

The Auditor-General  
Audit Report No.6 2007–08  
Performance Audit

# **Australia's Preparedness for a Human Influenza Pandemic**

**Department of Health and Ageing**

**Department of Agriculture, Fisheries and Forestry**

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Canberra ACT  
11 September 2007

Dear Mr President  
Dear Mr Speaker

The Australian National Audit Office has undertaken a performance audit in the Department of Health and Ageing and the Department of Agriculture, Fisheries and Forestry in accordance with the authority contained in the *Auditor-General Act 1997*. I present the report of this audit and the accompanying brochure to the Parliament. The report is titled *Australia's Preparedness for a Human Influenza Pandemic*.

Following its tabling in Parliament, the report will be placed on the Australian National Audit Office's Homepage—<http://www.anao.gov.au>.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Ian McPhee', is positioned above the printed name.

Ian McPhee  
Auditor-General

The Honourable the President of the Senate  
The Honourable the Speaker of the House of Representatives  
Parliament House  
Canberra ACT

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# Contents

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Abbreviations.....	8
Glossary .....	10
<b>Summary and Recommendations .....</b>	<b>13</b>
Summary .....	15
Background and context .....	15
Audit objective, scope and methodology .....	18
Audit findings and overall conclusions .....	19
Overall audit conclusion .....	19
Australia's preparedness and response framework (Chapter 2) .....	21
Testing influenza pandemic response arrangements (Chapter 3).....	24
Testing emergency animal disease outbreak response arrangements (Chapter 4).....	24
Establishing and managing the National Medical Stockpile (Chapter 5) .....	25
Deploying the National Medical Stockpile (Chapter 6) .....	27
Agency responses.....	28
Recommendations .....	30
<b>Audit Findings and Conclusions .....</b>	<b>33</b>
1. Background and Context .....	35
Introduction .....	35
Avian influenza.....	36
Risks to Australia .....	38
Australia's preparedness and response arrangements .....	39
Audit objective, scope and methodology .....	41
2. Australia's Preparedness and Response Framework.....	45
Background and context .....	45
Assessing Australia's preparedness and response .....	46
International comparison.....	63
Conclusion .....	63
3. Testing Influenza Pandemic Preparedness and Response Arrangements .....	65
Background and context .....	65
Planning for Exercise Cumpston.....	65
Preliminary activities .....	67
Main activity .....	67
Evaluating the exercise .....	71
Conclusion .....	72

4. Testing Avian Influenza Outbreak Response Arrangements .....	73
Background and context .....	73
Exercise Eleusis .....	73
Exercise outcomes .....	75
Implementation of recommendations .....	76
Recommendations to be finalised .....	78
Conclusion .....	82
5. Establishing and Managing the National Medical Stockpile .....	85
Overview of the Stockpile .....	85
Establishing the Stockpile .....	86
Conclusion .....	90
Procurement of the Stockpile .....	91
Managing the Stockpile .....	95
Conclusion .....	99
6. Deploying the National Medical Stockpile .....	101
Background and context .....	101
Agreements with State and Territory governments .....	102
DoHA's deployment plan and supporting processes .....	104
State and Territory deployment plans .....	106
Conclusion .....	108
<b>Appendices .....</b>	<b>111</b>
Appendix 1: Agency Responses .....	113
Appendix 2: Global and Australian Phases of a Pandemic .....	120
Appendix 3: Preliminary Activities for Exercise Cumpston .....	121
Appendix 4: Key Recommendations From Exercise Cumpston .....	122
Appendix 5: Key Precursor Activities for Exercise Eleusis .....	123
Appendix 6: Implementation Status .....	124
Index .....	127
Series Titles .....	129
Current Better Practice Guides .....	130

## Figures

Figure 1.1	Confirmed occurrences of H5N1 avian influenza in domestic poultry and wild birds from 2003 to August 2007 .....	37
Figure 1.2	Confirmed occurrences of H5N1 avian influenza in humans from 2003 to August 2007 .....	38
Figure 1.3	Structure of this report .....	43
Figure 2.1	Emergency management and health plans for managing an influenza pandemic.....	49
Figure 2.2	Decision-making and communications paths—National Action Plan for Human Influenza Pandemic.....	52
Figure 2.3	Pandemic influenza cases in Sydney 1919.....	58
Figure 3.1	Australian Health Protection Committee meeting during the simulation.....	68
Figure 3.2	Thermal scanners in use at Brisbane Airport as part of the simulation.....	69
Figure 3.3	The National Incident Room at the Department of Health and Ageing, Canberra .....	70
Figure 4.1	AUSVETPLAN Document development process.....	81
Figure 6.1	Australian Stockpile deployment model .....	101
Figure 6.2	Roles and responsibilities for deploying the National Medical Stockpile .....	103
Figure 6.3	National Medical Stockpile drill undertaken in May 2006.....	107

# Abbreviations

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AAHL	Australian Animal Health Laboratory
AHA	Animal Health Australia
ANAO	Australian National Audit Office
APEC	Asia-Pacific Economic Cooperation
AusAID	The Australian Agency for International Development
Australian Government	Commonwealth Government or Federal Government
CBR	Chemical, Biological and Radiological
CMO	Chief Medical Officer
COAG	Council of Australian Governments
DAFF	Department of Agriculture, Fisheries and Forestry
DoHA	Department of Health and Ageing
EADRA	Emergency Animal Disease Response Agreement
MoU	Memorandum of Understanding
National Action Plan	National Action Plan for Human Influenza Pandemic
NIR	National Incident Room
NPEC	National Pandemic Emergency Committee
PM&C	Department of the Prime Minister and Cabinet
PPE	Personal Protective Equipment
SARS	Severe Acute Respiratory Syndrome



Stockpile	National Medical Stockpile
TGA	Therapeutic Goods Administration
WHO	World Health Organization

# Glossary

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Antiviral drug	A type of medication used for treating viral infections, such as influenza.
Avian influenza	A generic name for influenza A viruses in birds. It can have a low pathogenic form that has little or no symptoms or a highly pathogenic form that leads to illness and death in affected poultry.
Emergency animal disease	An outbreak in Australia of an exotic disease or certain emerging or endemic animal diseases as defined in the Emergency Animal Disease Response Agreement.
Emergency Animal Disease Response Agreement	A formal arrangement in the agricultural sector, between the Australian, State and Territory governments and industry that sets out the roles and responsibilities of all parties, including financial arrangements, to deal with an emergency animal disease outbreak.
Epidemic	A disease affecting a number of people at the same time and spreading between persons in a locality.
H5N1	A strain of avian influenza A, which has both highly pathogenic and low pathogenic forms. The highly pathogenic form is currently circulating in wild birds in many parts of the world and has caused outbreaks in domestic birds. There have been cases of human infection that have led to severe sickness and mortality.
Human influenza pandemic	An influenza pandemic occurs when a new influenza virus strain, to which there is little or no immunity, spreads between humans and is capable of causing severe disease. The new strain can rapidly spread across the globe, causing worldwide epidemics or pandemics with high numbers of cases and deaths.

Neuraminidase inhibitor	A type of antiviral drug that stops the function of the neuraminidase protein, which is required to replicate the influenza virus.
Personal Protective Equipment	Refers to protective clothing, gloves, goggles, masks and respirators designed to protect the wearer from infection, including viruses, such as influenza.
Tamiflu	The trade name for oseltamivir, a neuraminidase inhibitor type of antiviral drug, which is one of the drugs recommended for treating Influenza A.
Vaccine	A formulation that stimulates an immune response to prevent infection or disease when administered.
Whole of government	Whole of government denotes public service agencies working across portfolio boundaries to achieve a shared goal and an integrated government response to particular issues. Approaches can be formal and informal. They can focus on policy development, program management and service delivery.



## **Summary and Recommendations**



# Summary

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## Background and context

1. An influenza pandemic would have enormous social and economic consequences. In addition to the potential human suffering caused by sickness and death during a pandemic, the World Bank has estimated the economic losses resulting from a human influenza pandemic could be as high as \$US800 billion a year.<sup>1</sup>
2. The World Health Organization (WHO) has reported that the world is moving closer to an influenza pandemic as 'the [H5N1 avian influenza] virus has met all prerequisites for the start of a pandemic except one: to spread efficiently and sustainably among humans'.<sup>2</sup> It is not possible to predict when the next pandemic will occur or how long it will last. The last major influenza pandemic in Australia was in 1918–19. An influenza pandemic occurs when a new influenza virus strain, to which there is little or no immunity, spreads between humans and is capable of causing severe disease. The new strain can spread rapidly across the globe, causing worldwide epidemics or pandemics with high numbers of cases and deaths.
3. The highly pathogenic H5N1 virus is now prevalent in poultry and wild birds in some countries and may take years to eradicate. Although the virus has not yet developed the capacity to transmit easily between humans, those who are in close contact with infected poultry are at risk of infection. The H5N1 virus can cause severe and sometimes fatal infections in humans. The actual number of human cases around the world has been relatively small when compared to the number of outbreaks in birds. However, there have not been any confirmed cases of efficient human-to-human transmission to date. As of August 2007, there have been 322 confirmed human cases of the virus with 195 deaths.<sup>3</sup> Indonesia now has the highest number of fatalities worldwide at 84. The WHO is currently at Phase three of a seven-phase

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<sup>1</sup> The World Bank, *Avian Flu: Economic Losses Could Top US\$800 Billion*, [Internet], 2007, available from <<http://web.worldbank.org>> [accessed 25 May 2007]. This estimate was based on the impact of the Severe Acute Respiratory Syndrome (SARS) outbreak in 2003.

<sup>2</sup> World Health Organization, *Avian Influenza Fact Sheet* [Internet], 2006, available from <[www.who.int](http://www.who.int)> [accessed 18 April 2007].

<sup>3</sup> World Health Organization, *Cumulative Number of Confirmed Human Cases of Avian Influenza A/(H5N1) Reported to WHO* [Internet], 2007, available from <[www.who.int](http://www.who.int)> [accessed 7 June 2007].

pandemic alert regime and is monitoring human cases of H5N1 for evidence of efficient human-to-human transmission. The WHO's global, and Australia's corresponding, phases of a pandemic alert are outlined in Appendix 2.

4. The H5N1 strain re-emerged in a number of countries in Asia in 2003. It has spread to many parts of the world through the migration of wild birds and, possibly, through trade in poultry. Some countries have reported only isolated cases in wild birds, while other countries have had outbreaks in poultry farms. Australia's poultry industry is currently free from the H5N1 influenza virus strain.<sup>4</sup> However, there are two potential sources of infection:

- the virus is brought into Australia by wild birds; and
- the virus is imported through human activity, such as illegal trade and imported goods.<sup>5</sup>

Australia's northern borders are at risk, if the H5N1 virus spreads to Papua New Guinea from Indonesia, because of potential changes in the movement patterns of some sea birds and waders.

5. An outbreak of highly pathogenic H5N1 in poultry in Australia could result in human infection, but the greater source of risk would be if the virus mutates overseas and becomes easily transmissible between humans. This means that the virus could spread through human movement across borders, requiring an increased Australian border response and the implementation of national influenza pandemic preparedness plans.

## **Australia's preparedness arrangements**

6. Since the emergence of the highly pathogenic H5N1 avian influenza virus in Asia in 2003, the Australian Government has committed a total of \$623 million to avian influenza and pandemic preparedness measures.

### ***Influenza pandemic***

7. Australia has an established emergency management framework that includes Australian, State and Territory governments. A health emergency, such as an influenza pandemic, may cross jurisdictional boundaries and

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<sup>4</sup> Department of Agriculture, Fisheries and Forestry, *Avian Influenza or Bird Flu*, [Internet], 2007, available from <[www.daff.gov.au](http://www.daff.gov.au)> [accessed 13 November 2006]. The H5N1 influenza strain has never been reported in Australia. There have been five outbreaks of other avian influenza strains in commercial bird flocks in Australia, all of which were successfully eradicated.

<sup>5</sup> Department of Agriculture, Fisheries and Forestry, *Avian Influenza: Australia's preparedness & response*, Presentation by the Office of the Chief Veterinary Officer, 13 November 2006.



therefore requires communication and coordination across and between governments. Australia's influenza pandemic preparedness is outlined in three key plans; the *National Action Plan for Human Influenza Pandemic* (the National Action Plan), the *Commonwealth Government Action Plan for Human Influenza Pandemic*; and the *Australian Health Management Plan for Pandemic Influenza*. These plans are underpinned by key committees, with defined roles and responsibilities, that support the Prime Minister and the Council of Australian Governments (COAG). The purpose of the contingency plans is to prevent an influenza pandemic arriving in Australia and, if this cannot be prevented, to contain the spread of the virus.

8. In October 2006, the Department of Health and Ageing (DoHA) conducted Exercise Cumpston to test the capability of the Australian health system to prevent, detect and respond to an influenza pandemic in accordance with the *Australian Health Management Plan for Pandemic Influenza*. Governance aspects of the National Action Plan and State and Territory pandemic plans were also tested during this exercise.

9. Another key element of Australia's preparedness and response arrangements for an influenza pandemic is the National Medical Stockpile (the Stockpile). It contains essential medicines and equipment for deployment in response to health emergencies, such as a major outbreak of communicable disease or an act of terrorism. In an influenza pandemic, antiviral drugs and personal protective equipment will be used to protect border and healthcare workers. In addition, those exposed and potentially exposed to the influenza virus will be offered antiviral drugs as part of the containment strategy. These are interim measures until the pandemic strain of the influenza virus is identified and a specific vaccine is developed. The Stockpile was established by the Australian Government in 2002 and is managed by the Office of Health Protection in DoHA.

### *Avian influenza*

10. To minimise the risks of the H5N1 avian influenza virus mutating into a form that can transfer from human-to-human, any outbreaks of avian influenza in poultry must be contained. Australia has established systems to manage emergency animal disease outbreaks. The agriculture emergency response system is based on a partnership between Australian, State and Territory governments and industry that has matured over many decades through responses to a number of disease outbreaks, including avian influenza and the more recent equine influenza outbreak. This partnership was

formalised in 2002 through the Emergency Animal Disease Response Agreement.

11. Since the 1980s, Australia has developed a set of guiding disease control strategies and procedures that are documented in the *Australian Veterinary Emergency Plan* (AUSVETPLAN). These strategies are designed to support the decision-making process and operations at national, State/Territory and local levels. To test Australia's capability, across government and industry, to manage an avian influenza outbreak in poultry, the Department of Agriculture, Fisheries and Forestry (DAFF) conducted Exercise Eleusis in late 2005.

## **Audit objective, scope and methodology**

12. The objective of this audit was to examine Australia's preparedness to respond to a human influenza pandemic and an outbreak of avian influenza in domestic poultry. The audit assessed:

- the whole of government arrangements for an influenza pandemic;
- action taken by DAFF to implement the recommendations from Exercise Eleusis, which tested the response arrangements for avian influenza;
- DoHA's planning for, and execution of, Exercise Cumpston, which tested the preparedness and response to an influenza pandemic; and
- the establishment, management and deployment arrangements of the National Medical Stockpile.

13. The ANAO focussed on these specific elements as they provided the basis to assess Australia's preparedness and response arrangements within the context of the WHO's planning framework for an influenza pandemic. The simulation exercises tested Australia's response capability across all jurisdictions and provided the opportunity to improve existing arrangements. Implementing the recommendations flowing from Exercise Eleusis will help to ensure the continued effectiveness of Australia's response arrangements for an outbreak of avian influenza.

14. The Stockpile is a key component of Australia's response to an influenza pandemic. This means that it must be appropriately managed with arrangements in place to effectively deploy the equipment and antiviral drugs if, and when, needed.

## Audit findings and overall conclusions

### Overall audit conclusion

15. Australia has undertaken considerable planning and preparedness activities over the last three years to prevent, prepare for and respond to an influenza pandemic. The *WHO Checklist for Influenza Pandemic Preparedness Planning* provides a framework for countries to prepare for an influenza pandemic. Australia has addressed both minimal and desirable elements of this framework. Key plans have been developed that coordinate a whole of government response at the national level, supported by the State and Territory governments and healthcare systems.

16. Australia has established national disease surveillance programs, an onshore laboratory capability, case investigation and contact management processes. Infection control measures and guidance on clinical management practices that target the containment and management of an influenza pandemic have also been developed. In addition, all State and Territory governments have pandemic plans, either as stand-alone plans or included in general health emergency plans.

17. A pandemic will place increased demand on existing healthcare systems. The current influenza season has given an indication of increased demand, with most states and territories experiencing an influx of influenza patients. DoHA (on behalf of the Australian Health Protection Committee) conducted two surveys in 2003 and 2005 to assess the capability of Australia's public health system to cope with a major health emergency. This information is provided by the states and territories on a confidential basis. The Australian Health Protection Committee, which includes the Chief Medical Officer and Chief Health Officers from each State and Territory, uses this information to assess, monitor and improve national surge capacity and capability.<sup>6</sup> The Committee is also responsible for coordinating resources to maximise capacity and capability during a health emergency. The capability survey results also inform contingency planning, highlight areas where further capacity should be investigated and identify equipment and staff needed to support additional capacity. DoHA advised that it intends undertaking these surveys every two years.

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<sup>6</sup> Surge capacity refers to the ability of the health sector to respond to an increased number of patients. Surge capability refers to the ability to manage unusual or highly specialised medical needs.

18. Pandemic plans need to remain dynamic and this can only be achieved if they are tested and revised regularly. Exercise Cumpston, in October 2006, was the largest health simulation exercise held in Australia and effectively tested response arrangements for an influenza pandemic. The report made twelve recommendations to improve Australia's response capability. These recommendations related to: communication; systems and strategies; improvements in planning and policies; the updating of plans; and the need for further testing of these plans.

19. The agriculture emergency response system is based on a partnership between Australian, State and Territory governments and industry that has matured over many decades through responses to a number of disease outbreaks, including Australia's previous avian influenza and the more recent equine influenza outbreak. Exercise Eleusis, in late 2005, tested Australia's response arrangements to a simulated outbreak of avian influenza. The report on this exercise concluded that Australia's response arrangements were robust and effective. DAFF has made considerable progress in implementing the recommendations from this report, which related to updating disease response strategies, enhancing information support systems and public communication capabilities, and formalising linkages between agriculture and health agencies.

20. Australia's response arrangements are consistent with those of other countries reviewed by the ANAO.<sup>7</sup> These countries have also developed and tested contingency plans for avian influenza and a human influenza pandemic, and developed a stockpile of antiviral drugs and equipment.

21. Australia's National Medical Stockpile, which is central to an effective response to an influenza pandemic, was established to provide essential medicines and equipment for use in a health emergency. It has sufficient coverage for nearly 44 per cent of the population, which is one of the highest per capita stockpiles in the world.<sup>8</sup> DoHA's focus has primarily been on procuring and storing the Stockpile, rather than ongoing management and deployment. This audit has highlighted that it is now timely for DoHA to transition from short term 'supply and store' to a longer-term management storage strategy, which should be underpinned by a proper assessment of the risks involved in managing and deploying the Stockpile.

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<sup>7</sup> The ANAO reviewed the published planning and response arrangements for the United Kingdom, New Zealand, Canada, the United States of America and Singapore.

<sup>8</sup> Minister for Health and Ageing, *Government adds Relenza to national medicines stockpile*, Media Release, ABB168/05, 16 December 2005.

22. The critical factor in managing the Stockpile is ensuring that items can be deployed to those in need, when they need it. The Stockpile has grown significantly since DoHA developed its deployment plan in 2004. It is important that DoHA review and update this plan. DoHA also needs to gain a better understanding of the State and Territory deployment arrangements, including finalising deployment plans. This means consulting with the states and territories to obtain information on their stockpiles, the capacity of each receiving site and the processes involved in delivering Stockpile goods to each healthcare system and final recipients.

23. The Australian Government has established a sound contingency framework to respond to an influenza pandemic. These arrangements and plans have been developed in conjunction with, and are supported by, the State and Territory governments and healthcare systems. Although elements of these plans have been tested in simulation exercises, Australia's preparedness arrangements will require regular review in the light of changing personnel, information and systems to ensure response actions are well-coordinated and operate effectively under pressure. Experience also indicates the need for well-established communication, information sharing and coordination arrangements within and between agencies.

## Australia's preparedness and response framework (Chapter 2)

24. The Australian, State and Territory governments need to take multiple actions at the border and in the healthcare system should a pandemic occur. To ensure that decisions are streamlined and not contradictory, that information is shared between and within jurisdictions, and accurate and timely information is released to the public, the respective levels of government would be required to work together.

25. Australia has established emergency management arrangements, which cover prevention/mitigation, preparedness, response and recovery, and encompasses all hazards. Australia also has specific arrangements for an emergency animal disease outbreak (such as highly pathogenic avian influenza) and for a national health emergency (such as human influenza pandemic).

26. The *WHO Checklist for Influenza Pandemic Preparedness Planning* (the Checklist) provides a framework for countries to prepare for an influenza pandemic. The ANAO assessed Australia's preparedness and response

arrangements for a human influenza pandemic against this Checklist. In addition, the ANAO assessed whether the risk of an avian influenza outbreak in poultry was also being appropriately managed.

## **Assessing Australia's preparedness and response to an influenza pandemic**

27. The WHO Checklist covers the following seven areas and sets out minimum and desirable elements for pandemic preparedness:

- preparing for an emergency;
- surveillance;
- case investigation and treatment;
- preventing the spread of the disease in the community;
- maintaining essential services;
- research and evaluation; and
- implementation, testing and revision of national plans.

28. Australia has addressed both minimal and desirable elements of the WHO planning framework. The Australian Government, in consultation with the State and Territory governments, has in place a governance structure for responding to an influenza pandemic. Key plans have been developed to coordinate a whole of government response. In addition, all State and Territory governments have influenza pandemic plans.

29. The first step in preventing human cases of H5N1, and minimising the risk of the avian influenza virus mutating into a form that can transfer from person to person, is to contain animal cases. The *Australian Veterinary Emergency Plan* (AUSVETPLAN) is a key component of Australia's response to an avian influenza outbreak. The AUSVETPLAN is a series of technical response plans that outline Australia's approach to emergency animal disease outbreaks. Australian, State and Territory government and industry plans for emergency animal disease outbreaks integrate with the AUSVETPLAN and arrangements are formalised in the Emergency Animal Disease Response Agreement (EADRA).

30. Australia has a good base from which to respond to an influenza pandemic in the health sector. It has an established influenza surveillance program and funding has been provided to enhance the current surveillance systems. An onshore network of laboratories (including a WHO reference

laboratory) allows testing for human and avian influenza viruses. Management and containment strategies include infection control measures and non-medical practices, such as social distancing<sup>9</sup> and home quarantine. The Australian Government has also entered into contracts for the development of a pandemic vaccine and has purchased antiviral drugs.

31. A pandemic will place increased demand on existing healthcare systems. For example, the 2007 influenza season has been severe, with fatalities reported and year-to-date notifications at 5908 compared to 2946 for the whole of 2006.<sup>10</sup> Most states and territories have experienced an influx of influenza patients, placing increased pressure on healthcare systems. DoHA (on behalf of the Australian Health Protection Committee) conducted two surveys (capability audits), in 2003 and 2005, to assess the capability of Australia's public health system to cope with a major health emergency. This information is provided by the states and territories on a confidential basis.

32. The Australian Health Protection Committee, which includes the Chief Medical Officer and Chief Health Officers from each State and Territory, uses this information to assess, monitor and improve national surge capacity and capability.<sup>11</sup> The Committee is also responsible for coordinating resources to maximise capacity and capability during a health emergency. The capability survey results also inform contingency planning, highlight areas where further capacity should be investigated and identify equipment and staff needed to support additional capacity. DoHA advised that it intends undertaking these surveys every two years. During a health emergency, the Committee will coordinate resources to maximise capacity and capability.

