



Australian Government
Department of Agriculture,
Fisheries and Forestry

National Emergency

Zoonosis Exercise

Exercise Eleusis '05

Evaluation Report - Key Findings





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Exercise Eleusis '05 Validation and Report Writing Team

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. This team then acted as observers during the exercise and wrote the final Exercise Eleusis '05 report. Team members were:

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1 Summary

Exercise Eleusis '05 was held between 29 November and 1 December 2005. Its aim was to evaluate Australia's capability, across industry and government, to manage zoonotic emergency animal disease outbreaks. The exercise demonstrated that Australia's response arrangements are robust for significant animal health incidents and built on the outcomes of Exercise Minotaur conducted in 2002. Lessons learned from Exercise Eleusis '05 are described in the recommendations in this report and will be acted upon over the next year. The recommendations relate to continuous improvements of existing emergency animal disease response arrangements. Major outcomes of Exercise Eleusis '05 include: the value and success of existing preparedness in Australia; that the key to a successful response is acting nationally; and that policy makers and responders have a high level of awareness of avian influenza and its implications. Potential improvements include the need to: continue building the skills base of personnel; have a clear national policy on risk to human health of zoonoses; 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.

2 Background

2.1 Introduction

Exercise Eleusis '05 was conducted from 29 November to 1 December 2005 following a year of preparatory exercises and workshops. Industry, agriculture, health and supporting agencies in all jurisdictions took part. It is estimated that over 1,000 people nationally participated (directly and indirectly) in the exercise and its precursor activities.

The exercise proved to be a highly successful test of Australia's ability to respond to a simulated multi-focal outbreak of highly pathogenic avian influenza (HPAI). It demonstrated that Australia's response arrangements are robust, effective and sound for significant animal health incidents, including zoonotic disease outbreaks. It was an excellent training event that confirmed the value of improvements implemented since Exercise Minotaur in 2002 and, as intended, identified aspects for further enhancement.

2.2 Current Systems

Australia has well established systems to manage both animal and human health emergencies. The individual States and Territories have prime statutory responsibility to ensure that outbreaks of diseases such as HPAI are adequately managed and resolved within their own State or Territory.

The agriculture emergency response system is based on a partnership of government (Australian Government and States and Territories) and industry that has matured over many decades through responses to a number of disease outbreaks, including HPAI. For emergency animal diseases (EAD) this partnership was formalised in 2002 through the Emergency Animal Disease Response Agreement (EADRA), which 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.

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 are designed to support the decision making process and operations at national, State and local levels. The response framework is structured around two key national committees: a decision making committee, the National EAD Management Group (NMG) and an expert technical advisory committee, the Consultative Committee on EAD (CCEAD). These groups



ensure EAD responses are nationally integrated, incorporating the interests and views of the Australian Government, State/Territory governments and industry.

In February 2003 the Australian Health Disaster Management Policy Committee (AHDMP) was established to improve national health disaster preparedness and response. It is an inter-jurisdictional committee which is responsible for establishing a national health disaster framework that aligns existing State, Territory and Australian Government emergency response plans. AHDMP is the peak coordinating body in the event of a health emergency that requires a national response. They are supported by the Communicable Diseases Network Australia (CDNA), a national group which provides communicable disease control and epidemiological advice; the Public Health Laboratory Network (PHLN), a collaborative group of laboratories, nominated by State and Territory health departments, which have expertise and provide services in public health microbiology; and, in the case of an influenza outbreak, the National Influenza Pandemic Action Committee (NIPAC), an expert technical advisory committee which provides scientific and clinical advice on pandemic influenza preparedness and response. The Australian Management Plan for Pandemic Influenza (AMPPI) has been developed to provide a detailed guide for the Australian response to a pandemic influenza threat, which may arise through an outbreak of avian influenza. This document is currently being revised, and a new version is expected to be available during the first half of 2006.

