the last contact.

General practice

As per phase 0 with the addition of:

- Control of persons exposed to highly pathogenic influenza in animals:
  - Advise use of personal protective equipment, provide antiviral prophylaxis and immunise with seasonal influenza vaccine.
  - Provide advice on the disease, and its symptoms and signs and proper personal hygiene.
  - Advise voluntary home quarantine until incubation period passed, if recommended by DHS.
  - Advise self-monitoring for signs and symptoms of disease and reporting if ill.
  - If symptoms develop, assess as per probable case, in the patients home where possible.

- Prophylaxis
    - Asymptomatic person who had direct contact with a sick animal in an affected area – antivirals for at least 7 days after the last contact.

Laboratories

As per phase 0.

Ambulance Services

As per phase 0.

Community support and recovery

As per phase 0 with the addition of:

Local Government

- Community Support
    - Provide support to individuals/communities quarantined/isolated in homes/institutions.

Phase: Overseas 3 – Human cases overseas

No transmission between humans or at most rare instances of spread to close contacts
No confirmed human cases in Australia
Goal: containment

DHS

Investigation of suspected cases

- For any returned traveller with bird contact in avian influenza affected countries and who has developed flu like symptoms:
    - The person should be isolated, and nose and throat swabs collected for testing at VIDRL. The examining medical practitioner should wear full PPE. A list of avian influenza affected areas is given on the OIE website. Updates for doctors will be provided on the DHS websites and Health Alerts will also be distributed.

Surveillance

- Issue an Health Industry Alert (to GPs, GPDV, hospitals, laboratories, DHS Regions, ambulance services) regarding situation including information about the overseas situation, case definition, management of cases, infection control procedures, laboratory procedures and where to get further information.

DPI

Prevention

Poultry cullers if dealing with possible animal cases:

- Appropriate PPE use.
- Education on infection control and staff health monitoring.

Hospitals

- DHS to issue Health Industry Alert (see above)
- As part of maintaining vigilance, clinicians will need to look for:
    - Fever and respiratory symptoms in:
        - Laboratory workers with exposure to avian influenza virus or novel influenza virus.
        - Returned travellers from countries with avian influenza, who have had contact with live poultry or recently killed poultry (such as in markets).
        - Returned travellers from countries with avian influenza, who have been in close contact with a person with unexplained respiratory illness that led to death.
        - Health care workers who have cared for patients suspected or confirmed to have avian influenza or novel influenza virus.
    - Clusters of unexplained respiratory illness in:
        - Health workers.
        - Farm workers or others exposed to poultry or wild birds.
- If avian influenza is suspected the patient should be seen at home if possible and the clinician should wear PPE when assessing them. If the patient presents to hospital they should be given a mask on arrival and taken immediately to a separate room.

- All cases should be managed using appropriate infection control procedures.
- If possible, antiviral medication should be commenced within 48 hours of symptom onset in confirmed cases.
- All suspected cases need to be reported immediately to DHS.

General Practice

As per Hospitals above.

Laboratories

As per phase 0.

Ambulance Services

As per phase 0.

Communication

- DHS to issue Health Industry Alert (see above).
- Media statements as necessary.
- Workshops for general practitioners, community support groups and DHS Regional Offices to discuss pandemic planning.

Phase Australia 3 – Human cases in Australia

No human-to-human spread or at most rare instances of spread to a close contact.

Goal: containment

DHS

Surveillance

- Liaise with CDNA on a daily basis.
- Review the case definition for influenza and the surveillance guidelines.
- Improved case/cluster detection:
    - Case detection in general practice - All general practitioners should be advised to be alert for patients presenting with an illness consistent with the case definition, that is, an agreed symptom cluster and exposure history. General practitioners should be encouraged to be aware of recommended infection control precautions related to a potential case;
    - Hospital case detection - All hospital staff should be advised to be alert for patients presenting with an illness consistent with the case definition, that is, an agreed symptom cluster and exposure history. Hospital staff, and in particular staff in the emergency department, should be aware of recommended infection control precautions related to a potential case;
    - Case detection of unexplained deaths - The Coroner and Hospitals should be requested to report deaths due to unexplained respiratory illness to DHS;
    - Case detection in other institutions - DHS will alert representatives from educational authorities (pre-school, primary, secondary and tertiary schools), prisons, police, emergency services, utilities (water/gas/electricity) and transport (bus/train/tram/taxi) to notify clusters of respiratory illness for further investigation. Similar alerts could be considered for other major employers.
- Rumour surveillance, which involves case finding by monitoring media reports. Media monitoring agencies provide daily summary reports of relevant publications and broadcasts to the DHS Media Unit. Reports related to influenza or respiratory illness should be forwarded to the DHS Communicable Diseases Section for review and possible investigation. It would be expected that DHS and the DoHA would have an open dialogue regarding the veracity of media reports.
- Contact tracing - The contacts of all confirmed cases should be traced and put under surveillance. Contacts should remain in quarantine at home and provided with antivirals for 7 days.
- Notification - The Communicable Diseases Section should be immediately notified of all suspected and confirmed, including cases detected as part of rumour surveillance.
- Border Surveillance – as per Border Control in phase overseas 4 and 5.
- Surveillance communication with DoHA - The Communicable Diseases Section will provide DoHA with daily (or more frequently if required) updates of suspected and confirmed cases. It is expected that DoHA will communicate with WHO.
- All suspected cases should be isolated and if confirmed placed on antivirals and kept isolated until asymptomatic. Patients should be cared for at home if their clinical condition permits or in a single room with negative pressure if referred to hospital. Cases should be treated with antivirals for five days.

Hospitals

- Suspected cases who cannot be assessed at home or who self-present to hospital will be assessed in a separate room (NPR if available), observing infection control procedures. If patient requires inpatient care and NPR not available, patient will be transferred to nearest hospital where facilities available. Similarly if patient requires ICU care (should be managed in single room, NPR if available).
- Admitted patients to be managed in NPR until pathogen is known.
- Decision to transfer to a designated metropolitan or regional hospital to be made on a case-by-case basis in consultation with DHS.
- DHS to advise hospitals where to access antiviral stocks for HCWs, patients and contacts.
- Hospitals to liaise with DHS regarding media queries.

Management (treatment)

Confirmed cases

- Antivirals, within 48 hours of symptom onset/according to manufacturer's instructions – duration 5 days.
- Isolation - until asymptomatic (adults at least 7 days and children 21 days).

Contacts (asymptomatic)

- Education and monitoring - educational material will be given to any asymptomatic people who have had infected animal or human contact. Human contacts at this stage will be advised to stay at home and monitor their own health and call DHS if any symptoms develop. If numbers permit active surveillance will be deployed.
- Antivirals for 7 days after last contact.

Prophylaxis

- Border workers - antivirals for 7 days after last contact.
- Health care worker working with confirmed human cases – antivirals for 7 days after last contact.

General practice

- Control of suspected and confirmed cases of influenza:
  - Implement infection control before, during and after assessment of suspected cases of novel influenza virus to minimise spread of disease.
  - Arrange assessment of suspected cases of novel influenza virus in the home or on arrival at the surgery, or arrange for seating in a separate waiting area.
  - Advise voluntary isolation for symptomatic cases (when cases not isolated in hospitals).
  - Treatment of influenza caused by novel virus subtype –
    - See clinical guidelines in Australian Management Plan for Pandemic Influenza.
    - Treat symptomatic cases of novel influenza virus with antivirals for 5 days.
- Control of contacts of cases of novel influenza virus (exposed in Australia or overseas):
  - Provide advice on the disease, and its symptoms and signs; the use of tissues for coughing and sneezing, frequent hand washing and actions to take if illness occurs.

- Provide post exposure antiviral prophylaxis to contacts of confirmed cases, as per public health guidelines/protocols.
- Advise self-monitoring for signs and symptoms of disease and reporting if ill.
- Provide clinical evaluation of symptomatic contacts, in the home where possible.
- Advise quarantine at home.
- If quarantined at home, provide advice for other household members on infection control and actions to take if contact becomes ill.
- Health care workers to self-monitor for symptoms and signs of disease.

Laboratories

Specialist laboratories (VIDRL)

- Case testing - A testing algorithm will be used as previously established. This will include testing for the novel influenza virus and testing for plausible alternative aetiological agents.
- Test and type specimens from all suspected cases for the potential new pandemic influenza strain as per the VIDRL testing protocol. Planning for increased number of testing.

Routine laboratories (public & private)

- Transfer any referred specimens to VIDRL for analysis.

Ambulance Services

- Institute the Ambulance Emergency Response Plan.
- Remind staff of the relevant provisions of the infection control policies.
- Provide anti virals (from NMS) for exposed staff.
- In consultation with DHS, triage cases requiring hospitalisation and refer to appropriate facility. Information on self management will be provided to patients not requiring transfer to hospital.

Community support and recovery

Support will be needed for cases isolated at home and contacts who are quarantined at home. This will be especially important for single parent families, elderly people living alone etc.

Phase: Australia 4 and Australia 5 – Human cases in Australia

Transmission between humans – (from small to larger clusters)

Goal: containment

DHS

Surveillance

- Continue count of cases and contacts.
- Liaison with CDNA (NIPAC) daily.
- Case notification – All suspected human cases must be notified as a matter of urgency to the Communicable Diseases Section.

Hospitals

Treatment/prevention

Suspected cases

- Implement stringent infection control before, during and after assessment of suspected cases and during any hospital care.
- If hospital admission is necessary, isolation in a NPR until clinical severity allows discharge home.
- Decision to transfer to a designated metropolitan or regional hospital to be made on a case-by-case basis in consultation with DHS.
- Antivirals, within 48 hours of symptoms onset/according to manufacturer's instructions – duration 5 days.

Communication

- Regular updates provided to healthcare workers and to the public.
- If cases occur in Victoria, in accordance with the DHS State Level Plan for the Management of Emergencies and Critical Events, the DHS Health Service Support Centre (HSSC) will be activated.

The HSSC and website will be the official mechanism of contact between DHS and health services.

During the period of activation, DHS will provide information to agencies on the situation. Agencies will be required to provide reports to DHS on the impact of the epidemic on services and to notify associated incidents. Through the HSSC, agencies will be able to request additional resources.

The HSSC role during these Phases is to:

- Establish contact with health service CEOs, DHS Regional Directors and emergency disaster response and recovery personnel; When a Departmental Emergency Coordination Centre (DECC) is established all communications to DHS Regions will go through the DECC and not the HSSC.
- Provide information and advice to hospitals and ambulance services regarding the scale of the epidemic.
- Monitoring the status of the health services through obtaining information about a range of issues such as beds available and resources required.
- Manage statewide resources to meet critical service demands.
- Centrally coordinate and provide information to the health sectors, DHS Regions and government on the overall status of services.

- Liaise with, and provide industry bulletins on a regular basis to the following bodies:
  - Office of Medical Displan;
  - Ambulance services;
  - Pharmacies;
  - Australian Red Cross Blood Service;
  - Private Hospitals; and
  - Other private health service providers (Imaging and Pathology).

Private Hospitals, Metropolitan Health Services and Rural Regions will establish a single point for contact with the DHS. Throughout the duration of the epidemic they will provide reports, at a frequency determined by DHS (most likely daily) to the HSSC. This will comprise:

- A Consolidated Summary Status report for each Metropolitan Health Service and Rural Region, and Private Hospital. The report will contain information including, but not limited to:
  - Total beds occupied;
  - Total beds vacant;
  - Number of influenza patients (in ED, admitted, treated and discharged, deceased); and
  - Number of elective admissions postponed.
- A Situation Report to be completed for all services irrespective of whether they are receiving / have patients with influenza or not.

General practice

As per Phase Australia 3

Laboratories

As per Phase Australia 3

Ambulance Services

As per Phase Australia 3

Community support and recovery

As per Phase Australia 3

Phase: Overseas 4 and Overseas 5 – Human cases overseas

Transmission between humans

No confirmed human cases in Australia

Goal: containment

DHS

Surveillance

- Review of surveillance case definition - A case definition for human cases infected with a novel influenza virus should be established by CDNA based on advice from WHO and adopted by DHS.
- Laboratory testing - A laboratory testing protocol for the novel influenza virus in both humans and animals should be based on advice from PHLN. This would include testing for other infections that may have a similar clinical presentation.
- Case notification - All suspected human cases must be notified as a matter of urgency to the Communicable Diseases Section, DHS.