## International comparison

33. Australia's development and refinement of its preparedness and response arrangements for an influenza pandemic are consistent with global efforts. Similar to Australia, the United Kingdom, Singapore, the United States of America, Canada and New Zealand are developing, testing and refining contingency plans, building antiviral drug stockpiles and purchasing

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<sup>9</sup> Social distancing measures are designed to reduce the transmission of disease by suspending public gatherings, which may include closing schools and theatres. Other measures that could be used include the requirement to wear surgical masks when using public transport.

<sup>10</sup> Department of Health and Ageing, *Australian Influenza Report—week ending 18 August 2007*, DoHA, [Internet], 2007, available from <[www.health.gov.au](http://www.health.gov.au)> [accessed 30 August 2007].

<sup>11</sup> Surge capacity refers to the ability of the health sector to respond to an increased number of patients. Surge capability refers to the ability to manage unusual or highly specialised medical needs.



equipment. In addition to State and Territory supplies of antiviral drugs, the Minister for Health and Ageing has stated that Australia's National Medical Stockpile has sufficient coverage for nearly 44 per cent of the population, which is one of the highest per capita stockpiles in the world.<sup>12</sup>

## Testing influenza pandemic response arrangements (Chapter 3)

34. Exercise Cumpston (October 2006) was the first test of the capability of the Australian health system to prevent, detect and respond to an influenza pandemic. All states and territories were involved in the desktop exercise component and some also conducted simulation exercises in parallel.

35. The main activity simulated an influenza pandemic within Australia's borders and involved a flight arriving at an international airport during a pandemic alert with suspected sick passengers on board. The exercise also tested the ability of the National Incident Room (within DoHA) to provide a coordinated response to the influenza pandemic at the national level.

36. DoHA developed a sound strategy to evaluate the exercise. The evaluation report captured the outcomes and lessons learned from Exercise Cumpston at a high level. Twelve recommendations were made relating to: communication; systems and strategies; improvements in planning and policies; the updating of plans; and the need for further testing of these plans. DoHA developed an implementation plan that sets out, among other things, the action to be taken and the lead agency but does not include a completion date for finalising the report's recommendations. To help ensure that the recommendations are implemented in a timely manner, timeframes for completion should be included in the implementation plan.

## Testing emergency animal disease outbreak response arrangements (Chapter 4)

37. Exercise Eleusis (late 2005) was a major national exercise to evaluate Australia's capability, across industry and government, to manage an emergency animal disease outbreak. The exercise simulated an outbreak of H5N1 avian influenza in three states, with some human avian influenza cases.

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<sup>12</sup> Minister for Health and Ageing, *Government adds Relenza to national medicines stockpile*, Media Release, ABB168/05, 16 December 2005.



38. According to the evaluation report, the exercise demonstrated that Australia's response arrangements were robust and effective in dealing with significant animal health emergencies. The recommendations flowing from the exercise relate to the continuous improvement of existing emergency animal disease response arrangements. The ANAO found that DAFF has made steady progress in implementing the recommendations for which it has taken responsibility. DAFF has also initiated action to progress the implementation of recommendations that require a national response. A key area where action has recently commenced is the review of the processes and resources for the timely updating of the AUSVETPLAN.

39. Responsibility for maintaining the AUSVETPLAN transferred to Animal Health Australia (AHA) in 2000.<sup>13</sup> DAFF also has a vested interest in maintaining the relevance and currency of the AUSVETPLAN. The current process for updating the plan is complex, resource intensive and time consuming.

40. In December 2006, DAFF decided to establish an internal review group to examine issues relating to the AUSVETPLAN. The review group met in March and April 2007 to look at the governance, form and content of the AUSVETPLAN. However, AHA is not part of this review group. The ANAO considers that, as AHA is required to maintain the AUSVETPLAN, it should be involved in reviewing the plan.

## Establishing and managing the National Medical Stockpile (Chapter 5)

41. The Australian Government created the National Medical Stockpile (the Stockpile) to provide vaccines, antidotes, antibiotics, drugs and equipment during a health emergency. The Stockpile is to supplement supplies in State and Territory healthcare systems. Antiviral drugs and medical equipment have been purchased in preparation for an influenza pandemic.

42. The Stockpile provides a level of protection for Australians should an influenza pandemic occur and is integral to the planned health response. In addition, it represents a significant investment by the Australian government in influenza pandemic preparedness. As of 30 June 2007, the Stockpile was

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<sup>13</sup> AHA is a not-for-profit public company that was established in 1996 to ensure Australia's animal health status delivers a competitive advantage and ongoing market access for livestock products. AHA is funded by subscriptions from its members, which include DAFF, State and Territory governments and industry.

valued at \$231.8 million, with \$219.7 million being for the influenza pandemic component. To maximise the effectiveness of the Stockpile, it is important that items are stored appropriately, in good condition, fit for purpose, within expiry dates and able to be deployed on demand.

**43.** The Stockpile grew incrementally as a result of a series of Government funding decisions. DoHA's strategy was to procure items for the stockpile using 'supply and store' arrangements. That is, the supplier also stores the items purchased. The ANAO identified a number of management issues that may impact on DoHA's ability to effectively store and deploy the Stockpile, including:

- DoHA has not assessed the risks associated with establishing, managing and deploying the Stockpile, and internal performance and management reporting is limited;
- a procurement strategy was not developed for the Stockpile and departmental procurement processes were not always followed. The 'supply and store' approach adopted by DoHA meant that it did not gain the full benefits that a competitive tender process for storage would have offered;
- storage requirements were not well-defined. Storage sites were not assessed as part of the procurement process nor as part of ongoing management, prior to the ANAO undertaking visits in February 2007. In addition, the cost of storage does not always reflect the quality of storage being provided;
- DoHA does not have formal processes in place for approving sub-contracting arrangements. Four out of the nine suppliers have sub-contracted storage to a third party; and
- compliance with supply and storage contracts was not being monitored. Prior to the ANAO audit, DoHA had not received, nor requested storage contractors to provide, the reports required by the contracts.

**44.** DoHA is taking steps to address the issues raised by the ANAO. It has reinforced the use of procurement procedures and introduced quality assurance processes. Storage site visits are now included in the procurement assessment process and more detailed storage and security requirements have been incorporated in recent requests for tender and storage contracts. The department is also moving away from the 'supply and store' arrangements for

expired and soon-to-be-expired contracts. DoHA is developing a *National Medical Stockpile Inventory Policy* that will form the basis of a management framework and approval has been given to design an inventory management system.

## Deploying the National Medical Stockpile (Chapter 6)

45. The purpose of the Stockpile is to provide essential medicines and equipment to Australians in a health emergency, such as an influenza pandemic. The critical factor in managing the Stockpile is ensuring that items can be deployed to those in need, when and where they need it. Deployment plans must therefore take into consideration that there are seven State and Territory deployment/distribution arrangements. Delivery to recipients involves:

- deployment from Stockpile locations and delivery to the State and Territory governments;
- receipt by the State and Territory governments and distribution within their healthcare systems<sup>14</sup>; and
- receipt by the healthcare systems and distribution to recipients.

46. In an influenza pandemic, DoHA aims to deploy goods from the Stockpile within six hours and deliver them to State and Territory governments within 24 hours of a request being received. To do this, DoHA has:

- Memoranda of Understanding (MoUs) with State and Territory Health Departments;
- contracts with storage providers that include deployment timeframes and a requirement to keep emergency contact details up to date;
- a deployment plan supported by internal procedures; and
- State and Territory deployment/distribution plans.

47. DoHA's deployment arrangements would be more effective if:

- the risks associated with deploying the Stockpile were assessed and mitigation strategies developed in conjunction with the states and territories;

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<sup>14</sup> For example, hospitals, general practitioners, community-based clinics and pharmacies.

- the 2004 deployment plan was further developed and updated to reflect current arrangements. The plan should be supported by more detailed deployment procedures that reflect the requirements set out in the MoUs with State and Territory Health Departments;
- DoHA had a greater understanding of individual State and Territory distribution arrangements, including the content of their stockpiles, the capacity of each receiving site and the processes involved in delivering Stockpile goods to each healthcare system and final recipients. It also needs to work cooperatively with them to further develop deployment arrangements and plans; and
- further deployment exercises were undertaken that included testing of State and Territory receiving sites and deliveries to their healthcare systems.

48. DoHA recognises that it needs to have a greater understanding of State and Territory deployment arrangements and has been proactive during the audit to address the issues raised. DoHA advised that further Stockpile deployment drills are planned, including delivery processes.

## Agency responses

### Department of Agriculture, Fisheries and Forestry (DAFF)

49. DAFF agrees with the outcomes of the audit report.

50. Preparedness for and response to emergency animal disease outbreaks such as avian influenza, or for any emergency pest or disease in the agriculture sector, requires a national, collegiate approach. In partnership with State and Territory governments and national industry groups, DAFF strives to maintain Australia's favourable trading status and to protect the well-being of Australian primary production and communities in the face of emerging pest and infectious disease risks. The culture of continuous improvement in the agricultural sector has grown significantly over the last five years since Exercise Minotaur. This has led to considerable enhancement in emergency response capability, including increased harmonisation in the management of the various pests and diseases that we face.

51. Recent enhancements have included: development of DAFF emergency preparedness strategy to ensure an appropriate level of preparedness, continual improvement of the Critical Incident Response Plan which guides DAFF's emergency response efforts; establishment of the national Rapid

Response Team to assist smaller jurisdictions in the initial stages of an outbreak; and the development of the Primary Industry National Communication Network to ensure nationally coordinated, consistent and timely public messages during emergencies.

## **Department of Health and Ageing**

52. The Department of Health and Ageing accepts the recommendations contained within the performance audit of Australia's Preparedness for a Human Influenza Pandemic. Establishing robust pandemic influenza plans has been a focus of the Department of Health and Ageing over the last two years. This period has seen a large growth in the comprehensiveness of pandemic planning processes and the response strategies that underpin those plans.

53. In particular, Exercise Cumpston 06 tested the capability of the Australian health system to prevent, detect and respond to an influenza pandemic.

54. The Department has increased the size of the National Medical Stockpile (stockpile) substantially in this period in response to the threat of pandemic influenza. This has greatly enhanced the capacity of the Australian Government to respond to the threat of pandemic influenza. Stockpile acquisitions commenced in 2002, following the attacks of September 11 and the anthrax and white powder incidents of 2001.

55. Since then, the stockpile has been augmented in light of the emergence of H5N1 influenza and the possibility of pandemic influenza, and in light of threat assessments by intelligence agencies. A number of formal committees have fed into this, including the Department's CBRN Committee (which includes intelligence agencies by invitation) and a number of pandemic influenza committees chaired by the Department's Chief Medical Officer.

56. The recommendations in the ANAO report will provide a sound template to enhance the management framework of the stockpile further, and will build on the work already underway in the Department to enhance the stockpile's robust management framework, which includes:

- conducting regular stocktakes and site inspections;
- conducting deployment drills; and
- a clearly codified management framework for the stockpile.

57. The Department is in the process of developing a formal, integrated risk-management plan for the stockpile.

# Recommendations

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*Set out below are the ANAO's recommendations, with abbreviated responses from the audited departments and Animal Health Australia. Where the departments have provided a more detailed response, this is shown in the body of the report, immediately after each recommendation.*

## Recommendation No. 1

### Para 4.31

The ANAO recommends that the Department of Agriculture, Fisheries and Forestry and Animal Health Australia review:

- (a) the resources and processes applied to the maintenance of the AUSVETPLAN so that it accurately reflects the latest disease, scientific and policy developments, in accordance with Recommendation 12 from the Exercise Eleusis Evaluation Report;
- (b) the AUSVETPLAN Summary Document regularly so that it reflects the current disease categories and whole of government emergency response framework; and
- (c) the current form and content of the AUSVETPLAN

*Department of Agriculture, Fisheries and Forestry:* Agreed.

*Animal Health Australia:* Agreed.

## Recommendation No. 2

### Para 5.24

To improve the management of the National Medical Stockpile, the ANAO recommends that the Department of Health and Ageing incorporate into its governance framework:

- (a) an assessment of the risks associated with the Stockpile in a risk management plan that is periodically reviewed; and
- (b) a performance management and reporting framework for the Stockpile.

*Department of Health and Ageing response:* Agreed.

## Recommendation No. 3

### Para 5.59

To improve the management of the National Medical Stockpile, the ANAO recommends that the Department of Health and Ageing develop and implement procedures for:

- maintaining the content of the Stockpile;
- approving sub-contracting arrangements;
- monitoring compliance with supply and storage contracts; and
- undertaking site visits and stocktakes.

*Department of Health and Ageing response:* Agreed.

## Recommendation No. 4

### Para 6.23

To improve the effectiveness of deployment arrangements for the National Medical Stockpile, the ANAO recommends that the Department of Health and Ageing:

- (a) undertake an assessment of the risks associated with deploying the Stockpile and incorporate this analysis and mitigation strategies in a National Medical Stockpile risk management plan;
- (b) review and adequately test deployment plans in conjunction with states and territories; and
- (c) review and update procedures to cover all elements of the response arrangements outlined in the Memoranda of Understanding with the State and Territory governments.

*Department of Health and Ageing response:* Agreed.



# **Audit Findings and Conclusions**



# 1. Background and Context

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*This chapter provides information on the potential for a human influenza pandemic and the risks arising from the H5N1 avian influenza virus. It briefly describes the Australian Government's preparedness and response arrangements. The objective, scope and methodology of the audit and structure of the report are also outlined.*

## Introduction

**1.1** An influenza pandemic would have enormous social and economic consequences.<sup>15</sup> In addition to the potential human suffering caused by sickness and death during a pandemic, the World Bank has estimated the economic losses resulting from a human influenza pandemic could be as high as \$US800 billion a year.<sup>16</sup> It is therefore in the interest of all countries to put measures in place to minimise the impact of such an event.

**1.2** The World Health Organization (WHO)<sup>17</sup> has reported that the world is moving closer to an influenza pandemic as 'the [H5N1 avian influenza<sup>18</sup>] virus has met all prerequisites for the start of a pandemic except one: to spread efficiently and sustainably among humans'.<sup>19</sup> It is not possible to predict when the next pandemic will occur or how long it will last. The last major influenza pandemic in Australia was in 1918–19.

**1.3** The H5N1 virus is now prevalent in poultry and wild birds in some countries and may take years to eradicate. The virus has also infected other animal hosts and this has heightened fears of a human influenza pandemic occurring. Although the virus has not yet developed the capacity to transmit easily between humans, those who are in close contact with infected poultry are at risk of infection. The WHO is currently at Phase three of a seven-phase

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<sup>15</sup> An influenza pandemic occurs when a new influenza virus strain, to which there is little or no immunity, spreads between humans and is capable of causing severe disease. The new strain can rapidly spread across the globe, causing worldwide epidemics or pandemics with high numbers of cases and deaths.

<sup>16</sup> The World Bank, *Avian Flu: Economic Losses Could Top US\$800 Billion*, [Internet], 2007, available from <<http://web.worldbank.org>> [accessed 25 May 2007]. This estimate was based on the impact of the Severe Acute Respiratory Syndrome (SARS) outbreak in 2003.

<sup>17</sup> The United Nations established the WHO as the specialist body to deal with global health issues.

<sup>18</sup> Influenza A viruses are classified into sub-types based on their Haemagglutinin (H) and Neuraminidase (N) proteins. Avian influenza can have a low pathogenic form that has little or no symptoms or a highly pathogenic form that leads to illness and death in affected poultry.

<sup>19</sup> World Health Organization, *Avian Influenza Fact Sheet* [Internet], 2006, available from <[www.who.int](http://www.who.int)> [accessed 18 April 2007].

pandemic alert regime and is monitoring human cases of H5N1 for evidence of efficient human-to-human transmission. The WHO's global, and Australia's corresponding, phases of a pandemic alert are outlined in Appendix 2.

## Avian influenza

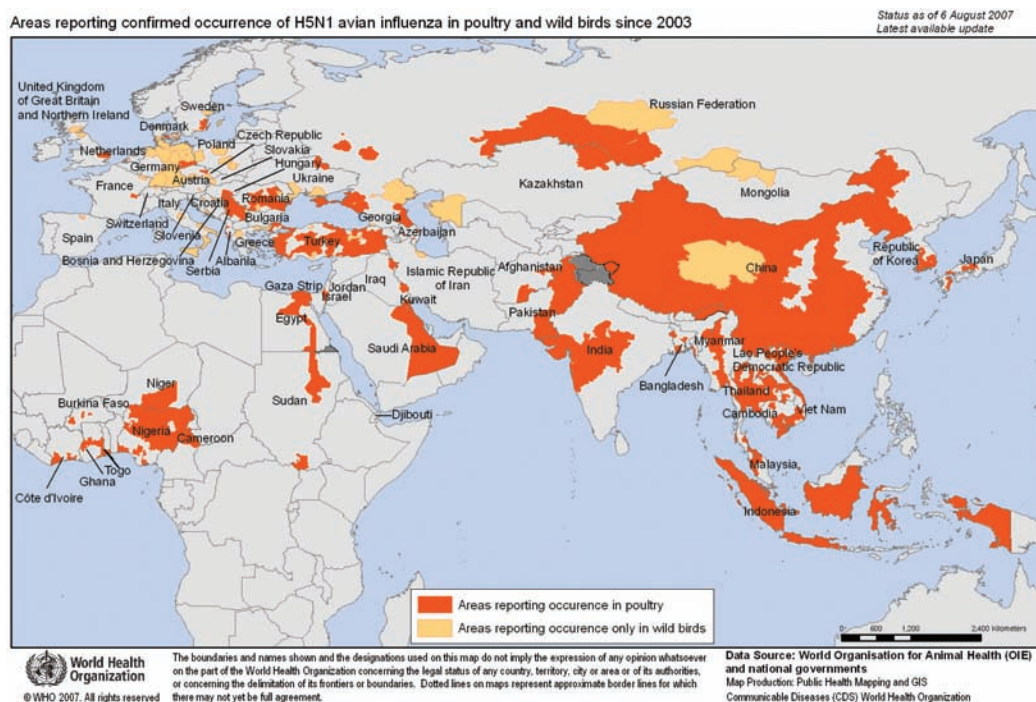
**1.4** Avian influenza viruses are normally present in wild bird populations, particularly water birds, typically without causing symptoms. When avian influenza spreads to domestic poultry, it can cause more severe disease. In the past, outbreaks of avian influenza have occurred in poultry flocks in most countries of the world, including Australia.<sup>20</sup>

**1.5** The current H5N1 strain re-emerged in a number of countries in Asia in 2003. It has spread to many parts of the world through the migration of wild birds and, possibly, through trade in poultry. Some countries have reported only isolated cases in wild birds, while other countries have had outbreaks in poultry farms.<sup>21</sup> Figure 1.1 maps the outbreaks of H5N1 in domestic poultry and wild birds cumulatively from 2003 to August 2007 worldwide.

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<sup>20</sup> The outbreaks of avian influenza in Australia were not of the H5N1 strain.

<sup>21</sup> For example, 50 000 turkeys had to be euthanised at a farm in the United Kingdom when the H5N1 virus was found in dead poultry in February 2007.

**Figure 1.1****Confirmed occurrences of H5N1 avian influenza in domestic poultry and wild birds from 2003 to August 2007**

Source: World Health Organization.

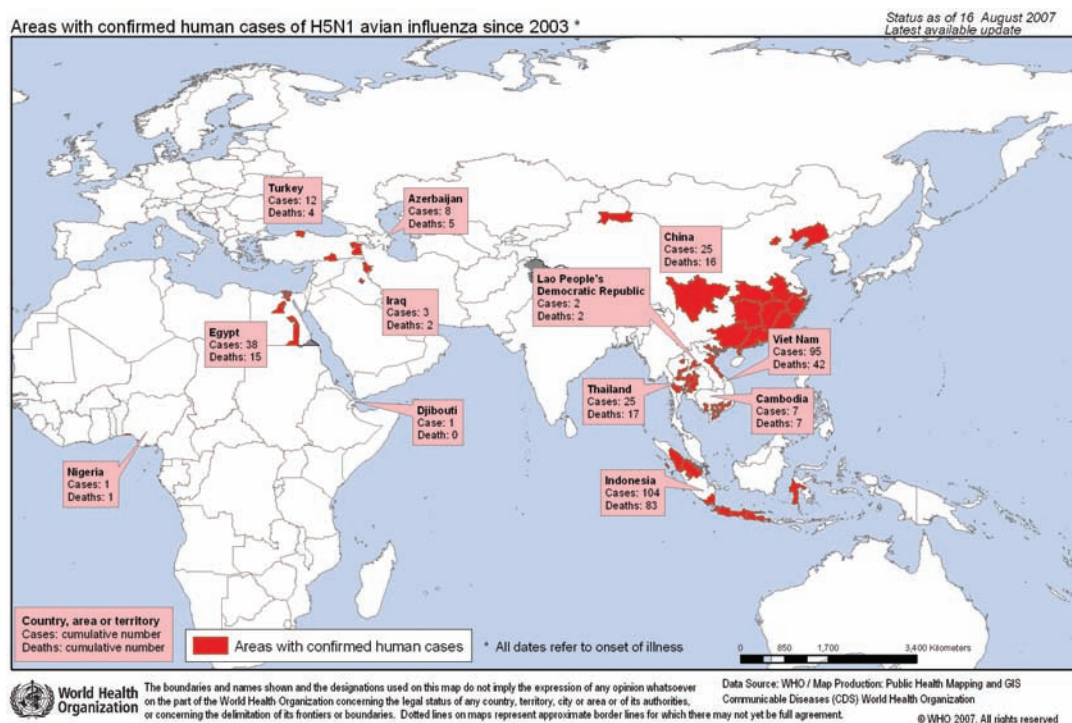
**1.6** Although the highly pathogenic H5N1 avian influenza strain can cause severe and sometimes fatal infections in humans, the actual number of human cases around the world has been relatively small when compared to the number of outbreaks in birds. Confirmed human cases have been linked to contact with infected poultry, usually from home farms. However, there have not been any confirmed cases of efficient human-to-human transmission to date.

**1.7** As of August 2007, there have been 322 confirmed human cases of the virus with 195 deaths.<sup>22</sup> Indonesia now has the highest number of fatalities worldwide at 84. Figure 1.2 maps the cases of H5N1 avian influenza in humans cumulatively from 2003 to August 2007.

<sup>22</sup> World Health Organization, *Cumulative Number of Confirmed Human Cases of Avian Influenza A/(H5N1) Reported to WHO* [Internet], 2007, available from <www.who.int>, [accessed 7 June 2007].

**Figure 1.2**

## Confirmed occurrences of H5N1 avian influenza in humans from 2003 to August 2007



Source: World Health Organization.

## Risks to Australia

1.8 The Department of Agriculture, Fisheries and Forestry (DAFF) advised that Australia's poultry industry is currently free from the highly pathogenic H5N1 virus.<sup>23</sup> However, there are two potential sources of infection:

- the virus is brought into Australia by wild birds; and
- the virus is imported through human activity, such as illegal trade and imported goods.<sup>24</sup>

<sup>23</sup> Department of Agriculture, Fisheries and Forestry, *Avian Influenza or Bird Flu*, [Internet], 2007, available from <www.daff.gov.au> [accessed 13 November 2006].