As zoonotic EAD outbreaks affect both the agriculture and health sectors, it is essential that systems are integrated at jurisdictional and national levels to ensure a cohesive national response. Current arrangements to facilitate integration include:

- cross-representation on national committees
- exchange of liaison officers (LO) between health and agriculture emergency operations centres (EOC) within jurisdictions
- formal and informal networks for information sharing.

All jurisdictions except the Australian Government have formal standing arrangements for whole of government consideration of, and response to, issues associated with an emergency. These tend to be all hazards in nature, well established and frequently tested in their own right.

2.3 Exercise Minotaur

Exercise Minotaur was a major EAD exercise conducted in September 2002. It assessed Australia's ability to manage a foot and mouth disease outbreak and led to the enhancement of Australia's EAD response capability in both industry and government sectors. Following the exercise, EAD action items were prioritised and consolidated into the National Emergency Animal Disease Business Plan.

These action items have been either completed, or substantially advanced, and included: revision of the EADRA; implementation of a rolling program of exercises; awareness raising on the use of the Quarantine Act 1908; increasing the number of trained personnel including the initiation of national training programs for industry liaison officers (ILO's) and the continuation of training programs for industry representatives on national emergency animal disease management committees (CCEAD & NMG); establishment of a national EAD Rapid Response Team (RRT); completion of the International Animal Health Emergency Response Agreement; development of a national resource and information management system; upgrading of public communication capabilities and development of a livestock identification and tracing system.

Exercise Eleusis '05 provided evidence that these improvements were successful and has identified further enhancements.

2.4 Recent Developments in Avian Influenza Preparedness

The increasing spread overseas of avian influenza (AI) in birds has triggered further improvements in preparedness for a possible AI outbreak in Australia. These have included:

- improved policies on both low pathogenicity AI and HPAI in birds requiring notification of the presence of any AI virus; an occupational health and safety (OHS) policy for those working with poultry; improved policy options for the use of AI vaccine in poultry; refinement of humane destruction of infected birds and of disposal methods that take into account environmental requirements
- a comprehensive wild bird surveillance program
- improved diagnostic capacities at both the Australian Animal Health Laboratory and in regional laboratories
- continual close consultation between industry and government on the overseas situation and policy development
- collaborative development of the Australian Management Plan for Pandemic Influenza (AMPPI)
- selection and stockpiling of human antivirals
- development and trialling of a human vaccine for AI
- significant support to international policy development and to neighbouring countries in enhancing capacity in human and animal laboratory diagnostics and field investigations.

2.5 Managing Exercise Eleusis '05

The aim of Exercise Eleusis '05 was to evaluate Australia's capability, across industry and government, to manage zoonotic EAD outbreaks. The objectives of the exercise were to test integration of nation-wide emergency zoonosis arrangements, public communication and disease control policies and strategies.

During the exercise three States had a simulated outbreak of the aggressive form of AI virus infection, H5N1, in chickens and, as part of the scenario; some human AI cases were simulated. All State/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 and State/Territory EOCs. Human and animal health field activities, communication with the media, the public and with overseas organisations were simulated.

A wide range of stakeholders participated in the exercise and its precursor events, including national and regional industry organisations, health, emergency management and First Ministers' agencies in both the Australian Government and State/Territory governments.

Precursor activities 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 zoonotic EAD outbreaks, public communications, activation of the RRT, national resource management and activation of national agriculture committee meetings. This approach was highly beneficial in exposing potential problems and developing integrated responses.



Observers and participants agreed that the exercise was realistic, well designed and managed, with the outcomes successfully meeting the exercise objectives. International observers suggested there would be merit in Australia working with international bodies to modify Exercise Eleusis '05 for use by developing countries to test their capacity to control/eradicate an AI outbreak.

In designing the exercise, it was recognised that the topic of AI would be highly complex. Its success was due to the use of a multi-disciplinary planning team capable of covering all aspects (veterinary, industry, health, social and so on) of a potential response. A key learning for future exercises is the need to adequately resource the development process and, in particular, the planning team to allow them to focus fully on the exercise.