Communication

- Regular updates to health care providers and the public should be provided by the CMO (DOHA) and Victoria's CHO.

DPI

Prevention

Poultry cullers if dealing with possible animal cases:

- Appropriate PPE use.
- Education and staff health monitoring.

Hospitals

Prophylaxis

- Border workers - antivirals for 7 days after last contact with any confirmed cases.
- Health care worker working with confirmed human cases from overseas – antivirals for 7 days after last contact.
- Asymptomatic person with contact in the previous week with a suspected or confirmed case overseas during the infectious period – antivirals for 7 days after last contact.

General practice

- DHS to advise general practitioners where to access antiviral stocks for cases and contacts.

Prophylaxis

- Health care worker in contact with confirmed human cases from overseas - antivirals for 7 days after last contact.
- Asymptomatic person with contact in the previous week with a suspected or confirmed case overseas during the infectious period – antivirals for 7 days after last contact.

Laboratories

- Laboratory testing protocol for novel influenza virus based on advice from PHLN.

Ambulance Services

- Specific advice to staff of the relevant provisions of the infection control policies in terms of minimising spread.
- Stockpile masks and other personal protective and cleaning supplies (see Appendix 9).
- Provide anti virals for staff exposed to any confirmed cases for seven days after the last contact.

Public health measures

Isolation, Quarantine and border control methods

DoHA to coordinate a Health Alert (information leaflets and signage), advising returning travellers of the situation overseas. Returning passengers will also be advised of symptoms and to contact a doctor or hospital if they develop these symptoms up to two weeks after returning. Advice to include the importance of advising the doctor or hospital that they have returned from an overseas affected area, so that the facility can arrange for a mask to be worn when arriving at the facility so as to minimise the potential spread to others.

Medical practitioners who have to examine any suspected cases should wear full PPE. Any confirmed human cases of avian influenza should be isolated at home (if their clinical condition permits) or in a single room with negative pressure if referred to hospital. Confirmed cases should be commenced on antiviral medication as soon as possible and continued for five days. All household contacts should be quarantined at home and given antiviral prophylaxis for 7 days. Cases and contacts should be provided with adequate information on infection control, addressing such measures as cough etiquette and cleaning of potentially contaminated surfaces.

There should be an attempt to discourage inter country travel and all incoming passengers will be checked for fever using thermal scanners. Any incoming passengers with fever or other respiratory symptoms will be assessed by health staff at airports/seaports. Consideration may also be given in this phase to mandatory quarantine of incoming passengers from affected areas if there are symptomatic passengers on board.

Phase Australia 6A – Pandemic in Australia (one area of country)

Goal: maintaining essential services

DHS

Surveillance

- Review of surveillance - Determine whether to continue the elements of routine surveillance.
- Monitoring hospital admissions - A designated representative at designated hospitals or all hospitals depending on response strategies, should report daily to DHS on admitted cases of suspected and confirmed pandemic influenza.
- Monitoring deaths
  - Deaths in hospitalised patients - A designated representative at all hospitals should report daily to the DHS on deaths due to suspected and confirmed pandemic influenza.
  - Deaths in non-hospitalised patients - A designated representative from the Coroner's office should report daily to the DHS on deaths due to suspected and confirmed pandemic influenza.
- Monitoring health workforce absenteeism (though the HSSC)
  - Absenteeism among hospital staff - A designated representative at designated hospitals or all hospitals depending on response strategies, should report daily to the DHS on hospital workforce absenteeism, total and by employment category, if possible.
  - Absenteeism among general practice staff - A designated representative from each of the General Practice Divisions should report daily to the DHS on general practice workforce absenteeism, total and by employment category, if possible.
  - Absenteeism among ambulance staff – A designated representative, from Metropolitan Ambulance Services (MAS) and Rural Ambulance Victoria (RAV) should report daily to the DHS on absenteeism, total and by employment category, if possible.
  - Absenteeism among community nursing staff - A designated representative, from the Royal District Nursing Services (RDNS) should report daily to the DHS on absenteeism, total and by employment category, if possible.
  - Absenteeism among pharmacists – A designated representative, from the Pharmacy Guild should report regularly to the DHS on absenteeism, if possible.
- Monitoring other workforce/student absenteeism - In order to monitor workforce absenteeism in essential services and industries, communication should be established prior to the onset of a pandemic with the following organisations:
  - Police;
  - Emergency services (SES, Fire Services);
  - Utilities (water, gas, electricity);
  - Transport (bus, train, tram);
  - Schools – students/teachers (pre-school, primary, secondary, tertiary); and
  - Local government.

- Other surveillance issues that DHS may consider implementing:
  - Consider how recovered cases, who are presumably immune to the novel virus, can be identified by occupation, for example, HCWs or workers in designated essential services, facilitating the development of a resource of presumed immune workers.
  - Collecting case series data for patients with pandemic strain influenza.

Contacts

- Provide advice on the disease, its signs and symptoms, and control measures.
- Advise self monitoring for signs and symptoms of the disease and reporting if ill.
- Voluntary home quarantine of healthy contacts.
- Provide clinical evaluation of symptomatic contacts in home where possible
- Advise contacts to defer travel to unaffected areas.

Vaccine

- Mobilisation to immunise priority groups against pandemic strain (as soon as vaccine is developed). All municipal councils will be identified as the front line vaccination teams.

Public health measures

Make recommendations on public health measures as appropriate, in consultation with DoHA/CDNA and provide advice to the Victorian Central Government Response Committee (CGRC) in order for them to make a risk benefit analysis at the time. The issues taken into account at the time will include:

- The morbidity and mortality by age group.
- Levels of absenteeism by different groups (ie health care workers, essential services staff etc).
- The virulence and level of infectivity of the novel virus.

The following measures will be considered:

- Measures to increase social distance:
  - Voluntary home confinement of symptomatic persons (if not isolated in hospitals).
  - Closure of schools (including pre-schools, primary, secondary and higher education) in conjunction with other measures to reduce mixing of children.
  - Population wide measures to reduce the mixing of adults (eg discourage mass gatherings).
- Measures to decrease interval between symptom onset and isolation:
  - Public campaign to encourage prompt self-diagnosis.
  - Urge entire population in affected areas to check for fever daily.
- Disinfection measures for members of public:
  - Provide advice on handwashing.
  - Provide advice on household disinfection of potentially contaminated surfaces.
- Measures for persons entering an infected area within Australia:
  - Provide advice on avoiding contact with high risk environments (eg. infected farms).
  - Appropriate PPE use.

- Recommendation to defer non-essential travel from unaffected to affected areas.

Community support and recovery DHS Regions

- Provide assistance to DHS – Public Health, Communicable Diseases Section as necessary.
- Provide assistance to local government to help deliver response activities.
- Coordinate a response at a DHS Regional level.
- Provision of information at a DHS Regional level.
- Collation of Regional data – to inform a state-wide response (data on immunisation, persons/services affected).
- Coordinate community support and recovery activities across the region.

State recovery arrangements

The State Recovery arrangements will be activated. The State Emergency Recovery Unit will coordinate and facilitate recovery at the state level. Service provision will, as far as possible, be devolved to local government with resources support, if necessary, from the State Government. This would include:

- State Emergency Recovery Planning Committee will be convened to determine recovery issues, including assessment of the need for temporary accommodation, material assistance, financial assistance and personal support. Economic, environmental and infrastructure impacts will also be assessed.
- State Personal Support Network to be convened to assess need for bereavement support services.
- Centrelink to be contacted to advise on income support issues.

Communication

- At all stages of the Pandemic, health services will be informed of the response requirements for their agency.
- Public Health will coordinate response for public health management of possible/confirmed cases of influenza.
- Disseminate information to general public on influenza including methods of transmission, risks and risk avoidance including personal protective measures (tailored to the target population) through:
  - The distribution of fact sheets; and
  - Ensuring public access to DHS website and other sources for information.
- Disseminate information to health professionals on disease, infection control, testing, recommended actions etc.
- All media queries will be co-ordinated through DHS Media Unit.

Hospitals

- Liaise with hospitals to activate hospital emergency and disaster plans.
- Designated hospitals will establish fever clinics separate from emergency departments as directed by DHS. Patients will be discharged home with treatment when appropriate and reassessed as necessary by Hospital in the Home/Clinical Outreach Teams when available. When NPRs full, patients requiring admission will be cohorted in isolation wards (suspected cases separate from confirmed cases).
- Community-based fever clinics will complement and be linked to clinics co-located at designated hospitals.

- All hospitals to have contingencies for triaging increasing numbers of pandemic influenza patients.
- Consider cessation of elective surgery and early discharge of patients.

Treatment/prevention

Cases (suspected or confirmed)

- Education and monitoring - educational material will be given to suspected cases. Cases will have daily communication with DHS, if possible, depending on numbers involved.
- Antivirals, if available, within 48 hours of symptom onset/according to manufacturer's instructions) – duration 5 days.
- Isolation - until diagnosis is excluded, or until patient is no longer symptomatic and at least 7 days for adults and 21 days for children.

Prophylaxis

- Border worker - antivirals – for 7 days after last contact.
- Health care worker working with suspected or confirmed human cases - antivirals for as long as contact continues and 7 days after last contact.
- Asymptomatic person with human contact in the last week with a suspected or confirmed case during the infectious period – antivirals for 7 days after last contact.

Control of health care workers

- Provide immunisation with pandemic vaccine to all health care workers including investigation teams as soon as vaccine is available.
- Antiviral prophylaxis as above.
- During assessment and care use appropriate PPE.
- After exposure to possible case of pandemic influenza, Do not work if symptoms of respiratory illness. Self monitoring for signs and symptoms of disease and reporting if ill. Self isolate until assessed.

General practice

- Refer possible cases to designated hospitals, if clinical condition warrants this.
- Stock masks for use in waiting rooms.
- Have separate waiting room facilities for possible cases.
- DHS to advise general practitioners where to access antivirals if needed for contacts.
- Contact GPDV regarding media queries and suggest GPDV liaise with DHS regarding media queries.

Treatment/prevention and prophylaxis/contacts/control of health care workers

As per hospitals above.

Laboratories

Specialist laboratories (VIDRL)

- Test and type specimens from all possible cases for the pandemic influenza strain as per the VIDRL testing protocol. Planning for increased number of tests.

Routine laboratories (public & private)

- Transfer any referred specimens to VIDRL for analysis.

Ambulance Services

- Re assess the Ambulance Emergency Response Plan level of activation.
- Specifically review all non-essential activities to maximise on going response capacity.
- Continue antivirals for exposed staff.
- Transport of possible influenza cases will be undertaken in consultation with DHS.
- Liaise with DHS in regards to actions with Non Emergency requests (pre planned and routine clinic transports).

Community support and recovery

Local Government

Information/resources:

- Work in conjunction with Regions and DHS to disseminate information.
- Provision of resources as available and need by the community and response agencies.
- Establishment of Municipal Emergency Coordination Centre (MECC) – facilities and staffing.
- Post-impact assessment – gathering and processing of information (to be determined).

Community support

- Provide support to individuals/communities quarantined/isolated in homes/institutions.
- Provision and/or coordination of volunteer helpers.
- Provision of personal support services, eg counselling, advocacy.
- Provision and staffing of Recovery/Information Centre(s).
- Convening of Municipal/Community Recovery Committees.

Vaccine:

- Vaccine storage and delivery.
- Provide immunisation services according to recommendations by DHS.

Identify temporary mortuary facilities that could be used if required.

Phase: Australia 6b– Pandemic in Australia - widespread

Goal: maintaining essential services

DHS

Surveillance

As per Phase 6a.

Vaccine

- Upon availability of vaccine, priority groups as decided by CGRC will be vaccinated by local government teams.
- DHS will source and distribute the vaccine.
- Hospital pharmacies will act as the liaison points for vaccination of hospital staff.
- Once the identified priority groups have been vaccinated and further vaccine is available, the general population will be vaccinated. This will be overseen by DHS and utilise local government teams.

Public health measures

Same as Phase 6a.

- Review current public health measures and consider whether further public health measures are required.

Communication

- DHS to continue to coordinate response for public health management of possible/confirmed cases of influenza.
- Liaise with DoHA regarding anti viral stockpiles and vaccine.
- All media queries should be directed to the DHS Media Unit.