<sup>24</sup> Department of Agriculture, Fisheries and Forestry, *Avian Influenza: Australia's preparedness & response*, Presentation by the Office of the Chief Veterinary Officer, 13 November 2006.

Australia's northern borders are at risk, if the H5N1 virus spreads to Papua New Guinea from Indonesia, because of potential changes in the movement patterns of some sea birds and waders.

**1.9** The Northern Australia Quarantine Strategy includes measures to protect Australia from exotic pests, weeds and diseases that could enter Australia from countries to its north.<sup>25</sup> These include: mapping bird migration patterns; monitoring of human and stock movements through the Torres Strait; an annual survey of wild birds; and border inspections for bird and poultry products. DAFF and AusAID are working with Australia's near neighbours to improve monitoring and communication and to implement risk mitigation strategies for avian influenza. A number of Asia-Pacific Economic Cooperation (APEC) initiatives, to which Australia has contributed, have also focussed on avian influenza.

**1.10** An outbreak of highly pathogenic H5N1 in poultry in Australia could result in human infection, but the greater source of risk would be if the virus mutates overseas and becomes easily transmissible between humans. This means that the virus could spread through human movement across borders, requiring an increased Australian border response and the implementation of national influenza pandemic preparedness plans.

## Australia's preparedness and response arrangements

**1.11** Since the emergence of the highly pathogenic H5N1 avian influenza strain in Asia in 2003, the Australian Government has committed a total of \$623 million to avian influenza and pandemic preparedness measures.

### Influenza pandemic

**1.12** Australia has an established emergency management framework that includes Australian, State and Territory governments. A health emergency, such as an influenza pandemic, may cross jurisdictional boundaries and therefore requires coordination across and between governments. Australia's influenza pandemic preparedness is outlined in the following three key plans:

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<sup>25</sup> The Northern Australia Quarantine Strategy covers a 20 kilometre-wide strip of land from Broome in Western Australia to Cairns in North Queensland, as well as the work being carried out across the Torres Strait and with Australia's near neighbours.

- *National Action Plan for Human Influenza Pandemic* (the National Action Plan) outlines the governance arrangements during an influenza pandemic;
- *Australian Health Management Plan for Influenza Pandemic* details the Australian health response during an influenza pandemic; and
- *Commonwealth Government Action Plan for Influenza Pandemic* outlines the whole of government coordination response during an influenza pandemic.

**1.13** These plans are supported by key committees, with defined roles and responsibilities that advise the Prime Minister and the Council of Australian Governments (COAG). The purpose of the plans is to prevent an influenza pandemic arriving in Australia and, if this cannot be prevented, to contain the spread of the virus.

**1.14** To test its key plans, the Australian Government, in conjunction with State and Territory governments and industry, has conducted Exercise Cumpston. Exercise Cumpston<sup>26</sup> was conducted by the Department of Health and Ageing (DoHA) in October 2006 and tested the capability of the Australian health system to prevent, detect and respond to an influenza pandemic in accordance with the *Australian Health Management Plan for Pandemic Influenza*. Governance aspects of the National Action Plan and State and Territory pandemic plans were also tested during this exercise.

**1.15** Another key element of Australia's preparedness and response arrangements is the National Medical Stockpile (the Stockpile). It contains essential medicines and equipment for use in response to health emergencies, such as a major outbreak of communicable disease or an act of terrorism. In an influenza pandemic, antiviral drugs and personal protective equipment will be used to protect border and healthcare workers. In addition, those exposed and potentially exposed to the influenza virus will be offered antiviral drugs as part of the containment strategy. These are interim measures until the pandemic strain of the influenza virus is identified and a specific vaccine is developed. The Stockpile was established by the Australian Government in 2002 and is managed by the Office of Health Protection in DoHA.

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<sup>26</sup> Exercise Cumpston was named after Dr John Howard Lidgett Cumpston, the first head of the Commonwealth Health Department, who devised strategic quarantine and social distancing measures during the 1918–19 influenza pandemic.



## *Avian influenza*

**1.16** To minimise the risk of the H5N1 avian influenza virus mutating into a form that can transfer from human-to-human, outbreaks of avian influenza in poultry must be contained. Australia has established systems to manage emergency animal disease outbreaks. The agriculture emergency response system is based on a partnership between Australian, State and Territory governments and industry that has matured over many decades through responses to a number of disease outbreaks, including avian influenza and the more recent equine influenza outbreak. This partnership was formalised in 2002 through the Emergency Animal Disease Response Agreement. The agreement includes a framework for decision-making and cost-sharing during disease outbreaks. It also imposes on the signatories a requirement to maintain a level of preparedness for emergencies through the maintenance of biosecurity systems, trained personnel and associated infrastructure.

**1.17** Since the 1980s, Australia has developed a set of guiding disease control strategies and procedures that are documented in the AUSVETPLAN. These strategies are designed to support the decision-making process and operations at national, State/Territory and local levels. DAFF conducted Exercise Eleusis in late 2005 to test Australia's capability to manage an avian influenza outbreak in poultry across government and industry.<sup>27</sup>

## **Audit objective, scope and methodology**

**1.18** The objective of this audit was to examine Australia's preparedness to respond to a human influenza pandemic and an outbreak of avian influenza in domestic poultry. The audit assessed:

- the whole of government arrangements for an influenza pandemic;
- action taken by DAFF to implement the recommendations from Exercise Eleusis, which tested the response arrangements for avian influenza;
- DoHA's planning for, and execution of, Exercise Cumpston, which tested the preparedness and response to an influenza pandemic; and
- the establishment, management and deployment arrangements of the National Medical Stockpile.

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<sup>27</sup> Exercise Eleusis was named after the ancient Greek city of Eleusis that, according to mythology, was visited by the goddess of agriculture.

**1.19** The ANAO focussed on these specific elements as they provided the basis to assess Australia's preparedness and response arrangements within the context of the WHO's planning framework for an influenza pandemic. The simulation exercises tested Australia's response capability across all jurisdictions and provided the opportunity to improve existing arrangements. Implementing the recommendations flowing from Exercise Eleusis will help to ensure the continued effectiveness of Australia's response arrangements for an outbreak of avian influenza.

**1.20** The Stockpile is a key component of Australia's response to an influenza pandemic. This means that it must be appropriately managed with arrangements in place to effectively deploy the equipment and antiviral drugs if, and when, needed.

## **Methodology**

**1.21** The audit methodology included research into international and Australian pandemic arrangements, departmental file and documentation reviews, qualitative and quantitative analysis and interviews with staff from DAFF, DoHA, the Department of the Prime Minister and Cabinet (PM&C) and Animal Health Australia (AHA). The ANAO also observed aspects of Exercise Cumpston and visited a number of storage locations of the Stockpile.

**1.22** The audit was conducted in accordance with ANAO auditing standards. The total cost of the audit was some \$390 000.

## **Acknowledgements**

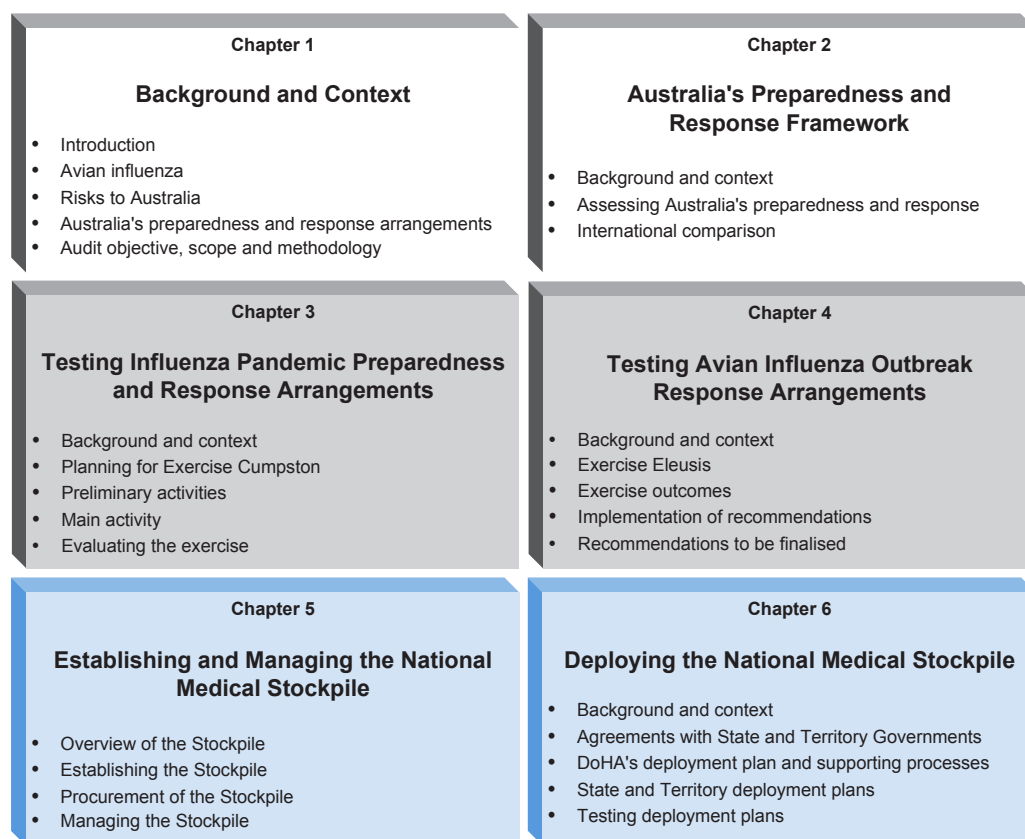
**1.23** The ANAO would like to express its appreciation to DAFF, DoHA, AHA and PM&C staff for their assistance in the conduct of this audit.

## Structure of the report

**1.24** Figure 1.3 illustrates the framework used by the ANAO to examine Australia's preparedness and response arrangements. This framework forms the basis of this report.

**Figure 1.3**

### Structure of this report





## 2. Australia's Preparedness and Response Framework

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*This chapter outlines the international impetus for preparing for an influenza pandemic. Australia's preparedness and response arrangements for responding to a human influenza pandemic and an emergency animal disease outbreak, such as avian influenza, are also discussed.*

### Background and context

#### International context

**2.1** The WHO coordinates the global response to human cases of avian influenza and monitors the threat of an influenza pandemic. To facilitate information sharing in relation to a human influenza pandemic, the WHO has, among other things, provided protocols, model plans, checklists, fact sheets and scientific information. It is also building a global antiviral drug stockpile to support its rapid response and containment strategy, which is to stop or slow the spread of pandemic influenza at the source.

**2.2** The revised *International Health Regulations* provide the WHO with the ability to respond to an increased number of diseases. The regulations apply to all events that may constitute a public health emergency of international concern and recognise that diseases, such as an influenza pandemic, cross borders and are a concern to all governments. The new regulations include a range of additional requirements for member states, such as enhancing surveillance and an increased emphasis on reporting. Australia is a signatory to the *International Health Regulations*.

**2.3** The H5N1 avian influenza virus is being closely monitored in those countries where there have been human cases. This is to ensure that immediate action is taken to prevent its spread should it become highly contagious among humans. International focus has been on improving the management of avian influenza in poultry and the surveillance and response capacity of some countries. Australia has joined these international efforts by contributing aid and resources to our near neighbours, such as Indonesia.

#### Australian context

**2.4** The Australian, State and Territory governments will need to take multiple actions at the border and in the healthcare system should a pandemic

occur. To ensure that decisions are streamlined and not contradictory, that information is shared between and within jurisdictions, and accurate and timely information is released to the public, the respective levels of government would be required to work together.

**2.5** Australia has established emergency management arrangements. Emergency Management Australia has Australian Government responsibility for this area, while recognising that:

Prime responsibility for the protection of life, property and the environment rests with the States and Territories. However, the Australian Government is committed to supporting States and Territories in developing their capacity for dealing with emergencies and disasters, and provides physical assistance to requesting States or Territories when they cannot reasonably cope during an emergency.<sup>28</sup>

**2.6** Emergency Management Australia adopts a broad approach, which covers prevention/mitigation, preparedness, response and recovery, and encompasses all hazards.<sup>29</sup> The Australian Government also has specific arrangements in place for responding to terrorism and mass casualty incidents, emergency animal disease outbreaks (such as highly pathogenic avian influenza) and for a national health emergency (such as human influenza pandemic). With the exception of the new pandemic arrangements, plans are regularly tested and reviewed. The lessons learnt from overseas incidents also enhance emergency response arrangements as they are adapted to the Australian context.<sup>30</sup>

## Assessing Australia's preparedness and response

**2.7** The *WHO Checklist for Influenza Pandemic Preparedness Planning* (the Checklist) provides a framework for countries to prepare for an influenza pandemic. This checklist can be used to evaluate the completeness of current pandemic planning.<sup>31</sup> The Checklist states that:

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<sup>28</sup> Emergency Management Australia, *Australian Government Role in Emergency Management—Overview* [Internet], 2006, available from <[www.ema.gov.au](http://www.ema.gov.au)> [accessed 28 May 2007].

<sup>29</sup> Emergency Management Australia, *Lessons from London and Considerations for Australia*, [Internet], 2007, available from <[www.ema.gov.au](http://www.ema.gov.au)> [accessed 28 May 2007], p. 5.

<sup>30</sup> A recent example is the *Lessons from London and Considerations for Australia*, a report published in 2007.

<sup>31</sup> World Health Organization, *WHO Checklist for Influenza Pandemic Preparedness Planning*, Switzerland, 2005, WHO, p. viii.

The objective of pandemic planning is to enable countries to be prepared to recognise and manage an influenza pandemic. Planning may help to reduce the transmission of the pandemic virus strain, to decrease cases, hospitalizations and deaths, to maintain essential services and to reduce the economic and social impact of the disease.<sup>32</sup>

**2.8** The Checklist covers the following seven areas and sets out minimum and desirable elements for pandemic preparedness:

- preparing for an emergency;
- surveillance;
- case investigation and treatment;
- preventing the spread of the disease in the community;
- maintaining essential services;
- research and evaluation; and
- implementation, testing and revision of national plans.

**2.9** The ANAO assessed Australia's preparedness and response arrangements for a human influenza pandemic against the WHO Checklist. Australia's response arrangements for an animal disease outbreak (such as avian influenza) in poultry were also reviewed.

## **Preparing for an emergency**

**2.10** Planning and pandemic preparedness activities have been ongoing since 2003. Key plans have been developed for preparedness and response to human influenza pandemic, avian influenza disease outbreaks in animals<sup>33</sup> and whole of government coordination. Each State and Territory also has its own pandemic preparedness plans.

**2.11** Since the emergence of the avian influenza strain, H5N1, in Asia during 2003, the Australian Government has committed a total of \$623 million to avian influenza and influenza pandemic preparedness measures. This includes:

- \$415 million on the following health preparedness and response measures:

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<sup>32</sup> World Health Organization, op. cit., 2005, p. vii.

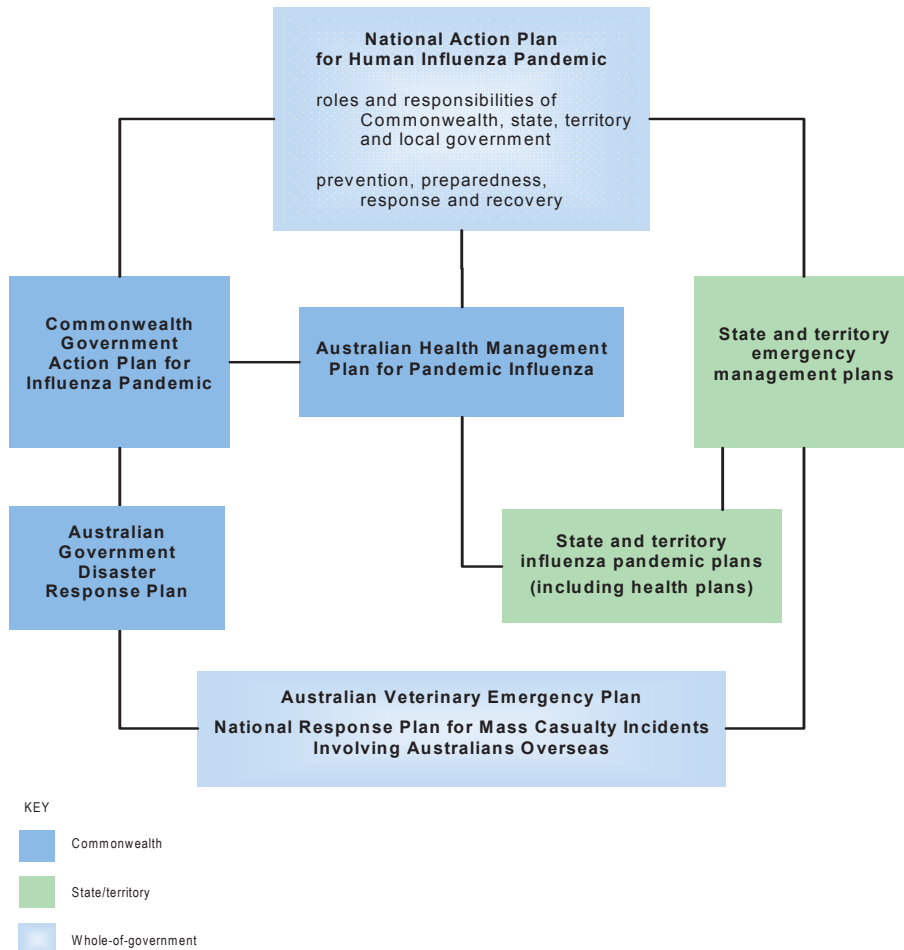
<sup>33</sup> A disease strategy for avian influenza has been in existence since 1991 and was updated in 2006.

- establishing the Office of Health Protection within DoHA;
  - purchasing antiviral drugs and equipment for the Stockpile;
  - establishing contracts with influenza vaccine manufacturers for the guaranteed supply of vaccines during a pandemic;
  - strengthening health surveillance and laboratory diagnostic capacity;
  - funding to accelerate research on influenza and pandemics;
  - developing a communications strategy to inform and advise health professionals, businesses and the general public; and
  - testing the *Australian Health Management Plan for Pandemic Influenza* (Exercise Cumpston);
- \$152 million to assist regional neighbours to combat the threat of an influenza pandemic, avian influenza and other emerging infectious diseases;
  - \$55 million to strengthen Australia's border measures to minimise the likelihood of the avian influenza virus entering Australia; and
  - \$1.1 million in 2006–07 to PM&C to coordinate the whole of government response and develop the National Action Plan.



**2.12** COAG is the high-level forum for Australian, State and Territory governments to work together. COAG is chaired by the Prime Minister and comprises the premiers and chief ministers of each State and Territory and the president of the Australian Local Government Association. COAG approved the National Action Plan in July 2006. This plan outlines the roles and responsibilities of the Prime Minister and the Australian, State, Territory and local governments during an influenza pandemic. The Australian Government has agreed that PM&C will coordinate the broader whole of government preparation prior to a pandemic. The planning hierarchy for an influenza pandemic is shown in Figure 2.1.



**Figure 2.1****Emergency management and health plans for managing an influenza pandemic**

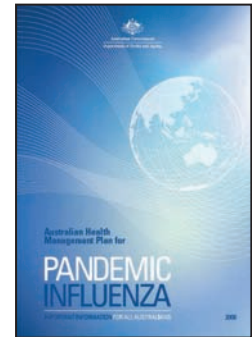
Source: National Action Plan for Human Influenza Pandemic.

**2.13** The *Commonwealth Government Action Plan for Influenza Pandemic* sets out how Australian Government departments will work together to prepare and prevent, or limit, an influenza pandemic in Australia and respond to, and assist recovery from, an influenza pandemic.<sup>34</sup> This plan describes the

<sup>34</sup> Department of the Prime Minister and Cabinet, *Commonwealth Government Action Plan for Influenza Pandemic*, Canberra, 2006, p. 2.

decision-making paths and outlines the responsibilities and actions to be taken by government departments during each stage of a pandemic. The plan also describes the triggers for each of the Australian pandemic alert phases.

**2.14** The *Australian Health Management Plan for Pandemic Influenza* outlines the health response to an influenza pandemic and provides advice to health care professionals and the general public. All State and Territory governments have plans for pandemic influenza, either as stand-alone plans or included in general health emergency plans. With the exception of the Northern Territory, all plans are publicly available.



**2.15** The AUSVETPLAN is a key component of Australia's response to emergency animal disease outbreaks, including avian influenza and the more recent equine influenza outbreak. It is a series of technical response plans that describe the proposed approach to the management of emergency animal disease outbreaks. Australian, State and Territory government and industry plans integrate with the AUSVETPLAN.

**2.16** Complementing the plans outlined in Figure 2.1, is the *Business Continuity Guide for Australian Businesses*. The guide provides businesses and other organisations with a range of tools and information to help them prepare for a human influenza pandemic. Targeting private businesses, the guide explains what an influenza pandemic is, what the Australian Government is doing and how a pandemic may affect businesses. The guide outlines the steps that can be taken to minimise the risks of a pandemic on businesses and employees.



## Australia's governance structure for an influenza pandemic

**2.17** The Prime Minister and COAG will lead the national response to an influenza pandemic under the plans that have been put in place. The Prime Minister and COAG will receive advice from and provide direction to key committees. Each committee has specific roles and responsibilities that, in principle, complement the work of the others. These committees are:

- National Pandemic Emergency Committee (NPEC);

- Deputy Secretaries' Interdepartmental Committee on Influenza Pandemic Prevention and Preparedness; and
- Australian Health Protection Committee.<sup>35</sup>

**2.18** In addition to these committees, the Governor-General is responsible for making declarations under the *Quarantine Act 1908*.<sup>36</sup> These declarations are based on advice from the Minister for Health and Ageing and are a necessary requirement for initiating quarantine action for an influenza pandemic.

**2.19** The NPEC was established in 2006 and its members include representatives of 'first ministers' and health departments, the Australian Local Government Association and emergency service agencies.<sup>37</sup> The NPEC would provide strategic advice and coordination to heads of government in the event of a pandemic (pending the development of any strategic national crisis coordination arrangements). This committee would be chaired by the Secretary of the PM&C. It would operate as a high-level management and recovery group on issues requiring a nationally consistent response and a national approach to communications.

**2.20** The Deputy Secretaries' Interdepartmental Committee on Influenza Pandemic Prevention and Preparedness is made up of Deputy Secretaries of Australian Government departments or their representatives. The committee is supported by the PM&C Pandemic Team and its role is to address the broader aspects of the impact of a pandemic.

**2.21** The Australian Health Protection Committee is a multi-jurisdictional committee with membership from DoHA, the Department of Defence, Emergency Management Australia, the Chief Medical Officer and Chief Health Officers from Australian, State and Territory governments. The Committee has a role in the national coordination of emergency operational activity in response to health-related disasters. It also has oversight of national activities and strengthening national health protection infrastructure and capacity.

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<sup>35</sup> The committee's name was changed from Australian Health Disaster Management Policy Committee in 2005.

<sup>36</sup> Sections 2B, 12, 13(1)(h) and 20B.

<sup>37</sup> Council of Australian Governments—Working Group on Australian Influenza Pandemic Prevention and Preparedness, *National Action Plan for Human Influenza Pandemic*, Department of the Prime Minister and Cabinet, Canberra, 2006, p. 8.

Figure 2.2

Decision-making and communications paths—National Action Plan for Human Influenza Pandemic



Source: National Action Plan for Human Influenza Pandemic.

