



Australian Government

Department of Health and Ageing

**Australian Health
Management Plan for**

PANDEMIC INFLUENZA

IMPORTANT INFORMATION FOR ALL AUSTRALIANS

2006

ISBN: 0 642 82976 4

Online ISBN: 0 642 82977 2

Publications Approval Number: 3862

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These guidelines will evolve over time, as new information becomes available on the epidemiological and clinical characteristics of the disease. Readers are advised to visit the Department of Health and Ageing website www.health.gov.au to ensure that they have access to the most current and up to date version. While this document includes guidance for those involved in providing patient care, readers should note that the information contained in the plan is not a substitute for, and is not intended to replace, independent professional advice. The Commonwealth of Australia does not accept any legal liability or responsibility for any injury, loss or damage incurred by the use of, or reliance on, or interpretation of the information contained in this plan.

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ACKNOWLEDGMENTS

The Australian Health Management Plan for Pandemic Influenza has been developed by the Office of Health Protection in the Department of Health and Ageing following extensive consultation and feedback from interested parties including peak bodies, advisory groups and eminent experts in pandemic influenza.

This plan builds upon the foundation established by the *Australian Management Plan for Pandemic Influenza (June 2005)* and plans developed by other countries including the United States, Canada, the United Kingdom and New Zealand.

The Department of Health and Ageing would like to acknowledge the contribution of the Australian Health Protection Committee (formerly the Australian Health Disaster Management Policy Committee), the Communicable Diseases Network of Australia and the National Influenza Pandemic Action Committee, among others, in contributing to the policy approaches set out in this document and in contributing to the development of the technical annexes which will accompany this document.

ABBREVIATIONS

AHPC	Australian Health Protection Committee
AMPPI	Australian Management Plan for Pandemic Influenza (June 2005)
APEC	Asia Pacific Economic Cooperation
CMO	Chief Medical Officer
CSL	Commonwealth Serum Laboratories
GP	General practitioner
NMS	National Medical Stockpile
WHO	World Health Organization

MINISTER'S FOREWORD



The possibility of an influenza pandemic is real. While it is impossible to predict when a pandemic might occur, Australia can certainly be prepared. The Commonwealth Government has already put in place measures to ensure Australia is well equipped to respond. These measures include this revised and updated Australian Health Management Plan for Pandemic Influenza.

Since H5N1 bird flu first broke out in late 2003, a significant part of the Government's health policy has focussed on preparing for the possible emergence of a new human strain of influenza to which no-one has immunity. The Government has provided \$555 million to ensure that Australia is prepared for a pandemic. This funding includes \$141 million to help our regional neighbours better cope with the threat of bird flu.

Containment of disease and maintenance of essential services is the focus of the plan. 'Containment' means that, in the early stages of a pandemic, intensive efforts will concentrate on containing the pandemic to make time for a pandemic influenza vaccine to be produced. The latest scientific evidence shows that an early and intense effort at containment can buy the time needed to produce the vaccine. Contracts are already in place with manufacturers to do this. Containment strategies may include reducing traveller numbers to Australia, social distancing and infection control measures, short term home quarantine for those exposed to the virus and the targeted use of antivirals.

'Maintenance' means that if the pandemic becomes widespread, efforts will concentrate on maintaining health and other services to keep society functioning until a pandemic vaccine becomes available or the pandemic abates.

It is vital that the public has confidence in decision making processes at all stages of the Pandemic. My Department has been working closely with a range of government agencies at Commonwealth, State/Territory and local government levels, as well as professional, community and industry stakeholders, to ensure that organisations are prepared and that agreed processes are in place.

Over the coming months a number of technical annexes will be published, providing up to date clinical and scientific guidance for medical practitioners and other care workers. These are being produced in close consultation with relevant expert groups.

While the World Health Organization has said that Australia is as well prepared as any other country to respond to pandemic flu, this plan will be regularly reviewed and updated to ensure that this remains the case.

A handwritten signature in black ink, appearing to read 'Tony Abbott'. The signature is written in a cursive, flowing style with a long horizontal line extending from the start.

The Hon Tony Abbott MHR
Minister for Health and Ageing
May 2006

INTRODUCTION

Despite advances in medicine, science and technology, when a new disease emerges human beings will always be susceptible for a time until effective vaccines and treatments can be developed. From time to time, new forms of the influenza virus, against which many people have little or no immunity, emerge in animals and in humans. Such viruses have the potential to cause a pandemic.

In 1918, a pandemic of the 'Spanish flu' caused an estimated 20 million to 40 million deaths around the world. Subsequent influenza pandemics in 1957 and 1968 were milder but still caused widespread illness, over a million deaths worldwide and significant economic and social disruption.

The chances of another influenza pandemic occurring are not known. If another pandemic does occur, the extent of its impact will depend on how easily the particular strain of the virus is transmitted and the severity of illness it generates.

There is currently some concern about the H5N1 strain of the influenza virus, which is causing widespread disease in birds around the world. In a small number of cases, it has spread to humans after close contact with sick or dead birds. However, there is no evidence that the H5N1 virus can spread efficiently from human to human, and there is no immediate threat to the health of Australians.

Whatever the strength of a new pandemic virus, if one emerges, there are effective measures that governments, organisations and individuals can take to help prevent or slow the spread of disease, minimise its impact and manage recovery. These measures can be even more effective if preparations are put in place ahead of time.

This Australian Health Management Plan for Pandemic Influenza outlines (from a health perspective) what the Commonwealth Government is doing—and what the health sector, key stakeholder groups, organisations, the community and individuals can do—to prepare for a pandemic. It builds on the original Australian Management Plan for Pandemic Influenza released in June 2005, drawing on the latest expert epidemiological advice and on extensive consultations with the health sector, key industry sectors and the community.

A parallel National Action Plan for a Human Influenza Pandemic, which brings together Commonwealth Government and state and territory government planning, is being prepared for the Council of Australian Governments and is expected to be released soon.

The Australian Health Management Plan for Pandemic Influenza is divided into four parts:

- Part 1 provides important background information on the nature of influenza and pandemics.
- Part 2 describes what the Commonwealth Government is doing to prepare for a possible pandemic, from a health perspective.
- Part 3 describes how a pandemic might play out and the actions that would be needed to respond to it.
- Part 4 provides practical information about what groups and individuals can do to prepare for a pandemic, to manage during it, and to recover from it.

The Australian Health Management Plan for Pandemic Influenza will be complemented by a series of technical papers, such as guidelines on infection control, and clinical care guidelines. Some of the technical papers are available now, and others will be released progressively.

Both the plan and the technical papers will be available on the Department of Health and Ageing website (www.health.gov.au) or in hard copy on request to: pandemicplan@health.gov.au

PART ONE

PANDEMIC INFLUENZA

PANDEMIC INFLUENZA

An influenza pandemic is a disease outbreak that occurs worldwide when:

1. a new strain of influenza virus emerges, to which no-one is immune
2. the virus causes disease in humans
3. the virus is easily spread between humans.

In the absence of immunity, a new influenza strain can spread rapidly across the globe, causing worldwide epidemics or a pandemic, with high numbers of cases and deaths.

1.1 HUMAN INFLUENZA AND ANIMAL INFLUENZA

The influenza virus is very common. Its symptoms are well known:

- chills, shivering and a fever (temperature over 38°C)
- onset of muscle aches and pains
- sore throat
- dry cough
- trouble breathing
- sneezing
- stuffy or runny nose
- tiredness.

Influenza may be infectious for up to two days before the symptoms of fever and cough begin. This means people who seem well can actually pass the virus on.

At any one time there are several strains of influenza virus circulating among birds and animals and among humans in various parts of the world. Some strains of the virus are peculiar to bird or animal species and some are peculiar to humans. Some strains can pass between different species of birds, animals and humans, with varying degrees of efficiency and causing illness which varies in severity between species. Some species suffer no, or only mild, symptoms and act as carriers for the virus.

There are three main types of influenza virus: A, B and C. Type C rarely causes human infection. Type B can cause mild epidemics. Type A strains of the virus can cause more severe illness and are so far the only types to have caused pandemics.

Type A influenza has many strains or subtypes. The subtypes are named according to two main proteins located on the outside of the virus: haemagglutinin (H); and neuraminidase (N). Up to 16 H subtypes of the influenza virus are known to infect animals. However, of the Type A viruses, only subtypes H1, H2 and H3 have so far transmitted easily between humans. Some of these strains began as pandemics and continue to circulate each year, changing slowly.

Influenza viruses constantly change, most of the time by slow mutation. Very occasionally, they mix with another influenza virus and develop a rapid and sudden increase in their ability to cause disease.

Table 1 Definitions

Influenza (the flu)	A highly contagious disease of the respiratory tract, caused by the influenza virus
Influenza Type A	Virus that occurs in humans and animals
Influenza Type B	Virus that occurs only in humans
Epidemic	A sudden increase in the incidence of a disease affecting a large number of people and spreading over a large area
Pandemic	Epidemic on a global scale. Only Type A influenza viruses have been known to cause pandemics
H5N1 avian influenza (bird flu)	Type A virus affecting birds but passable to humans after close contact with sick or dead birds—it causes severe influenza-like symptoms and may result in death

The H5N1 strain

The H5N1 strain of the influenza virus is currently causing disease in birds (avian influenza, or 'bird flu') in many countries across Asia, Europe and Africa. The H5N1 virus causes a relatively mild illness in some species of migratory waterfowl, but causes rapid death in chickens.

It is currently very difficult for the H5N1 virus to be transmitted from birds to humans (it requires very close contact with sick or dead birds) but in those few cases where it has been transmitted, it has caused severe illness and the death rate has been high.

There is little danger of H5N1 being passed from birds to humans through the consumption of poultry or eggs, particularly in developed countries. High standards of hygiene and infection control in veterinary and farming practices in developed countries help ensure that, for the most part, poultry flocks do not become infected. When infection is detected, poultry are culled and disposed of quickly, so there is little chance of infected meat or eggs being sold to consumers. In addition, thorough cooking of chicken meat and eggs destroys the virus.