Increased mortality

- In the event that funeral directors are unable to handle the increased number of corpses and funerals, it will be the responsibility of DHS, with support from the VIFM, to make appropriate arrangements for the ongoing storage of bodies prior to burial/cremation, through the use of temporary refrigerated containers.

A: Services coping (low numbers)

Hospitals

As per Phase 6a, including the addition of:

Treatment

- Confirmed case – priority may need to be given to those deemed at highest risk of severe outcome.
- Suspected case – Depending on availability of supplies – provide antivirals.
- Those at high risk of serious morbidity and mortality will depend on the epidemiology of the causative virus.

Prophylaxis

- Will depend on availability, priority groups to minimise social disruption – health care workers and essential service workers.

Contacts

- As per Phase 6a.

Control of health care workers

- As per Phase 6a.

Treatment/prophylaxis/contacts and control of health care workers to be maintained throughout Phase 6.

General practice

- Patients that meet case definition should be managed in accordance with pandemic flu protocols.
- Patient referred to any hospital based only on clinical severity.
- DHS to advise general practitioners where to access anti-virals for contacts.

Treatment/prophylaxis/contacts and control of health care workers as per hospitals above.

Laboratories

Specialist laboratories (VIDRL)

It may not be possible to test all suspected cases because of the large increase in numbers.

Routine laboratories (public & private)

Transfer any referred specimens to VIDRL for analysis.

Ambulance Service

- As per Phase 6a.

B: Services full capacity

Hospitals

- With NPRs and isolation wards near capacity:
  - one or more hospitals will be closed to solely manage cases and/or;
  - one or more other facilities will be nominated by DHS to manage cases.

General practice

- Manage cases in accordance with pandemic flu protocols.
- Patient referred to any hospital based only on clinical severity.
- Attempt to manage most patients at home if clinically appropriate.
- It should be normal practice in general practice for dealing with these eventualities to have stocks of appropriate masks for use in waiting rooms.
- Separate waiting room facilities for potential cases probably not practical given patient numbers.
- General practitioners to contact DHS regarding access to anti-virals.

Laboratories

- As above.

Ambulance Services

- Reassess the Ambulance Emergency Response Plan level of activation.
- Reduce all non-essential activities to maximise on going response capacity as provided for under the Ambulance Emergency Response Plan.

- Continue antivirals for exposed staff.
- Consider infield triage to deliver to selected sites based on severity as provided for under the Ambulance Emergency Response Plan and in conjunction with DHS.
- Liaise with DHS in regards to actions with non emergency requests (pre planned and routine clinic transports).

C: Services overwhelmed

Hospitals

- As per "B: Services full capacity"

General practice

- Manage cases in accordance with pandemic flu protocols.
- Patient referred to any hospital based only on clinical severity.
- Attempt to manage most patients at home if clinically appropriate.
- Separate waiting room facilities for potential cases probably not practical given patient numbers.
- General practitioners to contact DHS regarding access to anti-virals.
- General practices overwhelmed requiring referral to mass triage centres based at public hospitals or other locations nominated by the DHS.

Laboratories

- Laboratories may cease testing (unless specifically requested for any reason), clinical diagnosis should suffice.

Ambulance Services

- As above

Increased mortality

- Crematoria will need to look at surge capacity within their facilities.

Community support and recovery

- As per Phase 6a.

Phase 6c – Pandemic in Australia - subsided

Goal: maintaining vigilance

DHS

- Evaluate actions to date.
- Undertake stock inventory and resupply.
- Financial issues documented and collated.
- Staff debrief.

Vaccines and pharmaceuticals

- Collate data on cases and effectiveness of vaccines and antivirals.

Hospitals

- Stock inventory and resupply.
- Financial issues documented.
- Staff debrief (psychological and operational).
- Counselling and support services available.

General practice

- Stock inventory and resupply.
- Financial issues documented.
- Staff/Division general practice debrief (psychological and operational).

Laboratories

- Stock inventory and resupply.
- Financial issues documented.
- Staff debrief (psychological and operational).

Ambulance Services

- Ambulance Service to regain continuity of service provision.
- Stock inventory and resupply.
- Financial issues documented.
- Staff debrief (psychological and operational).

Phase 6d – Pandemic in Australia - next wave

Goal: maintaining essential services

Same measures as implemented in Phase 6a.

End of pandemic

Goal: return to normal activities

Evaluation and reporting

- Phase out quarantine measures, travel restrictions and public health measures.
- Summarise impact of pandemic, collate data, and update the *Victorian Influenza Pandemic Plan.*
- Re-stock resources used during the pandemic.
- Debriefing for major services involved.

Recovery

- Government Departments tasked to assess community impacts upon small business, industries, and the tourism industry.
- Convene meetings of Central Government Response Committee and State Emergency Recovery Committee to endorse ongoing support.
- Recovery strategy to be developed to promote community cohesiveness, support individuals and promote economic recovery.
- Liaison with Australian Government on issues around business and income support.
- Conduct memorial services as determined by the impact.
- Provide community information on bereavement support services.

Communication

- Evaluate performance and review media strategies.

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8. Influenza pandemic planning committees

Steering Committee membership

Dr John Carnie, Director, Disease Control and Research and Deputy Chief Health Officer (Chair), Rural and Regional Health and Aged Care Services (RRHACS), Department of Human Services (DHS)
Ms Elizabeth Birbilis, Senior Planning and Policy Officer, Communicable Diseases Section (CDS), RRHACS, DHS
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Dr Anne Geschke, CDS, RRHACS, DHS (until July 2004)
Mr Rodney Moran, Manager, Information and Resources, CDS, RRHACS, DHS
Dr Heath Kelly, Head, Epidemiology, Victorian Infectious Diseases Reference Laboratory (VIDRL)
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Dr Paul Van Buynder, Senior Medical Advisor, Social and Environmental Health, RRHACS, DHS (until 5 March 2004)
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Dr Mary Turner, Senior Medical Advisor, Metropolitan Health and Aged Care Services (MHACS), DHS
Mr John Richardson, Manager, State Emergency Recovery Unit, Operations Division, DHS
Mr Bram Alexander, Media Officer, Media Unit, DHS
Belinda Caldwell, Population Health Consultant, General Practice Divisions Victoria
Mr Martin Wischer, General Manager/Director of Nursing, Royal District Nursing Service
Dr Joe Sasadeusz, Victorian Infectious Diseases Services (until 12 July 2004)
Mr Alan Hampson, Deputy Director, WHO Centre for Influenza
Dr John Anderson, Sales and Marketing Director, Pharmaceutical Division CSL Limited, Medicines Australia
Mr Paul Gabriel, Office of the Emergency Services Commissioner, Department of Justice
Mr Adrian White, Australian Institute of Environmental Health, Victorian Division
Mr Troy Edwards, Senior Adviser, Municipal Association of Victoria (until 22 August 2003)
Mr Simon Holloway, Policy Officer, Municipal Association of Victoria (until 23 November 2004)
Rosemary Hancock, Municipal Association of Victoria.
Mr Jeff Supple, Project Leader, Emergency Management Preparedness Project, Operations Division, DHS
Mr Julian Meagher, Manager, Emergency Management, Public Health, RRHACS, DHS
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Dr Neil Formica, Medicines Australia: Vaccine/Antiviral manufacturer
Thirza Titchen, Society of Hospital Pharmacists of Australia
Belinda Caldwell, General Practice Divisions Victoria
Bill Scott, The Pharmacy Guild of Australia

9. Agency Roles/Emergency contact details

For Agency Roles and emergency contact details of all response agencies please refer to the Emergency Management Manual Victoria available at:
www.justice.vic.gov.au/emergencymanual

Section D: Appendices

Appendix 1. The impact of a pandemic

Modelling the potential impacts of influenza pandemics is problematic, and involves a high degree of uncertainty. Factors such as the virulence and infectivity of the next pandemic strain and an undetermined epidemiology in human populations limit our abilities to characterise the next pandemic with any accuracy. It is, however, possible to model various pandemic scenarios given a series of pre-determined assumptions and limitations. This allows us to review our capacity in light of a variety of possible outcomes, and to estimate the likely efficacy of our interventions. Attempting to directly relate the results of the modelling, particularly the numbers of cases (deaths, hospitalisations etc) to the occurrence of a real pandemic would be inaccurate and misleading. In the event of a pandemic, epidemiological information as it comes available may be entered into the scenarios for more 'real-time' modelling of the morbidity, mortality and transmission dynamics of the disease.

1.1 Meltzer morbidity and mortality modelling

The Meltzer model[6] was designed to compute a series of pandemic scenarios with the objective to determine the economic benefits of influenza immunisation. It has been used more recently to obtain static point estimates on the range of potential excess hospitalisations, outpatient visits and deaths that may occur given specific population and pandemic characteristics.

It is estimated that an attack rate of 30 percent excess outpatient visits in Victoria could vary from 602,229 to 713,513; excess hospitalisations could vary from 6,236 to 24,323; and excess deaths could vary from 2,265 to 10,145.

[6] Meltzer MI, Cox NJ, Fukuda K. The economic impact of pandemic influenza in the Unites States: Implications for setting priorities for intervention. 1999

Appendix 2. Surveillance

An effective surveillance system is a vital component of pandemic preparedness and response, integrating data on disease occurrence with virological and clinical data. A sensitive early warning system is needed to identify the first human cases related to the emergence of a potential pandemic influenza strain and signal the first instances of human-to-human transmission. It is critical to signal the transition from limited human-to-human transmission to the efficient and sustainable transmission that marks the start of a pandemic.

2.1 Australia

One of the primary objectives of the *Australian action plan for pandemic influenza* is to implement a national surveillance system. In Australia, influenza surveillance is based on several schemes collecting a range of data that can be used to measure influenza activity. In 2003, five sentinel general practitioner schemes contributed reports of influenza-like illness (ILI): the Australian Sentinel Practice Research Network, Tropical Influenza Surveillance from the Northern Territory, and sentinel general practice schemes in New South Wales, Victoria and Western Australia. Laboratory surveillance of influenza is conducted throughout the year in South Australia. The Virology and Serology Laboratory Reporting Scheme (LabVISE) contributes laboratory reports of influenza diagnoses including virus type.

From autumn to spring, the results of each of the schemes are published on the Communicable Disease Australia Website as the National Influenza Surveillance Scheme.

Annual reports on influenza are published in Communicable Diseases Intelligence each year. These reports include a summary and review of sentinel surveillance data, absenteeism data from a major national employer and influenza typing from the WHO Collaborating Centre for Influenza Reference and Research.

2.2 Victoria

2.2.1 Human surveillance

In Victoria, influenza surveillance consists of notification of laboratory confirmed influenza from pathology laboratories as well as reports from general practices conducting sentinel surveillance for influenza like illness (ILI). In 2004, sentinel surveillance for ILI included reports from:

- Sentinel general practitioners in metropolitan Melbourne and regional Victoria
- The Melbourne Metropolitan Locum Service (MMLS)
- Aged care facilities (pilot study, 2004)

DHS is responsible for laboratory and practitioner notifications of laboratory confirmed influenza. The Victorian Infectious Diseases Reference Laboratory (VIDRL) coordinates sentinel general practice surveillance with laboratory support and sentinel surveillance from the MMLS.

2.2.2 Animal surveillance

Surveillance for animal influenza in Victoria is the responsibility of the Department of Primary Industry (DPI). 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 in place. Testing is undertaken at the DPI laboratory at Attwood and 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.

In Australia, the potential for cross-species transmission from domestic poultry and pigs to humans and subsequent reassortment of animal and human viruses in co infected individuals is extremely low, due to Australia's freedom from influenza viruses of pigs, domestic poultry and horses, and the high standards of animal husbandry and public health.

2.3 Laboratory issues

2.3.1 Laboratory investigation

Respiratory tract samples collected within one week after onset of illness, preferably within the first three days, are suitable for influenza virus detection. Combined nose and throat swabs, nasopharyngeal swabs, nasopharyngeal aspirates (NPA) and nasal washes may all be used for influenza detection. Staff collecting samples should follow all recommended infection control precautions, particularly for aerosol producing procedures such as NPA or nasal washes.

If initial respiratory samples are positive for a novel strain a second specimen should be collected and re tested.