2.6 Major Outcomes of Exercise Eleusis '05

Major outcomes of Exercise Eleusis '05 include:

- reaffirmation of the value and success of EAD preparedness in Australia
- that acting nationally is the key to a successful response when an EAD outbreak affects the country as a whole. In an EAD response a national objective must be clearly articulated, with normally the overall goal being to minimise harm to affected industries and the community. In a zoonotic disease outbreak human health must be built into the national objective. Jurisdictional responses should work in a complementary manner to support the national objective
- a high level of awareness of AI and its implications as well as the commitment of policy makers and responders to improve Australia's capacity and capability to prevent or, in the worst case, respond to outbreaks
- while considerable effort has gone into training, there is broad recognition of the need to continue building the skills' base to ensure sufficient personnel are available to meet the challenges of a major EAD outbreak
- the requirement for a clear national policy and process for assessing and communicating the risk to human health of zoonotic EADs and unambiguous specifications for the personal protection required by workers at risk of exposure
- stronger linkages between agriculture and health agencies throughout Australia which now need to be formalised at the State, Territory and Australian Government levels
- recognition of the considerable challenge that public communication would pose during a zoonotic EAD outbreak and the scale of resources required to meet this challenge
- the demand for, and management of, the information generated during a national emergency requires the use of highly effective information technology
- the need to continually update disease response strategies given the rapidly changing scientific understanding of zoonotic diseases such as AI.

Common themes quickly emerged in the evaluation process, with identified strengths, weaknesses and opportunities being relevant to two or all of the three major objectives. To maximise the benefit of the investment made before and during Exercise Eleusis '05, all participants must review their arrangements in light of lessons learned and institute required improvements. To build on inter-sectoral and inter-agency integration, all parties should develop and formalise joint action plans and regularly review progress. Once done, Australia will be the best prepared it can be to effectively respond to an emergency zoonotic disease outbreak.



Beyond this, Australia must maintain its position at the leading edge of preparedness by constantly adapting to new developments and better ways of responding to EAD incidents.

A further report, *Evaluation Report – Analytical Background*, was written by the Exercise Eleusis '05 report writing team on the basis of almost 50 exercise debrief and evaluation reports. It provides detail on how the exercise was developed, conducted and evaluated, as well as justification for the recommendations made.

3 Outcomes

Exercise Eleusis '05 proved to be a realistic test and an enormously beneficial training experience for the approximately 1000 people involved. The key finding was that the emergency response systems we have are effective and sound. A number of key areas that require strengthening were identified as a part of continuous improvement.

Recommendation 1 – Stakeholders note that Exercise Eleusis '05 confirmed that Australia's existing emergency zoonotic disease management systems are robust and effective.

The exercise built on lessons learned from Exercise Minotaur and through its development and conduct improved the integration of the health and agriculture emergency systems for managing emergency zoonotic diseases. Exercises are extremely valuable and should remain a key component of preparedness for emergency diseases.

Recommendation 2 – To ensure continuous improvement, exercises should remain a priority in ongoing preparedness for emergency disease outbreaks in the health, agriculture and industry sectors.

From the outset of the simulated AI outbreak a first priority for agriculture, health and industry was to take immediate action to eradicate the source of the AI virus. Preventative strategies are also essential. An international observer noted that a modified version of Exercise Eleusis '05 would be of great benefit to developing countries to test their capacity to effectively deal with an AI outbreak. Such exercises would also benefit Australia by serving as further pre-border disease prevention measures.

Recommendation 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 AI outbreak.

3.1 Objective 1 – Integration of Nation-wide Emergency Zoonosis Arrangements

Definition/explanation

Integration includes pre-agreed cooperation and communication:

- between industry and government
- across all jurisdictions
- between the agricultural and health sectors within jurisdictions.