In Australia, H5N1 has not yet been detected in birds, either wild or domestic, despite a major increase in testing. It is possible that H5N1 will arrive in nomadic or migratory birds in the future. However, the risk of H5N1 infecting Australian poultry flocks is considered low, and there are simple precautions that people keeping birds at home can take to protect their birds and themselves. Information on these can be found on the Department of Agriculture, Fisheries and Forestry website (www.daff.gov.au).

PANDEMIC INFLUENZA

There have been outbreaks of different strains of bird flu in Australia in the past, but not of the H5N1 type. Past outbreaks were dealt with urgently by agricultural authorities, and the virus was quickly eradicated.

The rapid global spread of H5N1 in birds remains of concern because of the high fatality rate among the small number of human cases so far. Between December 2003 and April 2006, there were over 196 confirmed human cases of H5N1 influenza worldwide, and over 110 of the people infected died. Considering the millions of birds infected, and the potential number of people exposed to the virus, the number of human cases so far is low. In addition, while there have been a handful of cases that could not be attributed to bird-to-human transmission, there is no evidence of efficient human-to-human transmission. It seems that people need to be exposed to an overwhelming dose of the virus to be infected.

This pattern of infection shows that the H5N1 virus is not well adapted to infecting humans. Scientific opinion about whether H5N1 will become better adapted is mixed. One view is that the longer people are exposed to the virus via birds and the more people who are exposed, the greater the chance of the virus adapting. Another view is that, given that humans have been exposed to the virus over a period of years (it first emerged in 2003), the fact that it has not yet adapted to humans might be a sign that it is not able to do so.

The World Health Organization (WHO) recognises the continuing risk of H5N1 becoming better adapted to humans and recommends that all countries prepare for a possible pandemic.

1.2 SEASONAL AND PANDEMIC INFLUENZA AND THEIR TREATMENTS

Each year, several human influenza viruses cause infection in the winter months in the northern and southern hemispheres. Some people have a level of immunity to particular seasonal influenza viruses because of past exposure. Others contracting the virus suffer only a mild illness. However, for some people in high-risk categories—the elderly, people with poor immune systems, people with pre-existing respiratory disease—the seasonal influenza virus can prove deadly.

Vaccines

Fortunately, effective vaccines are available for seasonal influenza. Twice a year, the WHO reviews data from around the world about the particular influenza strains circulating and determines which strains of the virus need to be vaccinated against. The seasonal influenza vaccine contains inactivated viruses, which do not cause disease but produce immunity.

The seasonal influenza vaccine includes the three top circulating influenza viruses affecting humans for that season—usually two of the more severe A type and one of the B type. The vaccine does not stop people contracting any of the other non-flu viruses that circulate and cause coughs and illness in winter (non-flu viruses usually cause a much less severe illness than the flu virus).

The seasonal influenza vaccine does not protect against the H5N1 strain of influenza.

A vaccine that gives good protection against a pandemic virus can only be developed after that virus strain appears. Such a vaccine may take several months to develop and produce. The Commonwealth Government has arrangements in place to develop a vaccine against a pandemic influenza virus as soon as such a virus emerges.

It is possible that a vaccine using the H5N1 strain of influenza may give partial protection if that strain changes and spreads more easily among humans. Prototypes of an H5N1 vaccine are being developed by several manufacturers around the world, including Australia's domestic manufacturer, CSL Limited. The government is committed to buying a substantial amount of H5N1 vaccine as soon as it is proven safe and effective (see Section 3.6).

Infection control

Short of a vaccine, there are many simple ways people can substantially reduce their risk of being infected by or spreading the influenza virus. These include:

- maintaining a physical distance from people who might be infected
- frequent handwashing, particularly after coming into contact with people who might be infected
- cough and sneeze etiquette
- staying home from work when unwell, and encouraging colleagues to do so
- in the event of a pandemic, wearing a simple surgical mask or other covering for the nose and mouth.

These approaches are set out in more detail in Section 4.1.

Antiviral medicines

A class of medicines known as antivirals may have some effectiveness in preventing infection and in treating pandemic influenza. Antivirals have received much attention in Australia as a possible response to pandemic influenza, and the National Medical Stockpile includes one of the largest per capita supplies of antivirals anywhere in the world (see Section 2.2 and Appendix 1).

However, it is important to note that the evidence about the effectiveness of antivirals is limited and mixed.

- To be effective, antivirals have to be administered either before, or soon after, a person has symptoms.
- If administered after the onset of symptoms, the antivirals may reduce the severity and duration of the influenza infection.
- No matter how big the stockpile, administering antivirals to everyone ahead of infection with a pandemic virus would simply not be possible. Rising worldwide demand means stocks are limited. Even if there were enough antivirals to provide a full course to every Australian, it would be necessary to time the administration of the drug perfectly to anticipate the pandemic's arrival here. Continuous use by the whole of the population is not feasible.

PANDEMIC INFLUENZA

- The influenza virus can adapt to the antivirals used against it, in the same way as some bacteria have adapted to antibiotics. The virus can readily adapt to one class of antivirals, known as amantadines, rendering them ineffective. Fortunately, another class of antivirals is still available.

It is very important to understand that antivirals can only be used as one part of a broader response to a pandemic, and that they need to be used strategically because stocks are limited and because of the danger of the virus adapting to them. The government's strategy for using antivirals as part of a pandemic response is set out in Appendix 1.

If you, or a member of your household, are prescribed these drugs, it is very important to take them exactly as instructed. This will ensure that you receive maximal benefit from your treatment, and will reduce the chances of the virus becoming resistant. Antiviral resistance would limit the future effectiveness of these important medications.

Given the limited supplies of antivirals and the potential for resistance to develop, buying a personal stockpile of antivirals or using them unnecessarily will not help public health efforts to control a pandemic. It is important that you seek an accurate diagnosis of influenza from your doctor before using antivirals.

1.3 HOW PANDEMICS DEVELOP

The WHO has studied the development of previous pandemics closely and developed a stylised model of the phases of pandemic development (these are shown in detail in Table 2 in Section 1.5).

First, a new form of the influenza virus may emerge in birds or animals and the risk of transmission to humans increases. Then the virus is transmitted *to* humans, but is not transmitted efficiently *among* humans (this is what is currently happening with the H5N1 influenza virus).

The virus may then get better at passing from human to human, first in small groups (families or villages) and later over wider but still localised areas—the outbreaks become an epidemic.

In the pandemic phase (Phase 6 in the WHO system), the virus is in its final pandemic form and is spreading easily between humans, causing widespread illness and perhaps deaths.

The length of each of these phases is uncertain, but the pandemic could come in several waves of up to 12 weeks each in duration. A pandemic is most likely to start where animals and humans live closely together and where the population is more crowded. It is more likely to develop in winter, when people live more closely together and viruses stay alive longer in colder temperatures (on hands or in the environment, for example on surfaces such as door handles).

Given the high standards of human health and hygiene and good veterinary and farming practices in Australia, it is not expected that significant bird-to-human transmission would occur in Australia, or that the virus would develop into a pandemic form here. Those events are more likely to happen overseas. Using the WHO model, this means that Phases 3 to 6 would be expected to occur overseas before they occur in Australia.

This gives Australia some advantages. The development and spread of any new influenza virus overseas can be monitored and measures can be taken early to slow its arrival in Australia, to contain it if it arrives, and to slow its development from clusters (Phases 4 and 5) to a full pandemic in Australia (Phase 6). The extra lead time from these measures can enable Australia to prepare further for Phase 6 and the following period of recovery. Through prevention and containment measures it might be possible to buy enough time to develop a vaccine to protect the population before the virus arrives in Australia or early after its arrival, and potentially stop its spread within the Australian population. This approach is outlined in more detail in Part 3.

1.4 HISTORY OF PANDEMICS

In the twentieth century, the world experienced three pandemics, which occurred in 1918, 1957 and 1968.

1918

The 1918 pandemic (known as the 'Spanish flu') swept across the world in three waves through 1918 and 1919. It tended to affect an area for about six weeks then suddenly disappear, almost as quickly as it had arrived, only to return again several months later. This wave pattern matches descriptions of some earlier pandemics, and also occurred in a less pronounced form in the milder pandemics of 1957–58 and 1968–70.

In terms of the loss of human lives, the 1918 pandemic was unprecedented in modern times. It killed more people than World War I, which had just ended. The illness came on suddenly and progressed rapidly to respiratory failure and death. Worldwide, an estimated 20 million to 40 million people died, with the highest numbers of deaths in young and healthy people aged 15 to 35 years. About 25 per cent of the world's population was infected, and almost 1 per cent of people infected died.

The Spanish flu did not reach Australia until 1919, partly because of strict naval quarantine implemented by the authorities. It began in Victoria, spread to New South Wales (where hospitalisation rates in Sydney increased exponentially) then spread to the rest of Australia. By the end of 1919, around 11,500 Australians, mostly young adults, had died of the flu. As in other countries, health services in Australia were tightly stretched during this time.

1957

The influenza pandemic of 1957–58 (called the 'Asian flu') was caused by a milder virus. Although the proportion of people infected was high (some say up to 70 per cent), the illness was mild. The first wave of the pandemic was concentrated in schoolchildren, and the second in the elderly. Infants and the elderly were more likely to die. It is estimated that the Asian flu caused two million deaths worldwide.

1968

The 1968–70 pandemic of 'Hong Kong flu' was also mild compared to the pandemic of 1918. It affected mainly the elderly, and is thought to have caused about one million deaths worldwide.

Researchers say that the 1957 and 1968 pandemics were less severe than the 1918 pandemic because the world population had developed some immunity from exposure to similar virus strains in the past. In 1918, people in the prime of their lives were affected as much as, if not more than, the elderly and the very young, who were most affected by the subsequent epidemics.