**2.22** The Committee is supported by three sub-committees, two of which have a role during a pandemic alert. The Communicable Diseases Network Australia coordinates national communicable disease surveillance and outbreak control. The Public Health Laboratories Network shares advice and expertise to enhance the national capacity for laboratory-based detection and surveillance of disease. Figure 2.2 (opposite) captures the key elements of the Australian governance structure for a human influenza pandemic.

### **Australia's governance structure for an emergency animal disease outbreak**

**2.23** The first step in preventing human cases of H5N1, and minimising the risk of the H5N1 avian influenza virus mutating into a form that can transfer from person to person, is to contain animal cases.<sup>38</sup>

**2.24** The agricultural sector has a long history of working cooperatively at all levels of government and with industry to deal with an emergency animal disease outbreak. In 2002, this arrangement was formalised in the Emergency Animal Disease Response Agreement (EADRA). The EADRA sets out the roles and responsibilities of all parties, including financial arrangements. During an emergency animal disease outbreak the National Emergency Animal Disease Management Group has primary responsibility for decisions. The Group is chaired by the Secretary of DAFF and includes the Chief Executive Officers of State and Territory government agricultural departments; and the president (or equivalent) of each of the relevant industry parties affected by the disease outbreak.

### **Legal and ethical issues**

**2.25** The *Quarantine Act 1908* governs human and animal quarantine nationally and is complemented by State and Territory quarantine laws. In addition, State and Territory public health legislation provides direction in health emergencies. Amendments were made in 2003 to address some human quarantine issues following the Severe Acute Respiratory Syndrome (SARS) outbreak overseas. However, as Australia is now faced with new and broader health threats, such as an influenza pandemic, the Australian Government is

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<sup>38</sup> Council of Australian Governments Working Group on Australian Influenza Pandemic Prevention and Preparedness, op. cit., 2006, p. 18.

reviewing quarantine and public health legislation.<sup>39</sup> The 2004–05 budget provided \$1.6 million over three years to develop and introduce new health security legislation. This new legislation will also assist Australia to comply with the new *International Health Regulations*. It will also consider the need for further legal and governance frameworks to deal with these broader health issues.

**2.26** To limit the spread of the virus during an influenza pandemic, a range of quarantine measures may be introduced. Some of these measures may impact on individual human rights. Therefore, the ethics of these decisions need to be considered and addressed. The WHO has a model ethical framework, which is being considered by DoHA and PM&C for suitability to the Australian context.

## Surveillance

### Human

**2.27** Australia has established surveillance systems.<sup>40</sup> In the 2004–05 budget, DoHA received \$10 million over four years to develop a more effective and comprehensive disease surveillance system.<sup>41</sup> The first component of this system, the Health Alert Network (HAN), commenced operation in 2006 and was tested during Exercise Cumpston. The national outbreak management system and improvements to the National Notifiable Diseases Surveillance System are due to be fully implemented by 2008.<sup>42</sup> Existing programs monitor influenza outbreaks and systems are in place to assess the burden of seasonal influenza. During the influenza season, weekly reports are available from the DoHA website. Annual reporting is through the National Influenza Surveillance Scheme and is based on:

- laboratory testing of influenza viruses;

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<sup>39</sup> Department of Health and Ageing, *Federal Budget 2004–05—Biosecurity Measures Fact Sheet* [Internet], 22 September 2004, available from <www.health.gov.au> [accessed 23 July 2007].

<sup>40</sup> Surveillance is the ongoing collection, interpretation and assessment of data to enable intervention strategies to be developed.

<sup>41</sup> Department of Health and Ageing, *Federal Budget 2004–05—Biosecurity Measures Fact Sheet* [Internet], 22 September 2004, available from <www.health.gov.au> [accessed 23 July 2007].

<sup>42</sup> Department of Health and Ageing, *Annual Report 2005–06*, Canberra, 2006, p. 166.

- reports from general practitioners, who are part of the sentinel program<sup>43</sup>; and
- absenteeism data from major national employers.

**2.28** Laboratory tests assess whether the seasonal vaccine is successfully targeting the types of influenza circulating in the population. Australia has a network of laboratories, including three Biosecurity Level Four laboratories.<sup>44</sup> One of these is a WHO reference laboratory that can test for human influenza viruses. Private and public laboratories will also support the testing of influenza viruses if required.

**2.29** DoHA is currently drafting a surveillance annexe to the *Australian Health Management Plan for Pandemic Influenza*. This document will discuss the different strategies for undertaking surveillance before, during and after a pandemic. DoHA anticipates that the annexe will be finalised in mid-2008.

### *Animal*

**2.30** The Australian Animal Health Laboratory (AAHL) is a national centre of excellence in disease diagnosis, research and policy advice in animal health and is a Biosecurity Level Four Laboratory. The AAHL has the capacity to diagnose diseases in animals, including various strains of the avian influenza virus. In addition, routine animal health surveillance results are published in the *Animal Health Surveillance Quarterly Report*, including for avian influenza. The Australian Quarantine and Inspection Service<sup>45</sup> also undertakes surveys for exotic pests and diseases, including avian influenza, through the Northern Australia Quarantine Strategy.

## **Human case investigation and treatment**

### *Investigation*

**2.31** Australia has case investigation<sup>46</sup> and contact management processes. State and Territory public health units have primary responsibility for contact

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<sup>43</sup> The sentinel program is community based surveillance by nominated general practitioners who record influenza-like illnesses and take samples for analysis.

<sup>44</sup> A Biosecurity Level Four laboratory has the highest level of safety and security measures for dealing with hazardous infectious agents.

<sup>45</sup> The Australian Quarantine and Inspection Service is within DAFF.

<sup>46</sup> Case investigation is confirming the diagnosis and documenting the symptoms of a disease. The source of infection and possible contacts are also investigated.

tracing for infectious diseases.<sup>47</sup> Established processes have been supplemented by the *Interim National Pandemic Influenza Clinical Guidelines* and include advice to general practitioners on exposure history and contact tracing. All states and territories tested case investigation and contact tracing during Exercise Cumpston.

**2.32** During an influenza pandemic alert, the Communicable Disease Network Australia will, after receiving advice from the WHO, provide a list of symptoms to assist medical practitioners to diagnose individual cases of influenza, called a case definition. Trigger points in Australia's pandemic alert regime will also be initiated so that suspected cases can be appropriately managed.

### *Clinical management*

**2.33** To ensure the effective and safe treatment of (suspected) human cases of a new influenza strain, it is important to have clinical guidelines, supplies available and staff appropriately trained in infection control measures. Australia has established infection control procedures and developed guidelines for infection control in an influenza pandemic. The *Australian Health Management Plan for Pandemic Influenza* and its annexes outline policy and procedures for infection control. Equipment is available through the Stockpile to assist in infection control. Social distancing<sup>48</sup> and home quarantine are other non-medical measures proposed to slow down or stop the spread of disease. The use of Personal Protective Equipment (PPE) and infection control measures were tested during Exercise Cumpston.

**2.34** The *Interim Infection Control Guidelines for Pandemic Influenza in Healthcare and Community Settings* have been published on DoHA's website. DoHA has also prepared fact sheets and posters to raise hygiene awareness. In addition to the advice provided by WHO, expertise on clinical matters is also available through the Australian Health Protection Committee, the Chief Medical Officer and the Chief Health Officers.

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<sup>47</sup> Contact tracing is where persons, who may have come in contact with someone with an infectious disease, are contacted and either treated for or counselled about their possible exposure.

<sup>48</sup> Social distancing measures are designed to reduce the transmission of disease by suspending public gatherings, which may include closing schools and theatres. Other measures that could be used include the requirement to wear surgical masks when using public transport.



## Capacity of healthcare systems

**2.35** The State and Territory healthcare systems are working at near or full capacity and an influenza pandemic would put increased demands on these systems. For example, the 2007 influenza season has been severe, with fatalities reported and year-to-date notifications at 5908 compared to 2946 for the whole of 2006.<sup>49</sup> Most states and territories have experienced an influx of influenza patients, placing increased pressure on healthcare systems.

**2.36** DoHA (on behalf of the Australian Health Protection Committee) conducted two surveys (capability audits), in 2003 and 2005, to assess the capability of Australia's health system to cope with a major health emergency. This information is provided by the states and territories on a confidential basis.<sup>50</sup> The 2003 survey provided baseline information on emergency management governance structures and plans and response and hospital capability. The 2005 survey built on the previous survey and provided a more current and detailed 'snapshot' of Australia's public health disaster response capability and capacity.<sup>51</sup> Underpinning this survey was the concept of medical surge.<sup>52</sup> Many factors will influence medical surge capacity, including facility staffing, daily occupancy rates, seasonal trends and elective surgery numbers.

**2.37** The Australian Health Protection Committee, which includes the Chief Medical Officer and Chief Health Officers from each State and Territory, uses this information to assess, monitor and improve national surge capacity and capability. These results also inform contingency planning, highlight areas where further capacity should be investigated and identify equipment and staff needed to support additional capacity. For example, DoHA has purchased ventilators and negative pressure units for the healthcare system based on this information. During a health emergency, the Committee will coordinate resources to maximise capacity and capability.

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<sup>49</sup> Department of Health and Ageing, *Australian Influenza Report—week ending 18 August 2007*, DoHA, [Internet], 2007, available from <[www.health.gov.au](http://www.health.gov.au)> [accessed 30 August 2007].

<sup>50</sup> In November 2006, the Auditor-General of New South Wales completed an audit of *Major Infectious Disease Outbreaks: Readiness to Respond NSW Health*. Recommendations were made to: strengthen organisational arrangements; develop systematic risk assessment processes; and assess the need for improved information systems and surge capacity.

<sup>51</sup> Surge capacity refers to the ability of the health sector to respond to an increased number of patients. Surge capability refers to the ability to manage unusual or highly specialised medical needs.

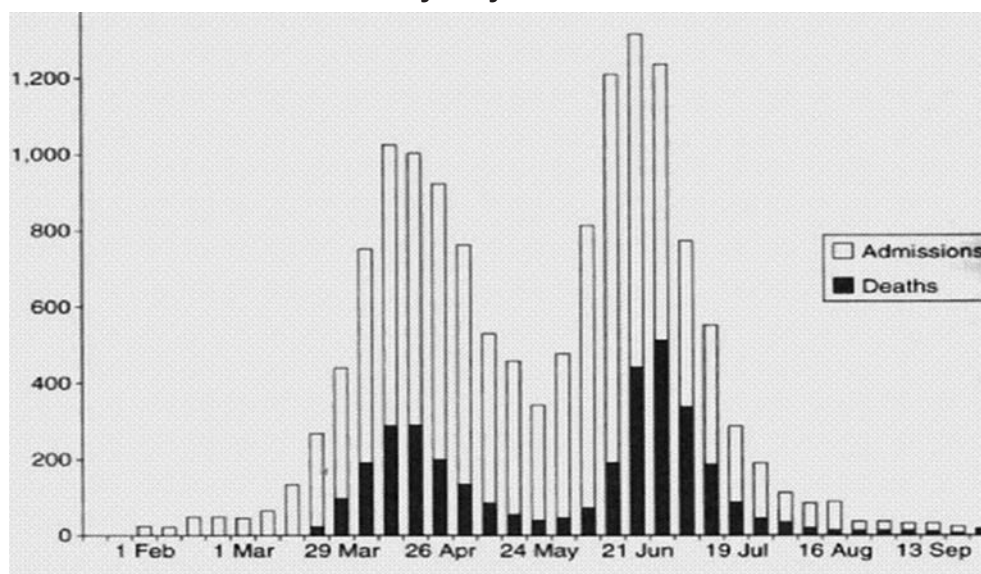
<sup>52</sup> Medical surge refers to the ability of the health sector to adequately obtain, deploy and sustain additional resources, including equipment, beds and personnel during emergency periods of heightened demand.

**2.38** To provide an ongoing assessment of the capability of Australia's healthcare systems, DoHA advised that it intends undertaking these surveys every two years. It is also consulting with State and Territory Health Departments to refine definitions and to improve the consistency of information and quality of data in future surveys.

**2.39** Unlike a mass casualty incident that may present a large number of victims who need immediate and sustained intensive care, the initial demand for hospital services following an influenza pandemic being declared may build over a period of four to six weeks. This window of time will allow some period of adjustment for the healthcare systems to address the pandemic situation. The data from the 1919 influenza pandemic in Sydney illustrates this trend in cases, as shown in Figure 2.3.

**Figure 2.3**

**Pandemic influenza cases in Sydney 1919**



Source: Department of Health and Ageing.

**2.40** The *Australian Health Management Plan for Pandemic Influenza* outlines a number of overlapping measures to minimise the spread of disease and to reduce the impact on the healthcare system. 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 influenza patients and influenza assessment centres; and
- possible restrictions on movement within Australia.

## **Preventing the spread of human influenza in the community**

### *Non-medical measures*

**2.41** Australia has developed strategies to limit the spread of the disease in the community. Communication material has been prepared for immediate use in the lead up to, and during, a pandemic. Infection control procedures will also be used. The use of measures under the *Quarantine Act 1908*, gives the Minister for Health and Ageing the power to quarantine suspected and actual cases.

**2.42** Planning for an influenza pandemic included each Australian Government department preparing its own pandemic plan as part of business continuity planning. Private businesses have also been engaged through the *Business Continuity Guide for Australian Businesses* on ways to prepare, particularly if staff may be prevented from attending work due to quarantine restrictions or the need to care for children if schools are closed during an alert.

**2.43** The border may be the first place where the effects of a pandemic alert are noticed. Travel restrictions may be imposed based on the nature of the threat and procedures put in place similar to those used during the SARS outbreak. Depending on the nature and seriousness of the pandemic alert, thermal scanners will be deployed in airports to screen for elevated temperatures in incoming travellers and health declaration cards will be used. Airlines will be required to undertake 'positive pratique', where captains must certify the health of all passengers before landing.

### *Medical measures*

**2.44** Australia has a seasonal influenza vaccine program and the means to undertake mass vaccinations. DoHA has also entered into contracts with two suppliers to develop a pandemic vaccine, when the specific pandemic strain has been identified. An initial contract has been signed for the supply of a small stockpile of pre-pandemic H5N1 vaccine, which would be considered for use in the event of human-to-human transition of a H5N1 variant. DoHA

anticipates that this vaccine will provide some protection to healthcare, border and essential service workers until the specific pandemic strain has been identified and a vaccine produced. Current estimates are that this process could take four to six months.

**2.45** Although there are logistical issues with manufacturing large doses of vaccine in a short timeframe, Australia has onshore production facilities and does not have to rely on an overseas supply. Equipment for administering the vaccine has also been purchased for the Stockpile and is available to be deployed as required.

**2.46** The *Australia Health Management Plan for Pandemic Influenza* outlines the policy for antiviral drug use. This policy is based on exposure or potential exposure to the influenza pandemic virus. Australia has been stockpiling antiviral drugs since 2003 and has one of the highest per capita stockpiles of antiviral drugs in the world.<sup>53</sup> According to the Minister for Health and Ageing, the current Stockpile is sufficient for nearly 44 per cent of the population.<sup>54</sup> This figure does not include antiviral drug stockpiles held by the State and Territory governments or by private companies.

## **Preventing the spread of avian influenza in birds**

**2.47** Australia has well-established arrangements for dealing with an avian influenza outbreak. According to the AUSVETPLAN, in most cases, an eradication policy will be employed. This would involve:

- quarantine and movement controls;
- the slaughter and disposal of infected and exposed animals;
- decontamination of infected premises;
- surveillance of susceptible animals; and
- restriction of the activities of certain enterprises.<sup>55</sup>



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<sup>53</sup> The National Medical Stockpile is discussed in more detail in Chapters Five and Six.

<sup>54</sup> Minister for Health and Ageing, *Government adds Relenza to national medicines stockpile*, Media Release, ABB168/05, 16 December 2005.

<sup>55</sup> Primary Industries Ministerial Council, *AUSVETPLAN Summary Document*, Edition 3.0, AHA, Canberra, 2002, p. 1.

As the avian influenza virus is a potential threat to the health of humans, persons in close contact with infected birds would be provided with appropriate preventative measures such as PPE and medication. The plans provide for their health status to be monitored for any signs of influenza-like illness.<sup>56</sup>

## Maintaining essential services

**2.48** Contingency planning recognises the potential demand on healthcare and other services during a pandemic, either through the disease itself or the social distancing measures that would require staff to stay at home. The National Action Plan and the *Commonwealth Government Action Plan for Influenza Pandemic* also address other essential services and support of the population during and after a pandemic. These plans include the impact on essential services, such as communications, transport and the food chain. It is also recognised that the social and economic consequences of a pandemic could require monitoring of those in home quarantine.

## Research and evaluation

**2.49** Australia is contributing to the global need for knowledge, particularly if a pandemic was to occur. As a signatory to the *International Health Regulations*, Australia must provide information to the WHO on disease outbreaks. The *Australian Health Management Plan for Pandemic Influenza* also has provision for a study on the use of antiviral drugs. In addition, Australia has provided funding for research. For example, \$7.5 million has been provided to the National Health and Medical Research Council to undertake urgent research into the potential for an avian influenza-induced pandemic. DoHA is also proposing a strategy to examine the effectiveness of the pandemic vaccine and to monitor any adverse effects. On the animal health side, the AAHL provides assistance in analysing the H5N1 virus.

## Implementation, testing and revision of national plans

**2.50** The WHO emphasises that a pandemic plan needs to remain a dynamic document that is widely known, even several years after publication. This can only be achieved if the plan is tested and revised regularly.

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<sup>56</sup> Primary Industries Ministerial Council, *AUSVETPLAN Avian Influenza Disease Strategy*, Version 3.0, AHA, Canberra, 2006, pp. 42, 81.

**2.51** The testing of emergency response arrangements for animal disease outbreaks has been occurring in the agricultural sector for many years. More recently, Exercise Eleusis (November 2005) tested Australia's response to a simulated outbreak of avian influenza in domestic poultry. This national exercise was conducted in partnership between the Australian, State and Territory governments and industry. The exercise evaluation report provided recommendations to improve Australia's response arrangements.<sup>57</sup>

**2.52** Exercise Cumpston, in October 2006, was the first large scale test of the *Australian Health Management Plan for Pandemic Influenza* and aspects of the National Action Plan. It also tested State and Territory pandemic plans to varying degrees.<sup>58</sup> Although the health sector does not have a history of undertaking national exercises to the extent that defence, counter terrorism and the agricultural sectors do, the exercise laid the groundwork for further testing to be undertaken. DoHA has included a program of future exercises in the Exercise Cumpston Implementation Plan. However, the extent of this program will depend on the level of funding provided by the Australian Government.

**2.53** As part of the ongoing review of Australia's contingency arrangements, PM&C advised that the key areas of focus for the Pandemic Team over the next 12 months will be:

- its continued whole of government policy coordination role to address policy and capability gaps in pandemic preparedness;
- a series of national desktop exercises commencing in 2007–08 to further test national preparedness for an influenza pandemic, as agreed by COAG; and
- the development of a national pandemic crisis public communications capability.

**2.54** Also, PM&C and the Attorney-General's Department are currently leading an interdepartmental review of the Australian Government's crisis governance arrangements. This review is expected to be completed by the end of 2007.

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<sup>57</sup> The implementation status of these recommendations is discussed in Chapter Four.

<sup>58</sup> Exercise Cumpston is discussed in detail in Chapter Three.



## International comparison

**2.55** Australia's development and refinement of its preparedness and response arrangements for influenza pandemic are consistent with global efforts. The ANAO compared the preparedness and response arrangements developed by the United Kingdom, Singapore, the United States of America, Canada and New Zealand.

**2.56** Similar to Australia, these countries are preparing for an influenza pandemic by developing and refining contingency plans, building antiviral drug stockpiles and purchasing equipment. Per capita stockpiles range from 25 per cent in the United Kingdom and the United States of America to 30 per cent in New Zealand.<sup>59</sup> Most countries have also entered into contracts for pre-pandemic vaccines and vaccine production for use during a pandemic. All countries have undertaken exercises to test response arrangements to both avian influenza in poultry (except New Zealand) and human influenza pandemic. The World Bank has been providing funds, through the Global Program for Avian Influenza, to less developed countries to combat avian influenza and to prepare for a possible human influenza pandemic.

## Conclusion

**2.57** Australia has addressed both minimal and desirable elements of the WHO planning framework. Considerable planning and action has taken place over the last three years. Key plans were published during 2006, which address preparedness and response to an influenza pandemic across all sectors. This framework will also support other major infectious disease outbreaks. PM&C coordinates the broader whole of government planning and preparedness agenda to ensure it encompasses the social and economic aspects of an influenza pandemic. It is supported by key committees with specific roles and responsibilities.

**2.58** Australia has a good base from which to respond to an influenza pandemic in the health sector due to an established surveillance program and onshore laboratory diagnostic capability. As well, infection control measures and guidance on clinical management practices that target the containment and management of pandemic influenza cases have been developed. Australia also has one of the highest per capita stockpiles of antiviral drugs in the world.

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<sup>59</sup> The Minister for Health and Ageing has stated that Australia's National Medical Stockpile has sufficient antiviral drugs to cover 44 per cent of the population.

**2.59** In the event of a pandemic, the State and Territory healthcare system will have some limited time to adjust to the increased demand for services, using a range of strategies outlined in the *Australian Health Management Plan for Pandemic Influenza*. The Australian Health Protection Committee will coordinate resources to maximise capacity and capability across Australia's the health system.

**2.60** The agricultural sector has a long history of managing emergency animal disease outbreaks and the government-industry partnerships in this sector are tested regularly. The AUSVETPLAN is a key component of Australia's response to emergency animal disease outbreaks.

**2.61** The Australian Government has established a sound contingency framework to respond to an influenza pandemic and an avian influenza outbreak. These arrangements and plans have been developed in conjunction with, and are supported by, the State and Territory Governments. They are also consistent with the planning arrangements of other countries. Although elements of Australia's plans have been tested in simulation exercises, preparedness arrangements need to be regularly revised so that they remain relevant and emergency response actions well-practised to ensure they are coordinated and operate effectively in emergency situations.



### 3. Testing Influenza Pandemic Preparedness and Response Arrangements

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*This chapter discusses Exercise Cumpston, which tested Australia's response arrangements for an influenza pandemic. This chapter also outlines the arrangements for evaluating the exercise.*

#### Background and context

**3.1** On 30 May 2006, the Minister for Health and Ageing announced that Australia's health and emergency services would participate in the largest health simulation exercise held in Australia.<sup>60</sup> Exercise Cumpston was to test Australia's preparedness and response for an influenza pandemic. The exercise ran from 16 to 19 October 2006 and all states and territories were involved in the desktop exercise component.

**3.2** The exercise attracted significant interest from international and domestic stakeholders. Fifty observers included representatives of:

- international agencies, such as the WHO, the Asia Pacific Economic Cooperation (APEC), the United Nations' System Coordinator for Influenza and other interested countries; and
- national organisations, including the Australian Divisions of General Practice, the Australian Medical Association, the Pharmacy Guild of Australia and the Australian Local Government Association.

The ANAO observed Exercise Cumpston and provided comments to the evaluation team.

#### Planning for Exercise Cumpston

**3.3** DoHA had eight months to prepare for Exercise Cumpston. It established a Pandemic Influenza Exercise Taskforce within the Office of Health Protection, hired an experienced Exercise Director and seconded staff from other agencies with technical and logistical expertise. A steering

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<sup>60</sup> Media Release, Tony Abbott MHR, ABB074/06, 30 May 2006, *Australian health authorities to test pandemic responses*.

committee had oversight of the project and provided direction to the taskforce.<sup>61</sup>

**3.4** Exercise Cumpston was designed to test and validate the capability of the Australian health system to prevent, detect and respond to a pandemic in accordance with the *Australian Health Management Plan for Pandemic Influenza*.<sup>62</sup> The exercise also tested governance aspects of the National Action Plan and State and Territory pandemic plans.