The agricultural sector (incorporating industry) and the health sector have well-developed emergency arrangements that have been tested in a number of real events. Each State/Territory government also has whole of government, all hazards emergency management



arrangements. The challenge posed by a zoonotic EAD outbreak is to make sure these pre-existing arrangements allow effective information sharing, joint decision making and cohesive action. Exercise Eleusis '05 was designed to rehearse, improve and evaluate integration of these arrangements.

Discussion and Recommendations

The depth of skills evidenced during the exercise demonstrates the value of training programmes conducted since Exercise Minotaur. There was sufficient staff to operate EOCs in both the health and agriculture sectors as well as an improved understanding of arrangements within each sector. This was due to experience in managing actual emergencies, training for RRT members and ILOs, as well as the jurisdictional briefings and precursor activities conducted prior to Exercise Eleusis '05. However, the short timeframe of the exercise did not establish whether there is sufficient trained staff to sustain a response for the prolonged period that may likely be required.

Training, human and physical resources must be adjusted according to the lessons learned. Sufficient LOs from all sectors should be trained, be available immediately and for the duration of a lengthy EAD response. All responders should have a good working knowledge of other responders' arrangements and policies. Consideration should be given to training additional personnel for EOCs. They should have knowledge of, but not be directly involved in, their sector's business and would undertake non-operational duties including strategic planning and objective analysis of the response being implemented.

Recommendation 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. 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.

The keystone to Australia's response to EADs is a strong partnership between governments and industry, which is documented in the EADRA. At the time of Exercise Minotaur, the agreement was relatively untested, although the CCEAD had operated during a large number of disease outbreaks. Since then, the EADRA has been used for actual disease outbreaks with the associated response arrangements becoming better practised and understood by government and industry stakeholders.

The roles of the national health committees, including the National Influenza Pandemic Action Committee (NIPAC), are described in the AMPPI. In addition, the Australian Health Disaster Management Policy Committee (AHDMP), the Communicable Diseases Network Australia (CDNA) and the Public Health Laboratory Network (PHLN) have operational experience with major health disaster events and disease outbreaks. During Exercise Eleusis '05 these committees met, made decisions and facilitated integration between health and agriculture sectors and across jurisdictions. The exercise demonstrated that existing national coordination arrangements are essential; however the roles and governance of national committees require review to optimise decision making and best use of time.

Since Exercise Minotaur there has been a greater acceptance of the national coordination and support role provided by the National Coordination Centre (NCC), but this and other potential roles have not been properly documented in existing national plans and agreements. This was evidenced in Exercise Eleusis '05, where both CCEAD and the NMG attempted to analyse and align agricultural response strategies. This could have been undertaken by NCC with only substantive issues being provided to CCEAD and NMG, as NCC's role in supporting NMG and CCEAD includes analysis and coordination of policy and scientific issues. Given the time pressures and the importance of the personnel involved, all national committees should focus on major issues and decisions rather than fundamental analysis.

Recommendation 5 - Review the roles and governance of the national agricultural committees, CCEAD and NMG, and the national health committees, CDNA, PHLN, NIPAC and AHDMP. 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 NCC to support CCEAD and NMG.

When dealing with a national industry a national response is paramount. Australia will be judged by its national, not jurisdictional, response. On identification of an EAD outbreak with national impact or with potential for national impact, an Australia-wide strategy must be immediately implemented. When compared to Exercise Minotaur, Exercise Eleusis '05 evidenced more willingness by agricultural agencies and associated stakeholders to act and communicate nationally. As the exercise progressed, increasing consultation and integration was noted between affected parties at all levels, especially between health and agriculture. Relationships formed in precursor activities were strengthened and the cooperation and enthusiasm of the overwhelming majority of participants enhanced the conduct of the exercise.

A zoonotic EAD outbreak requires a nationally integrated response by agriculture, health and the affected industry, with other agencies such as emergency services and environment, rapidly becoming involved. Most jurisdictions activated their whole of government arrangements for emergency management. Due to concern regarding human health impacts, the primary focus of any zoonotic EAD outbreak will very likely shift from agriculture to health. This will necessitate a whole of government approach in each jurisdiction and nationally. First Ministers' agencies may be required to assume leadership if warranted by the potential impacts. It is noted that a National Emergency Protocol was endorsed by COAG on 10 February 2006 and that leadership of a major zoonotic EAD response, as reflected in jurisdictional and national plans, would need to be consistent with this protocol.