1.5 OUTLINE OF PANDEMIC PHASES

The WHO uses a series of six phases of pandemic alert to inform the world of the seriousness of the pandemic threat and of the need to launch progressively more intensive preparedness activities.

The Director-General of the WHO designates global phases, making decisions on when to move from one phase to another.

The WHO scale is based on the real-world development of a pandemic:

- In the early or 'interpandemic' phases (Phases 0 to 2), a new form of the influenza virus emerges in birds or animals and the risk of transmission to humans increases.
- In the first 'pandemic alert' phase (Phase 3), the virus is transmitted from birds or animals to humans but is not transmitted efficiently among humans. This is the current phase of pandemic alert for the H5N1 influenza virus.
- In 'pandemic alert' Phases 4 and 5, the virus starts to be transmitted between humans in small clusters, then in larger clusters. A small cluster might be within a family group or a village, for example. A larger cluster occurs among unrelated individuals in a larger but still localised geographical area.
- In the 'pandemic phase' (Phase 6), the virus is in its final pandemic form and is spreading easily between humans and causing widespread illness and possibly deaths.

Each alert phase coincides with a series of recommended activities by the WHO, the international community, governments, and industry. Changes from one phase to another are triggered by several factors, which include the epidemiological behaviour of the disease and the characteristics of circulating viruses.

Australia has devised a set of phases that sit alongside the WHO phases to show what is happening both internationally and within Australia. This adaptation distinguishes between actions that are undertaken before pandemic flu reaches Australia and those that happen once it arrives. Australia's Chief Medical Officer (CMO), with advice from an Expert Advisory Group, provides advice to the Commonwealth Government on the Australian phases.

The system of pandemic phases is set out in Table 2.

The phases are intended to guide actions, rather than to be a strict, step-by-step guide to how a pandemic would unfold. This means that two phases can be designated at the same time; for example, in April 2006:

- the world is at global Phase 3: a new influenza virus subtype is causing disease in humans, but is not yet spreading efficiently and sustainably among humans
- Australia is at Australian Phase 0: no circulating animal influenza subtypes in Australia that have caused human disease.

Australia's response plan begins with monitoring by epidemiologists, escalates through meetings of the CMO's Expert Advisory Group and decisions by the CMO, and includes briefings for state and territory chief health officers, the Minister for Health and Ageing, and the Prime Minister. At a change of phase the Department will convene the Australian Health Protection Committee. (See Part 2.11)

Table 2 Table of pandemic phases

Period	Global Phase	Australian Phase	Description of phase	
Inter-pandemic		Aus 0	No circulating animal influenza subtypes in Australia that have caused human disease.	
	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 or disease 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: larger 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: larger 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	

1.6 AUSTRALIA'S STRATEGY FOR PANDEMIC RESPONSE

Australia will use two major strategies to minimise illness and deaths during a pandemic.

The first strategy will be *containment*. Australia will prevent or minimise transmission and spread by border control measures, widespread adoption of good hygiene and infection control practices, isolation of the sick, quarantine of contacts and, for those exposed, the use of antivirals from the National Medical Stockpile.

If there is explosive spread within the general population, containment may not be possible and the second strategy will be needed. In such circumstances, the strategy will change to an emphasis on the *maintenance of social functioning*.

The CMO, in conjunction with the Expert Advisory Group, will determine whether the shift from the first to the second strategy is needed.

The events that could cause the group to consider changing strategies are:

- first reports of explosive spread and sustained transmission in the general population in Australia (Aus 6a to 6d in Table 2)
- or*
- pandemic occurrence overseas (Overseas 6) *and* clusters with significant pandemic risk in Australia (Aus 5).

If explosive spread and sustained transmission are happening in a region that can be isolated, a decision may be made to change strategy to maintaining social functioning within that region, while continuing the containment strategy in the rest of Australia.

Fold-out tables setting out Australia's response strategy at each phase are part of the Australian Health Management Plan for Pandemic Influenza—one for actions at overseas phases and one for Australian phases. The tables are evolving documents that will be constantly updated to reflect the international situation, research findings and revised action plans.

Revised versions of the tables will be published on the Department of Health and Ageing website (www.health.gov.au).

PART TWO

WHAT THE GOVERNMENT IS DOING
TO PREPARE FOR A PANDEMIC

WHAT THE GOVERNMENT IS DOING TO PREPARE FOR A PANDEMIC

Australia is one of the countries best prepared to respond to an influenza pandemic. As of April 2006, the Commonwealth Government has committed some \$555 million over five years to help prevent and prepare for a pandemic, including by:

- establishing an Office of Health Protection within the Department of Health and Ageing, to develop and coordinate health preparations and to be ready to coordinate emergency responses
- building a National Medical Stockpile of antiviral medicines, personal protective equipment and other stores that are likely to be needed in large quantities in a pandemic
- strengthening Australia's health surveillance and laboratory diagnostic capacity, to help detect early signs of a pandemic both overseas and in Australia and to be ready to direct the early response to where it is most needed
- establishing contracts with influenza vaccine manufacturers for a guaranteed supply of enough pandemic vaccine to protect the entire Australian population
- accelerating development by Australia's domestic vaccine manufacturer, CSL Limited, of a vaccine against the current H5N1 influenza virus
- providing significant funding to accelerate research on influenza and pandemics
- cooperating internationally with the WHO, including through its network of Collaborating Centres for Reference and Research on Influenza, and providing assistance to regional countries to prepare for and respond to a pandemic
- conducting a national simulation exercise (Cumpston '06) in October 2006, to test Australia's response arrangements for a pandemic
- developing a communications strategy to inform and advise health professionals, businesses and the general public about how to prepare for a pandemic, manage during it, and recover from it
- establishing effective coordination arrangements within the Commonwealth Government and with state and territory governments.

These measures are set out in more detail below.

2.1 THE OFFICE OF HEALTH PROTECTION

In early 2006, the Commonwealth Government established the Office of Health Protection to provide a central point within government to lead and coordinate planning and responses to health threats to Australia, including the threat of pandemic influenza.

The new Office of Health Protection is:

- leading national health preparations for pandemic influenza and other possible health emergencies
- taking a systematic approach to health surveillance, both international and domestic, to ensure that health threats to Australia are identified early and responses are expedited

- building and managing the National Medical Stockpile for use in response to health emergencies, including a possible influenza pandemic (see Section 2.2 and Appendix 1)
- developing and managing a legislation framework for health protection, including proposed national health security legislation and international health regulations
- developing the National Incident Room as the hub of government information and response during major health incidents
- strengthening disease surveillance systems and contact tracing capacity in Australia and overseas
- planning and implementing measures to keep new communicable diseases out of Australia and to contain or eradicate them if they arrive here
- building medical and epidemiological expertise on communicable diseases and other health threats to Australia
- building laboratory diagnostic capacity to deal with existing and emerging communicable disease and biosecurity threats, including pandemic influenza
- enhancing national responses to food borne illness
- developing and implementing appropriate communications with the public and with health professionals in relation to communicable disease and biosecurity threats.

2.2 NATIONAL MEDICAL STOCKPILE

Since 2002, the Commonwealth Government has maintained a National Medical Stockpile of essential medicines, vaccines and equipment for use in response to health emergencies, such as a major outbreak of communicable disease or an act of bioterrorism.

In preparation for a pandemic, the stockpile either contains or soon will contain:

- *Antiviral drugs:* By early 2007, the stockpile will hold 8.75 million courses of antiviral drugs, making it one of the largest stockpiles of antivirals in the world on a per capita basis. Close to 4 million courses of the antivirals Tamiflu and Relenza are already in the stockpile, ready for deployment at 24 hours notice. The remainder is on order, with deliveries expected to be completed by early 2007.
- *Personal protective equipment,* including 2 million P2 masks, 40 million surgical masks and significant numbers of gloves, goggles and other equipment. Some of this equipment will be pre-packaged in 'border packs', which can be deployed rapidly to airports, quarantine facilities and other sites in the event of a pandemic.
- *Thermal imaging scanners* for use at airports, to help identify incoming people who may be infected with influenza.
- *Other medicines and equipment,* including 50 million needles and syringes for use once a vaccine is developed, 300 medical ventilators to supplement those in state and territory hospitals, and negative pressure units for effective isolation of infected patients.

WHAT THE GOVERNMENT IS DOING TO PREPARE FOR A PANDEMIC

2.3 SURVEILLANCE

The Office of Health Protection is taking a systematic approach to health surveillance, to ensure that Australia is warned as early as possible of the emergence of a pandemic overseas. In this way, it will be possible to track a pandemic's development and direct responses efficiently if the pandemic spreads to Australia.

The Office's international surveillance efforts include the collection and monitoring of international health warning information from all sources, including expert medical and epidemiological networks, the WHO, Australia's overseas diplomatic posts, the intelligence agencies and the media. The Office makes regular situation reports to key stakeholders in the Commonwealth and state and territory governments.

Australia has longstanding and very effective mechanisms for reporting communicable diseases. These include:

- the National Notifiable Disease Surveillance System
- general practitioner (GP) sentinel network
- the Laboratory Virology and Serology Reporting System (Labvise).

The government is building on these to strengthen Australia's domestic communicable diseases surveillance capacity. For example, the Office of Health Protection is developing the Biosecurity Surveillance System that will comprise:

- the Health Alert Network, an electronic information sharing system to ensure that key health decision makers in the Commonwealth and state and territory governments are informed quickly and securely about the latest developments
- the Outbreak Case Reporting System, a web-based outbreak reporting system to simplify and speed up national reporting of communicable disease outbreaks by health professionals
- improvements to the National Notifiable Disease Surveillance System including a syndromic surveillance system, incorporating an expanded sentinel GP surveillance system and selected emergency departments and sentinel hospitals around Australia (essential in a pandemic because the first cases of pandemic influenza are likely to present with 'influenza-like' illness to GPs or emergency departments).

Heightened quarantine and border control activities are helping to ensure that, as far as possible, avian influenza and, potentially, pandemic influenza are prevented from entering and spreading within Australia.