**3.5** The project plan outlined the following six objectives, which were directly linked to recommended response actions in the *Australian Health Management Plan for Pandemic Influenza*:

- health planning and coordination arrangements within, and between, all jurisdictions;
- influenza pandemic surveillance arrangements;
- public health measures;
- health care and emergency response arrangements;
- public communication strategies; and
- cross-portfolio and cross-jurisdictional decision making and coordination.

**3.6** The total budget for the exercise was \$4.1 million and involved over 1000 participants and numerous government organisations.<sup>63</sup> Participants included representatives from: Australian Government departments; health and emergency management departments from each State and Territory; non-government and industry organisations; and international and Australian observers.

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<sup>61</sup> The Steering Committee included Deputy Chief Executive Officers from Australian Government operational and coordination agencies and the Queensland and New South Wales governments.

<sup>62</sup> Department of Health and Ageing, *Exercise Cumpston 06 Report, Draft*, Canberra, 2007, p. 5.

<sup>63</sup> The exercise involved over 30 facilitators, 70 evaluators and 800 participants from Australian, State and Territory government agencies that would be required to respond to a real pandemic situation. Two hundred actors were hired to play the roles of air passengers, relatives and friends at Brisbane International Airport, concerned community members at the Influenza Assessment Centre and media journalists.

## Preliminary activities

**3.7** As part of the exercise preparation, workshops (preliminary activities) were held between April and August 2006 to discuss discrete topics. These activities covered: border control; inter and intra-government decision-making; deployment of the Stockpile; the national health emergency response; and crisis communications. These activities are outlined in more detail in Appendix 3.

**3.8** Approximately 150 issues were raised during the preliminary activities. DoHA advised that not all the issues could be addressed before the main exercise because of the compressed timeframe. To ensure that all relevant preliminary issues have not been overlooked, or remain unaddressed, it would be beneficial for DoHA to record the issue, the action taken and the officer or agency responsible for following up and finalising the outstanding issue.

## Main activity

**3.9** Exercise Cumpston simulated the conditions necessary to trigger overseas pandemic alert levels three, four and five (human avian influenza outbreaks with possible human-to-human transmission) and, eventually, pandemic phase six (a global influenza pandemic). An influenza pandemic was simulated across all states and territories, which involved three stages:

- lead-in events to set the scene and stimulate action to prepare Australia for a national response;
- 'real time' events, which tested border control at an international airport and containment measures; and
- a time jump of three months to enable longer-term effects of a pandemic to be assessed.

## Lead-in events

**3.10** In the weeks prior to the main exercise, the scenario included cases of H5N1 infection in numerous people in an overseas country. The WHO formally confirmed these cases as likely human-to-human transmission. These events required a whole of government response that involved COAG, Cabinet, Australian Government departments and various State, Territory and regional health emergency operation centres. Lead-in activities relating to this part of the scenario required a number of decisions by national committees,

such as the Australian Health Protection Committee (Figure 3.1). The decision was also made to activate the NIR<sup>64</sup> to coordinate a national health response.

**Figure 3.1**

**Australian Health Protection Committee meeting during the simulation**



Source: Department of Health and Ageing.

## **Containment phase**

**3.11** The ‘real time’ main activity simulated an influenza pandemic within Australia’s borders and involved a flight arriving at an international airport during a pandemic alert with suspected sick passengers on board. This activity required decision-making across all levels of Government to determine Australia’s border protection response and subsequent measures to contain the spread of the virus. All jurisdictions participated in the exercise, with some states and territories conducting separate simulation exercises in parallel. The following operational activities were conducted in Brisbane:

- Brisbane International Airport, where border control measures were tested, including the use of thermal scanners (Figure 3.2) and the deployment of Queensland Health border nurses;
- Royal Brisbane and Women’s Hospital, where arrangements to receive and manage a potentially large number of infectious patients, including admission procedures and infection control, were assessed;

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<sup>64</sup> The NIR is a secure area within DoHA where responses to health emergencies are coordinated.

- a general practice, where isolation and infection control procedures were tested; and
- Coopers Plains Laboratory, where potential influenza samples, provided by local health units, influenza assessment centres, hospitals and general practitioners, were assessed.

**Figure 3.2**

**Thermal scanners in use at Brisbane Airport as part of the simulation**



Source: Department of Health and Ageing.

**3.12** The exercise also tested the ability of the NIR (Figure 3.3) to provide a coordinated response to the influenza pandemic at the national level. This included, among other things, the NIR's capacity to: report on cases and contact tracing by the states and territories to monitor the spread of the virus nationally; provide overseas situational analysis; and provide high-level guidance to relevant authorities to coordinate an operational response.

**Figure 3.3**

**The National Incident Room at the Department of Health and Ageing, Canberra**



Source: Department of Health and Ageing.

**3.13** The operational capability of Australia's containment measures were also tested with the establishment of an influenza assessment centre. The centre assessed: reception; triage and treatment, including distribution of antiviral drugs and PPE to those presenting possible symptoms; and provided advice to concerned members of the public.

### **Maintenance phase**

**3.14** To enable the longer-term effects of a pandemic to be assessed, a time jump of three months was simulated. For this phase there was a significantly higher level of infection and mortality, with the virus spreading within all states and territories. Stocks of antiviral drugs and PPE were depleted and health and emergency services were experiencing difficulty in coping with the increased demand.



## Evaluating the exercise

**3.15** DoHA developed an evaluation strategy to assess the exercise, to comment on the lessons learned and the effectiveness of communications during the exercise. Its aim was to improve the planning, management and operation of pandemic response arrangements within and across jurisdictions. The evaluation framework had six objectives, performance indicators for each objective and checklists to collect and record evidence against these indicators.<sup>65</sup>

**3.16** The evaluation team included independent observers and those with technical knowledge. For example, the Defence Science and Technology Organisation (DSTO) provided a team of ten evaluators for the main activity. Evaluators observed all exercise activities. However, in the NIR, DSTO evaluators were not given access to the Health Alert Network, a secure emergency response information-sharing network. This meant that they were not able to observe the information being provided to the NIR and states and territories during the exercise. In future simulations, the ANAO suggests that evaluators be given complete access to all areas and information associated with the exercise unless there are compelling reasons to restrict access. Observers also contributed to the evaluation in structured debriefing sessions and by providing written reports. The observer program was also evaluated to assess its usefulness.

## Evaluation report

**3.17** A national debrief was held to discuss the outcomes and conduct of the exercise with representatives from all State and Territory participants attending. This debrief provided the basis for the evaluation report, which outlined:

- details of Australia's current response arrangements to an influenza pandemic;
- exercise outcomes and recommendations to improve Australia's response arrangements; and
- the lessons learned that will assist DoHA and others when conducting future exercises.

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<sup>65</sup> The checklists were developed for each type of activity or location. For example, separate checklists were developed for airport arrivals, the influenza assessment centre, home quarantine and public communications.

**3.18** The report captured the outcomes and lessons learned from Exercise Cumpston at a high level. DoHA advised that the operational issues discussed at the debriefings will be used by participating jurisdictions, departments, organisations and committees to refine their own preparedness plans and procedures.

**3.19** The report made twelve recommendations relating to: communication; systems and strategies; improvements in planning and policies; the updating of plans; and the need for further testing of these plans. The recommendations are outlined in detail in Appendix 4. DoHA developed an implementation plan that has been approved by the Australian Health Protection Committee. The plan sets out, among other things, the action to be taken and the lead agency but does not include a completion date for finalising the recommendations.

**3.20** Recommendation 12 of the evaluation report includes a continuing program of pandemic preparedness exercises. The ANAO suggests that, when implementing this recommendation, consideration be given to conducting smaller exercises to test discrete elements of the Australian health system, building on the outcomes of Exercise Cumpston.

## Conclusion

**3.21** DoHA coordinated Exercise Cumpston in a relatively short timeframe. The simulation exercise effectively tested elements of the Australian health system's response to an influenza pandemic. The Australian Health Management Plan for Pandemic Influenza and governance aspects of the National Action Plan were also tested. The evaluation of the exercise was comprehensive and improvements recommended. DoHA has developed a plan for implementing these recommendations. To help ensure that the recommendations are implemented in a timely manner, timeframes for completion should be included in the implementation plan.



## 4. Testing Avian Influenza Outbreak Response Arrangements

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*This chapter discusses Exercise Eleusis, the simulation exercise that tested Australia's response arrangements to an emergency disease outbreak of avian influenza in poultry. The implementation of the recommendations flowing from the exercise is also discussed.*

### Background and context

**4.1** Australia has established systems to manage emergency animal disease outbreaks. The agriculture emergency response system is based on a partnership between Australian, State and Territory governments and industry that has matured over many decades through responses to a number of disease outbreaks, including avian influenza. This partnership was formalised in 2002 through the EADRA. The agreement includes a framework for decision-making and cost-sharing during disease outbreaks. It also imposes on the signatories a requirement to maintain a level of preparedness for emergencies through the maintenance of biosecurity systems, trained personnel and associated infrastructure.

**4.2** Since the 1980s, Australia has developed a set of guiding disease control strategies and procedures that are documented in the AUSVETPLAN. These strategies are designed to support the decision-making process and operations at national, State/Territory and local levels. DAFF is responsible for leading the national response to an animal disease emergency. Individual states and territories have prime statutory responsibility for ensuring that outbreaks of diseases, such as avian influenza, are adequately managed and resolved within their own State or Territory.<sup>66</sup>

### Exercise Eleusis

**4.3** Exercise Eleusis was held between 29 November and 1 December 2005. Its aim was to evaluate Australia's capability, across industry and government, to manage an outbreak of avian influenza. This followed a year of preparatory exercises and workshops. Industry, agriculture, health and supporting

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<sup>66</sup> Department of Agriculture, Fisheries and Forestry, *Exercise Eleusis '05 Evaluation Report-Key Findings*, Canberra, 2006, p. 1.

agencies in all jurisdictions took part.<sup>67</sup> Exercise Eleusis tested and built on the improvements implemented following Exercise Minotaur, which was conducted in September 2002. Exercise Minotaur assessed Australia's ability to manage a foot and mouth disease outbreak.

**4.4** The objectives of Exercise Eleusis were to test:

- the effective integration of national emergency zoonosis<sup>68</sup> arrangements between industry and agricultural and health agencies at the Australian, State and Territory government levels;
- public communication; and
- disease control policies and strategies.

## **Exercise Management**

**4.5** An exercise steering committee, coordinated by DAFF, was established to specify the objectives and scope of the exercise and to oversee its development, facilitation and assessment. This committee comprised senior representatives from relevant government agencies and the poultry industry. A government and industry working group reported to the steering committee and completed detailed design and facilitation of the exercise. A small, independent team with expertise in agriculture, medicine, the poultry industry and emergency management validated the exercise at its concept and final draft stages to ensure it was designed to adequately test the exercise objectives. The team then acted as observers during the exercise and wrote the final report.<sup>69</sup>

**4.6** Nationwide, approximately 80 exercise facilitators and evaluators managed the input of exercise messages as well as the interaction between players and the exercise managers. There were also a number of domestic and international observers from the agriculture, health, industry and emergency management sectors at locations throughout the exercise. These observers also provided independent assessments of Australia's ability to manage emergency zoonotic disease outbreaks.

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<sup>67</sup> Over 1000 people nationally participated (directly and indirectly) in the exercise and its precursor activities.

<sup>68</sup> Zoonosis is any infectious disease that may be transmitted from other animals, both wild and domestic, to humans.

<sup>69</sup> Department of Agriculture, Fisheries and Forestry, *Exercise Eleusis '05 Evaluation Report-Analytical Background*, Canberra, 2006, pp. 6–7.

## Exercise scenario

4.7 During the exercise, three States had a simulated outbreak of H5N1 avian influenza in chickens and, as part of the scenario, some human avian influenza cases were simulated. All State and Territory governments were required to undertake human health and animal disease control activities and participate in national decision-making. There was activation of industry and whole of government emergency arrangements and of national, State and Territory emergency operation centres. Human and animal health field activities and communication with the media, the public and overseas organisations were simulated.<sup>70</sup>

## Precursor activities

4.8 Precursor activities (outlined in Appendix 5) focussed on specific response areas in order to investigate levels of preparedness and ensure specific response strategies were in place. The key activities included:

- briefings for all jurisdictions and the poultry industries;
- workshops that focussed on agriculture and health integration in an avian influenza outbreak;
  - public communications;
  - activation of the Rapid Response Team<sup>71</sup>;
  - national resource management; and
  - activation of national agriculture committee meetings.

## Exercise outcomes

4.9 Observers and participants agreed that the exercise was realistic, well designed and managed, with outcomes successfully meeting the exercise objectives. The evaluation report stated that the exercise demonstrated that Australia's response arrangements were robust and effective in dealing with significant animal health emergencies, such as avian influenza. Major outcomes included:

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<sup>70</sup> Department of Agriculture, Fisheries and Forestry, *Exercise Eleusis '05 Evaluation Report-Key Findings*, Canberra, 2006, p. 3.

<sup>71</sup> The Rapid Response Team is a team specifically trained in emergency animal disease management drawn from across Australia that is deployable within 24-hours to assist jurisdictions during an emergency animal disease response.

- the value and success of existing preparedness in Australia;
- that the key to a successful response is effective national coordination; and
- policy makers and responders have a high level of awareness of avian influenza and its implications.

**4.10** The recommendations flowing from the exercise relate to the continuous improvement of existing arrangements for responding to an avian influenza outbreak and other emergency animal disease outbreaks. Potential improvements (recommendations) include the need to:

- continue building the skills base of personnel;
- have clear national guidelines on occupational health and safety for people exposed to infected animals in an avian influenza outbreak;
- formalise linkages between agriculture and health agencies;
- scale up resources to satisfy public communication demands;
- use highly effective information technology to manage information generated during a national emergency; and
- continually update disease response strategies.<sup>72</sup>

## Implementation of recommendations

**4.11** The report made 15 recommendations.<sup>73</sup> Although the report did not assign responsibility for implementing these recommendations, DAFF has accepted responsibility or partial responsibility for implementing nine of these recommendations, which are aimed at ensuring:

- exercises remain a priority;
- expertise and information is shared between jurisdictions and industry;
- producers and farmers receive education and information; and
- the processes and resources for the timely updating of the AUSVETPLAN are reviewed.

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<sup>72</sup> Department of Agriculture, Fisheries and Forestry, *Exercise Eleusis '05 Evaluation Report-Key Findings*, Canberra, 2006, p. 1.

<sup>73</sup> Recommendation 1 does not require implementation action and Recommendation 15 is beyond DAFF's immediate control.

**4.12** Four recommendations require a national response and relate to:

- the governance of national health and agriculture committees;
- confirming the trigger points for initiating a whole of government response;
- establishing a formal procedure to mobilise communications staff to assist in an emergency response; and
- ensuring jurisdictions have sufficient trained staff available for a prolonged emergency response.

**4.13** The ANAO assessed the implementation status of these recommendations, particularly those relevant to DAFF. Appendix 6 outlines the ANAO's assessment of the current status of each recommendation.<sup>74</sup>

**4.14** DAFF has made steady progress in implementing the recommendations for which it has taken responsibility. It has also initiated action to progress the implementation of recommendations that require a national response. Four of the recommendations are fully implemented and another four are substantially completed. DAFF has:

- contributed funding and expertise toward the design, conduct and evaluation of the Rapid Response Team training and exercises;
- programmed further exercises and continued ongoing training;
- trained over 300 public relations officers across Australia and over 200 departmental personnel to participate in emergency response under its *Critical Incident Response Plan*;
- assisted AHA to provide industry liaison officer training to more than 300 people, including 35 in the poultry industry;
- through the Primary Industry Health Committee, participated in developing a replacement animal health emergency information system called Biosecurity, Surveillance, Incident Response and Tracing (BioSIRT);
- rolled out a long-term program with State and Territory governments and industry groups to inform producers, bird enthusiasts and others about avian influenza through a public information campaign;

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<sup>74</sup> Responsibility for implementing the recommendations was assigned by the ANAO in consultation with DAFF and DoHA.

- extended the membership of the National Communications Network and made the extranet site accessible so new members, including industry, can be granted access at any time; and
- clarified occupational health and safety issues with the DoHA in the *Interim Health Advice for Poultry Workers*.

## Recommendations to be finalised

**4.15** Areas where the recommendations are yet to be finalised include:

- the role and governance of national agricultural committees;
- confirmation of trigger points for a whole of government response;
- mobilisation of communications officers; and
- reviewing the processes and resources for the timely updating of the AUSVETPLAN.

## National agricultural and health committees

**4.16** Ensuring that the roles of the national agricultural committees are clear and that their terms of reference do not overlap is an important element of crisis management. The *Exercise Eleusis '05 Evaluation Report—Analytical Background* noted a lack of coordination and clear responsibilities between the peak committees in both agriculture and health. This resulted in a duplication of effort, confusion and inefficient use of time that impeded expeditious decision-making.<sup>75</sup>

**4.17** DAFF prepared the terms of reference to review the roles, responsibilities and governance structures of the national agricultural committees in November 2006. However, the review was postponed until July 2007. DoHA advised that a review of its committee structure was undertaken after Exercise Eleusis and that the committee structure will be further refined as a result of Exercise Cumpston.

## Trigger points

**4.18** The need to confirm the trigger points at which the Australian Government assumes the lead role in a national emergency, such as an avian

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<sup>75</sup> Department of Agriculture, Fisheries and Forestry, *Exercise Eleusis '05 Evaluation Report-Analytical Background*, Canberra, 2006, p. 11.

influenza outbreak, was raised during Exercise Eleusis.<sup>76</sup> To address these concerns, DAFF has revised the *Australian Government Agricultural Emergency Plan*. According to this draft plan, DAFF will be responsible for identifying those Australian Government departments affected by the emergency and will consult with PM&C on the membership of a proposed Agricultural Incident Inter-Departmental Committee. Under this model, DAFF would alert DoHA where there are human health implications resulting from an emergency animal disease outbreak, such as avian influenza. The draft plan also links to DAFF's *Critical Incident Response Plan* and an operational communication framework. DAFF advised that the plan is expected to be approved by the Secretary in late 2007.

**4.19** DAFF has also worked with DoHA to develop guidelines for the *Coordination between DAFF and DoHA in Emergency Management*.<sup>77</sup> These guidelines, which have been under negotiation and development for two years, will be finalised by DAFF and DoHA in late 2007.

## **Mobilisation of communications officers**

**4.20** As previously noted, DAFF trained public relations officers and DAFF personnel in emergency response. DAFF has been liaising with PM&C regarding the development of a formal mechanism to mobilise accredited Australian Government communications officers to be deployed during a range of emergencies. PM&C advised that it is considering DAFF's proposals in the context of developing a national pandemic crisis public communications capability.

## **Australian Veterinary Emergency Plan**

**4.21** The AUSVETPLAN is a series of technical response plans that outline Australia's approach to an emergency animal disease outbreak. The plan includes:

- a summary document;
- 30 disease manuals;
- five operational manuals;

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<sup>76</sup> *ibid.*, p. 12.

<sup>77</sup> These arrangements cover preparedness and response aspects of emergency management where both human health and agricultural sectors may be involved.

- nine risk enterprise manuals;
- three management manuals;
- one wild animal response manual;
- an emergency animal disease information system manual; and
- two resource documents.

**4.22** The Exercise Eleusis report recommended that the process and resources necessary for the timely updating of the AUSVETPLAN be reviewed to keep pace with the latest disease, scientific and policy developments. The structure of AUSVETPLAN should also be examined to reduce internal duplication of content and to permit real-time updates.<sup>78</sup>

**4.23** Responsibility for maintaining the AUSVETPLAN transferred to AHA in 2000.<sup>79</sup> DAFF, as the agency responsible for leading the national response to an animal disease emergency and, through its partnership arrangements with AHA, has a vested interest in maintaining the relevance and currency of the plan.

**4.24** The current process for updating the plan is complex, resource intensive and time consuming, as illustrated in Figure 4.1 (opposite). In summary, once priorities for updating the plan are identified by AHA, changes need to be drafted and approved for scientific accuracy and passed through respective industry bodies and high-level committees before being published. New manuals and policy changes must be approved by the Primary Industry Standing Committee, the Primary Industries Ministerial Council and the relevant livestock industries before being adopted.<sup>80</sup> The lengthy approval processes means it could take over twelve months to implement a change to the AUSVETPLAN, depending on the type of variation and any financial implications. AHA is reliant on respective stakeholders to respond in a timely manner to proposed changes.<sup>81</sup>

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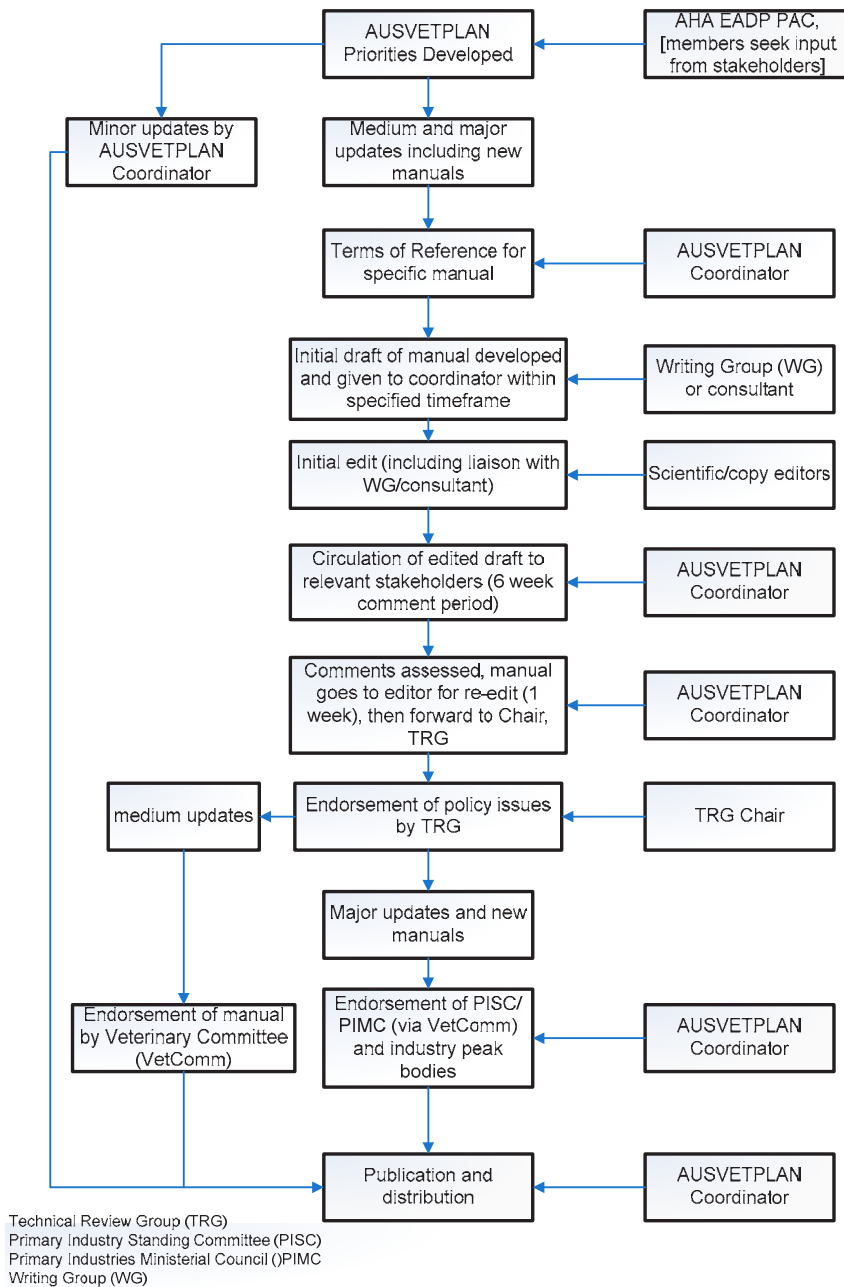
<sup>78</sup> Department of Agriculture, Fisheries and Forestry, *Exercise Eleusis '05 Evaluation Report-Analytical Background*, Canberra, 2006, p. 27.