In many States, local government has a formal role in emergency management, and develop local government emergency risk management strategies and emergency management plans. Local government fits into national agricultural emergency arrangements through the State government departments responsible for primary industry, fisheries and/or environment, as well as through the State emergency management arrangements. Local government activities were outside the scope of Exercise Eleusis '05; however they will form a vital part of the nationally integrated response and therefore need to be included in EAD arrangements.

Recommendation 6 - Confirm the trigger points for initiating a national whole of government response and ensure that sectoral, jurisdictional and national plans integrate with the National Emergency Protocol.

The poultry industry at both the national and State/Territory level was involved in the development, conduct and evaluation of Exercise Eleusis '05. This reiterated the strength of government and industry partnerships in responding to EADs. The ILO training conducted since Exercise Minotaur has provided a larger pool of potential industry representatives, many of whom were deployed during the exercise. Industry participation in exercise management, and the need to quarantine those people from performing a player role during the exercise, reduced industry's ability to provide highly experienced players in the exercise at the national and State/Territory levels.

Industry experienced difficulty in fully and effectively contributing to decision processes during Exercise Eleusis '05. This was, in part, due to a lack of available, experienced industry personnel as identified above. Greater influence should have led to more beneficial industry outcomes, such as a better balance between disease control and industry continuity. It is imperative that industry representatives are released from other commitments so they can be fully engaged for the duration of an EAD response. There should be sufficient trained industry LOs to permit placement in all EOCs. In addition, industry LOs at all levels should be networked nationally to exchange information and, in working closely with national industry bodies, provide common industry positions.



Recommendation 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 jurisdictional EOCs. Arrangements for national coordination, liaison and networking of industry LOs and national industry bodies must be established and documented.

Exercise Minotaur, subsequent EAD incidents and exercises have resulted in enhanced information sharing across jurisdictions. Dissemination of information was facilitated by cross representation of health and agriculture on national committees and the use of teleconferences in general. Information sharing through national committees confirmed the strength of existing networks.

A major project has been initiated since Exercise Minotaur to specify and implement a replacement for ANEMIS (the existing animal health emergency information system). The new system, BIOSIRT, when implemented will provide national access to response information integrating data from all jurisdictions. The availability of such a system remains a high priority and testing is due to commence in 2006.

While BIOSIRT will overcome difficulties in sharing on-ground response information, there is a need to electronically access documents generated by all jurisdictions in a timely manner, for example variations to control and restricted areas or agreed talking points for public communication. Existing technology for information sharing should be used in an innovative, wide ranging manner to ensure all parties operate on current and readily accessible information.

While information systems for agriculture have substantially improved, Exercise Eleusis '05 has shown that a broader range of information requirements must be met to encompass all sectors involved in a national EAD response.

Recommendation 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.

3.2 Objective 2 – Public Communication

Definition/explanation

Overseas and domestic experience has proven that EAD outbreaks, particularly zoonoses, attract significant media as well as international and general public interest. Public communication is therefore a fundamental component of any EAD response. Lessons learned from these experiences highlight the importance of proactive, accurate and consistent public communications.

Both the health and agriculture sectors have existing plans for effective national management of communications in emergencies. These were activated in Exercise Eleusis '05 and are the National Emergency Media Response Network (NEMRN) for health and the National Agriculture Emergency Communications Model which includes the National Communications Network (NCN). These networks enable rapid integration of stakeholders into the communications response and the timely distribution of communications with consistent and accurate messages.