An acute-phase serum specimen (7-10 ml of whole blood) should be taken soon after onset of clinical symptoms and not later than seven days after onset. A convalescent-phase serum specimen should be collected 14 days after the onset of symptoms. Convalescent samples should be collected even when acute samples have not been, as they may still assist in diagnosing or excluding infection.

2.3.2 Diagnostic testing[7]

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.

[7] This section is adopted from the Australian Government Department of Health and Ageing – Australian Management Plan for Pandemic Influenza – June 2005

VIDRL is a World Health Organization National Influenza Centre (NIC) and is able to provide services for identification of pandemic strains.

The World Health Organization Collaborating Centre for Influenza (WHOCC) in Melbourne provides the highest level of influenza testing, including detailed genetic and antigenic analysis of strains. The WHOCC provides diagnostic support and will be responsible for final confirmation of pandemic strains.

In the phase before the pandemic strain enters Australia, or if activity is detected within Australia, but not in Victoria, it is important that tests with high sensitivity and specificity are used in order to ensure accurate identification. Viral culture and nucleic acid detection by polymerase chain reaction (PCR) are the preferred methods.

During the phase prior to the entry of the pandemic strain into Australia, all patients with suspected pandemic influenza should have a suitable nucleic acid determination and cell culture performed. In all cases any sample that tests positive for influenza from a patient with suspected pandemic influenza must be referred for viral culture and must be referred urgently to the WHOCC via the NIC.

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.

Once pandemic influenza has entered Australia, the necessity for highly accurate testing will diminish. Other tests that have been shown to detect the pandemic strain, even if suboptimal, will have an important role in reducing the demand on reference laboratories. Where it is an area of known high pandemic activity, diagnostic testing will usually not be needed at all.

During the late phases of the pandemic, there shall be a return to the routine use of highly accurate testing so that the end of the pandemic can be confidently identified.

Appendix 3. Prevention

Influenza vaccines and antiviral drugs are essential components of a comprehensive pandemic response.

3.1. Vaccines

Influenza vaccines have been available for over 60 years. Extensive experience during this long period has demonstrated their safety and efficacy. In populations at risk of severe complications, vaccination is known to reduce hospital admissions and deaths. Vaccination is thus the cornerstone of influenza prevention. As influenza viruses are constantly evolving, vaccine is produced each year with a composition based on the most relevant strains of virus identified through a global surveillance system[8].

The modern influenza vaccinations achieve immunity up to 70% of those immunised (less in older people). Immunity is typically produced after a period of two to three weeks following a single vaccine dose when the viruses contained are ones to which the vaccinees have had past experience. A second dose may be required in other circumstances. Currently only inactivated vaccines produced in embryonated eggs are available throughout the world.

By definition, a pandemic strain of influenza is a new strain of virus. Existing stocks of influenza vaccine will be ineffective against the pandemic strain when it emerges. Delays in production and supply of the appropriate vaccine mean that it is very likely that insufficient vaccine will be available for the wide coverage required in the event of a pandemic.

Routine vaccination

Victoria aims for high levels of immunisation coverage against influenza and pneumococcal disease in the community during the interpandemic period. The emergence of antibiotic-resistant strains of *S. pneumoniae* and the difficulties in implementing a mass pneumococcal vaccination program amidst an influenza pandemic, support the importance of high coverage with pneumococcal vaccine in the at risk population.

Influenza vaccination coverage in those aged 65 and over was 81% in 2004, and we estimate that pneumococcal immunisation coverage in this age group was 60–70%. Both influenza and pneumococcal vaccination coverage in those aged 64 and under in other high risk groups is poor. Increased pneumococcal vaccination coverage in the event of a pandemic will reduce the complication rate due to pneumococcal infection. Strategies must be enhanced for this purpose, enabling vaccination of all high-risk communities.

General practitioners and other doctors and health care workers can have a great influence upon a person's decision regarding vaccination. Health care professionals have been shown to benefit from influenza vaccination, in reduction of reported days of work absence and febrile respiratory illness. The health care workers are a group that can be readily accessed and targeted for routine annual influenza

[8] World Health Organization Department of Communicable Disease Surveillance and Response, *WHO Guidelines on the Use of Vaccines and Antivirals during Influenza Pandemics*, 2004.

vaccination. The benefits of routine immunisation of this group include personal benefits, but the reduced risk of transmission of influenza from health worker to patients and reduced days absent from work will also benefit the community.

During the lead up to a pandemic, when the seasonal vaccine is still in production, it will have an important role to play in preventing simultaneous infection with the seasonal influenza strain and a novel influenza strain. There is the small possibility that if a person is infected with both of these viruses at the same time, the virus could share genetic material to produce a new highly transmissible virus that poses the threat of a pandemic[9].

Vaccine supply

In the event of a pandemic, the production time for the effective vaccine could be reduced from the current expected time. However, in view of the increased demand and the time required for vaccine production, delays in vaccine availability are anticipated in the event of a pandemic. It is estimated that current manufacturing procedures require a minimum of 6 months before millions of doses effective against a pandemic strain would become available for distribution in Australia.

In late 2004 the DoHA signed agreements with two pharmaceutical companies, CSL Ltd and Sanofi Pasteur Pty Ltd, to supply the normal seasonal influenza vaccine for the three influenza years (2005-08) as well as to give a commitment to pandemic vaccine capacity. These companies have the capability to produce pandemic vaccine if given a seed virus and will close down normal operations to do this for Australia[10].

Influenza vaccines registered in Australia are currently distributed as single dose product pre-dispensed in disposable syringes. In the event of a pandemic it is likely that even if antigen production can be increased the availability of suitable syringes will become limiting, and that the pandemic vaccine will be available only in a multi-dose preparation. The DoHA will procure sufficient equipment for vaccination of the Australian population.

Vaccine production during the interpandemic years is determined by the demand. Benefit is derived from increasing the interpandemic manufacturing of the influenza vaccine in that it increases the ability of the manufacturing process to cope with the increased demands of a pandemic.

In the pandemic situation, it is likely that only limited quantities of vaccine specific for the new strain will be available prior to the first wave of infection. The amount of antigen in each vaccine dose is currently the subject of trial. Two doses will probably be necessary for optimal protection, due to the novel nature of the pandemic strain. High rates of compliance for the second dose must be achieved. Limited vaccine supplies must be allocated and distributed to those considered to benefit most from the vaccination. This benefit needs to be considered from the perspective of the population as a whole. Allocation of priority groups for

[9] World Health Organization Western Pacific Region, WHO interim recommendations for the protection of persons involved in the mass slaughter of animals potentially affected with highly pathogenic avian influenza viruses, 26 January 2004.

[10] Adopted from the Australian Government Department of Health and Ageing – Australian Management Plan for Pandemic Influenza, June 2005.

vaccination will be done in conjunction with the decision making structures nationally, ie the NIPAC, AHDMPC and the advisory committee to the Chief Medical Officer.

Storage and distribution

Vaccine will be sourced from the National Medicines Stockpile by the Chief Health Officer obtaining authorisation from the Chief Medical Officer (DOHA). Arrangements will be made to transport the required quantity of vaccines into the DHS storage and distribution contractor's site.

Currently, the distribution contractor (CSL Logistics) stores and distributes vaccines for DHS. Further discussions are underway between DHS Victoria and the distribution contractor in respect to storage capabilities and ability to amplify distribution processes.

It is essential that improved vaccine tracking mechanisms are implemented during a pandemic. The Victorian DHS Immunisation Program currently performs such procedures in Victoria, but increased monitoring of vaccine administration will be required, to ensure that priority group order is being observed.

The current distribution scheme that exists in Victoria will greatly assist the process of distribution. Distribution of vaccination will be centrally coordinated from the Victorian DHS Immunisation Program. Distribution of vaccine will occur initially via the public sector providers including:

- Local Government immunisation providers
- worksites
- health care institutions according to the agreed priority groups for vaccination.

Vaccine cold chain, whereby vaccines must be transported and stored at 2–8 degrees Celsius, is as important in this scenario as in the routine program.

Vaccine administration

Local government health services currently participate in providing immunisation to their constituents with the emphasis currently on childhood and school immunisations. They will play a major role as an immunisation provider in a pandemic, and will provide vaccination sessions to groups according to the agreed priority list as vaccine becomes available. DHS will provide the vaccine in batches according to the storage facilities available. The frequency and duration of clinics must be bolstered considerably when the pandemic is imminent to provide maximum benefit to the community. This will require considerable scaling up of the local government immunisation workforce, which is the subject of further negotiation. As approximately 1500 nurses have passed through the immunisation accreditation course at La Trobe University, identification of this workforce will be undertaken in order to bolster the available workforce.

Identification of the eligible population will be best undertaken by the use of the Medicare database, which contains approximately 98% of the Australian population. Use of the Medicare number as the identification number also has precedent in immunisation programs, due to its use as the number in the childhood program. Presentation of the Medicare card will be required as proof of identity and eligibility. Security arrangements will be necessary

to prevent unauthorised access to vaccine and to maintain order at sessions. Announcements of the locations of immunisation sessions could be done by local press release, in order to fully inform the public.

As vaccines are classified as schedule 4 drugs, they must be administered by a medical practitioner, or an accredited immunisation nurse who is employed by an organisation which employs or contracts a medical practitioner. We do not envisage any alteration to these requirements in an influenza pandemic. Consent for vaccination will be undertaken by the usual process – ie written information on the vaccine will be provided on the benefits and risks of immunisation (in a number of languages if possible) and either verbal or written consent obtained. If verbal consent is obtained, a note in the documentation should state that the consent process has been undertaken. If available, interpreters will be of assistance in the consent process.

As general practitioners will be fully engaged in providing care for those ill with influenza, we do not envisage that they will be engaged in the immunisation process in the first instance. This decision would be reviewed in the light of the incidence of disease at the time when the majority of the vaccine became available. They would be provided with information on the timing and location of immunisation sessions in their locality to which they could direct their patients. Similarly, pharmacists will be provided with information.

Vaccine recording

Systematic recording of those who have been immunised will be essential for the evaluation of age specific coverage rates, and identification of those who have received a first dose in order to receive a second dose, Further discussion on the use of the standard local government immunisation software, ImPS, or a standard spreadsheet format, are required with local government on this issue.

Establishing priority groups for vaccination

As vaccine will initially be in short supply, administration must be in accordance with a predetermined priority list. The priority list should be developed at a national level, to maintain consistency throughout Australia. An example of priority group levels is shown below, but this should be modified at the time of the pandemic according to the epidemiology.

The goals in vaccine use for the priority groups are as follows:

Essential services personnel, including health care workers

Goal: maintain essential services
The purpose of vaccinating these individuals would be to allow them to continue to provide services, including health care, to those in need.

Groups at high risk of severe morbidity and mortality

Goal: prevent and reduce deaths and hospital admissions
In the interpandemic period, those who have underlying disease or are older are the ones most likely to experience severe morbidity and mortality. In a pandemic, previously healthy individuals are more likely to experience a severe outcome than

they would in an ordinary outbreak. However, it is still individuals in the high risk group who have the greatest risk of hospitalisation and death.

Groups in which the virus spreads rapidly

Goal: prevent or reduce spread
This group includes children.

Persons without risk factors for complications

Goal: prevent or reduce morbidity
This is the largest group and would include both healthy adults and children. The main goal in vaccinating this group would be twofold: to reduce demand for medical services and to allow individuals to continue normal daily activities. This is particularly important for working adults. Simultaneous absence of large numbers of individuals from their site of employment could produce major disruption even in non-essential personnel.

Information from countries where the pandemic first strikes will assist in determining which groups are most at risk. The priority list must be modified in the light of this information. Ideally the target group for vaccination in the event of a pandemic is the total population of Victoria. However we may need to rank priority groups to enable the most effective use of the potentially limited vaccine.