In the event of an outbreak of pandemic influenza overseas, incoming travellers will be screened and, where necessary, quarantined. Travel restrictions may be imposed to prevent the arrival in Australia of people who have been exposed to pandemic influenza overseas. These approaches are described more fully in Part 3.

Quarantine officers at airports, seaports and international mail centres are maintaining a high level of vigilance for birds and bird products from countries affected by avian flu. Australia has a policy of screening (by detector dogs, X-ray or physical inspection) 100 per cent of all bags from all flights from targeted high-risk avian influenza countries.

An expanded wild bird surveillance program is now in place as a cooperative effort between the states and the Commonwealth Government, through the Australian Quarantine and Inspection Service's Northern Australia Quarantine Strategy, and wildlife health networks. Surveillance of wild birds is being targeted on northern Western Australia, the Northern Territory and Queensland.

2.4 STRENGTHENING LABORATORY CAPACITY

Australia has one of the world's best networks of diagnostic laboratories.

Infectious and dangerous viruses, like a pandemic-causing strain of influenza, can be handled safely by the major public health laboratories in the states and territories. These laboratories have specialist facilities that are secure and safe, as well as the resources to identify new virus strains.

In Australia, the major public health laboratories in all the states and territories form the Public Health Laboratory Network, which is supported by the Commonwealth Government Department of Health and Ageing. The network provides:

- leadership to build the capacity of public health laboratories to respond to communicable disease outbreaks and emerging infectious diseases
- strategic advice to government on laboratory services for disease surveillance and during disease outbreaks
- collaborative links between pathology laboratories
- national access to laboratory services
- promotion of best practice in the field.

If a pandemic emerges overseas, demand on these laboratories will increase substantially. Specimens from all influenza patients will need to be taken and tested for the pandemic strain of the virus, in an effort to ensure that the pandemic's arrival in Australia is identified as early as possible and urgent containment measures are put in place.

The Department of Health and Ageing is providing funding for equipment and training to public health laboratories, to ensure their ability to identify a pandemic influenza strain within 24 hours.

WHAT THE GOVERNMENT IS DOING TO PREPARE FOR A PANDEMIC

2.5 PANDEMIC VACCINE CONTRACTS

Australia is one of very few countries that have contracts in place with vaccine manufacturers to ensure the development and supply of a customised vaccine as soon as a pandemic strain of influenza emerges. These contracts are with our domestic vaccine manufacturer, CSL Limited, and with the French manufacturer, Sanofi Pasteur.

In the event of a pandemic, these manufacturers will give priority to the development and production of a pandemic vaccine for Australia.

The development and production of a customised pandemic vaccine could take some months, so other measures are necessary to slow the arrival and spread of pandemic influenza in Australia until a vaccine is produced.

2.6 H5N1 VACCINE DEVELOPMENT

A vaccine based on the H5N1 strain of the influenza virus may provide partial protection if H5N1 develops into a pandemic strain that is easily transmissible between humans. In July 2005, the Commonwealth Government announced funding of \$4.9 million to accelerate CSL Limited's development of a vaccine against the current H5N1 strain, and in December 2005 committed further funding to buy up to 5 million doses once the vaccine is proven to be safe and effective.

In January 2006, CSL completed the first-phase human trials of the vaccine, with promising results. A second phase of trials is needed to confirm the safety and effectiveness of the vaccine. These are expected to be complete by the end of 2006.

2.7 ACCELERATED RESEARCH

The Commonwealth Government is also supporting urgent research into ways of preventing, detecting and controlling influenza pandemics. In February 2006, the National Health and Medical Research Council announced competitive grants for 33 research projects, including studies into treatments for pandemic influenza, improving vaccine preparation, improving screening measures in high-risk areas, ways to predict the spread of influenza in Australia, and preparing the business sector for pandemic influenza.

As examples:

- Grants to five different research institutions, totalling more than \$1.4 million, will enable work on improvements in virus detection.
- The Westmead Millennium Institute has been awarded \$118,000 to develop a rapid diagnostic test for monitoring the development and transmission of drug-resistant influenza.
- The University of Melbourne received more than \$400,000 to test flu vaccines, to help manufacturers provide the best type of vaccine to protect Australians in the event of a global flu outbreak.

- The University of Queensland received almost \$300,000 to look at new ways of managing and supporting frontline health workers in an infectious disease outbreak.

A full list of successful recipients and descriptions of the research projects can be found at www.nhmrc.gov.au/funding/funded/outcomes/index.htm.

2.8 INTERNATIONAL COOPERATION AND ASSISTANCE

International cooperation and assistance are important ways in which the government can help prevent an influenza pandemic from emerging overseas, help affected countries if a pandemic emerges, and help slow the spread of the disease to Australia.

World Health Organization

The WHO is the lead international organisation in any response to a pandemic. The WHO is responsible for declaring the phases of a pandemic and mobilising international action to help prevent the spread of influenza in humans. If a pandemic strain of influenza emerges first in a less-developed country, the WHO will intervene early to try to contain the virus before it spreads across borders.

Australia contributes strongly to the WHO's forums and holds active, bilateral discussions with its officials on pandemic preparedness and response.

The Commonwealth Government funds the Australian WHO Collaborating Centre for Reference and Research on Influenza, as part of the WHO influenza surveillance network. The centre, in Melbourne, is one of four (the others are in London, Atlanta and Tokyo). The centre was originally established as a regional influenza centre in 1951, and was upgraded to collaborating centre status in 1992.

The Melbourne centre plays an important role not only in Australia but internationally. It monitors new strains of influenza developing around the world, advises the WHO on epidemiological trends, and recommends strains for inclusion in annual seasonal vaccines. In a pandemic, the centre would play an important role in helping to identify the pandemic strain and in developing tests and a vaccine.

Regional assistance

Australia has been a key player in the development of a coordinated regional response to avian and pandemic influenza. At the November 2005 Asia Pacific Economic Cooperation (APEC) leaders' meeting, Australia announced funding of \$100 million over four years for initiatives to combat the threat of pandemics and emerging infectious diseases in the region. Of these funds, \$90 million will be used to help regional economies prepare for a pandemic and to support organisations working across the region, such as the WHO. The remaining \$10 million will be used for specific APEC activities on avian influenza. Australia is coordinating a regional desktop exercise in 2006 to test regional responsiveness and communications networks and establish response mechanisms for a human-to-human outbreak. A register of experts with specialist skills in human and animal health and disaster response across the Asia-Pacific region will also be established.

WHAT THE GOVERNMENT IS DOING TO PREPARE FOR A PANDEMIC

This package of assistance is in addition to the \$41 million Australia had already committed since 2003 to combat avian influenza and other infectious diseases in the region. These funds have been used to support a large number of initiatives primarily designed to improve the detection, surveillance, emergency preparedness and response capabilities of countries in the region. In key countries:

- Antiviral medicines have been purchased and distributed to hospitals.
- Diagnostic kits, medical and laboratory equipment have been provided, surveillance networks strengthened and laboratory staff trained in diagnosis of the avian influenza virus.
- An Australian epidemiology regional assistance program is being established to place epidemiologists in countries such as Indonesia, Vietnam, Laos and China.

International Partnership on Avian and Pandemic Influenza

Australia is one of the founding members of the United States-led International Partnership on Avian and Pandemic Influenza. The partnership brings together concerned states to develop global capabilities to respond to the pandemic threat. In October 2005, the Minister for Health and Ageing attended a health ministers' conference in Canada to discuss how best to work together to plan, prepare for and respond to a possible influenza pandemic. Australia is actively encouraging regional countries to join the partnership, which will seek to build on and complement the work of APEC and the WHO.

2.9 EXERCISE CUMPSTON '06

In October 2006, the Commonwealth Government, working with state and territory governments, will conduct a live simulation exercise to test Australia's health and broader preparedness and responses to a pandemic influenza outbreak. Titled Cumpston '06, the exercise is named after John Howard Lidgett Cumpston, the first Director-General of the Commonwealth Department of Health when it was created in 1921, and previously the Director of Quarantine during the Spanish flu pandemic. The operational phase of the exercise will be conducted in Queensland.

2.10 COMMUNICATIONS AND PUBLIC ENGAGEMENT

Governments, acting on their own, cannot respond effectively to a pandemic. They need cooperation from businesses, non-government organisations and individuals. Communications are therefore an essential part of preventing, preparing for, responding to and recovering from a pandemic.

The Department of Health and Ageing has prepared a comprehensive communications strategy for informing and advising the general public, businesses and key health stakeholders as a pandemic progresses. The strategy is designed to be flexible enough to accommodate the various ways a pandemic might develop, and to provide the right information at the right time at the different stages of the pandemic. Key elements are:

- a media engagement strategy to ensure that news media receive timely, accurate and authoritative information to support their reporting

- a comprehensive market research program to ensure that communications effectively meet public needs
- a public information campaign using a range of media, including electronic, print and online media, and communications materials delivered through health providers and, if necessary, direct to households
- direct-access information services, such as call centres and websites, to provide up-to-date information and advice
- clinical information resources to support primary care providers.

At the prevention stages of a potential pandemic (Overseas 1 to 3 or Aus 0 to 2, in Table 2), the objective is to provide accurate and consistent information to prepare Australians for action they might need to take during a pandemic.

In the preparedness and response phases (Aus 3 to 4 and particularly Aus 5 to 6), the objective is to encourage action by the public to reduce the spread of infection and minimise the impact of the disease in Australia.

2.11 COORDINATION ACROSS AND BETWEEN GOVERNMENTS

Governments have special arrangements in place for coordinating their responses to disease outbreaks, including a possible pandemic.

The Australian Health Protection Committee (AHPC) is the key policy and coordinating body that plans for and responds to health emergencies. Membership of the committee, which is chaired by the Commonwealth Government, includes the CMO, the chief health officers of the states and territories, and representatives of key government organisations involved in emergency management and response.