Discussion and Recommendations

Exercise Minotaur was the impetus for establishing the broad-ranging public communication infrastructure to support EAD responses. This initiative has achieved:

- increased public and industry awareness of emergency animal disease, including AI and specifically by audiences such as peri-urban, non-English speaking background producers and small producers

- strengthening of the NCN
- training over 200 personnel in crisis communications
- national call centre arrangements
- a national pest and disease website
- establishment of a poultry industry/government communications taskforce.

At present the most important public communication message is to clearly outline the difference between human pandemic influenza and AI and that the implications for human health and food safety are substantially different for each disease. If current confusion about the risks posed by AI is not successfully countered, an unnecessarily severe and ongoing consumer reaction to poultry products could lead to the undermining of an important national industry resulting in economic losses across the community. It is also necessary to communicate clearly the nature of any human health risks from wild birds, and appropriate response strategies, in order to protect these birds and their habitats from inappropriate public actions.

Recommendation 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, AI and human pandemic influenza and how these differences determine control strategies. Similar campaigns should be run during and after an AI 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.

Public communication material moved readily between government agencies due to successful NCN and NEMRN arrangements. However, the flow of information to some other stakeholders, particularly industry, was not as efficient because these stakeholders are not directly connected to the NCN. This can be rectified through inclusion of industry in the NCN and access to its shared web site. It is also essential to formally include industry in development of an agreed communication strategy and key messages for presentation to CCEAD and NMG.

To immediately reach the broadest range of stakeholders, pre-prepared public information in appropriate languages must be readily accessible to all sectors.

Recommendation 10 - Extend the membership of NCN and the existing NCN 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 pre-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.

From its experience in EAD responses, the poultry industry believes media interest would have been more intense than that simulated during the exercise. The communications resources activated for the exercise were insufficient to meet media and stakeholder demands for information. This may have been an artefact of the exercise in that, in a real event, trained personnel are likely to have been released from other agencies to support the agricultural and health responses. Although over 200 personnel have been trained in crisis communications there is currently no protocol for their activation and deployment.

Recommendation 11 - Establish a formal procedural mechanism to mobilise the communications staff who have been nationally trained and accredited to assist in an EAD response. Their activation would require formal agreement of the heads of the affected Australian Government, State and Territory agencies.

3.3 Objective 3 – Disease Control Policies and Strategies

Definition/explanation

The response to a zoonotic EAD outbreak raises complex scientific and operational questions in an environment of rapidly changing information. However, the risks associated with such diseases demand rapid action. This is facilitated by already agreed policies and strategies.

Policies and strategies exist in both the human health and agriculture sectors to manage emergency disease outbreaks. Specific disease control arrangements for AI are included in the AMPPI and the AUSVETPLAN strategy for HPAI, including OHS guidelines. The government/industry partnership used during an EAD response in Australia is set out in the EADRA.

Discussion and Recommendations

In the past two years significant advances in disease control policies have been achieved and are highlighted in the Summary. It is noted also that the collaborative development of the AMPPI has been a milestone for pandemic influenza preparedness in Australia.

The aim of the AMPPI is to provide a detailed guide for the Australian response to a pandemic influenza threat. This plan targets the wide range of people who will be involved in planning and responding to an influenza pandemic: health planners, public health and clinical health care providers, State and Territory health departments, essential service providers, border workers and those involved in the media and communications.

Exercise Eleusis '05 affirmed the value of AUSVETPLAN in responding to EADs. It further highlighted the necessity, for an immediate response, of having strategies and plans in place prior to an outbreak. The agricultural response was consistent with AUSVETPLAN and, where a substantive variation was required, CCEAD was consulted. The system outlined in the EADRA guided governance of the EAD response throughout the exercise. Its inclusion of all affected agricultural industries and jurisdictions contributed greatly to an effective response. While not part of the objectives, Exercise Eleusis '05 reaffirmed that consistent support and recovery measures must parallel EAD responses, especially when they affect nationally integrated industries.

The exercise highlighted that some aspects of existing plans and policies were out of date or require amendment to ensure inter-agency consistency and applicability to a real situation. Existing plans and policies also need to clearly state that national integration of responses are a priority and that any variations must consider potential adverse effects on nationally integrated agricultural industries.