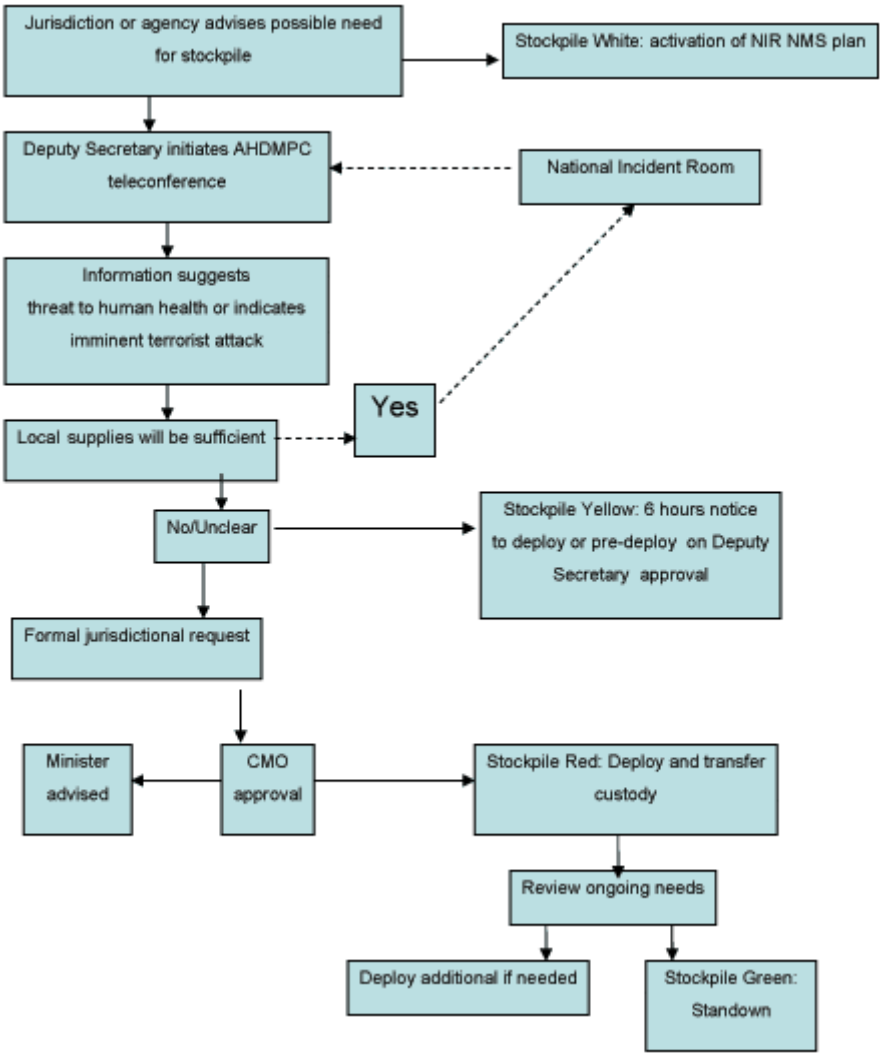
3.2. Anti –viral agents

The influenza anti-viral agents currently in use would most likely be effective in the prophylaxis and therapy of illness caused by a new pandemic strain. However, current supplies would be readily exhausted.

The Commonwealth Department of Health and Ageing has purchased and stockpiled anti viral agents for prophylaxis/treatment as part of its National Medicines Stockpile (NMS). The NMS supplements existing medical stocks kept in the Australian health system and provides rapid access to large quantities of medications that may not be regularly used.

The process to activate the NMS deployment plan needs to be undertaken through the Australian Department of Health and Ageing (DoHA). Each state/territory requesting agency is required to have distribution plans in place, including details of security measures and arrangements for dispensing.

Flow Diagram of National Medical Stockpile Activation



There are still significant uncertainties relating to potential use of antivirals during a pandemic, including knowledge of minimal effective dose, effectiveness of antiviral therapy in the reduction of complications, particularly in specific high risk populations, and emergence of resistance during widespread use.

There are currently four antiviral medicines that can shorten the course of infection if given early in the disease (treatment) and provide short-term protection against influenza (prophylaxis). These are: amantadine, rimantadine, oseltamivir and zanamivir. Amantadine, oseltamivir and zanamivir are registered for supply in Australia, but rimantadine is not registered for use in Australia.

Drug class	Generic name (Brand name)	Route of transmission	Indication
Neuraminidase inhibitor	Oseltamivir (Tamiflu)	Oral (Tablet or Suspension)	Prophylaxis – Age ≥ 13 yrs Treatment – Age ≥ one yr
Neuraminidase inhibitor	Zanamivir (Relenza)	Inhalation (Diskhaler)	Prophylaxis and Treatment – Age ≥ five years*
M2 inhibitor	Amantadine (Symmetral)	Oral	Prophylaxis – Age ≥ five yrs

**When used for treatment, neuraminidase inhibitors must be commenced within 48 hrs of onset of symptoms. After this time, they are not effective.*

Oseltamivir stocks represent the largest component of the antiviral component of the stockpile due to its ease of administration when compared to zanamivir, particularly in mass pre-exposure prophylaxis settings, and its side-effect profile and resistance propensity when compared to amantadine.

The overall goals of vaccine and antiviral interventions during pandemic influenza are to limit the burden of disease, minimise social disruption, and reduce economic impact. Vaccine is the preferred intervention for prophylaxis. However, vaccine is unlikely to be available for the first and possibly subsequent waves of the next pandemic, and antivirals could have a significant beneficial impact on these outcomes. The principal, inter-related challenges with regard to effective antiviral use are selection of the strategies for use, ranking of priority groups, and supply/distribution.

Options for antiviral use

The recommended priority groups will be based on the best available evidence. Currently this includes:

- Antivirals – both neuraminidase inhibitors and M2 inhibitors – are effective in preventing influenza if given early to exposed persons. The effectiveness in studies ranges from 70 – 80%.
- If given within 48 hours, antivirals (for treatment) are effective in reducing the severity of the symptoms of influenza and shortening the course of illness.
- It is unproven that the use of antivirals for treatment also reduces transmission of the virus.
- It is unproven that antivirals used for treatment of influenza reduce mortality in humans, although in some animal studies mortality in reduced.

In the initial stages both treatment of confirmed cases, and prophylaxis of contacts will be undertaken.

Establishing priority groups for prophylaxis

The role of antivirals will be constrained by their limited supply, negligible surge capacity for production, and cost. Because of this, priority groups for their use will be determined to ensure that they are used to reduce the associated population-wide morbidity and mortality.

The priority groups for anti virals are as follows:

Containment phase

- Individuals who work in areas where there is a likelihood of exposure:
    - poultry workers and animal disease control officers exposed to HPAI
    - border workers who are at high risk of exposure
    - health care workers caring for influenza patients or patients with undiagnosed, respiratory disease in which pandemic influenza is a differential diagnosis
    - staff at quarantine facilities
    - public health staff exposed to potential cases
    - laboratory staff at high risk of exposure.
- Individuals who are exposed to a person or animal likely to be affected with pandemic influenza.

Maintenance of essential services phase

During the later stages, containment may not be possible and the strategy will be to maintain essential services. This will ensure minimal disruption to the provision of health and emergency services to the community.

The designation of antiviral priority groups will need to reassessed both in containment and maintenance of essential services phases frequently in relation to:

- location of cases
- rate of transmission
- attack rates in different ages groups
- clinical severity in different age groups
- potential strategies for control
- depletion of antiviral stockpile.

Resistance

The efficacy of the antivirals and the development of clinical resistance in pandemic virus needs to be monitored for both treatment and prophylaxis.

Treatment

Treatment of persons with influenza targets the available drug to those most likely to benefit. Efficacy has been proven only with early administration (within 48 hours of illness onset), so that rapid access is essential. In most countries, treatment is likely to be given to those presenting first and lead to rapid depletion of available antiviral supplies. Restriction of treatment to only high-risk persons would extend available supplies but miss an opportunity to reduce morbidity in otherwise healthy persons.

The proportion of the antiviral stockpile used for treatment of cases will be dependant on the demonstrated mortality of the pandemic virus and the demonstrated efficacy of available antivirals in reducing mortality.

3.3 Mass vaccination and prophylaxis logistical plan

Scope

In Victoria, it is recognised that the most effective way to deliver mass immunisation is through existing local government structures.

This plan is intended to cover an event where it is necessary to vaccinate or provide anti-viral prophylaxis to a large group of people in Victoria during an influenza pandemic. The plan needs to be staged given the limited availability of vaccine in the early stages of a pandemic.

As mentioned earlier, with influenza vaccine, there is likely to be several months between the declaration of a pandemic and the availability of a pandemic strain vaccine. By the time vaccine becomes available, large numbers of people will be seeking vaccination, resulting in the necessity of mass vaccination centres run by local government.

Logistical plan

1. Vaccination of front line priority groups (to be determined ie essential services, at risk groups)

Local government immunisation teams will be responsible for providing pandemic vaccine to the identified priority groups when the vaccine is available.

DHS will source and distribute the vaccine (see Vaccine storage and distribution below).

Hospital pharmacies will act as the liaison points for vaccination of hospital staff.

Funding for the administration of vaccines will be negotiated through DHS emergency arrangements.

Administration of antivirals to front line priority groups

In the early phases, DHS will distribute antivirals to contacts of cases through public health staff, supplemented in some cases by regional hospital staff.

In later phases, when antivirals are used for mass prophylaxis of health care workers, hospitals will act as liaison points.

General practitioners will be given a supply of antiviral agents for their own use.

DHS will coordinate the distribution of antivirals to these groups via a distribution contractor.

2. Vaccination of the general population

Once the identified priority groups have been vaccinated and further vaccine is available, the general population could be vaccinated. This will be accomplished through the use of local government teams.

Vaccine storage and distribution

Currently the distribution contractor stores and distributes vaccines for DHS Victoria from their site. Further discussions are being undertaken between DHS Victoria and

the distribution contractor in respect to storage capabilities and ability to amplify distribution processes.

It is essential that improved vaccine tracking mechanisms are implemented during a pandemic. The Victorian DHS Immunisation Program currently performs such procedures in Victoria, but increased monitoring of vaccine administration will be required, to ensure that priority group order is being observed, and those eligible for a second dose can be identified.

Distribution of vaccine will be centrally coordinated from the Victorian DHS Immunisation Program.

Resource implications for storage – more fridges may be required.

Vaccine administration

Documentation

- Information sheets will be provided for medical personnel at the vaccination centres. These will outline the strategy and priority groups for pandemic influenza and pneumococcal vaccination.
- Immunisation providers will be provided with an order form for further doses of the influenza vaccine and a pro-forma sheet for documentation of immunised patients and consent for treatment.

Vaccine Security

Depending on where the vaccines are stored (distribution contractor or councils) security will need to be ensured in order to ensure that in the initial stages, only the designated priority groups receive the vaccine.

Distribution of Anti virals

In the early phases when there are only a few patients affected, DHS undertakes to organise the distribution of antivirals to cases and their contacts. In later phases distribution to health care workers will occur through both hospital administration and GP Divisions. Distribution to other occupational groups will be dictated by the priority afforded these groups and the availability of antivirals and if necessary will be distributed through existing occupational health and safety providers.

Documentation instructions

Generic forms for consent and record of treatment will need to be amended to suit the drug/vaccine being used.

Information sheets will be required for staff and patients.

1. Consent form and checklists

Once the person has read the information sheet (which will be available at the time) and indicated that they have understood its contents, asked the questions on the appropriate checklist and given the opportunity to ask questions, they are asked if they consent to the treatment being offered.

If they agree, they are asked to sign the consent form.

This form will be retained by the Department of Human Services.

2. Record of treatment

Record of treatment sheets should be completed at each site.

A new sheet should be commenced each day and if there is a new batch number.

The Department of Human Services should retain a copy of the records of treatment.

3. Report of Adverse Reactions

If a suspected adverse reaction to drugs or vaccines (influenza vaccine or antivirals) occurs then a Report of Suspected Adverse Reaction to Drugs and Vaccines should be filled out. These reports are usually directed to the Adverse Drug Reactions Advisory Committee (ADRAC). In the case of a pandemic, these reports should be made directly to DHS. DHS will then report to ADRAC.

Immunisation consent form (proforma only)

Surname:	First name:
Address:	
	Postcode:
Date of birth: / /	Sex: ☐ Female ☐ Male
Telephone: (BH)	(AH)
Vaccine:	Date received: / /
Given by:	Batch No:

Consent

I acknowledge that I have received and understood the information on the risks and benefits of this vaccine and consent to be treated.

Signature: Date:

Print name:

Pre-immunisation checklist

What to tell your doctor or nurse before immunisation

The conditions listed below do not necessarily mean that immunisation cannot be given. Before the immunisation, tell the doctor or nurse if any of the following apply to the person to be immunised:

- Are unwell on the day of immunisation (temperature over 38.5°C)
- Have had a severe reaction to any vaccine
- Have a severe allergy to any vaccine component (for example, eggs)
- Are pregnant (the person to be vaccinated)
- Are of Aboriginal or Torres Strait Island descent.