The AHPC has been working to ensure that national, state and territory pandemic plans are based on the best available health advice, are consistent, and would result in a coordinated approach to a pandemic. The committee meets regularly, and can be called together at short notice to respond to emergencies. The AHPC would be expected to meet at key turning points in the development of a pandemic overseas and would meet urgently and regularly if a pandemic spreads to Australia.

The AHPC reports to health ministers through the Australian Health Ministers' Advisory Council, and would be the key body advising health ministers and coordinating operational health responses throughout a pandemic.

Within the Commonwealth Government, the Department of Health and Ageing is working closely with a range of agencies to ensure that effective measures are in place to protect the health of Australians from the threat of pandemic. This is currently particularly important at the border, where cooperation with the Australian Quarantine and Inspection Service, the Australian Customs Service and the Department of Foreign Affairs and Trade will help prevent or slow the arrival of a pandemic in Australia.

WHAT THE GOVERNMENT IS DOING TO PREPARE FOR A PANDEMIC

In a pandemic, the Department of Health and Ageing would provide advice to other agencies to trigger well-established emergency response arrangements.

The CMO has a particular role to play. The CMO is the key adviser to the Commonwealth Government on the development of a pandemic and on declaring the phases of the pandemic in line with the WHO model. The CMO is also the government's chief adviser on human quarantine, and has extensive powers under the Quarantine Act, including the ability to restrict the movement of people into Australia and within Australia to protect human health.

Through the Council of Australian Governments (COAG), governments at all levels have recognised that the potentially broad-ranging social and economic impacts of a pandemic require a response from the whole of government, not just the health portfolio. COAG will soon issue a National Action Plan for a Human Influenza Pandemic, outlining how governments at all levels would cooperate in response to a pandemic.

In addition, the Commonwealth and each of the states and territories has its own pandemic plans and emergency management systems, which would be triggered in a pandemic.

PART THREE

ACTIONS AS A PANDEMIC DEVELOPS

ACTIONS AS A PANDEMIC DEVELOPS

As described in Part 1 of this plan, an influenza pandemic is expected to develop overseas before it develops in Australia. The government's overall strategy for responding to an emerging pandemic is therefore to apply a combination of measures to:

- assist in efforts to contain or slow the spread of a pandemic overseas
- delay the arrival of the pandemic in Australia
- contain or slow the spread of the pandemic virus once it reaches Australia.

This approach is generally described as a 'containment strategy'. It is applicable in Phases 3 to 6 of a pandemic overseas or Phases 4 and 5 of a pandemic in Australia. The government's aim is to extend containment for as long as possible to buy time for a vaccine to be developed to protect the Australian population against the disease. Such a vaccine can only be made when the virus has changed into its pandemic strain, and could take some months to develop and produce. The length of time containment could be extended would depend critically on the nature of the virus.

The Department of Health and Ageing has commissioned expert epidemiological modelling on the prospects of success for a containment strategy. The modelling is based on the best available data on the pattern of spread of previous pandemics, including the devastating 1918 Spanish flu. It shows that, if the virus is no more severe than previous pandemics and if effective, early and layered measures are taken to slow the spread of the virus, Australia may be able to extend the containment strategy for up to 12 months. This is expected to be long enough to develop and produce an effective vaccine.

Taking the actions necessary to support an extended containment strategy will rely on cooperation between all levels of government and assistance from the community. The recommended health actions are outlined in this plan. Broader Commonwealth Government actions will be outlined in a separate Commonwealth action plan and an overarching coordinated set of actions by all levels of government are contained in the National Action Plan.

If containment can no longer be sustained and the pandemic spreads throughout the general population (Phase 6 in Australia), the government will revise its strategy to maintain essential services and social cohesion, minimise the impact of the disease and assist in recovery efforts.

3.1 HELPING TO SLOW THE SPREAD OF A PANDEMIC OVERSEAS

International surveillance is essential to an early response to a pandemic. The WHO closely monitors the emergence of new strains of the influenza virus in animals and in humans. It is currently monitoring very closely the spread of H5N1 in birds around the world, and its transmission to humans. It is also working with each affected country to investigate every known human case of H5N1 infection, so that the changing nature of the virus can be closely monitored and the alert can be raised if efficient human-to-human transmission takes place.

The Department of Health and Ageing maintains its own international surveillance, including through close contact with the WHO, with like minded governments and with Australian disease experts, to ensure that new developments are reported to the Commonwealth Government, as they occur.

In the event of human-to-human transmission of a new influenza strain overseas, the government will act early to encourage the WHO and other governments to contain the outbreak. The WHO has a stock of antiviral medicines and equipment at its disposal to aid in early responses to outbreaks anywhere in the world. The Commonwealth Government will also consider requests from the WHO or other governments for assistance, and respond commensurately with the nature of the threat, without weakening Australia's own capacity for action should the pandemic spread here.

Once human-to-human transmission of a pandemic strain virus has started overseas (Overseas Phase 4 in Table 2), the government *may* advise Australians in affected countries to return home. As the pandemic starts to spread (Overseas Phase 5), the government *will* advise Australians overseas to return home.

Development of a vaccine against the pandemic strain of the virus will begin as soon as the strain is identified.

3.2 DELAYING THE ARRIVAL OF A PANDEMIC IN AUSTRALIA

Border control measures will be an essential part of delaying the spread of a pandemic to Australia and will need to be in place early in the development of a pandemic overseas (Phases 4 and 5). Such measures will have serious ramifications for the Australian community. Decisions regarding border control will be taken following advice from the CMO and the Health Minister, to the Prime Minister. State and territory governments will be consulted.

If the disease is highly infectious, lethal, or both, these measures are likely to include the following:

- *Restrictions on travel to Australia* from affected countries, with the exception of Australians returning home. Efforts will be made, consistent with the protection of Australians' health, to ensure that trade in essential goods can continue
- *Home-based quarantine* for Australians arriving from affected countries. This could involve asking returning travellers to remain at home for a period (up to a week) until it is clear that they are not infected. If the traveller becomes ill, household members may also need to stay at home to prevent further spread of the infection. Authorities will contact people in home-based quarantine daily, usually by telephone, to check on their health
- *Other quarantine arrangements* if home-based quarantine is not possible (for example, travellers arriving from affected countries or on an aircraft on which someone is reported unwell, who do not have homes in Australia or who cannot reach them)

ACTIONS AS A PANDEMIC DEVELOPS

- *Positive 'pratique' on all inbound flights.* This means that arriving aircrew will be required not only to report to Australian airports anyone on their flight who is sick, but will have to positively certify that everyone on their flight is well
- *Health declaration cards for travellers,* asking whether they have been in contact with people with influenza or have symptoms of the disease
- *Special quarantine arrangements* for people arriving by ship
- *Thermal screening* to determine whether a disembarking passenger has a fever
- *Nurses* to assess and assist people who have flu-like symptoms
- *Transfer* of arriving travellers with flu-like symptoms to a hospital or other health-care service for further assessment
- *Infection control for at risk border workers,* including the use of personal protective equipment
- *The provision of antiviral medicines* for people exposed to the virus or at continuous high risk of exposure.

3.3 SLOWING THE SPREAD OF A PANDEMIC IN AUSTRALIA

No matter how effective Australia's border measures, it is likely that at some time the pandemic strain will make its way into Australia. When that occurs, a number of overlapping measures will be needed to minimise its spread. These include:

- widespread adoption of good infection control practices in the community
- 'seek and contain' measures for new cases of infection, and the provision of antiviral medicines for people exposed to the virus or at continuous high risk of exposure
- special hospital arrangements for flu patients, 'fever clinics', or both
- possible restrictions on movement within Australia.

Good infection control

Widespread, concerted adoption by individuals of good infection control is one of the most effective ways to slow the spread of the virus once it reaches Australia. In the early stages of a pandemic, Australians will need to:

- avoid crowded gatherings
- wear a basic surgical mask or other appropriate covering for nose and mouth in public if they have symptoms
- stand back from people in public places and in the workplace
- stay home, if unwell or living with someone who is unwell
- practise cough hygiene

- wash hands frequently or use alcohol rubs to disinfect hands
- not visit people with influenza, or areas affected by it.

Pre-prepared radio, television and newspaper advertisements across Australia will emphasise the need for these measures. Call centres and websites will give details for people who seek further information.

Good infection control practices are outlined in more detail in Section 4.1.

'Seek and contain' measures

In the early period after a pandemic virus arrives in Australia, public health authorities will try to find new human cases and identify people who have been in close contact with them.

When a person presents to a GP or hospital with flu-like symptoms, a swab will be taken and specimens will be sent for rapid testing. The patient will be advised to stay at home or if severely ill isolated in a hospital room. If the patient is confirmed with the pandemic strain of the virus, he or she will be given antiviral medicine and required to stay at home or hospital until fully recovered. If the patient at home develops severe illness, he or she may be transferred to hospital for treatment.

Authorities will also try to contact people who have been in recent close contact with patients confirmed to have the pandemic strain. These contacts will also be given antiviral medicines and advised to stay at home. Authorities will make daily contact with patients and their contacts in home quarantine to check on progress. Home quarantine will end when the sick person recovers fully, or when it becomes apparent that a contact has not contracted the virus within the incubation period (up to one week). People in the health-care system who are caring for new cases or finding contacts will be provided with personal protective equipment and antiviral medicines.

When it becomes clear that the spread of the pandemic virus to Australia is imminent, the Commonwealth Government will deploy antiviral medicines and personal protective equipment to the states and territories for distribution to hospitals, GPs and fever clinics, for use as outlined in Appendix 1.

Influenza hospitals and fever clinics

To prevent the spread of infection within hospitals and to prevent hospitals and GPs being overwhelmed with cases, state and territory authorities may make special influenza hospital arrangements or establish 'fever clinics'. In this way, some hospitals will be maintained as 'influenza-free'.

These arrangements will be well publicised. A national hotline will be established to provide information to people who think they may have pandemic influenza. People will be encouraged to ring the hotline to find out where to go for assessment and, if necessary, treatment.