<sup>79</sup> AHA is a not-for-profit public company established in 1996 to ensure Australia's animal health status delivers a competitive advantage and ongoing market access for livestock products. AHA is funded by subscriptions from members, which include DAFF, State and Territory governments and industry.

<sup>80</sup> Primary Industries Ministerial Council, op. cit., 2002, p. 4.

<sup>81</sup> The technical review group that examines individual response plans includes representatives from DAFF and the State and Territory governments. Their role within the group is in addition to the responsibilities of their full-time positions.



**Figure 4.1****AUSVETPLAN Document development process**

Source: ANAO based on AUSVETPLAN Summary Document.

**4.25** Under the current budget and staffing arrangements, approximately five to six response plans can be reviewed or drafted each year. This means it will take up to 10 years to completely review and update the plan. AHA acknowledged that the process for updating the AUSVETPLAN was lagging but advised that priority was being given to those documents last reviewed prior to 2000. The AUSVETPLAN *Summary Document*, which describes the framework, structure and policy formulation processes and links the individual elements, also needs to be regularly reviewed so that it reflects current disease strategies and national response arrangements.

**4.26** In December 2006, DAFF decided to establish an internal review group to examine issues relating to the AUSVETPLAN. The review group met in March and April 2007 to look at the governance, form and content of the AUSVETPLAN. However, AHA is not part of this review group. The ANAO considers that, as AHA is required to maintain the AUSVETPLAN, it should be involved in reviewing the plan.

## Conclusion

**4.27** Exercise Eleusis was a well-documented and governed simulation exercise. The exercise provided real benefits to participants and continuous improvement opportunities. DAFF has made considerable progress in implementing the recommendations from Exercise Eleusis. However, a number of issues are still outstanding.

**4.28** A review of the high-level agricultural committees was delayed. This means that 18 months will have elapsed before any action is taken to improve the governance structure or clarify the role and responsibility of these committees during an emergency animal disease outbreak, including avian influenza. DAFF has worked with DoHA to develop guidelines for the *Coordination between DAFF and DoHA in Emergency Management*. As the guidelines have been under negotiation and development for two years, the ANAO considers that these guidelines should be finalised without undue delay.

**4.29** DAFF is party to an established and formalised process for initiating State and Territory government and industry response to an emergency animal disease outbreak. DAFF has also drafted a revision to the *Australian Government Agricultural Emergency Plan*. This plan will trigger an Australian Government response where there are human health or broader implications.

**4.30** A DAFF internal review group has recently been established to examine the governance, form and content of the AUSVETPLAN. This review should also address the need to regularly update the AUSVETPLAN *Summary Document*. The ANAO considers that, as AHA is required to maintain the AUSVETPLAN, it should be involved in reviewing the plan.

## Recommendation No.1

**4.31** The ANAO recommends that the Department of Agriculture, Fisheries and Forestry and Animal Health Australia review:

- (a) the resources and processes applied to the maintenance of the AUSVETPLAN so that it accurately reflects the latest disease, scientific and policy developments, in accordance with Recommendation 12 from the Exercise Eleusis Evaluation Report;
- (b) the AUSVETPLAN Summary Document regularly so that it reflects the current disease categories and whole of government emergency response framework; and
- (c) the current form and content of the AUSVETPLAN.

*Department of Agriculture, Fisheries and Forestry response:*

**4.32** Agreed.

**4.33** All partners in preparedness for and response to emergency animal diseases will be involved in the review of AUSVETPLAN. Preparedness and response to emergency animal disease outbreaks such as avian influenza, or for any emergency pest or disease in the agriculture sector, requires a national, collegiate approach. In partnership with State and Territory governments and national industry groups, DAFF strives to maintain Australia's favourable trading status and to protect the well-being of Australian primary production and communities in the face of emerging pest and infectious disease risks.

*Animal Health Australia response:*

**4.34** Agreed.

**4.35** Animal Health Australia looks forward to working with DAFF to expedite a review of the AUSVETPLAN, format, resources and processes.



## 5. Establishing and Managing the National Medical Stockpile

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*This chapter discusses DoHA's establishment of the National Medical Stockpile and ongoing management arrangements.*

### Overview of the Stockpile

**5.1** One of the Australian Government's strategies for safeguarding the country against terrorist threats and to prepare for a health emergency was to create the National Medical Stockpile (the Stockpile). The Stockpile contains vaccines, chemical and radiological antidotes, antibiotics and equipment and is designed to supplement State and Territory healthcare systems.

**5.2** The Stockpile has grown incrementally since it was first established in 2002. In 2003–04, it was expanded to include a capacity to respond to the Severe Acute Respiratory Syndrome (SARS) outbreak overseas. It was further expanded in 2004 following the outbreak of avian influenza in Asia. The Australian Government purchased antiviral drugs and medical equipment as part of its preparation for an influenza pandemic.

**5.3** The Stockpile is administered by DoHA. The Office of Health Protection assumed responsibility for the Stockpile in January 2006.<sup>82</sup> As of 30 June 2007, the value of the Stockpile was \$231.8 million, with \$219.7 million being for the influenza pandemic component. The ANAO examined the establishment of the Stockpile and the ongoing management arrangements for the influenza pandemic component.

### Previous review of the Stockpile

**5.4** In 2004, DoHA initiated an Internal Audit review of the Stockpile. The objective of the review was to provide an independent assessment of the: procurement; management and accounting treatments; controls surrounding the Stockpile; and the related management of information.<sup>83</sup> The review examined procurement and management activities from 2001–02 to 2003–04 and included site visits to five Stockpile locations. It found that, apart from

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<sup>82</sup> Prior to this, the Stockpile was managed by DoHA's Population Health Division.

<sup>83</sup> Department of Health and Ageing, *Review of the National Medicines Stockpile*, Canberra, October 2004, p. 13.

some earlier purchases, the *Commonwealth Procurement Guidelines* were broadly adhered to and procurement plans had been used for the majority of purchases. However, the procurement plans did not include an assessment of risks, as required by the department's procedural rules at the time.

**5.5** The report made 20 recommendations to enhance the management of the Stockpile. The major areas identified for improvement were:

- developing formal risk assessments for both procurement and management;
- security of data and information associated with the Stockpile;
- developing a monitoring and reporting system for management; and
- introducing a more systematic approach to the procurement and Stockpile management processes.

**5.6** DoHA's Audit Committee was advised in December 2005 that all recommendations had been implemented. However, the ANAO found that not all recommendations were fully implemented and these are discussed in this chapter.

## Establishing the Stockpile

**5.7** Following the Government's decision to establish the Stockpile, advice from DoHA and other high-level committees, such as DoHA's Chemical, Biological and Radiological (CBR) Committee, proposed the initial content of the Stockpile.<sup>84</sup> The WHO also gave advice to member countries on the recommended content of stockpiles for an influenza pandemic. DoHA, the CBR Committee and the CMO provided input into further purchases. The content of the Stockpile has been adapted to address changes in perceived threats.

## Implementation planning

**5.8** The 2004 Internal Audit report noted that the establishment of the Stockpile broke 'new ground' for DoHA and commented that:

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<sup>84</sup> The CBR Committee is a cross-portfolio committee that had oversight of the formation of the Stockpile, in particular the counter-terrorist component. Later, the oversight of the influenza component was taken over by the Australian Health Protection Committee.

The establishment of the stockpile was achieved during changing international events and with an immediacy that placed all Departmental stakeholders under considerable pressure to deliver the stockpile within tight timeframes.<sup>85</sup>

**5.9** DoHA did not prepare an implementation strategy for the establishment and ongoing management of the Stockpile. Consequently, the Stockpile was implemented without some of the high-level planning, assessment of risks and management processes that would normally be put in place for policy initiatives.

**5.10** An implementation strategy could have provided a framework for establishing the Stockpile and included:

- identifying and managing risks;
- clearly defining roles and responsibilities;
- resourcing the Stockpile (funding for purchases and ongoing management);
- assessing the arrangements for storing and managing the Stockpile in both the short and longer-term; and
- communicating with stakeholders.

The strategy could also have provided a basis for ongoing monitoring and reporting and given those managing the Stockpile a common understanding of, and the means to, coordinate and strategically manage, the risks and interdependencies associated with the Stockpile.

**5.11** The Stockpile was established through a series of government funding decisions. Decisions to procure now, rather than later, were based on the risk of a lack of availability of drugs and equipment required during an influenza pandemic. The need to provide for an immediate response was the principal driver for the short timeframes in which DoHA was working to obtain items for the Stockpile. For example, a world production shortage of Tamiflu<sup>86</sup> in 2004 meant that DoHA had to compete with other countries for supplies.

**5.12** When procuring items for the Stockpile, DoHA did not adequately assess the ongoing resource requirements to procure and manage the Stockpile. It is clear that, in the early stages of establishing the Stockpile, there

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<sup>85</sup> *ibid.*, p. 4.

<sup>86</sup> Tamiflu is the trade name for oseltamivir, a neuraminidase inhibitor type of antiviral drug, which is one of the drugs recommended for treating Influenza A.

were insufficient staff available to undertake procurement and manage the Stockpile. An assessment of the skills required to undertake complex procurement, or the training required for existing staff, could also have been considered as part of an implementation strategy.<sup>87</sup> Since 2006, the Office of Health Protection has provided resources and addressed the need for training in procurement processes in line with its ongoing management responsibilities.

## **Risk management**

**5.13** The Stockpile is in itself a risk mitigation strategy. The 2004 Internal Audit report noted that risk assessments were absent from procurement plans<sup>88</sup> and recommended that risk assessments be undertaken for each of the sites where the Stockpile is stored. The ANAO noted that a full assessment of the risks of establishing, managing and deploying the Stockpile has not been undertaken.

**5.14** The Stockpile continues to increase in size, and as components are ageing, decisions will be needed in relation to future strategies for the Stockpile. Notwithstanding, DoHA should identify and assess the operational risks associated with storing, managing and deploying the Stockpile, and develop mitigation strategies in a risk management plan. This plan should be regularly reviewed as part of DoHA's ongoing business planning processes and revised, as necessary, when risks change.

**5.15** The department has acknowledged the need to consolidate its risk assessment and risk mitigation strategies into an integrated risk plan for the ongoing management and monitoring of the Stockpile. The department has advised that this work is already underway with completion expected in late 2007.

## **Monitoring and reporting framework**

**5.16** DoHA reports quarterly against key aspects of the Stockpile to the Cabinet Implementation Unit, in PM&C, and provides briefings to the Minister for Health and Ageing. The funding proposals and Government decisions were also monitored, through the CBR Committee and, from 2004 onwards, the Australian Health Protection Committee, which meets every three to four months. These reports generally contain updates on Stockpile content,

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<sup>87</sup> The need for procurement training and skill development was raised in the 2004 Internal Audit report.

<sup>88</sup> This was a requirement of DoHA's procedural rules at the time.



procurement action, the capacity for producing some items in Australia and how delivery will be coordinated. Australia also reports annually to the United Nations on Australia's influenza pandemic preparedness, which includes information about the Stockpile.

### *Internal reporting*

**5.17** The 2004 Internal Audit report recommended regular reports on 'all aspects' of the Stockpile be provided to senior management within DoHA. This recommendation was in response to a lack of comprehensive reporting at the time. The Office of Health Protection Division Plan for 2006–07 included contract signing and delivery dates for Stockpile procurement, but did not include performance indicators. DoHA advised that the plan was not reported against during the year because of a major departmental restructure.

**5.18** Monitoring of the Stockpile has been two dimensional: the progress of procurement action; and whether goods procured have been delivered and are in storage. Developing and implementing a performance management and reporting framework would not only provide for reporting against these indicators but could also include reporting on whether the Stockpile is being efficiently and effectively managed. For example, reporting on Stockpile goods that are due to expire, status of stocktakes, movements of Stockpile goods, relocation of storage sites and issues with storage providers and supply arrangements. By developing more relevant performance indicators, a baseline can be set and performance monitored, providing ongoing assurance about the content, storage, security and management of the Stockpile.

**5.19** The framework could also set out the frequency of reports and provide a management structure for reporting, including tiered reporting to DoHA's executive, senior managers and high-level committees. Ideally, these performance measures and reporting arrangements would be incorporated into DoHA's governance framework, through division and branch operational plans.

### *External reporting*

**5.20** Updates on the DoHA website provide information about the content of the Stockpile and key committees. Presentations and media releases by the Minister and DoHA also provide information about the Australian Government's preparedness strategies for an influenza pandemic, including the status of the Stockpile.

**5.21** There is one performance indicator specific to the Stockpile in DoHA's Portfolio Budget Statements: effective response to requests for antidotes and vaccines.<sup>89</sup> Although DoHA has not deployed any items from the Stockpile, DoHA states in its annual reports that response mechanisms are in place. There are limitations to this indicator as it can only be measured when the Stockpile is deployed in an emergency. More appropriate indicators could be deployment readiness and the outcomes of simulation exercises that test deployment arrangements. The size and content of the Stockpile could also be reported, including comparisons with other countries.

## Conclusion

**5.22** DoHA did not develop a comprehensive implementation strategy for the establishment and ongoing management of the Stockpile. The majority of purchases for the Stockpile were undertaken in short timeframes and initial planning did not appear to envisage the large and complex Stockpile that exists today. Although there has been an ongoing response to perceived risks in the make up of the Stockpile, the risks associated with storing, managing and deploying the Stockpile have not been properly assessed. The ANAO considers these risks should be identified, analysed and mitigation strategies developed and incorporated into a risk management plan for the Stockpile, which should be regularly reviewed.

**5.23** To help ensure that the Stockpile is efficiently and effectively managed, DoHA would also benefit from a performance management and reporting framework. This includes: developing key performance indicators; collecting performance data; and determining internal and external reporting responsibilities, including the frequency and content of management reports.

## Recommendation No.2

**5.24** To improve the management of the National Medical Stockpile, the ANAO recommends that the Department of Health and Ageing incorporate into its governance framework:

- (a) an assessment of the risks associated with the Stockpile in a risk management plan that is periodically reviewed; and
- (b) a performance management and reporting framework for the Stockpile.

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<sup>89</sup> This has been a performance indicator in DoHA's Portfolio Budget Statements since 2003–04. In 2003–04 and 2004–05, there was a second performance indicator: time taken to establish a stockpile.

*Department of Health and Ageing response:*

5.25 Agreed.

5.26 The Department of Health and Ageing accepts this recommendation, noting that it has conducted formal drills to test the deployment of the largest component of the Stockpile, the most recent on 22 and 23 August 2007. The Department also notes that the Stockpile, including holdings and expiry, is monitored through the Department's Chemical, Biological, Radiological and Nuclear (CBRN) Committee, and also through the Australian Health Protection Committee. The Department is in the process of developing a formal, integrated risk management plan for the Stockpile.

## Procurement of the Stockpile

5.27 The *Commonwealth Procurement Guidelines* aim to achieve value for money in Australian Government purchases, based on principles of efficiency, effectiveness and ethics. To ensure intended outcomes are achieved when procuring goods and/or services, it is important that a procurement strategy, including a risk assessment, is developed.<sup>90</sup>

5.28 DoHA did not develop a procurement strategy for the Stockpile. Such a strategy would have provided a framework for procuring and storing the antiviral drugs and medical equipment that make up the Stockpile. For example, it could have included the method of procurement and storage requirements. In addition, consideration could have been given to the ongoing management of the Stockpile and whether DoHA's standard contract provisions were appropriate.

## Method of procurement

5.29 DoHA adopted supply and store arrangements when procuring items for the Stockpile. That is, the goods are supplied and stored by the same provider. It used a competitive tender process for selecting the suppliers of most medical equipment for the Stockpile.<sup>91</sup> Successful suppliers were selected by a panel of three DoHA staff using pre-determined criteria. DoHA did not use a competitive tender process for selecting the suppliers of antiviral drugs.

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<sup>90</sup> Australian National Audit Office, *Implementation of Programme and Policy Initiatives: Better Practice Guide*, Canberra, October 2006, p. 31.

<sup>91</sup> DoHA used a competitive tender process for selecting suppliers of PPE, quarantine caches, equipment for mass administering vaccines, thermal scanners and negative pressure units. DoHA consulted with the State and Territory governments when providing the ventilators required for hospitals.

The two manufacturers of neuraminidase inhibitors<sup>92</sup> were treated as sole suppliers because of the nature of the drugs and constraints around how they are administered.

### *Supply and storage arrangements*

**5.30** As part of the procurement planning process, DoHA would have been expected to consider the costs and benefits of each storage option as well as any associated risks. For example, supply and store arrangements may exclude storage providers who do not supply goods or suppliers who cannot provide storage arrangements. However, DoHA could not provide documentation to support the rationale for this decision. By combining the two elements, DoHA may not have gained the benefits that a separate competitive procurement process for storage arrangements could have offered. Also, four out of the nine suppliers subsequently sub-contracted their storage to a third-party provider. These sub-contract arrangements have resulted in a number of management issues, which are discussed later in this chapter.

### *Procurement of antiviral drugs*

**5.31** The ANAO reviewed nine purchases of antiviral drugs (valued at \$224.5 million) and found that these purchases were appropriately approved.<sup>93</sup> However, a risk assessment was not included for six of those purchases, which was a requirement of DoHA's procedural rules at the time. Also, the ANAO found that DoHA did not obtain approval from the Finance Minister under Regulation 10 of the *Financial Management and Accountability Act 1997* for the storage component of the supply and store contracts, which was required as they committed future funding. DoHA has well-documented procurement procedures and processes. However, these were not always followed when procuring antiviral drugs and equipment for the Stockpile. The Office of Health Protection has reinforced the use of these procedures and included quality assurance processes for all procurements.

## **Storage requirements**

**5.32** As part of planning for the Stockpile, consideration should have been given to the standard of storage required for the Stockpile items. For example, setting minimum standards for pest control and cleaning programs, racking

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<sup>92</sup> Neuraminidase inhibitors are antiviral drugs that reduce virus replication in the infected host.

<sup>93</sup> The ANAO did not examine the first two purchases of antiviral drugs for the Stockpile as these had been covered in the 2004 Internal Audit report.

and security arrangements. These standards could have been used to assess potential storage sites and be incorporated into contract provisions. Storage sites were not assessed as part of the procurement process. Until the ANAO visited the Stockpile sites in February 2007, DoHA had not assessed its storage arrangements. DoHA advised that it is now including site visits as part of its procurement process.

### *Contract arrangements for the supply and storage of the Stockpile*

**5.33** When procuring goods and/or services, it is important that the contract provides a clear statement of contract deliverables that are legally enforceable.<sup>94</sup> DoHA used standard contracts that were evolving over time to procure the antiviral drugs and equipment for the Stockpile and to store these goods. The ANAO examined contracts for antiviral drugs and equipment to the value of \$235.5 million, including storage of \$7.2 million.<sup>95</sup>

**5.34** The contracts clearly specified the goods to be delivered for the Stockpile; however they did not sufficiently specify storage requirements. Each contract states that the contractor must:

- store the goods at the site in accordance with: the storage instructions applicable to the goods; any applicable legislation and regulations; and any standards in force from time to time under the *Therapeutic Goods Act 1989* and relating to the storage of the goods; and
- ensure the site remains at all times suitable for the safe and secure storage of the goods until receipt by the Australian Government.

**5.35** Therapeutic Goods Administration (TGA) regulations cover the manufacture of TGA-registered drugs and medical equipment, however, they do not cover storage. The antiviral drugs are the only items that have storage instructions and these only specify maximum storage temperatures. The antiviral drugs were manufactured by TGA-registered companies, which provides some assurance over the storage of the drugs at these locations. However, DoHA has not specified the minimum storage requirements for other components of the Stockpile. The contracts also require that storage sites remain 'safe and secure' at all times. Although this requirement has not been defined in the contracts, the ANAO found during its site visits that Stockpile storage sites, in general, had appropriate security arrangements.

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<sup>94</sup> *ibid*, pp. 16, 50.

<sup>95</sup> This figure includes purchases that have been contracted for but not yet delivered.

**5.36** The 2004 Internal Audit report included a recommendation that specific storage management plans, detailing the department's storage and security requirements, be incorporated in all contracts. The ANAO examined ten<sup>96</sup> contracts for storage entered into post-2004. Two contracts included a storage management plan but these did not specify minimum storage or security requirements.

**5.37** It is important that DoHA clarify storage and security requirements and inform storage providers of its minimum standards. This would ensure improved storage conditions and a greater consistency in storage arrangements across providers. DoHA advised that it has incorporated more detailed storage and security requirements in its recent requests for tender documents and storage contracts.

#### *Cost and quality of storage*

**5.38** The Stockpile has substantially increased in size over the last three years. To ensure that DoHA's approach to managing the Stockpile is both efficient and effective, it is important that storage costs and quality are regularly reviewed. The ANAO and a DoHA representative visited 11 out of the 12 Stockpile sites in February 2007.<sup>97</sup> Based on observations during site visits, the ANAO categorised the storage facilities into three types: high, medium and basic quality.<sup>98</sup> The ANAO also compared the price charged per pallet/per annum by each storage provider with the quality of the storage facility. The prices charged for storage did not necessarily equate with the quality of the storage being provided. For example, there was a price difference of \$972 per pallet/per annum between two providers of comparative quality for storage of the same items. DoHA is paying an additional \$97 212 per annum to keep 100 pallets with the supplier, rather than using a specialised storage provider.

**5.39** The ANAO considers that there would be benefits in DoHA reviewing its current storage arrangements and the costs of storage to determine that it is achieving the best outcome with regard to quality and price. More importantly, this review will provide assurance that the Stockpile is being appropriately stored. DoHA advised that it is moving away from supply and

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<sup>96</sup> These included nine supply and store contracts and one supply contract.

<sup>97</sup> The ANAO did not visit the Perth storage site.

<sup>98</sup> These categories were based on the level of security, temperature control, pest control, cleanliness and stacking arrangements.

store arrangements for future contracts and will re-examine arrangements for expired and soon-to-be-expired contracts.

## Managing the Stockpile

**5.40** The 2004 Internal Audit report recognised that the Stockpile introduced new elements to DoHA's administrative arrangements, in terms of the operational matters associated with the Stockpile.<sup>99</sup> Developing a sound management framework to underpin the storage, management and deployment of Stockpile items will enable DoHA to address the operational and logistical challenges the Stockpile presents. Such a framework would incorporate systems, processes and procedures for dealing with the multiple issues surrounding the Stockpile. Some of the issues identified by the ANAO include:

- sub-contracting storage arrangements;
- insurance requirements;
- inventory management; and
- monitoring and verification of contract requirements.