Before any immunisation takes place, the doctor or nurse must ask you if:

- You have read this information
- You understand this information
- You need more information to decide whether or not to proceed.

The information you provide on this consent form is for the sole purpose of monitoring immunisation programs by the State and Australian Governments. The data will be kept confidential and identifying information will not be disclosed for any other purpose. You can access your information by contacting your immunisation provider.

Antiviral consent form (proforma only)

Surname:	First name:
Address:	
	Postcode:
Date of birth: / /	Sex: ☐ Female ☐ Male
Telephone: (BH)	(AH)
Medication:	Date received: / /
Given by:	Batch No:

Consent

I acknowledge that I have received and understood the information on the risks and benefits of this medication and consent to be treated.

Signature: Date:

Print name:

Pre-anti viral checklist (proforma only)

What to tell your doctor or nurse before treatment

The conditions listed below do not necessarily mean that treatment cannot be given. Before the treatment, tell the doctor or nurse if any of the following apply to the person to be treated:

- Have had a severe reaction to any medication
- Are suffering from renal disease
- Are pregnant
- Are breastfeeding.

Before any treatment takes place, the doctor or nurse must ask you if:

- You have read this information
- You understand this information
- You need more information to decide whether or not to proceed.

The information you provide on this consent form is for the sole purpose of monitoring immunisation programs by the State and Australian Governments. The data will be kept confidential and identifying information will not be disclosed for any other purpose. You can access your information by contacting your immunisation provider.

Record of treatment (proforma only)

Date:

Location:

Medication:

Name	Batch	Address	Telephone
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			
20.			

Report of Suspected Adverse Reaction to Drugs and Vaccines (proforma only)

Patient (Initials or Record No. only):

Date of birth: / /

Sex: M / F

Weight: kg

Date of Onset of Reaction: / /

Adverse Reaction Description:

All Drug Therapy / Vaccines Prior to Reaction (please use trade names and asterisk suspected drug)	**Daily Dosage** (Dose No for vaccines)	**Date Begun**	**Date Stopped**	**Reason for Use**

Treatment (of reaction)**:**

Outcome:

Recovered ☐ Date of Recovery: / /

Not yet recovered ☐

Unknown ☐

Fatal ☐ Date of Death: / /

Sequelae:

No ☐

Yes ☐ If yes, describe:

Severity:

Life threatening ☐

Hospitalised ☐

Required a visit to the Doctor ☐

Comments (eg relevant history, allergies, previous exposure to this drug)**:**

Reporting Doctor, Pharmacist, etc:

Name:

Address:

Signature: / /

Fax this information to DHS on XXXX XXXX

Appendix 4. Public health control measures

Preventing, containing and/or slowing the spread of a novel influenza virus subtype in humans will be reliant on a combination of efficient surveillance measures and timely control measures.

This appendix provides an overview of the public health control measures that will be used.

4.1 Education

Education of the community is a preventive measure that can be used to limit or slow the spread of an influenza pandemic and would be applicable throughout the pandemic stages.

This information will need to be provided during the interpandemic, pandemic alert and pandemic stages, and be tailored to the situation prevailing at the time. Information will need to be amended as more information becomes available about the novel influenza virus subtype.

The general public will require clear information on preventive measures such as cough etiquette, disposal of soiled paper tissues and attention to hand washing after handling potentially contaminated objects or surfaces.

In the containment and pandemic stages, health professionals will also require up to date information as the situation evolves on the disease, case definitions, notification requirements and appropriate infection control as well as guidelines and protocols for the management and control of cases and contacts.

4.2 Isolation and Quarantine

Isolation of cases in hospitals, tracing, follow-up and quarantine of contacts.

Isolation and quarantine are common public health control measures that will be used to limit the spread of an influenza pandemic.

- Isolation refers to the separation of cases with infectious disease from those who are healthy, and the restriction of their movement to stop the spread of disease. [12]
- Quarantine refers to the separation and restriction of movement of contacts who may develop disease and become infectious.
- Isolation and quarantine can be voluntary or mandatory (i.e. compelled by legal authority).
- Cases or contacts could be isolated or quarantined in hospitals, their homes or designated facilities.

The isolation of cases during the early stages of a pandemic may effectively prevent or significantly slow the spread of disease. However, during the later stages of the pandemic, these measures are likely to be of limited effectiveness and, at best, would result in only some slowing of the disease.

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[11] Expressed as sustained chains of transmission causing community-wide outbreaks.
[12] CDC Fact sheet on Legal Authorities for isolation and quarantine

4.3 Border control

Travel advisories

Travel advisories can reduce the numbers of persons travelling to or from affected areas. This can reduce the number of infected persons returning from such areas and therefore the spread of the virus in Australia.

Travel advisories are provided by the Department of Foreign Affairs and Trade (DFAT) and can be accessed at http://www.dfat.gov.au/travel/

Border protection measures

The objectives of border control will include the following:

When transmission is occurring overseas

- To identify infected persons (cases) entering Australia and institute appropriate control measures.
- To provide information to persons entering Australia who may be incubating disease after contact with infected animals or infectious cases so that appropriate surveillance and control measures may be implemented.
- To provide information to travellers leaving Australia and travelling to areas of transmission so that appropriate preventive, surveillance and control measures can be implemented.

When transmission is occurring in Australia

- To identify an infected person departing the country and institute appropriate control measures.
- To provide information to departing persons who may be incubating disease after contact with infected animals or infectious cases so that appropriate surveillance and control measures may be instituted.

Guidelines for border control (air and sea ports) screening and evaluation are contained within the DoHA Australian Management Plan for Pandemic Influenza. This includes:

- International procedures for border nurse referrals
- Actions by the border nurse
- Border nurse assessment summary
- Pandemic influenza surveillance form.

Health information cards will also be produced and distributed by DoHA.

4.4 Measures to increase social distance

Measures to increase social distance such a closure of schools and higher education centres and discouraging mass gatherings will be considered during a pandemic.

Closure of schools, childcare, university and workplaces

Infectious diseases can spread rapidly in schools, universities, childcare centres and workplaces due to the close proximity of large numbers of people. Chin (2000)[13]

[13] Chin J (ed). Control of Communicable Diseases Manual. Washington: American Public Health Association, 2000:270-276.

states that 'the closure of individual schools has not proven to be an effective control measure; it has generally been applied too late and only because of high absenteeism of students and staff'. For this reason, in the United States, school closures were not as widely accepted during the 1918 pandemic, whereas in Britain, the epidemic led to the closure of the public elementary schools[14].

When looking at previous pandemics, Kitler et al[15] noted that 'the tendency for the 1957 pandemic to first appear in camps, army units, schools and other communities where contact between individuals was particularly close, suggested that avoidance of crowding may be important in reducing the peak incidence of an epidemic.'

Mass Gatherings

Mass gatherings have the capacity to spread influenza among participants. Events that may need to be considered are events such as concerts, large sporting events and other mass gatherings. Places of gathering that may need to be considered are the casino, cinemas, nightclubs etc. Places of worship are also places of mass gatherings. There may also be infection control issues around the Communion cup.

4.5 Infection Control Measures (see also Appendix 9)

Because of the possibility of limited availability of antivirals and probable delay in the availability of vaccine, infection control measures such as the use of personal protective equipment for health care workers, proper disposal of contaminated objects such as paper tissues, cough etiquette for patients, regular cleaning of contaminated surfaces, and strict attention to hand washing by patients and health care workers are all going to be extremely important.

[14] Hwww.stanford.edu/group/virus/uda/fluresponse.htmlH The Public Health Response.
[15] Kitler M.E, Gavinio P, Lavanchy D, Influenza and the work of the World Health Organization, *Vaccine* 2002, 20 (S5 – S14).

Appendix 5. Hospital issues

5.1. Statewide response

Response to an influenza pandemic will be in accordance with the State Emergency Response Plan with specific reference to arrangements under the *Victoria state medical emergency response plan.*

In the event of an influenza pandemic it is possible that the Office of Medical Displan may mobilise and deploy first aid organisations to back up:

- State ambulance services under pressure to maintain routine services in addition to the effects of the pandemic.
- Nursing staff for Hospital in the Home.

5.2 Communication and reporting processes

In accordance with the DHS *State level plan for the management of emergencies and critical events*, the DHS Health Services Support Centre (HSSC) will be activated.

The HSSC and website will be the sole official mechanism of contact between DHS and services during a pandemic.

During the period of activation, DHS will provide information to agencies on the pandemic. Agencies will be required to provide reports to DHS to ascertain the impact of the pandemic on services and to notify associated incidents. Through the HSSC, agencies will be able to request additional resources.

The HSSC role during an influenza pandemic is to:

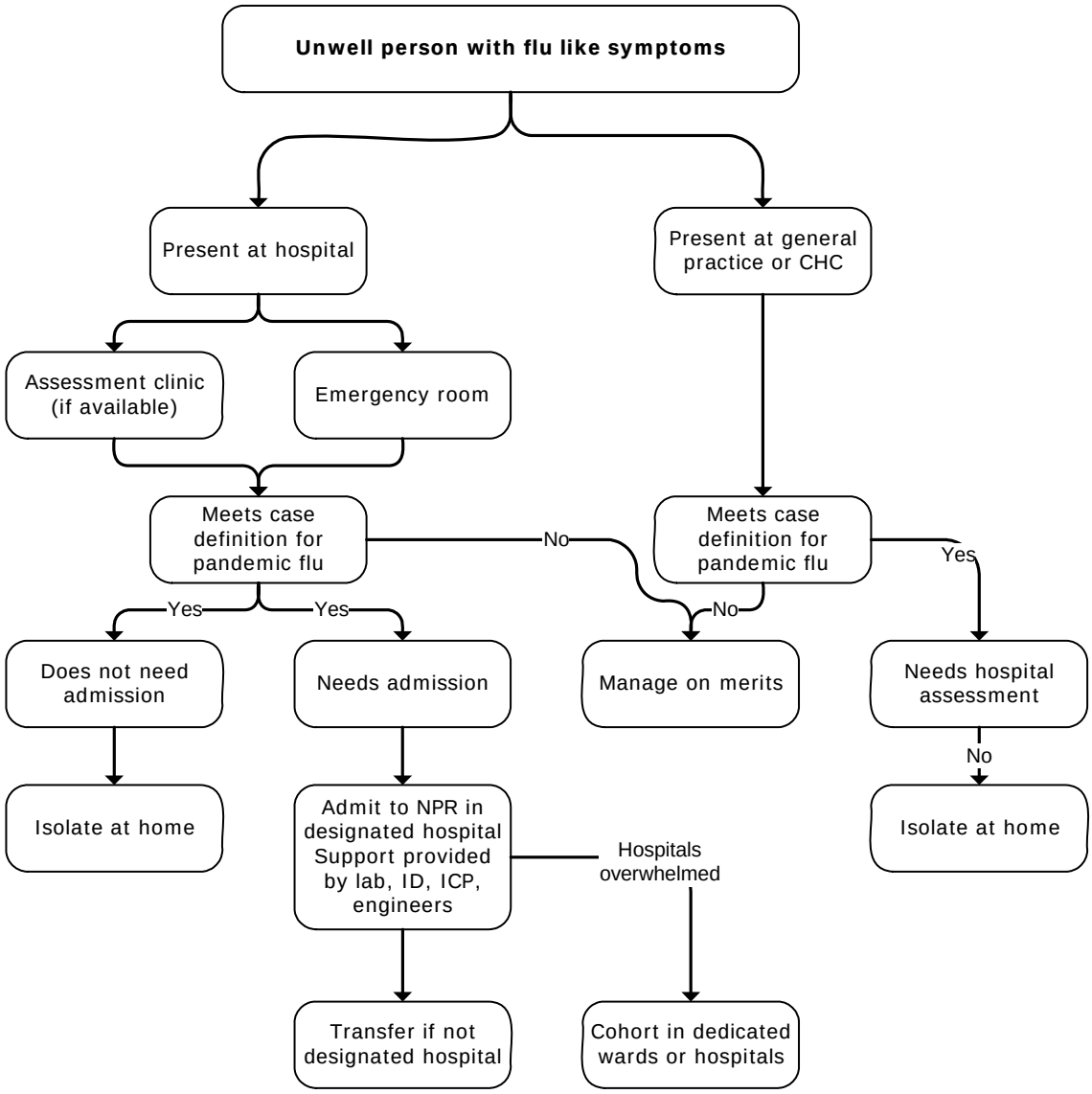
- Establish contact with health service CEOs, DHS Regional Directors and emergency disaster response and recovery personnel; when a departmental coordination centre is established all communications to regions will go through the DHS Emergency Coordination Centre and not the industry support centre.
- Liaise with hospitals to activate hospital emergency and disaster plans including cessation of elective surgery, discharging of patients, establishment of assessment clinics for patients with possible pandemic influenza, cohorting of inpatients with pandemic influenza, and establishment of alternate care facilities for inpatients.
- Provide information and advice to hospitals and ambulance services regarding the scale of the pandemic.
- Monitoring the status of the health services through obtaining information about a range of issues such as beds available and resources required.
- Manage statewide resources to meet critical service demands.
- Centrally coordinate and provide information to the sectors, regions and government on the overall status of services.
- Liaise with and provide industry bulletins on a regular basis to the following bodies:
    - Office of Medical Displan;
    - Ambulance services;
    - Australian Red Cross Blood Service;

- Private Hospitals; and
- Other private health service providers (Imaging and Pathology).