Possible restrictions on movement

If an outbreak of the pandemic virus is confined to a well-defined area, the area may be quarantined. If so, people will not be allowed to travel to or from the area. The authorities will ensure that necessary services continue to be supplied to people in the area.

ACTIONS AS A PANDEMIC DEVELOPS

Outside the quarantined area, public health authorities will maintain high alert to seek and contain disease arising from new cases.

3.4 IF THE PANDEMIC SPREADS

The containment measures described above will be sustained for as long as possible. The expert epidemiological modelling prepared for the Department of Health and Ageing shows that it may be possible to continue containment long enough to develop a vaccine to protect the Australian population.

If containment cannot be sustained, the authorities may change the strategy from *containment* to the *maintenance of social functioning*. If so:

- Individual infection control efforts will be sustained and possibly intensified—governments will consider closing schools and encouraging people to stay home from work if possible
- Infected people and their contacts will still be required to stay at home
- The Commonwealth Government's policy on the distribution of antiviral medicines will change slightly, to help prevent infection among people who provide essential services for the community and whose work puts them at high risk of exposure to, and of spreading, the virus
- Influenza hospitals and fever clinics will become more important
- Authorities may screen departing travellers for symptoms of illness and for recent contact with flu cases, to ensure that the pandemic is not exported.

Depending on circumstances, the authorities may move from a containment strategy to a strategy for maintaining social functions in one area of Australia, but not another.

3.5 RECOVERY

When the pandemic has subsided and there is no threat of additional waves of disease, Australia will move into a recovery phase.

Actions in this phase, as set out in the COAG National Action Plan for a Human Influenza Pandemic, to be released soon, will be led within the Commonwealth by the Department of Family and Community Services and Indigenous Affairs and the Australian Disaster Recovery Working Group.

3.6 PANDEMIC VACCINE

Development of a vaccine against the pandemic strain of the virus will begin as soon as the pandemic strain emerges. However, development and production could take several months.

Depending on the success of containment efforts, it may be possible to develop and produce enough vaccine to protect the entire Australian population against the pandemic before it spreads to Australia. If it arrives before a vaccine is developed, priorities will need to be set for the distribution of the vaccine as it is produced.

If vaccine doses are available in the containment phase, the vaccine will be used to further support the containment effort and protect Australians by reducing spread of disease.

If production begins only after the virus is widespread in the Australian community, the vaccine will be made available first to people at high risk of exposure to the virus and providing essential services, then to people most vulnerable to severe illness from infection.

3.7 GPs AND OTHER PRIMARY CARE WORKERS IN A PANDEMIC

Primary care workers—GPs, nurses, nursing assistants, Aboriginal health workers, paramedics and home carers will have particularly important roles in a pandemic.

They will educate others about the risk of a pandemic and about effective infection control. They will be important for surveillance, and might be the first to identify and report cases of pandemic influenza to public health authorities. Primary care workers may be asked to help monitor people in home quarantine and infected people being cared for at home. GPs may also be asked to administer antivirals, and the vaccine when it becomes available. State and territory governments will coordinate these arrangements.

A resource kit on pandemic influenza was provided to GPs around Australia in mid-2005 (copies are available on request from the Department of Health and Ageing). It is particularly important that general practices follow the principles and practices outlined in the infection control guidelines and clinical care guidelines published alongside this plan and available at www.health.gov.au.

The Department of Health and Ageing has been consulting with the Australian Medical Association, the Australian Divisions of General Practice and other primary care representatives about pandemic planning. Further information specifically for primary care workers will be available in the clinical care and infection control guidelines to be published soon.

Antiviral medicines will be provided to primary care workers based on their risk of exposure to the pandemic virus.

3.8 PHARMACISTS IN A PANDEMIC

Pharmacists will have an important role in educating the public about the risks of a pandemic and about good infection control measures. They will advise on over-the-counter products for infection control and symptomatic relief and will dispense prescribed medications. The Department of Health and Ageing is consulting with the Pharmacy Guild of Australia to discuss the role of pharmacists in more detail.

3.9 THE FUNERAL INDUSTRY IN A PANDEMIC

If a pandemic spreads quickly and there is a surge in the number of deaths, the role of the funeral industry will become very important. Good practices in the industry will be critical in ensuring that disease does not spread, but will also need to remain sensitive to the needs of grieving families and friends. The Department of Health and Ageing has been consulting with representatives of the funeral industry to develop plans in more detail.

3.10 ESSENTIAL SUPPLIES IN A PANDEMIC

A pandemic could potentially affect the free movement of people into and within Australia. It is important that supplies of essential goods (such as food, fuel and essential medicines) be maintained. The Commonwealth Government has been working through well-established industry forums to ensure that plans are in place to maintain essential supplies.

The Department of Health and Ageing has been consulting the pharmaceuticals industry to ensure continuity of supply of the many essential medicines that are imported into Australia.

PART FOUR

WHAT YOU CAN DO TO PREPARE

WHAT YOU CAN DO TO PREPARE

This part of the plan gives basic information about infection control and about preparing for a pandemic. Support from the community and business following the guidance in this part of the plan will be vital to its success and will help to significantly reduce the spread of a pandemic influenza virus.

4.1 INFECTION CONTROL

There are many simple things everyone can do to help control the spread of the influenza virus during a pandemic. These include:

- hand hygiene
- cough and sneeze etiquette
- wearing basic personal protective equipment
- standing or sitting back from other people
- household and workplace hygiene
- knowing what to do when you are sick.

Hand hygiene

Hand hygiene is crucial to reducing the transmission of infectious agents. Hand hygiene includes washing hands with soap and water or cleaning hands with alcohol-based products (gels, rinses, foams) that can be used without water.

- If your hands are visibly soiled with respiratory secretions (phlegm, spit), you need to wash them with soap (plain or antimicrobial) and water. Wash with soap and warm water, scrubbing your wrists, palms, fingers and nails for 10 to 15 seconds. Rinse, and dry with a clean, dry towel.
- If there is no visible soiling, you might prefer alcohol-based products with an emollient. They dry the skin less and can be more convenient.
- Always wash your hands after contact with other people and after removing a mask or gloves, if you have been wearing them.
- In general, try to keep your hands away from your face.
- If you run a business or community organisation, make sure that you have facilities for people to wash their hands frequently. This means sinks with warm and cold running water, plain or antimicrobial soap, and disposable paper towels. You may also want to make alcohol-based disinfectants available.

Cough and sneeze etiquette

If you must cough or sneeze, you should:

- cover your nose and mouth
- use disposable tissues rather than your hands or a handkerchief (which could store the virus)
- dispose of used tissues in the nearest waste receptacle, not in your pocket or handbag
- wash your hands afterwards, or after touching used tissues.

If you run a business or community organisation, you might want to take a lead role and provide tissues and no-touch waste receptacles, soap and water or alcohol rub and post signs about cough and sneeze etiquette. Posters and other materials are available from www.health.gov.au.

Basic personal protective equipment

If a pandemic influenza virus arrives in Australia, the authorities will encourage people to wear basic personal protective equipment in public—that is, surgical masks or other coverings for the nose and mouth. It is particularly important for people who are coughing to do so, to prevent the spread of infection to others.

Standing or sitting back

A very simple way of reducing the chances of being infected or passing on infection is to stand or sit back from other people in public or in the workplace. You should try to maintain a distance of one metre, where possible.

In a pandemic, you should try to avoid crowded gatherings, especially in enclosed spaces. If you need to use public transport, it will be sensible to wear a surgical mask or other protective equipment.

Household and workplace hygiene

Common surfaces such as taps, doorknobs and tables should be disinfected frequently (once or twice daily).

People should not share cups or utensils.

If an infected person is being cared for at home, he or she should have an individual room if possible. The carer will need to wear a surgical mask and gloves. Keep the infected person's personal items, such as toothbrush and towels, separate from the rest of the family's.

In the household and workplace:

- have a supply of tissues available
- consider having conveniently located dispensers of alcohol-based hand rub
- provide soap and disposable towels near sinks for handwashing.

Do not visit people who have the flu, unless it is absolutely necessary.

The Interim Pandemic Influenza Infection Control Guidelines provide more detailed instructions on infection control during a pandemic. The guidelines are available on the Department of Health and Ageing website (www.health.gov.au).

4.2 WHAT TO DO IF YOU ARE SICK

If you are sick during a pandemic, you should stay home from work or school.

You should seek medical advice if you have fever (temperature over 38°C) or have difficulty breathing *or* if you have *any* two of the following symptoms:

- chills and shivering
- muscle aches and pains
- sore throat
- dry cough
- sneezing
- stuffy or runny nose
- tiredness.

Medical advice may be available by telephone. You should try the telephone hotlines established during the pandemic before going to a hospital, fever clinic, or general practice. The hotline numbers will be publicised often, on television, on radio and in newspapers.

People who should be particularly careful about infection control

Some people, such as very young children and the elderly, may be at higher risk from influenza because they have weaker body defences (immune systems). Pregnant women, particularly those who are in the second or third trimester of their pregnancies, have an increased risk of complications and death after influenza infections. Similarly, people with diseases such as cancer or HIV/AIDS, people who have had organ transplants and people who take particular medications, frequently develop complications.

People with chronic medical conditions, such as heart disease, lung disease (for example, asthma or cystic fibrosis), kidney disease or diabetes, are also at risk from influenza. When the body is affected by other conditions, it is easier for bacteria to invade cells that have been damaged by the flu virus and cause other illnesses, such as pneumonia. Influenza can also stress the body so much that the underlying illness worsens.

People under the age of 18 with influenza should avoid taking medications containing aspirin. This is because they can develop Reye's syndrome, a very serious illness affecting the nervous system and liver.