Recommendation 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.

Since Exercise Minotaur, a number of resourcing initiatives have been completed, including establishment of a national RRT to assist smaller jurisdictions set up EOCs, organising and training members of the Australian Veterinary Reserve and the International Animal Health Emergency Reserve which comprises many experts in EAD responses who, at short notice, can be on loan from their national governments to assist other countries. A precursor to Exercise Eleusis '05, titled Exercise Hydra, examined the rate limiting resource issues associated with an AI outbreak. In consultation with all other jurisdictions, the Australian Government Department of Agriculture, Fisheries and Forestry has examined the need and potential models for national resource coordination.

Exercise Eleusis '05 did not permit realistic assessment of resource capability and capacity. National health committees did not ascertain whether they have jurisdictional authority or

response capability to implement their decisions. In agricultural agencies there was a tendency to assume that resources would be 'found' for response activities endorsed by CCEAD. This assumption was challenged by the control team during the exercise. However, it was evident that thorough planning for resource demands over the potential magnitude and length of the response was lacking. As a result, State/Territory EOCs and NCC were not tasked with jurisdictional and national coordination of the overall response pool. The recently developed National Animal Health Performance Standards will provide a mechanism for jurisdictions to more accurately assess resource capability. These performance standards could be used as benchmarks in future exercises.

The complexities and demands of major EAD responses require the ordered prioritisation and delivery of specialist resources. For these reasons, it is necessary to develop a generic national resource coordination plan. Using this plan, an exercise should be undertaken to test and evaluate the resource coordination, capability and capacity of all sectors involved in a zoonotic EAD outbreak. Identified deficiencies must be addressed, including the resources needed for the business continuity of all responders.

Recommendation 13 - Building on work since Exercise Minotaur, finalise and test a national resource coordination plan to be documented in all relevant emergency response plans.

Drawing on guidelines from the World Health Organization, Australia has developed national guidelines for the protection of people exposed to animals infected, or potentially infected, with AI viruses with zoonotic potential. Inconsistencies between agriculture and health policies and between jurisdictions on OHS and prophylaxis measures served to create uncertainty during Exercise Eleusis '05. In a real event, such a situation would seriously undermine worker and public confidence resulting in additional, avoidable, constraints on the response and socio-economic impacts.

A systematic and ongoing assessment of the risk to human health of zoonotic EAD outbreaks is required. Clear national guidelines, consistently interpreted and applied, will enhance public acceptance of any necessary OHS and public health measures that may affect work practices and/or civil liberties.

Recommendation 14 - Health and agriculture to collaborate on a review of national health and agricultural guidelines on OHS, 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.

For an effective and efficient emergency response, central EOCs must be available to every lead agency. Activities during Exercise Minotaur demonstrated that State Disease Control Headquarters and the NCC require a considerable amount of space to undertake successful EAD responses. This was confirmed in Exercise Eleusis '05; however some jurisdictions are currently unable to establish suitable EOCs.

Optimal integration was possible when agriculture and health agencies were co-located during the exercise. For this reason, co-location of these personnel in a zoonotic disease incident should be considered seriously.

Recommendation 15 - All jurisdictions and agencies should review existing EOCs to ensure they have sufficient accommodation that includes scope for multiple LOs and/or co-location of other agencies wherever practicable.

Annex A – Recommendations

Recommendation 1 – Stakeholders note that Exercise Eleusis '05 confirmed that Australia's existing emergency zoonotic disease management systems are robust and effective.

Recommendation 2 – To ensure continuous improvement, exercises should remain a priority in ongoing preparedness for emergency disease outbreaks in the health, agriculture and industry sectors.

Recommendation 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 AI outbreak.

Recommendation 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. 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.

Recommendation 5 - Review the roles and governance of the national agricultural committees, CCEAD and NMG, and the national health committees, CDNA, PHLN, NIPAC and AHDMPAC. 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 NCC to support CCEAD and NMG

Recommendation 6 - Confirm the trigger points for initiating a national whole of government response and ensure that sectoral, jurisdictional and national plans integrate with the National Emergency Protocol.