### Sub-contracted storage arrangements

**5.41** DoHA's standard contract sets out sub-contracting arrangements that require DoHA's approval.<sup>100</sup> However, DoHA does not have formal processes in place to approve these sub-contracting arrangements. For example, DoHA advised that verbal approval had been given for one sub-contracting storage arrangement. It was not involved in negotiating any sub-contracting arrangements and did not ensure that access provisions or deployment arrangements were included in the sub-contracts.<sup>101</sup> As a general rule, DoHA does not hold sub-contract agreements and, consequently, does not know what terms or provisions have been included.

**5.42** Although DoHA has access to all storage sites, when DoHA gives permission for a sub-contracting agreement, it loses management control over further sub-contracting arrangements as it is not party to the agreement. This

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<sup>99</sup> Department of Health and Ageing, *Review of the National Medicines Stockpile*, Canberra, October 2004, p. 4.

<sup>100</sup> As previously noted, four out of the nine suppliers have sub-contracted storage to a third-party provider.

<sup>101</sup> The ANAO experienced no impediment to obtaining access to sub-contractor premises.



lack of control could be addressed by enhancing the sub-contracting clause in the DoHA standard contract and by DoHA establishing a sub-contracting approval process. Alternatively, DoHA could contract directly with storage providers to strengthen its control over the Stockpile and potentially improve the cost effectiveness of the arrangements. DoHA recently advised that it has commenced processes to contract directly with storage providers.

## Insurance

**5.43** Each storage provider is required by the contract to hold a range of insurances over Stockpile goods, including insurances for loss, theft and property damage. There are also separate insurance arrangements for the transport of Stockpile goods. As a result, there are many insurers underwriting the Stockpile, which may lead to complex claim arrangements. To manage this, DoHA should have management processes in place that document the: insurance arrangements; processes for submitting claims; and contingencies that need to be considered for replacing Stockpile goods in the event of loss, theft or damage.

**5.44** The ANAO noted that DoHA pre-paid five years of storage and insurance coverage for a purchase of 3.5 million courses of an antiviral drug. However, when this storage arrangement was sub-contracted, the sub-contracted storage fee included bailee insurance<sup>102</sup> and was considerably less than what DoHA had pre-paid. DoHA was unable to state whether these drugs were adequately or over-insured. As insurance is a specialised area, DoHA has advised that it is seeking advice on this matter. DoHA also advised that it is currently developing a range of management processes and procedures to cover its insurance arrangements.

## Inventory management

**5.45** Effective inventory management of the Stockpile requires systems and processes to ensure the content and currency of the Stockpile is maintained. An inventory system should record key information on the Stockpile, such as quantity, description, batch numbers, expiry dates and location, and provide a basis for management reporting. DoHA is developing a *NMS Inventory Management Policy*, which will form the basis of the Stockpile's management framework.

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<sup>102</sup> Bailee insurance covers legal liability resulting from damage or loss of property belonging to someone else (bailor) whilst under the bailee's temporary care.



**5.46** A recommendation to develop an inventory system was made in the 2004 Internal Audit report. DoHA currently keeps information relating to the Stockpile in a spreadsheet and on departmental files. This is an interim measure, pending development of an inventory management system. DoHA advised that approval has been given for designing software for this system. Information security was one issue that has delayed the development of the new system.

**5.47** The 2004 Internal Audit report identified the handling of Stockpile information as an issue. The ANAO also observed, in the Office of Health Protection, instances where classified material had been placed on unclassified files. In addition, password and deployment flow charts are given to storage providers who may not have the appropriate security clearances. DoHA advised that it intends reviewing the security classification of Stockpile information to ensure that it is being appropriately handled across the department and by storage providers.

## **Monitoring and verification of contract requirements**

**5.48** The contracts contain provisions that are designed to facilitate DoHA's monitoring of compliance with contract obligations and verification of the supply and storage of Stockpile goods. These include reporting requirements and access provisions.

### *Monitoring*

**5.49** DoHA monitors the supply of Stockpile goods by checking the invoices supplied. In the past, DoHA has not sighted or counted delivery of Stockpile items. An alternative means of verifying whether goods have been supplied is for DoHA to undertake periodic stocktakes. However, where there is a discrepancy, a stocktake would not identify whether goods unaccounted for were due to short supply, over deployment, loss or theft. The first stocktake of the Stockpile was conducted in June 2006.<sup>103</sup>

**5.50** The supply and storage contracts for the Stockpile specify the contractors' reporting requirements. Most reports are required to be provided on a bi-annual basis and must include:

- the quantity of goods stored at the site;
- batch numbers and expiry dates of goods stored at the site; and

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<sup>103</sup> This issue is further discussed in paragraph 5.56.

- a certification of correctness by a senior representative of the provider.

The confirmation of deployment capability and details of key contact staff, are also included in some contracts. DoHA advised that the reason for these requirements only being in some contracts was because of changes in DoHA's procurement staff and the standard contract.

**5.51** The 2004 Internal Audit report stated that these reports are essential for monitoring the medicines in storage and consideration should be given to enhancing the reports.<sup>104</sup> However, prior to the ANAO audit, DoHA had not received, nor requested storage contractors to provide, these reports.

**5.52** The ANAO also noted that the reporting provision does not require the contractor to physically inspect or stocktake the goods prior to certifying they are correct. When reviewing sub-contracting arrangements, the ANAO identified an industry model used in one of the contracts that could be adopted by DoHA to enhance the reporting requirements in its Stockpile contracts. The model clause requires the storage provider to, at least annually, unwrap the pallets, visually inspect the goods, note the condition of the packaging and then rewrap the pallets. DoHA advised that it intends to enforce contract reporting requirements with storage providers and has initiated processes for monitoring compliance with its contracts. In addition, DoHA advised that it will include the industry model clause in all future storage contracts.

**5.53** The 2004 Internal Audit report also recommended that suppliers' storage reports be supplemented with additional information, particularly with respect to any security incidents and changes to the storage and security environment. Only one of the nine supply and store contracts examined by the ANAO entered into post-2005 included this requirement.

### *Verification*

**5.54** The supply and store contracts allow DoHA access to storage premises to conduct site visits and stocktakes. Stocktakes are a means of verifying the quantity, condition and location of Stockpile goods.

**5.55** The 2004 Internal Audit report recommended that all storage sites be visited and an inventory and security audit undertaken. This was to determine the frequency of subsequent site visits, based on a risk assessment of each site.

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<sup>104</sup> *ibid*, p. 37.

In addition, the report provided a checklist for inventory inspections (basic stocktake procedures).

**5.56** DoHA advised that it conducted site visits during 2005. However, these were not documented and did not include a security audit. DoHA advised that information from these visits was used to develop deployment procedures. Site visits are a contract management tool and should be well-planned, with any issues raised during the visits recorded and followed up. As previously noted, DoHA commissioned a stocktake of the Stockpile in June 2006, which provided a count of stock. A further stocktake was undertaken by the ANAO, in conjunction with DoHA, in February 2007. The ANAO found that there were no material errors in the quantity of stock counted.<sup>105</sup> DoHA did not develop its own stocktake procedures until March 2007.

## Conclusion

**5.57** DoHA's primary focus has been on procuring the antiviral drugs and medical equipment for the Stockpile. Consequently, DoHA has not developed an appropriate framework for managing the Stockpile. It is now timely for DoHA to transition from a short term 'supply and store' strategy to a longer-term management strategy.

**5.58** The ongoing management of the Stockpile is reliant on the continued development and implementation of systems, processes and procedures that include monitoring contracts, approving sub-contracting arrangements, making insurance claims, and rotating and replacing Stockpile items. The implementation of the *NMS Inventory Management Policy*, will provide the basis for a sound management framework. There would also be benefits in DoHA reviewing the cost and quality of its storage arrangements.

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<sup>105</sup> Not all stock could be physically counted due to the manner in which it was stored.

## Recommendation No.3

5.59 To improve the management of the National Medical Stockpile, the ANAO recommends that the Department of Health and Ageing develop and implement procedures for:

- maintaining the content of the Stockpile;
- approving sub-contracting arrangements;
- monitoring compliance with supply and storage contracts; and
- undertaking site visits and stocktakes.

*Department of Health and Ageing response:*

5.60 Agreed.

5.61 The Department of Health and Ageing accepts this recommendation, noting that decisions relating to the long-term maintenance of the Stockpile are for Government rather than the Department. Additionally, the Department notes that it has plans underway to direct source storage for the Stockpile and has developed procedures for undertaking site visits and stocktakes, which were used in the 2007 stocktake of the stockpile.

## 6. Deploying the National Medical Stockpile

*This chapter reviews the roles and responsibilities of DoHA and the State and Territory governments in deploying the National Medical Stockpile.*

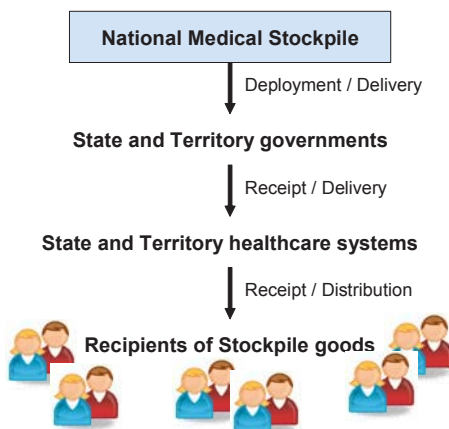
### Background and context

**6.1** The purpose of the Stockpile is to provide essential medicines and equipment in a health emergency. The critical factor in managing the Stockpile is ensuring that items can be deployed to those in need, when and where they need it. Three levels are involved in the delivery of Stockpile items to recipients. These are illustrated in Figure 6.1 and include:

- deployment from the Stockpile and delivery to the State and Territory governments;
- receipt by the State and Territory governments and distribution within their healthcare systems<sup>106</sup>; and
- receipt by the healthcare systems and distribution to recipients.

**Figure 6.1**

#### Australian Stockpile deployment model



Source: ANAO analysis of Department of Health and Ageing data.

<sup>106</sup> For example, hospitals, general practitioners, community-based clinics and pharmacies.

**6.2** In an influenza pandemic, DoHA aims to deploy goods from the Stockpile within six hours and deliver them to State and Territory governments within 24 hours of a request being received. DoHA's contracts with storage providers include provisions that specify deployment timeframes and require emergency contact details to be kept up to date. Deployment arrangements also exist for equipping border workers to deal with incoming international travellers.

**6.3** DoHA has developed a framework to support the deployment of the Stockpile that includes:

- agreements to provide State and Territory governments access to the Stockpile, documented in Memoranda of Understanding (MoUs);
- a DoHA deployment plan, supported by internal procedures and processes;
- State and Territory deployment/distribution plans for the Stockpile; and
- testing of the national deployment arrangements.

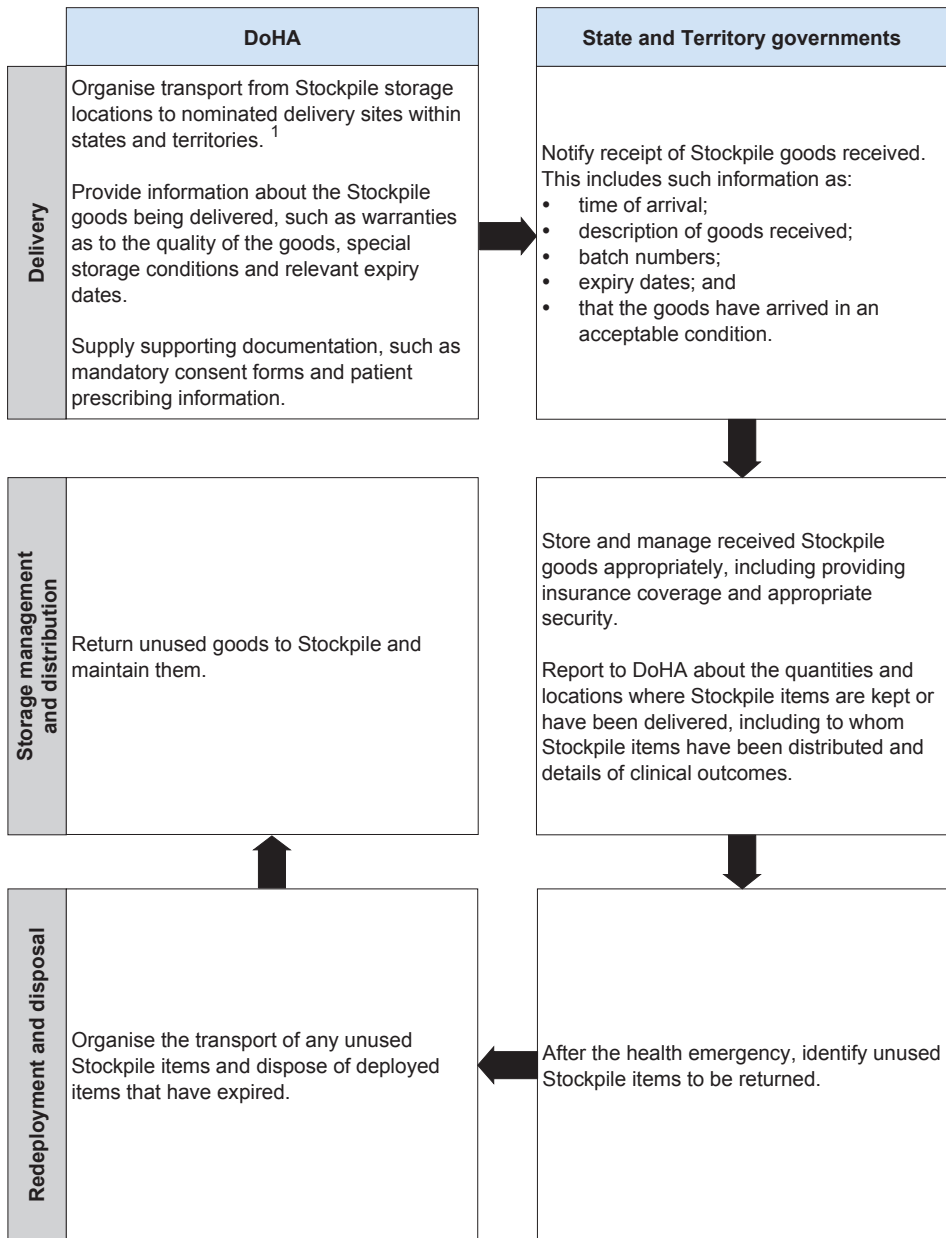
**6.4** However, as previously noted, DoHA has not assessed the risks associated with the Stockpile, including deployment. The national deployment arrangements cover seven State and Territory deployment/distribution plans, creating a level of complexity and associated risks. These risks, which could impede effective deployment should be identified and analysed. Treatment strategies could then be developed in conjunction with the State and Territory governments and incorporated into a National Medical Stockpile risk management plan.

## **Agreements with State and Territory governments**

**6.5** DoHA has entered into MoUs with each State and Territory government (except the Northern Territory and South Australia) for the receipt, storage and use of pharmaceuticals and equipment from the Stockpile.<sup>107</sup> The MoUs set out responsibilities for DoHA and the State and Territory governments. These are outlined in Figure 6.2.

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<sup>107</sup> The Northern Territory and the South Australian governments are yet to sign MoUs with DoHA.

**Figure 6.2****Roles and responsibilities for deploying the National Medical Stockpile**

1. DoHA is also required to provide delivery schedules to the receiving sites and transit insurance.

Source: ANAO analysis of Department of Health and Ageing data.

**6.6** Under these MoUs, DoHA has already deployed some equipment, such as ventilators, negative pressure units and masks, to the State and Territory governments in preparation for health emergencies. The need for this equipment was identified through a national survey of the healthcare system.

## **DoHA's deployment plan and supporting processes**

**6.7** It is important that appropriate arrangements are in place for deploying the Stockpile and communicated to all stakeholders.<sup>108</sup> These arrangements should be supported by well-documented procedures and processes.

**6.8** The DoHA deployment plan was developed in 2004, and includes the following four phases of deployment readiness:

- Stockpile White—there may be a request for Stockpile deployment;
- Stockpile Yellow—a request for Stockpile deployment is imminent;
- Stockpile Red—a request for Stockpile deployment has been received; and
- Stockpile Green—no further requests for Stockpile deployment are expected.

**6.9** The deployment plan also outlines the responsibilities of the National Incident Room (NIR) Logistics Officer, which includes the:

- development and maintenance of the National Medical Stockpile plan, which has yet to be drafted;
- development and maintenance of the stock inventory system, which is yet to be implemented;
- audit of supplies;
- conduct of exercises and training in deployment;
- management of stock; and
- liaison with agencies.

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<sup>108</sup> Stakeholders involved in the deployment of the Stockpile include the Australian Government, COAG, PM&C, the Deputy Secretaries' Interdepartmental Committee on Influenza Pandemic Prevention and Preparedness, DoHA, the Chief Medical Officer, the National Incident Room (Stockpile management), Stockpile storage providers, transport providers, State and Territory governments (health departments, receiving sites and healthcare systems) and border agencies.



**6.10** However, these responsibilities are for the management of the Stockpile, not for deployment. The deployment plan has not been reviewed since it was developed in December 2004. In the intervening period, the Stockpile has grown considerably and now includes significantly more pharmaceuticals and equipment for responding to an influenza pandemic. The deployment plan needs to be further developed and updated. The plan should also be underpinned by an assessment of the risks associated with deploying the Stockpile.

**6.11** As deployment of the Stockpile is a shared responsibility between the Australian, State and Territory governments, it is important that DoHA has a clear understanding of State and Territory preparedness arrangements. Information must also be shared to ensure efficient and effective deployment arrangements are in place for the Stockpile. Currently, DoHA does not know what drugs and equipment are held in State and Territory stockpiles.<sup>109</sup> This information would assist DoHA in preparing its own deployment plan.

## **Procedures and processes for deploying the Stockpile**

**6.12** In a crisis management situation, it is important to have well-documented procedures and processes to ensure essential functions can be maintained with minimal training. In the event of an influenza pandemic, key personnel may be unable to perform their duties and, during a prolonged period of alert, additional personnel may be required to assist.

**6.13** DoHA has high-level process charts and procedures for calling out Stockpile goods from storage locations and for initiating transport arrangements. A simulated deployment exercise in 2006 identified that more work was needed to develop detailed procedures for deployment. The NIR standard operating procedures for deploying the Stockpile are currently being drafted. It is important that these procedures are sufficiently comprehensive to meet the requirements set out in the MoUs.

**6.14** The deployment plan includes a requirement for the Chief Medical Officer (CMO) to approve each deployment. In a health emergency, such as an influenza pandemic, the CMO has many responsibilities, including providing advice to the Minister for Health and Ageing and the Prime Minister, liaising with State and Territory government counterparts and participating in key committees that are dealing with the emergency response. To avoid potential

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<sup>109</sup> Not all states and territories have medical stockpiles.

delays and lessen the load on the CMO during a health crisis, the ANAO sees benefit in the department having an additional delegate to approve the deployment of items from the Stockpile.

## State and Territory deployment plans

**6.15** State and Territory governments have operational responsibility for ensuring that the Stockpile goods reach recipients. Therefore, each State and Territory has its own deployment plan for receipting Stockpile goods and delivering them to the healthcare system. For deployment arrangements to work effectively the national, State and Territory plans have to be well-integrated and underpinned by cooperative planning and information-sharing.

**6.16** The MoUs state that the State and Territory governments have deployment/distribution plans in place. DoHA provided a draft model deployment plan<sup>110</sup> to assist State and Territory governments to develop their own plans. With the exception of Western Australia, DoHA has received all deployment plans. However, apart from Queensland, the plans are dated 2004 and 2005 and still in draft form. DoHA has not reviewed these plans and has not followed up with the State and Territory governments to finalise the plans. Little is known about the stockpiles already held by the State and Territory governments, the capacity of each receiving site and the processes involved in delivering Stockpile goods to each healthcare system and final recipients. DoHA recognises that it needs to have a greater understanding of individual State and Territory distribution arrangements and to work cooperatively with them to further develop deployment arrangements and plans.

## Testing deployment plans

**6.17** Testing deployment plans is essential for ensuring the integration of national deployment arrangements and the effective delivery of the Stockpile to recipients. Testing will also confirm the validity of deployment procedures and identify logistical issues that may interfere with an actual deployment. This was recognised in DoHA's model plan, which prefaced that the formulation and testing of effective strategies for deployment and distribution of Stockpile goods is as equally critical as the establishment of the Stockpile.

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<sup>110</sup> The model plan, called the *Jurisdictional Prototype Stockpile Deployment Plan [Draft]*, 2004 has not been finalised.

**6.18** DoHA tested Stockpile call out procedures in a preliminary exercise for Exercise Cumpston in May 2006 (Figure 6.3). The simulation exercise tested communication arrangements with storage and transport providers and the response time taken to access parts of the Stockpile. The simulation consisted of two storage providers moving requested stock to loading bays and DoHA dispatching a transport provider to collect it. The stock was not physically deployed to any location.

**Figure 6.3**

**National Medical Stockpile drill undertaken in May 2006**



Source: Department of Health and Ageing.

**6.19** The exercise evaluation provided several suggestions to further develop procedures and test other areas of deployment. For example, it suggested that DoHA consider delivery alternatives, such as those already existing with hospitals. Some hospitals use just-in-time delivery services, where pharmaceutical supply companies make daily deliveries, obviating the need for hospitals to store antiviral drugs and medical equipment. A key evaluation outcome was the recommendation for further testing of deployment arrangements, including an actual delivery. DoHA advised that further Stockpile deployment drills are planned that will include delivery processes. Future exercises should also include State and Territory receiving sites and deliveries to their healthcare systems.

## Conclusion

**6.20** The Stockpile was established to provide essential medicines and equipment for use in a health emergency and deliver them to those in need. Assessing the risks associated with deploying the Stockpile is a critical element in planning for an effective deployment. DoHA needs to identify and analyse the risks associated with deploying the Stockpile and develop appropriate mitigation strategies as part of its risk management plan.

**6.21** The Stockpile has grown significantly since DoHA developed its deployment plan in 2004. It is important that DoHA review and update this plan. Standard operating procedures should underpin the plan and cover all elements of the MoUs with State and Territory governments.

**6.22** National, State and Territory plans are the basis for deploying the Stockpile and need to be well-integrated to ensure that deployment arrangements are effective. To achieve this, DoHA requires a greater understanding of State and Territory deployment arrangements. It also has to work with the states and territories to refine their deployment plans. Deployment arrangements should be regularly tested and reviewed.

## Recommendation No.4

**6.23** To improve the effectiveness of deployment arrangements for the National Medical Stockpile, the ANAO recommends that the Department of Health and Ageing:

- (a) undertake an assessment of the risks associated with deploying the Stockpile and incorporate this analysis and mitigation strategies in a National Medical Stockpile risk management plan;
- (b) review and adequately test deployment plans in conjunction with states and territories; and
- (c) review and update procedures to cover all elements of the response arrangements outlined in the Memoranda of Understanding with the State and Territory governments.

*Department of Health and Ageing response:*

**6.24** Agreed.

**6.25** The Department of Health and Ageing accepts this recommendation. The Department has undertaken drills of the deployment of the nationally held stockpile, but acknowledges that it has yet to conduct a full-scale drill of the

deployment of the Stockpile in conjunction with States and Territories, although such a drill is anticipated for 2008.

**6.26** The Department notes that during its stocktake in 2007 a number of jurisdictions were sampled to ensure the availability of stockpile material for emergency use. The Department also notes that it is reviewing its Memoranda of Understanding with the States and Territories on an annual basis.