4.3 PLANNING AND PREPARING FOR A PANDEMIC

Preparing your household

- Have plans ready in case you and your family have to stay at home for a week or so during a pandemic. Talk to your family and friends about this.
- If you live alone, or are a single parent of young children, or are the only person caring for a frail or disabled adult, having a plan is an especially good idea.
- Think of someone you could call on for help if you became very ill with the flu or were unable to leave home. Discuss this possibility with them.
- Think of someone you could call on to care for your children if their school or daycare centre is closed because of a pandemic, and you are required to work. Discuss it with them.
- Think of someone who could help you with food and supplies if you and your family are ill.
- Having a telephone network for you and the people who live close by is a good idea.
- Put the phone number of your family doctor and your state or territory information line in a prominent place.
- Think about supplies you might need in a pandemic.

Supplies you might need in a pandemic

It is a good idea to:

- Have enough fluids (juices, soups, etc.) and food on hand to last you and your family a week. Choose long-lasting foods in cans and packets, and dried foods.
- Have enough basic household items (tissues, etc.) to last a week.
- Have some plastic bags—used supermarket bags are good—to put used tissues in.
- Have paracetamol and a thermometer in your medicine cabinet.

Table 3 summarises useful items for a possible extended stay at home.

WHAT YOU CAN DO TO PREPARE

Table 3 Items to have on hand for an extended stay at home

Food (perishable and non-perishable)	Ready-to-eat canned meats, fruits, vegetables and soups
	Protein or fruit bars
	Dry cereal
	Peanut butter or nuts
	Dried fruit
	Crackers
	Canned juices
	Canned or jarred baby food and formula
	Food for pets
Medical, health, and emergency supplies	Prescribed medical supplies, such as glucose and blood-pressure monitoring equipment
	Soap, or alcohol-based hand gel
	Medicines for fever, such as paracetamol or ibuprofen
	Thermometer
	Vitamins
	Torch
	Batteries
	Portable radio
	Manual can opener
	Garbage bags
	Tissues, toilet paper, disposable nappies

Source: Adapted from the Pandemic Flu Planning Checklist for Individuals and Families, available at www.pandemicflu.gov/planguide/checklist.html

4.4 BUSINESS CONTINUITY PLANNING

The most important thing businesses and community organisations can do to prepare for a pandemic is have a business continuity plan in place. This will be different from the kind of business continuity plan needed for other emergencies. It will need to place more emphasis on continuity in the event of high absenteeism and interruptions to the supply of goods and services, which could result from the restriction of movement of people into and within Australia. Absenteeism could be as high as 30 to 50 per cent at the peak of a pandemic.

The Department of Industry, Tourism and Resources is developing a detailed continuity planning guide for businesses. This will be released in mid-2006 and available from www.industry.gov.au/avianflubusinesscontinuity

Key issues businesses and community organisations should consider when developing a continuity plan include:

- identifying essential business activities (and the core people and skills to keep them running), and ensuring that these are backed up with alternative arrangements where possible
- identifying the infrastructure and resources required for the organisation to continue operating at the minimum acceptable level
- developing mitigation strategies for business disruptions, including possible shortages of supplies, and developing contingency plans for continued operation
- ensuring that relevant employees, customers and suppliers are aware of the contingency arrangements, and that the arrangements will work
- minimising illness in workers, drawing on the guidance on infection control in this plan.

4.5 FINDING MORE INFORMATION IN A PANDEMIC

If there is an outbreak of pandemic influenza in your community:

- watch TV or listen to the radio for more up-to-date information
- visit the Department of Health and Ageing website at www.health.gov.au
- call the Department of Health and Ageing public information hotline
1800 004 599

Information will also be available from your state or territory department responsible for health.

If you have questions about somebody in your household that may have influenza, call your GP.

If you want to know whether your local area has dedicated influenza clinics or pandemic vaccination centres, call your state or territory information line.

APPENDIX 1

ACCESS TO THE AUSTRALIAN NATIONAL MEDICAL STOCKPILE DURING AN INFLUENZA PANDEMIC

APPENDIX 1

This appendix describes the process and criteria for use of the National Medical Stockpile (NMS) during an influenza pandemic. The stockpile includes masks, other items of personal protective equipment, and antiviral influenza drugs for deployment during a health emergency.

Stockpile components are distributed to states and territories according to a deployment plan, under memorandums of understanding between the Department of Health and Ageing and each state and territory health department. Components of the stockpile will be used according to criteria agreed to by the Australian Health Protection Committee and underpinned by principles agreed to by Cabinet in December 2005 and April 2006.

Medication in the stockpile remains the property of the Commonwealth Government even after deployment to a jurisdiction. Items in the NMS could be used to assist the WHO to control the development of a pandemic strain in an overseas country, if that use is considered appropriate.

What is in the National Medical Stockpile

The NMS contains, for use in an influenza pandemic:

- 3.8 million courses of Tamiflu
- 275,000 courses of Relenza
- 50,000 bottles of Tamiflu suspension for children
- dedicated personal protective equipment for government workers at international airports (including 200,000 P2 masks, 30,000 surgical masks, 1,100 protective goggles, plus gloves, alcohol hand rub, mask fit test kits, gowns, spill kits and thermometers)
- 2 million P2 masks for the health care system
- 40 million surgical masks for the health care system
- equipment to deliver 50 million vaccinations.

The stockpile is being expanded to include:

- personal protective equipment for use during quarantine
- masks and other personal protective equipment for general practitioners and for ambulance, fire and police officers
- antibiotics
- additional antiviral medication.

The stockpile components for pandemic influenza include equipment for vaccination and personal protection, antiviral medication and antibiotics. Current supplies of antibiotics to treat secondary bacterial infections (such as pneumonia) are oral formulations—intravenous antibiotics will be purchased to improve the capability to treat secondary infections.

Some of the masks from the NMS have already been deployed to states and territories for storage. The Commonwealth Government maintains bulk supplies.

While this stockpile puts Australia in a stronger position than many other developed countries, the antivirals in the stockpile are a scarce resource when considered against expectations and need. It is the responsibility of the Commonwealth Government, in consultation with jurisdictions, to use the antiviral stockpile in the most effective way to reduce the impact of pandemic influenza on the population as a whole. The use of any component within the stockpile will be guided by Australia's strategy of delaying the impact of the pandemic in Australia to buy time to develop and distribute a vaccine. This is not a single process, but includes a range of interventions such as containment, quarantine and social distancing.

The principles underpinning the current approach to use of the antiviral stockpile, as agreed by the Government in December 2005, state that:

- the most effective use of antivirals may be to control disease at the source of a pandemic overseas
- in the absence of vaccine, antivirals (when used within a comprehensive containment strategy) may delay the onset of a domestic pandemic
- in the absence of a vaccine, and when containment is not possible, Australians should receive the best possible health care within the context of the maintenance of a safe and secure society.

These principles make it clear that antivirals will be used as part of a comprehensive public health intervention to reduce illness and death. Antiviral medication is only one component of the multi-pronged strategy to delay the onset of a pandemic in Australia.

Antiviral medications are effective in preventing the development of infection in people who are exposed and, when used as treatment, can reduce the duration of symptoms of illness. Expert advice that incorporates the current evidence, threat and response capacity will guide antiviral use.

Current evidence

The use of antiviral medication will depend on the phase of the outbreak in Australia and will be carefully monitored. Antiviral medication can be used for:

- treatment, with one course of medication
- prevention of infection after exposure, with one course of medication
- continuous prevention of infection, where one course provides 10 days of protection.

Using antivirals to treat cases of seasonal influenza has been shown to reduce the duration of people's symptoms and the period of secretion of the virus, but there is no conclusive data showing that antiviral treatment of influenza cases saves lives. In the absence of such evidence, some individuals with pandemic influenza will receive treatment, because it can decrease the spread of the virus.

The policy for antiviral use was developed with experts in influenza and methods of disease control.

APPENDIX 1

The most recent epidemiological modelling results suggest that combined interventions could delay the onset of a pandemic in Australia for many months. This is a substantial change from previous thinking. Previously, containment was considered worth a try, but unlikely to be effective for long.

Broad approach

Use of antivirals during a pandemic has been considered over some time by the Australian Health Protection Committee. The strategy outlined in this plan has been informed both by available evidence and by expert advice, and provides for the most effective use of antivirals.

If animals in Australia become infected with the H5N1 influenza strain before a pandemic, antivirals will be provided for people who are likely to be exposed to the virus while undertaking disease control.

If the disease is not widespread in Australia, antivirals will be used to contain the disease through treatment and prophylaxis (prevention of infection). As noted above, if this strategy is implemented comprehensively and in conjunction with other measures, it is possible that the onset of pandemic will be considerably delayed.

However, if containment fails, preventive use of antivirals will be prioritised to groups at the highest risk of contracting and spreading the disease and post-exposure prophylaxis will be provided to those others incidentally exposed while at work.

Substantial consideration has been given to all possible uses of antiviral agents, and this approach is considered to be the best use of scarce resources to achieve the best outcome for the largest number of Australians.

Containment phase

The containment of an influenza outbreak, in the absence of a vaccine, is designed to prevent spread and buy time for developing a vaccine. Containment interventions require that cases be identified early in the course of the illness, and a rapid response is put in place to prevent transmission.

During the containment phase, the antiviral stockpile is expected to be depleted by 1.2 per cent (45,600 courses) per month. The antivirals will be provided to any jurisdiction in which there are cases of pandemic influenza. The antivirals provide for an estimated 300 public health interventions per week (to treat infected people, provide prophylaxis for 20 contacts of each case, and provide daily pre-exposure prophylaxis for 50 staff conducting 'seek and contain' activities for each case).

The reserved proportion of antivirals for approximately 6 months of containment will be provided on the basis of need rather than pro rata for each jurisdiction.

The Australian Health Protection Committee will monitor the depletion of the stockpile.

Beyond containment

If containment is effective and a vaccine is delivered, Australia may never experience a widespread outbreak of pandemic influenza. However, plans are still needed for the use of items in the NMS if containment fails. It is possible that some areas of Australia will be in the containment phase, while others will be beyond containment.