Private hospitals, Metropolitan Health Services and rural regions will establish a single point of contact with the DHS. Throughout the duration of the pandemic they will provide reports, at a frequency determined by DHS (most likely daily) to the HSSC. This will comprise:

- A Consolidated Summary Status report for each Metropolitan Health Service and Rural Region, and Private Hospital. This report will contain information including, but not limited to:
  - Total beds occupied
  - Total beds vacant
  - Number of influenza patients (in the emergency department, admitted, treated and discharged, deceased)
  - Number of elective surgery admissions postponed.
- A Situation Report to be completed for all services irrespective of whether they are receiving / have patients with influenza or not.

5.3 Patient Flowchart



5.4 Infectious Diseases Assessment Clinics ("fever clinics")

When it appears that the number of patients presenting with influenza like illness is likely to overwhelm general practice surgeries and/or emergency departments, it may become necessary to establish these assessment clinics. These clinics would undertake triage functions for patients with respiratory illness and would also undertake treatment of cases and prophylaxis for contacts if available at the time.

The current plan is to establish such clinics within the confines of designated hospitals close to but not within the emergency department. Designated hospitals will need to plan for patient movements, staffing and infection control issues at these clinics.

In the later stages of a pandemic it may be necessary to establish clinics at sites other than hospitals, for example community health centres, depending on the numbers of patients presenting for assessment.

Appendix 6. Community services

An influenza pandemic is likely to put significant pressure on the broader community services as well as hospital services. Services such as aged care, disability services, prisons etc will have high illness rates among staff and residents/clients while having to maintain their services.

A long-term care establishment is a home-like environment that potentially facilitates infection. Residents are often susceptible to infection and may themselves be a source of infection (Smith and Rusnak 1997).[16]

Services will need to address these issues in their emergency/business continuity planning.

See also Appendix 8, Community support and recovery issues.

[16] Commonwealth Department of Health and Ageing. *Infection Control in the Health Care Setting*, 2004.

Appendix 7. Mass fatality planning

7.1. Planning considerations

During a pandemic, existing mortuary services will undoubtedly experience an increased workload, over and above their capacity. Within any locality, the number of total deaths (including influenza and all other cause) occurring during a 6 to 8 week pandemic wave is estimated to be similar to that which typically occurs over six months in the inter-pandemic period.[17]

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

- the State Coroner's Office of Victoria, Victorian Institute of Forensic Medicine (VIFM)
- the Australian Funeral Directors Association (AFDA) and the Independent Funeral Directors Association (IFDA)
- Victorian Cemeteries and Crematoria Association of Victoria
- representatives of religious and ethnic groups.

Existing plans may include provisions for mass fatalities but should be reviewed to determine if these plans are appropriate for the relatively long period of increased demand which may occur in a pandemic, as compared to the short response period required for most disaster plans.

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 more rapid processing of corpses.

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

7.2. Mortuary/crematoria capacity

It is estimated that the Victorian public and private mortuary providers have the capacity to hold approximately 2000[18] bodies in refrigeration throughout mortuaries in Victoria. Further capacity in holding rooms and refrigerated vehicles could increase this capacity by approximately 500.

7.2.1 Victorian Institute of Forensic Medicine (VIFM)

The Victorian Institute of Forensic Medicine is tasked with conducting investigations of reportable deaths under the *Coroners Act 1985*.

The current mortuary capacity of the VIFM is 180 deceased. In event of a major disaster, the mortuary capacity can be increased to 250 deceased.

The VIFM has contingency plans in place for the storage of additional deceased in refrigerated 'pan-tecs' containers to be placed at various locations in the CBD of

[17] Health Canada, The Canadian Influenza Pandemic Plan, Annex I Guidelines for the Management of Mass Fatalities During an Influenza Pandemic, 2004.
[18] Estimate based on information provided by the Australian Funeral Directors Association, the Independent Australian Funeral Directors Association and the Victorian Institute of Forensic Medicine, July 2004.

Melbourne (close to the VIFM). Each container would be a fully organised temporary cool store with all necessary equipment.

There are sufficient supplies of body bags, safety equipment, plastic overalls, boots, respirators, single-use gloves, white coveralls and identification tags on hand for emergency situations. In the event of a major disaster, the VIFM have arrangements in place for the immediate provision of additional supplies.

The average turn-around time for bodies held in mortuaries before burial is 72 hours (that includes the time taken for a routine post-mortem to be completed where necessary).

7.2.2. Cemeteries/crematoria in Victoria

There are 550 public cemeteries and 9 crematoria, which contain 21 cremator units in Victoria.

Current standard practice in Victoria is for cremators to operate for a single daily shift. Cremation capacity is based on an indicative capacity using a standardised single-shift working day with seven cremations per day and working for five days per week for 252 working days per year. Indicative capacity is estimated at 37 044 cremations per year, with 16 230 cremations being undertaken in 2003, putting utilisation capacity at 43%.[19]

During a pandemic, cremation capacity can be increased to 3 shifts per day, given 5 cremations per shift.

5 (cremations) x 21 (cremation units) x 3 (shifts per day) = 315 cremations per day

7.3. Social/religious considerations

A number of religious and ethnic groups have special requirements about how bodies are managed after death, and such needs must be considered as part of pandemic planning. As an example Aboriginal/Torres Strait Islanders, Jews, Hindus, 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.

7.4. Care of the deceased

7.4.1. Infection control

Infection control policies and procedures (guidelines) used in the funeral industry are no different to those used in the health care settings[20].

Standard precautions should be taken when caring for deceased pandemic influenza cases. Standard precautions are work practices required for the basic level of infection control. See Appendix 9 Infection control for further information.

[19] This information was obtained from a Departmental Report which is yet to be released, August 2004

[20] Australian Worker's Union (Vic), DHS, Australian Funeral Directors Association. *Draft Infection Control Guidelines for the Funeral Industry*, February 2003.

7.4.2. Post-mortem

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

During any procedures on the cadaver's lungs, full PPE should be worn, and care should be taken to minimise the production of aerosols by:

- avoiding the use of power saws
- conducting procedures under water if there is a chance of aerosolation
- avoiding splashing when removing lung tissue.

7.4.3. 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.

Appendix 8. Community support and recovery issues

8.1. Roles/responsibilities of DHS regions and Local Government

Local Government

Councils play a critical role in Victoria's emergency management systems. Councils have emergency management responsibilities because they are the closest level of government to their communities and have access to specialised local knowledge of their districts. People also naturally seek help from their local council and emergency management agencies during emergencies and the recovery process.

ISSUE	ROLES/RESPONSIBILITY
Planning/preparedness	Undertake Influenza pandemic planning Make provision for business continuity in face of increased absenteeism Promote vaccination for influenza and pneumococcal vaccine for the identified high-risk groups.
Response/recovery	**Information/resources** Work in conjunction with Regions and Public Health Group to disseminate information (including warnings) Provision of resources as available and need by the community and response agencies Establishment of Municipal Emergency Management Centre (MECC) – facilities and staffing Post-impact assessment – gathering and processing of information (to be determined)
	Community support Provide support to individuals/communities quarantined/isolated in homes/institutions Provision and/or coordination of volunteer helpers Provision of personal support services, eg counselling, advocacy Provision and staffing of recovery/information centre(s) Convening of municipal/community recovery committees
	Vaccine Vaccine storage and delivery Provide immunisation services according to recommendations by DHS
	Other Identify temporary mortuary facilities that could be used if required

DHS regions

- One of the operational activities of Regions is emergency management/incident response. In conjunction with the Public Health Group, Regions aim to improve the capacity to manage public health incidents and emergencies in accordance with the *Public health emergency management plan*:

- 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 Public Health Group.
- Develop a command structure in the Region.
- Provide support to Local Government public health emergency management planning process.
- Review Regional public health emergency management plans in line with public health policy in consultation with key stakeholders within the Region and the state.
- Participate in Regional (and/or Divisional) emergency management committees to maximise emergency service organisations' knowledge and understanding of public health issues.

ISSUE	ROLES/RESPONSIBILITY
Planning/preparedness	Facilitate planning arrangements Work with local government authorities to assist with influenza pandemic planning Work with health care facilities to assist with influenza pandemic planning Facilitate influenza pandemic planning within the Region ie DHS program areas eg. Disability services/Community Residential Units/Supported Residential Units Make provision for business continuity within Regions in face of increased absenteeism
Response/recovery	Provide assistance to DHS – Public Health, Communicable Diseases Section as required Provide assistance to local government to help deliver response activities Coordinate response at a regional level Provision of information at a Regional level Collation of Regional data – to inform a state-wide response (data on immunisation, persons/services affected) Coordinate community support and recovery activities across the region Convening Regional Emergency Recovery Committee

8.2. Recovery

The *State recovery plan* will commence upon notification of a pandemic.

The State emergency recovery arrangements are the agreed statewide arrangements that are jointly owned by all levels of government, together with the agencies and organisations that participate in supporting the recovery of people affected by emergencies.

The Arrangements have been developed in accordance with the directions of the *Emergency Management Act 1986* and are part of the Emergency Management Manual Victoria. They have been developed to ensure adequate arrangements are in place to assist those who are affected by emergencies.

The Department of Human Services has been nominated by the Coordinator-in-chief as the coordination agency for recovery and the Secretary of the Department has appointed the Executive Director, Operations as the State Recovery Coordinator.

The *Emergency Management Act 1986* states that recovery is 'the assisting of persons and communities affected by emergencies to achieve a proper and affective level of functioning'.

Recovery from emergencies is a developmental process of assisting individuals and communities affected to manage the re-establishment of those elements of society necessary for their wellbeing.

The process involves cooperation between all levels of government, non-government organisations, community agencies and the private sector in consideration of:

Social, health and community environment

Social health, and community impacts refer to the impact that an emergency may have on the health and well-being of individuals and the community fabric. This area includes individual and community needs including but not limited to:

- Material assistance;
- Financial assistance;
- Personal support;
- Health and medical services; and
- Community development.

Recovery planning at municipal, regional and state levels should address each of these aspects.

Built environment

This area refers to the impact an emergency may have on physical infrastructure. Infrastructure assists individuals and communities in the management of their daily lives, but also forms an important role of community identity. It is essential that the lead agency engage with the affected community to understand the community's restoration priorities, and to keep the community informed of recovery progress.

Built environment impacts include, but are not limited to:

- Electricity;
- Gas;
- Water;
- Telecommunications;
- Transport;
- Roads; and
- Essential services such as schools, hospitals, emergency services, shops.

Restoration of critical infrastructure must be undertaken with an awareness of the needs of vulnerable individuals and communities.

Recovery planning at municipal, regional and state levels should address each of these aspects and provide for the engagement of agencies that can assist with the recovery.

Economic environment

This area refers to the economic impact that an emergency may have on individuals and communities in an affected geographical area. This area may include, but is not limited to:

- Tourism industry;
- Small business; and
- Primary producers.

Recovery planning at municipal, regional and state levels should address each of these aspects.