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Ian McPhee

Auditor-General

Canberra ACT

11 September 2007



# Appendices





## Appendix 1: Agency Responses

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Australian Government  
Department of Agriculture, Fisheries and Forestry

SECRETARY

22 August 2007

Ms Barbara Cass  
Executive Director  
Performance Audit Services Group  
Australian National Audit Office  
GPO Box 707  
CANBERRA ACT 2601

Dear Ms Cass

Thank you for your letter of 26 July and the copy of the proposed report for the performance audit on Australia's Preparedness for a Human Influenza Pandemic.

I am pleased to advise that the Department of Agriculture, Fisheries and Forestry supports the general thrust of the report and the recommendation of relevance to the Department. The conclusions and recommendation contained in the report on *Exercise Eleusis '05* will be helpful in assisting the Department to move forward with implementing the outcomes of the simulation exercise.

As requested in your letter, enclosed is a paper that provides:

- comments on the proposed report from my Department for inclusion in an appendix to the final report;
- a response to the recommendation relating to my Department; and
- a short summary of the Department's comments to be used in the report summary and brochure.

If you wish to discuss the Department's response, please contact Sally Standen, General Manager, Animal and Plant Health Policy on 6272 5411.

Yours sincerely

A handwritten signature in cursive script, reading 'Connall O'Connell'.

Connall O'Connell

Enc.

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**Audit-in-Confidence**

**Performance Audit—Australia's Preparedness for a Human Influenza  
Pandemic—Cross-Portfolio**

**DAFF Comment on Final Report, 8 August 2007**

**1. Comment from DAFF**

The following comments from DAFF are for inclusion in Appendix 1 of the final report.

DAFF agrees with the outcomes of the audit report.

Preparedness for and response to emergency animal disease outbreaks such as avian influenza, or for any emergency pest or disease in the agriculture sector, requires a national, collegiate approach. In partnership with state and territory governments and national industry groups, DAFF strives to maintain its favourable trading status and to protect the well-being of Australian primary production and communities in the face of emerging pest and infectious disease risks. The culture of continuous improvement in the agriculture sector has grown significantly over the last five years since Exercise Minotaur. This has led to considerable enhancement in emergency response capability, including increased harmonisation in the management of the various pests and diseases that we face.

Recent enhancements have included: development of a DAFF emergency preparedness strategy to ensure an appropriate level of preparedness; continual improvement of the Critical Incident Response Plan which guides DAFF's emergency response efforts; establishment of the national Rapid Response Team to assist smaller jurisdictions in the initial stages of an outbreak; and the development of the Primary Industry National Communication Network to ensure nationally coordinated, consistent and timely public messages during emergencies.

**2. Response to Recommendation 1**

Agreed.

All partners in preparedness for and response to emergency animal diseases, including AHA, state and territory governments and national industry groups, will be involved in the review of AUSVETPLAN.

**3. Summary of DAFF's comments**

The following summary of DAFF's comments is for the report summary and brochure.

All partners in preparedness for and response to emergency animal diseases will be involved in the review of AUSVETPLAN. Preparedness for and response to emergency animal disease outbreaks such as avian influenza, or for any emergency pest or disease in the agriculture sector, requires a national, collegiate approach. In partnership with state and territory governments and national industry groups, DAFF strives to maintain its favourable trading status and to protect the well-being of Australian primary production and communities in the face of emerging pest and infectious disease risks.



**Australian Government**  
**Department of Health and Ageing**

**SECRETARY**

Ref: 2007/028435

Ms Barbara Cass  
 Executive Director  
 Performance Audit Services Group  
 Australian National Audit Office  
 GPO Box 707  
 CANBERRA ACT 2601

Dear Ms Cass,

**PERFORMANCE AUDIT – AUSTRALIA’S PREPAREDNESS FOR A HUMAN INFLUENZA PANDEMIC**

Thank you for your letter of 26 July 2007 providing the proposed report for the performance audit on Australia’s Preparedness for a Human Influenza Pandemic.

The Department of Health and Ageing’s response to the report is in four parts:

1. comments for inclusion in the report appendix;
2. responses to recommendations 2, 3 and 4;
3. a short statement for inclusion in the report summary and brochure; and
4. additional comments intended for the consideration of the ANAO in the development of the final audit report.

You will note that most of my comments relate to the procurement, management and deployment of the National Medical Stockpile (the stockpile), as this was the main focus of the report.

**1. *Comments for Inclusion in the Report Appendix***

The impetus for the development of the stockpile was the extreme urgency brought about initially by the attacks of September 11 and the anthrax and white powder incidents of 2001. The first purchases were to respond to anthrax and smallpox threats.

Since then, the stockpile has been augmented against threat assessments provided by intelligence agencies in relation to bio-terrorism, together with the emergence of H5N1 influenza and the possibility of pandemic influenza.

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 Page 1

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The Department of Health and Ageing appreciates the observations of the Australian National Audit Office. The report provides a comprehensive analysis of the framework for pandemic influenza planning undertaken by the Department of Health and Ageing, and more broadly across the Australian Government, and provides guidance for further enhancements to the framework.

The Department of Health and Ageing accepts the ANAO's recommendations in so far as they relate to the Department.

## **2. Responses to Recommendations 2, 3 and 4**

### Recommendation No. 2

"To improve the management of the National Medical Stockpile, the ANAO recommends that the Department of Health and Ageing incorporate into its governance framework:

- an assessment of the risks associated with the Stockpile in a risk management plan that is periodically reviewed; and
- a performance management and reporting framework for the Stockpile."

The Department of Health and Ageing accepts this recommendation, noting that it has conducted formal drills to test the deployment of the largest component of the stockpile, and that there is a deployment drill planned for August 2007. The Department also notes that the stockpile, including holdings and expiry, is monitored through the Department's Chemical, Biological, Radiological and Nuclear (CBRN) Committee, and also through the Australian Health Protection Committee. The Department is in the process of developing a formal, integrated risk management plan for the stockpile.

### Recommendation No. 3

"To improve the management of the National Medical Stockpile, the ANAO recommends that the Department of Health and Ageing develop and implement procedures for:

- maintaining the content of the stockpile;
- approving sub-contracting arrangements;
- monitoring compliance with supply and storage contracts; and
- undertaking site visits and stocktakes."

The Department of Health and Ageing accepts this recommendation, noting that decisions relating to the long-term maintenance of the stockpile are for Government rather than the Department. Additionally, the Department notes that it has plans underway to direct source storage for the Stockpile and has developed procedures for undertaking site visits and stocktakes, which were used in the 2007 stocktake of the stockpile.

### Recommendation No. 4

"To improve the effectiveness of deployment arrangements for the National Medical Stockpile, the ANAO recommends that the Department of Health and Ageing:

- undertake an assessment of the risks associated with deploying the stockpile and incorporate this analysis and mitigation strategies in a National Medical Stockpile risk management plan;
- review and adequately test deployment plans in conjunction with states and territories; and
- review and update procedures to cover all elements of the response arrangements outlined in the Memoranda of Understanding with the State and Territory governments."

The Department of Health and Ageing accepts this recommendation. The Department has undertaken drills of the deployment of the nationally held stockpile, but acknowledges that it has yet to conduct a full-scale drill of the deployment of the stockpile in conjunction with States and Territories, although such a drill is anticipated for 2008.

The Department notes that during its stocktake in 2007 a number of jurisdictions were sampled to ensure the availability of stockpile material for emergency use. The Department also notes that it is reviewing its Memoranda of Understanding with the States and Territories on an annual basis.

### **3. Short Statement to be Used in the Report Summary or Brochure**

The Department of Health and Ageing accepts the recommendations contained within the performance audit on Australia's Preparedness for a Human Influenza Pandemic. Establishing robust pandemic influenza plans has been a focus of the Department of Health and Ageing over the last two years. This period has seen a large growth in the comprehensiveness of pandemic planning processes and the response strategies that underpin those plans.

In particular, Exercise Cumpston 06 tested the capability of the Australian health system to prevent, detect and respond to an influenza pandemic.

The Department has increased the size of the National Medical Stockpile (stockpile) substantially in this period in response to the threat of pandemic influenza. This has greatly enhanced the capacity of the Australian Government to respond to the threat of pandemic influenza. Stockpile acquisitions commenced in 2002, following the attacks of September 11 and the anthrax and white powder incidents of 2001.

Since then, the stockpile has been augmented in light of the emergence of H5N1 influenza and the possibility of pandemic influenza, and in light of threat assessments by intelligence agencies. A number of formal committees have fed into this, including the Department's CBRN Committee (which includes intelligence agencies by invitation) and a number of pandemic influenza committees chaired by the Department's Chief Medical Officer.

The recommendations in the ANAO report will provide a sound template to enhance the management framework of the stockpile further, and will build on the work already underway in the Department to enhance the stockpile's robust management framework, which includes:

- conducting regular stocktakes and site inspections;
- conducting deployment drills; and
- a clearly codified management framework for the stockpile.

The Department is in the process of developing a formal, integrated risk-management plan for the stockpile.

### **4. Additional Comments**

The Department suggests the inclusion of the following text to replace the text at paragraphs 5.13 and 5.14 of the proposed report.

*5.13 The Stockpile is in itself a risk mitigation strategy. The 2004 Internal Audit report noted that risk assessments were absent from procurement plans and recommended that risk assessments be undertaken for each of the sites where the*



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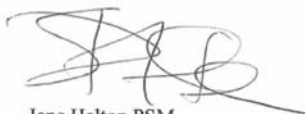
*Stockpile is stored. The ANAO notes that a comprehensive and integrated assessment of the risks of establishing, managing and deploying the Stockpile has not been undertaken.*

*5.14 The Stockpile continues to increase in size, and components are ageing and decisions will be needed in relation to future strategies for the Stockpile. While the ANAO acknowledges that the policy decisions regarding the future of the Stockpile are matters for Government, DoHA should identify and assess the operational risks associated with storing, managing and deploying the Stockpile, and develop mitigation strategies in a risk management plan. This plan should be regularly reviewed as part of DoHA's ongoing business planning processes and revised as necessary when risks change.*

*5.15 The Department has acknowledged the need to consolidate its risk assessment and risk mitigation strategies into an integrated risk plan for the ongoing management and monitoring of the Stockpile. The Department has advised that this work is already underway with completion expected in late 2007.*

If you have any questions about the above comments, please contact Mr Tony Kingdon, Assistant Secretary, Audit & Fraud Control Branch, on 62897877 in the first instance.

Yours sincerely



Jane Halton PSM  
Secretary

24 August 2007

**DEPARTMENT OF HEALTH AND AGEING  
AMENDED COMMENT ON RECOMMENDATION 2 OF ANAO PROPOSED  
REPORT ON THE PERFORMANCE AUDIT OF AUSTRALIA'S PREPAREDNESS  
FOR A HUMAN INFLUENZA PANDEMIC.**

**Note: The amendment has been made to reflect the deployment drill conducted on 22 and 23 August 2007.**

Recommendation No. 2

"To improve the management of the National Medical Stockpile, the ANAO recommends that the Department of Health and Ageing incorporate into its governance framework:

- an assessment of the risks associated with the Stockpile in a risk management plan that is periodically reviewed; and
- a performance management and reporting framework for the Stockpile."

The Department of Health and Ageing accepts this recommendation, noting that it has conducted formal drills to test the deployment of the largest component of the stockpile, the most recent on 22 and 23 August 2007. The Department also notes that the stockpile, including holdings and expiry, is monitored through the Department's Chemical, Biological, Radiological and Nuclear (CBRN) Committee, and also through the Australian Health Protection Committee. The Department is in the process of developing a formal, integrated risk management plan for the stockpile.

## Appendix 2: Global and Australian Phases of a Pandemic

Period	Global Phase	Australian Phase	Description of phase
Inter-pandemic	1	Aus 0	No circulating animal influenza subtypes in Australia that have caused human disease
		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

Source: Department of Health and Ageing.



## Appendix 3: Preliminary Activities for Exercise Cumpston

Activity	Date/location	Description
Border control discussion exercise (one)	19 April 2006, Melbourne	Engaged senior decision-makers and policy advisors in a strategic level discussion of border control measures to prevent or delay the entry of a pandemic.
National Medical Stockpile drill	19 May 2006, Sydney	Exercised processes involved in activating the National Medical Stockpile and deploying assets.
Crisis communications workshop	6–7 June 2006, Canberra	Considered the role of public communications in the event of a pandemic.
Intra and inter-governmental decision-making and coordination arrangements discussion exercise (one)	16 June 2006, Sydney	Involved a strategic-level assessment of Australia's inter and intra-jurisdictional decision-making processes and coordination arrangements as part of a containment strategy.
Border screening discussion exercise (two)	22 June 2006, Brisbane	Considered measures to prevent or delay the entry of a pandemic from an operational perspective.
National health emergency response workshop	5–6 July 2006, Sydney	Assessed national, State and Territory health and emergency response preparedness with a focus on the adequacy of current operational plans and procedures in supporting a coherent national response.
Intra and inter-governmental decision-making and coordination arrangements discussion exercise (two)	17 August 2006, Sydney	Assessed policy considerations for the evolution from containment to a maintenance strategy.

Source: Department of Health and Ageing.

## Appendix 4: Key Recommendations From Exercise Cumpston

1	Usual decision-making structures and consultative processes need to be streamlined to ensure timely responses in an emergency.
2	National pandemic plans (the Australian Health Management Plan for Pandemic Influenza, the National Action Plan and other relevant plans) need updating to provide for a more flexible layering of preparedness and response measures according to the severity of the pandemic and available response capacity.
3	Health electronic communications systems, including the Health Alert Network and the DoHA website, need to be further developed and exercised.
4	There is an urgent need for improved whole-of-government and cross-jurisdictional communications mechanisms to ensure consistent and coordinated delivery of public messages.
5	The concept and operation of public health policies, such as social distancing, need to be explained to the public with public communication messages and strategies prepared ahead of time.
6	A nationally agreed framework for pandemic influenza surveillance should form an annex to the Australian Health Management Plan for Pandemic Influenza, and should be underpinned by operational plans and improved information and communications technology.
7	Individual jurisdictions should ensure operational lessons learned from exercise activities are shared with all state and territory health departments and other relevant groups.
8	Further clarification of Commonwealth quarantine and state and territory public health and health emergency legislation is needed to ensure smooth operational interaction. This will include detailed operational procedures for triggering and applying the relevant powers.
9	The Australian Health Management Plan for Pandemic Influenza needs further updating and fleshing out in some policy areas to ensure nationally consistent and streamlined approaches, including to border quarantine, social distancing, access to antivirals (sic) and vaccines and influenza assessment centres.
10	General practitioners, community pharmacies and other primary care providers need to be better integrated into detailed plans at the national and jurisdictional level.
11	Procedures for health incident rooms and operations centres need to be reviewed to ensure seamless support for decision making and experience of command, control and coordination in emergencies are built in.
12	The exercise did not test Australia's whole-of-government capacity to respond over an extended period. Further work is needed to ensure responses can be sustained over a prolonged period through planning for workforce training and surge capacity, scenario-based contingency planning and a continuing program of pandemic preparedness exercises.

Source: Department of Health and Ageing.

## Appendix 5: Key Precursor Activities for Exercise Eleusis

Title	Topic of discussion
Exercise Asclepius I (February 2005)	Agriculture and health integration in zoonotic disease outbreaks
Exercise Hermes (May 2005)	Public communications
Exercise Adventurous Goose (May-June 2005)	South Australia and the Rapid Response Team
Exercise Hydra (June 2005)	National resource management
Exercise Asclepius II (September 2005)	Agriculture and health integration in zoonotic disease outbreaks (continued)
Exercise Olympus (October 2005)	National agriculture committee meetings

Source: Department of Agriculture, Fisheries and Forestry.








## Appendix 6: Implementation Status

Fully implemented	Substantially completed	Partially completed	Limited progress	No progress
●	◐	◑	◒	○

No.	Recommendation	Status	Responsible agency <sup>111</sup>
1	Stakeholders note that Exercise Eleusis '05 confirmed that Australia's existing emergency zoonotic disease management systems are robust and effective.	N/A <sup>112</sup>	
2	To ensure continuous improvement, exercises should remain a priority in ongoing preparedness for emergency disease outbreaks in the health, agriculture and industry sectors.	●	DAFF, DoHA, State and Territory governments
3	Building on Exercise Eleusis '05 and in collaboration with appropriate international bodies, Australia should provide guidance on the design and management of exercises for developing countries to test their capacity to eradicate/control an avian influenza outbreak.	●	DAFF
4	Agriculture, health and industry in all jurisdictions must ensure an appropriate number of highly trained personnel in order to have adequate staff to effectively undertake all aspects of a full time, prolonged emergency response in any location.	●	DAFF, DoHA, industry
	A national system must be developed to allow access to human resources from outside of the agriculture, health and industry sectors to augment disease responses, particularly in small jurisdictions and industries.	◑	DAFF, DoHA, industry

<sup>111</sup> Responsibility for the recommendations resulting from Exercise Eleusis was not allocated in the evaluation report. However, DAFF has taken action to implement most recommendations, including those requiring a national response.

<sup>112</sup> This recommendation did not require implementation action.

No.	Recommendation	Status	Responsible agency <sup>111</sup>
5	Review the roles and governance of the national agricultural committees, Consultative Committee on Emergency Animal Diseases and National Emergency Animal Disease Management Group, and the national health committees, Communicable Diseases Network of Australia, Public Health Laboratory Network, National Influenza Action Committee and Australian Health Disaster Management Policy Committee (now Australian Health Protection Committee). The review(s) to focus on: decision making, delegation of authority, time management and any overlap of roles and responsibilities. There is also a need for an analytical support function within the National Coordination Centre to support the Consultative Committee on Emergency Animal Diseases and National Emergency Animal Disease Management Group.	 	DAFF  DoHA
6	Confirm the trigger points for initiating a national whole of government response and ensure that sectoral, jurisdictional and national plans integrate with the proposed National Emergency Protocol.		DAFF, DoHA
7	The poultry industry must invest in the continuity of its business by applying sufficient human resources and training to enable meaningful representation in national committees and jurisdictions Emergency Operations Centres. Arrangements for national coordination, liaison and networking of industry Liaison Officers and national industry bodies must be established and documented.		DAFF, AHA, industry
8	Develop a real-time, single national information recording, sharing and access system to ensure all parties, including industry, operate on current information. The system must be capable of immediate activation and include formal inter and intra-agency and jurisdictional communication networks.		DAFF
9	Educate and prepare producers, industry bodies, bird enthusiasts and the public through an immediate and sustained non-alarmist media campaign on the real risks of, and the differences between, avian influenza and human pandemic influenza and how these differences determine control strategies. Similar campaigns should be run during and after an avian influenza outbreak to maintain, as far as possible, consumer confidence in eggs and poultry products and to protect wild birds and their habitats from inappropriate public actions.		DAFF
10	Extend the membership of National Communications Network and the existing National Communications Network password protected information sharing system to include the affected industries and other groups relevant to the response in order that they have immediate access to prepared material, contact and distribution lists. The material must be available in languages other than English, be relevant to non-infected as well as infected areas and be updated regularly.		DAFF

No.	Recommendation	Status	Responsible agency <sup>111</sup>
11	Establish a formal procedural mechanism to mobilise the communications staff who have been nationally trained and accredited to assist in an emergency animal disease response. Their activation would require formal agreement of the heads of the affected Australian Government, State and Territory agencies.	●	DAFF, State and Territory governments
12	Review the processes and resources necessary for timely updating of AUSVETPLAN so the manuals adequately reflect the latest developments in diseases, policies and scientific knowledge.	◐	DAFF, AHA
13	Building on work since Exercise Minotaur, finalise and test a national resource coordination plan to be documented in all relevant emergency response plans.	◐	DAFF, State and Territory governments
14	Health and agriculture to collaborate on a review of national health and agricultural guidelines on occupational health and safety, including personal protective measures and antiviral prophylaxis to ensure they are consistent and able to be implemented. These guidelines must be subject to frequent review in order that they remain current with scientific developments.	●	DAFF, DoHA
15	All jurisdictions and agencies should review existing Emergency Operations Centres to ensure they have sufficient accommodation that includes scope for multiple Liaison Officers and/or co-location of other agencies wherever practicable.	N/A <sup>113</sup>	

Source: ANAO analysis.

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<sup>113</sup> This recommendation is beyond DAFF's immediate control.

# Index

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## A

Antiviral drugs, 10–11, 17–18, 20, 23, 25, 40, 42, 45, 48, 60–61, 63, 70, 85, 87, 91–93, 96, 99, 107  
Asia-Pacific Economic Cooperation (APEC), 8, 39, 65  
Australian Animal Health Laboratory (AAHL), 8, 55, 61  
Australian Health Management Plan for Pandemic Influenza., 17, 40, 55, 64, 66  
Australian Health Protection Committee, 19, 23, 51, 56–57, 64, 68, 72, 86, 88, 91, 125  
Australian Quarantine and Inspection Service (AQIS), 55  
AUSVETPLAN, 18, 22, 25, 30, 41, 50, 60–61, 64, 73, 76, 78–83, 126  
Avian influenza, 5, 10, 17, 35–36, 41

## B

Business Continuity Guide for Australian Businesses, 50, 59

## C

Chief Medical Officer, 8, 19, 23, 29, 51, 56–57, 86, 104–105  
Commonwealth Government Action Plan for Human Influenza Pandemic, 17  
Communicable Disease Network Australia (CDNA), 53, 56, 125  
Council of Australian Governments (COAG), 8, 17, 40, 48, 50, 62, 67, 104  
Council of Australian Governments (COAG), 8, 17, 40, 51, 53

## D

Department of the Prime Minister and Cabinet (PM&C), 8, 42, 48–51, 54, 62–63, 79, 88, 104  
Deputy Secretaries' Interdepartmental Committee on Influenza Pandemic Prevention and Preparedness, 51, 104

## E

Emergency Animal Disease Response Agreement (EADRA), 8, 10, 18, 22, 41, 53, 73  
Emergency Management Australia, 46, 51  
Epidemic, 10, 15, 35  
Exercise Cumpston, 6, 17–20, 24, 29, 40–42, 48, 54, 56, 62, 65–67, 72, 78, 107, 121–122  
Exercise Eleusis, 6, 18, 20, 24, 30, 41–42, 62, 73–76, 78–80, 82–83, 123–124

## H

H5N1, 10, 15–17, 22, 24, 29, 35–39, 41, 45, 47, 53, 59, 61, 67, 75  
Healthcare systems, 19, 21, 23, 25, 27–28, 45, 57–58, 64, 85, 101, 104, 106–107

## I

International Health Regulations, 45, 54, 61

## **N**

National Action Plan for Human Influenza Pandemic (National Action Plan), 8, 17, 40, 48–49, 51–52, 61–62, 66, 72, 122

National Medical Stockpile, 6, 9, 17–18, 20–21, 24–29, 31–32, 40–42, 48, 56, 60, 63, 67, 85–109, 121

National Pandemic Emergency Committee (NPEC), 8, 50–51

## **O**

Office of Health Protection, 17, 40, 48, 65, 85, 88–89, 92, 97

## **Q**

Quarantine Act 1908, 51, 53, 59

## **S**

Severe Acute Respiratory Syndrome (SARS), 8, 15, 35, 53, 59, 85

Social distancing, 23, 40, 56, 61, 122

## **T**

Tamiflu, 11, 87

## **V**

Vaccine, 17, 23, 40, 48, 55, 59–61, 63

## **W**

World Health Organization (WHO), 9, 15, 18–19, 21–22, 35, 37–38, 42, 45–47, 54–56, 61, 63, 65, 67, 86



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---

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Department of Defence  
Defence Materiel Organisation

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