If containment fails, the estimates of the number of people affected are:

- 13,000 to 44,000 deaths
- 57,900 to 148,000 hospitalisations
- one million to 7.5 million outpatient visits

In the absence of a vaccine, and if containment is not possible, Australians should receive the best possible health care commensurate with the maintenance of a safe and secure society. The approach agreed to by the Australian Health Protection Committee is to provide antivirals according to the nature of the work and the risk of exposure to the virus. Groups with higher risk of exposure to the virus should receive pre-exposure prophylaxis, and those with a lower level risk should be eligible for post-exposure prophylaxis (see Table 4).

Table 4 Criteria for allocation for antivirals beyond the containment phase

Work requirement	Risk of exposure to the virus	Antiviral category
Health and safety	Continuous high risk of exposure to infected people or another source of the virus	1 – continuous prophylaxis
Health and safety	Medium risk of close contact exposure to infected people or another source of the virus	2 – single course post-exposure (or possible exposure) prophylaxis

People at high risk of exposure during their work include a core of professionals working in health care. These people are at high risk of acquiring disease but are also sources of spread of the virus if they are unprotected. Masks, handwashing and other hygiene measures, along with continuous pre-exposure prophylaxis, can provide such protection.

Continuous prophylaxis will be a large drain on NMS resources. Approximately 65 per cent of the current antiviral stockpile would be used over a 12-week period to protect staff at high risk of continuous exposure. Each staff member may receive daily medication for up to six weeks.

Antivirals for pre-exposure prophylaxis will be reserved in the event of an uneven development of the pandemic (in which some areas successfully contain the disease while others fail to do so). Reserved antivirals for protection will be determined on the basis of population in each jurisdiction. They will be

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deployed to jurisdictions as needed, as the jurisdictions leave the containment phase. State and territory health departments will determine the allocation of antivirals to workers at that time.

Other workers whose work is necessary to ensure a safe and secure society are not necessarily at high risk of exposure to disease. Antivirals for this group will be available for post-exposure prophylaxis, or treatment, in each jurisdiction. Again, the antivirals will be reserved for each state or territory on a pro-rata basis.

Trial of antivirals as treatment

To quickly establish an evidence base for effective use of antivirals as treatment, in a pandemic in Australia, 380,000 people will receive treatment in a trial. A research group has been appointed by the National Health and Medical Research Council to undertake this work.

The treatment trial will consume 10 per cent (380,000 courses) of the current antiviral stockpile and will provide information for the ongoing review of policy for antiviral use. Allocation of antivirals for the trial will be based not on state population, but on the research protocol that ensures the gathering of the best information.

Summary of antiviral uses

Depending on the phase of the pandemic, the work people do and the risk of exposure during such work, people could receive antivirals:

- as a case, a contact or a health-care worker during the containment phase
- in a trial of treatment of antivirals against the pandemic strain
- for pre-exposure prophylaxis in the period after containment fails
- for post-exposure prophylaxis or treatment in the period after containment fails.

Over 12 weeks, when containment has failed, approximately 300,000 people will receive continuous pre-exposure prophylaxis and 380,000 people will receive post-exposure prophylaxis/treatment. Expansion of the stockpile will provide for 665,000 and 860,000 people, respectively, when complete by June 2007 (see Table 5).

Table 5 Number of people able to receive antiviral medication from the current and expanded stockpile

	March 2006	June 2007
People who could receive treatment (10%) or antivirals to aid containment (10%) or post-exposure prophylaxis (10%)	380,000 each category	860,000 each category
Pre-exposure prophylaxis	Approx 300,000	665,000

Conclusion

Australia, being at the forefront of pandemic preparedness in the world, has a significant stockpile of antiviral medications, masks and other items of personal protective equipment. The NMS will support containment first, because effective containment may protect Australia from a catastrophic pandemic.

If containment fails before a vaccine is delivered, the resources in the NMS will be scarce and will need to be triaged to provide the best outcome for the largest number of Australians. Table 6 summarises the proportion of the current stockpile allocated for each category and the criteria for national allocation.

Table 6 Allocation criteria for national allocation of antivirals from the stockpile, April 2006

Purpose for antiviral	Proportion of stockpile	Criteria for national allocation
Treatment trial	10 %	Protocol for research trial
Containment for 6 months	8% to 10 %	Containment need (no jurisdictional entitlement)
Work and risk category 1 – continuous prophylaxis	65%	Reserved pro rata by jurisdiction
Work and risk category 2 – post-exposure prophylaxis	10%	Reserved pro rata by jurisdiction
Contingency reserve	5% to 7%	
Total	100%	

From the onset of pandemic influenza, the most appropriate use of stockpile items will consider the characteristics of the new pandemic strain and Australia's response capacity. Even with our amount of supplies, policy will be constrained by such limitations as the unknown period for which prophylaxis will be required and the need for at-risk individuals to have substantial supplies.

The current plan for antiviral use is not immutable and will be reassessed by the Australian Health Protection Committee.

Key Health Protection Actions by WHO Phase

	Overseas 1	Overseas 2	Overseas 3	Overseas 4	Overseas 5	Overseas 6
Surveillance	International surveillance: Health and DAFF gather information through established networks including WHO and OIE	International surveillance: Health increases situation reporting to Government				
		WHOCC assists in developing tests for relevant viral strains				
		Australian Laboratory capacity strengthened		Ramp up detection in Australia through CDNA, EDs and GP sentinel network		
				GPs and EDs collect samples and send to public health laboratories to confirm suspected cases		
Air Border	Negative pratique: Pilots report if someone is sick on board			Positive pratique: Pilots to certify all passengers are well		
		Arriving passengers receive information sheets asking them to report if they become ill		Health declaration cards for incoming passengers, including advice to all travellers		
		Heightened quarantine alert for birds/animals and bird/animal products				
			DFAT issues travel warnings	DFAT issue travel warnings against non-essential travel to affected areas	Australians advised to return from overseas	
				Screening of incoming passengers including through use of thermal scanners		
				Border nurses put in place		
				Quarantine officers report all cases to Chief Quarantine Officer		
					Incoming traveller numbers reduced substantially	
					Arriving passengers may be subject to home or other quarantine	
		Positive pratique: Captains of vessels required to certify all on board are well				
Sea Border					If unwell person is on board, the vessel is required to remain at sea until seven days after onset of symptoms of last case	
					Health declaration cards for all incoming passengers including advice to all travellers	
					Quarantine officers report all cases to Chief Quarantine Officer	

	Overseas 1	Overseas 2	Overseas 3	Overseas 4	Overseas 5	Overseas 6
Veterinary and Poultry Industry	Wild bird/animal surveillance in Australia		Increased wild bird/animal surveillance measures			
			Advice to agricultural industry on health protection in presence of sick or dead birds			
Public Health		Public communications about nature of risk	Public communications about pandemic preparedness	Public communication about infection control and short term stockpiling of food and other supplies		
			Government Stockpiling of masks, other PPE and antiviral medicines	Deployment of masks and other PPE to borders		
				Seek and contain interventions within Australia		
				Antivirals for people exposed to the pandemic strain and workers at high risk of exposure		
				Continuous health checks for border workers		
Overseas Assistance				Communication with health and border control workers about infection control, symptoms and care		
		Emergency, planning and capacity-building assistance to overseas agricultural authorities				
			Emergency, planning and capacity-building assistance to overseas health authorities			
					Consider requests from WHO for assistance in containment overseas	

CDNA – Communicable Diseases Network of Australia
DAFF – Department of Agriculture, Fisheries and Forestry
DFAT – Department of Foreign Affairs and Trade
ED – Emergency Department
GP – General Practitioner

Health – Department of Health and Ageing
OIE – World Organisation for Animal Health
PPE – Personal Protective Equipment
WHO – World Health Organization
WHOCC – World Health Organization Collaborating Centre

Key Health Protection Activities by Australian Phase

Category	Aus 1	Aus 2	Aus 3	Aus 4	Aus 5	Aus 6a	Aus 6b	Aus 6c	Aus 6d
Surveillance		Increased surveillance/ laboratory diagnosis	National web-based outbreak reporting						
					Enhanced data collection to effect containment				
		GPs and EDs look for cases							
			Situation reporting of Australian cases and daily reporting to WHO						
				Laboratories identify particular virus strain(s) and epidemiologists analyse patterns of spread					Full identification of sample viruses to determine if virus is mutating
Border		Public diplomacy on Australia's efforts to control virus							
				Screening of departing travellers					
						All non-essential departures to cease			
Veterinary and poultry industry		Identify animal sources							
		Health protection measures for veterinary and poultry industry workers exposed or at high risk of exposure							
		Food safety advice to public							

Category	Aus 1	Aus 2	Aus 3	Aus 4	Aus 5	Aus 6a	Aus 6b	Aus 6c	Aus 6d
Public Health		Communicate to public on nature of risk and how to manage it	Implement public campaign on infection control	Encourage stockpiling of food and essentials for possible home quarantine					
			Communicate to workers on OH&S issues						
			Intensively educate GPs about diagnosis and management						
			Deploy National Medical Stockpile, including antivirals and PPE, for containment				Deploy National Medical Stockpile for maintenance		
			Institute intensive contact tracing and epidemiological investigation						
				Activate national emergency call centre for information					
					Targeted use of pneumococcal vaccine to people at highest risk from pandemic				
					Special influenza hospital arrangements and fever clinics designated as appropriate				
					Possible social distancing measures: eg school closures, workplaces				
					Expand mortuary capacity				

Key Health Protection Activities for both Overseas and Australian Phases

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6
Vaccines			Develop prototype vaccine: administer as soon as safe and effective			Develop pandemic strain vaccine: administer as soon as safe and effective
Health engagement with coordinating arrangements			Implement vaccine effectiveness and safety recording systems			
	DAFF surveillance bodies					
		Health surveillance and reporting				
			Whole of government and interjurisdictional planning	Whole of government and interjurisdictional decision-making and operational coordination		