There are various levels of Recovery Management and Planning, which refers to the administrative arrangements that are developed to ensure recovery activities are managed at the most appropriate level.

The levels of recovery management are:

- Municipal;
- Regional;
- State; and
- National (Australian Government).

The **State Emergency Recovery Unit** will coordinate and facilitate recovery at the state level. Service provision will be, as far as possible, be devolved to local government with resources support, if necessary, from the State Government.

Appendix 9. Infection control

9.1 Characteristics of influenza infection

The management of infectious cases of pandemic influenza and their contacts is determined by the mode of transmission, the incubation period, and the infectious period.

Transmission

- Droplet transmission – when droplets from the cough or sneeze of an infected person are propelled through the air and land on the mouth, nose or eye of a nearby person.
- Contact transmission – when a person touches respiratory droplets that are either on another person or an object and then touches their own mouth, nose or eyes.
- Airborne transmission – resulting from procedures that produce fine droplets and among crowded populations in enclosed spaces.

Incubation period

The incubation period for influenza can range from 1-7 days, but is usually 2 –3 days.

Infectious period

Adults have been known to shed the virus from 1 day before developing symptoms to up to 7 days after the onset of the illness. Young children can shed the virus for up to 21 days.

Case definition

Clinical and surveillance case definitions will vary according to the novel strain and will need to be updated.

Fact Sheet 4: Information for general practitioners on influenza: Pandemic influenza contains the current case definition for H5N1. Definition for a suspected case and a confirmed case can also be found here.

Contact Definition

A contact of pandemic influenza is a person who had close contact (ie within one metre) contact with an infectious case or who has spent more than 60 minutes in a confined space (such as an enclosed room) with an infectious person.

9.2 Standard & additional precautions

Infection control for influenza will involve a two-level approach:

- Standard precautions which apply to all patients at all times: and
- Additional precautions.

Infection control measures

Respiratory hygiene/cough etiquette

Respiratory hygiene/cough etiquette programs should be implemented at the first point of contact with a potentially infected person to prevent the transmission of all respiratory tract infections in health-care settings. A respiratory hygiene/cough etiquette program includes posting visual alerts instructing patients and persons who accompany them to inform health-care personnel if they have symptoms of

respiratory infection; providing tissues to patients and visitors to cover their mouth and nose when coughing and sneezing; providing dispensers of alcohol-based hand rubs; ensuring that supplies for hand washing are available where hand basins are located; offering masks to persons who are coughing; encouraging coughing persons to sit at least one metre away from others.

Standard precautions

During the care of a patient with suspected or confirmed influenza:

- Wear gloves if hand contact with respiratory secretions or potentially contaminated surfaces is likely.
- Wear a gown if soiling of clothes with patient's respiratory secretions is likely.
- Change gloves and gowns after each patient encounter.
- Wash hands before and after touching the patient, after touching the patient's environment, or after touching the patient's respiratory secretions, whether or not gloves are worn.
- When hands are visibly soiled or contaminated with respiratory secretions, wash hands with liquid soap and water and dry well.

Depending on activity and hands not being visibly soiled routine use of alcohol-hand cleaning preparations maybe considered instead of hand washing.

Antimicrobial soaps may be used if desired but are not necessary.

Additional precautions

Additional precautions should be applied in a health care setting for patients known or suspected to be infected with influenza as this can be spread by droplet and contact transmission of respiratory secretions. These precautions are:

Droplet precautions

- Place patient in a single room. This should be a negative pressure room if available. If a single room is not available, place (cohort) suspected influenza patients with other patients suspected of having influenza; cohort confirmed influenza patients with other patients confirmed to have influenza.
- Wear a well-fitting single-use face mask with fluid resistance (an N95 /P2 mask) upon entering the patient's room or when working within 1 metre of the patient. Remove the mask when leaving the patient's room and dispose of the mask in a waste container. Wash hands.
- If patient movement or transport is necessary, have the patient wear a single-use face mask, if possible.

In office practices or hospital waiting rooms, to minimise the exposure time of other patients, those people identified as potentially transmitting influenza should be subject to additional precautions including isolation and also be attended to before other people waiting for treatment.

An outline of the application of additional precautions is shown in the following table.

Table 9: Outline of requirements for specified categories of additional precautions

Requirement	Additional precautions type		
	Airborne transmission	**Droplet transmission**	**Contact transmission**
Gloves			For all manual contact with patient, associated devices and immediate environmental surfaces
Impermeable apron/gown			When health care worker's clothing is in substantial contact with the patient, items in contact with the patient, and their immediate environment
Mask	Single-use face mask suited to the purpose such as a mask that filters to 0.1 microns and has a splash resistant shield (N95 or P2)	Yes —mask Refer to AS 4381:2000 for additional information	Protect face if splash likely
Goggles/face-shields	Protect face if splash likely	Protect face if splash likely	Protect face if splash likely
Special handling of equipment	As per standard precautions	As per standard precautions	Single-use or single patient use or reprocess before reuse on next patient (includes all equipment in contact with patient)
Single room	Yes (NPR) or Cohort patients with same infection.	Yes or Cohort patients with same infection.	If possible, or cohort with patient with the same infection
Negative pressure	Yes	No	No
Transport of patients	Appropriate mask for patient Notify area receiving patient	Appropriate mask for patient Notify area receiving patient	Notify area receiving patient
Other	Encourage patients to cover nose and mouth when coughing or sneezing and wash their hands after blowing nose. Provide one metre of separation between patients in ward accommodation	Encourage patients to cover nose and mouth when coughing or sneezing and wash their hands after blowing nose. Provide one metre of separation between patients in ward accommodation	Encourage patients to cover nose and mouth when coughing or sneezing and wash their hands after blowing nose. Remove gloves and gown, and wash hands before leaving patient's room

Visitor and worker restrictions

Discourage persons with symptoms of a respiratory infection from visiting patients.

Exclude health-care personnel with symptoms of respiratory infection from work for the duration of illness. Restrict visitors of patients with influenza.

Personal Protective equipment (PPE)[21]

PPE includes:

- P2 (N95) mask;
- Disposable gloves;
- Protective eyewear (ie goggles/visor/shield);
- Long-sleeved cuffed gown;
- Cap (in high-risk situations where there may be increased aerosols); and
- Plastic apron (if splashing of blood, body fluids, excretions or secretions is anticipated).

PPE should be worn by:

- All people who provide direct patient care (eg doctors, nurses, radiographers, physiotherapists, border workers and airline staff);
- All supporting staff including medical aides and cleaning staff;
- All laboratory workers handling specimens from a patient being investigated for pandemic or avian influenza;
- All sterilizing services workers handling equipment that requires decontamination and has come from a patient with pandemic or avian influenza; and
- Family members or visitors. (For such persons a surgical mask may suffice if they are directed not to approach closer than 1 metre to the patient - except if they are the parent of a child who is ill).

Masks

P2 (N95) masks are expected to minimise air-borne and droplet transmission of respiratory secretions from an infectious case to the attending person. If used, they should be properly fit tested.

Surgical masks are expected to minimise droplet transmission of respiratory secretions from an infectious case to other close contacts. Unless it needs to be removed for examination purposes, the infectious case should wear a surgical mask to minimise exhalation of respiratory secretions when other people are within 1 meter or are in the same room.

Cleaning and disinfection

The H5N1 influenza virus is inactivated by alcohol and chlorine. Cleaning of environmental surfaces with a neutral detergent followed by a disinfectant solution is recommended. The Australian Government Department of Health and Ageing, Australian Management Plan for Pandemic Influenza, June 2005 contains details of appropriate concentrations of disinfectant.

Linen, such as blankets, towels etc that have been in contact with a symptomatic person, should be placed in leak resistant, closed laundry bags/bins for washing. Wash in hot water (70 - 80°C) and detergent. Dry as required by type of material.

[21] Excerpt from the Australian Government Department of Health and Ageing, Australian management Plan for Pandemic Influenza, June 2005.

Management of Cases

Guidelines on the management of infectious cases as they relate to: air travel, sea travel, assessment of infectious cases by medical practices and hospitals are all detailed in the Australian Government Department of Health and Ageing, Australian Management Plan for Pandemic Influenza, June 2005.

Appendix 10. Communication

Communication strategies are an essential component in managing any infectious disease outbreak and will be essential in a pandemic.

An influenza pandemic will affect very large numbers of people. The general public will be concerned, confused and possibly in a state of panic. There will be a high demand of information from both health professionals and the general public.

During a pandemic two main messages need to be conveyed: what the responsible agencies are doing and what the public can do. Unjustified reassurances can be damaging.

It is imperative that all key audiences (external, internal and international) receive consistent, comprehensive and relevant information in a timely manner during a pandemic.

10.1 DoHA communication strategy

*From *A framework for an Australian influenza pandemic plan* and the *Australian action plan for pandemic influenza*

The National Emergency Response Network (NEMRN) which is an information sharing network comprising media liaison managers in all state and territory health departments and other relevant national government agencies such as the Department of Foreign Affairs and Trade, Australian Customs Service, Emergency Management Australia and the Australian Quarantine and Inspection Service. The public affairs officers of all medical colleges and associations (AMA, RACGP etc) are also part of this network. The network works closely with similar public health, emergency services and national security media liaison groups.

Key features of the communications strategy that will be managed through the DoHA include:

- NEMRN to implement the communications strategy and rapidly disseminate information to the public and agencies participating in the response. The NEMRN will ensure that the media receives consistent, coordinated information during the response.
- Education resources to help doctors and the public prepare for an influenza pandemic have been prepared.
- A national freecall hotline to provide information to the public. The DoHA has a phone line available to provide information on a range of public health issues.
- A National Incident Room (NIR) has been established to facilitate a response to national health emergencies. The incident room team enables efficient coordination and communication between the Department's emergency response (or surge) team and state and territory health authorities, international agencies such as WHO and other Australian government agencies who participate in an Inter-Departmental Committee. The NIR team constantly reviews events relating to avian influenza overseas and keeps central agencies, expert groups and the jurisdictions informed through regular situation reports. In the event of escalation of pandemic influenza events, the NIR functions will be activated to a higher level, providing intelligence to the Inter-Departmental Committee/Inter-Departmental Taskforce.
- A website that is used for communicating information to the public, health professionals and the media.

- National advertisements to increase awareness of the national response to the pandemic, including steps to ensure that these measures reach indigenous and culturally diverse population groups, especially those in rural and remote areas of Australia. Information will be placed on the DoHA communicable diseases website and be available through a range of other media.
- Regular conferences with media to ensure accurate and up-to-date reports of the status of the pandemic. State and Territory health departments may also conduct news conferences in their jurisdictions, therefore there must be a continuous exchange of information between the DoHA and States and Territories, with consistent messages at all times.

10.2 Victorian communication strategy

The Victorian communication strategy will be supported by the DoHA Strategy.

10.2.1 Communication with the general public

It is important the general public receive consistent, comprehensive and relevant information in a timely manner during a pandemic.

Media conferences
Media conferences will be arranged on a regular basis as required. Initially the key spokesman would be the Chief Health Officer, but this may change depending on the scale of the pandemic.

Hotline
The DoHA will establish a free call pandemic hotline to provide information for the general public during an influenza pandemic. Victoria may also establish a pandemic hotline, to deal with local community issues, depending on local needs at the time.

Website
A website with up to date information will be maintained by DHS throughout an influenza pandemic. The website will contain fact sheets and frequently asked questions for the general public and the health sector and link to the DoHA site.

During the interpandemic period, the information on the DHS website on influenza consists of:

DHS – Public Health

The Public Health website contains the following information about Influenza and Pneumococcal Pneumonia:

- Be immunised – Enjoy winter free from flu – Flu and Pneumococcal Pneumonia
- Childhood Pneumococcal Immunisation
- Sentinel Influenza Surveillance – Links to the Victorian Infectious Diseases Reference Laboratory

Better Health Channel

Available at: **http://www.betterhealth.vic.gov.au/**

The Better Health Channel was established in May 1999 by the Victorian Government. Its role is to provide the community with access to online health related information.

Fact Sheets

The following fact sheets are available on the DHS website at **http://www.health.vic.gov.au/ideas/diseases/avian.htm**

1. Information for the community on avian/pandemic influenza
   Frequently asked questions
2. Information on children affected by influenza
3. Information on babies affected by influenza
4. Information for general practitioner on avian/pandemic influenza