Recommendation 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 jurisdictional EOCs. Arrangements for national coordination, liaison and networking of industry LOs and national industry bodies must be established and documented.

Recommendation 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.

Recommendation 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, AI and human pandemic influenza and how these differences determine control strategies. Similar campaigns should be run during and after an AI 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.

Recommendation 10 - Extend the membership of NCN and the existing NCN 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 pre-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.

Recommendation 11 - Establish a formal procedural mechanism to mobilise the communications staff who have been nationally trained and accredited to assist in an EAD response. Their activation would require formal agreement of the heads of the affected Australian Government, State and Territory agencies.



Recommendation 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.

Recommendation 13 - Building on work since Exercise Minotaur, finalise and test a national resource coordination plan to be documented in all relevant emergency response plans.

Recommendation 14 - Health and agriculture to collaborate on a review of national health and agricultural guidelines on OHS, 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.

Recommendation 15 - All jurisdictions and agencies should review existing EOCs to ensure they have sufficient accommodation that includes scope for multiple LOs and/or co-location of other agencies wherever practicable.

Annex B – Glossary & Further Information

AAHL – see Australian Animal Health Laboratory

ACMF - see Australian Chicken Meat Federation

ACVO - see Australian Chief Veterinary Officer

AECL - see Australian Egg Corporation Limited

AHDMPC - see Australian Health Disaster - Management Policy Committee

AI - see Avian Influenza

AMPPI - see Australian Management Plan for Pandemic Influenza

ANEMIS - see Animal Health Emergency Information System

Animal Health Australia - A not-for-profit public company established by the Australian, State and Territory governments and major national livestock industry organisations to ensure that the national animal health system delivers a competitive advantage and preferred market access for Australia's livestock industries. <http://www.animalhealthaustralia.com.au/>

Animal Health Emergency Information System (ANEMIS) - A system for the collection, assimilation, actioning and dissemination of essential disease control information using paper documentation and a computer database.

Australian Animal Health Laboratory (AAHL) - A major facility of CSIRO Livestock Industries specialising in/for disease diagnosis, research and policy advice in animal health. <http://www.csiro.au/csiro/content/standard/pp84,..html>

Australian Chicken Meat Federation (ACMF) - The peak coordinating body for participants in the chicken meat industries in Australia, responsible for the co-ordination of the various activities of the State Chicken Meat Councils and for making recommendations to the Councils on matters concerning the industry as a whole. <http://www.chicken.org.au/home.html>

Australian Chief Veterinary Officer (ACVO) – The nominated senior Australian Government veterinarian in DAFF who manages Australia's international animal health commitments and the Australian Government's response to an animal disease emergency. <http://www.affa.gov.au/content/output.cfm?ObjectID=1F30EF34-D25C-4285-B513545A51E36C8F>

Australian Egg Corporation Limited (AECL) - A producer owned company that integrates marketing, research and development and policy services for the benefit of all stakeholders and represents approximately 400 commercial egg producers in Australia. <http://www.aecl.org/public/content/home.asp?xcid=1>

Australian Health Disaster – Management Policy Committee (AHDMPC) – A high level inter-jurisdictional committee formed to help improve national health disaster preparedness. It comprises senior health officials from each State and Territory and experts in public health, mental health and clinical and emergency care. <http://www.health.gov.au/internet/wcms/publishing.nsf/Content/health-publth-strateg-disaster-admg.htm>



Australian Management Plan for Pandemic Influenza (AMPPI) – A plan providing a detailed guide for the Australian response to a pandemic influenza threat. Consistent with the WHO Pandemic Plan 2005, it is designed to be used at all times from preparedness to pandemic phases.

<http://www.health.gov.au/internet/wcms/publishing.nsf/Content/phd-pandemic-plan-1.htm>

Australian Veterinary Association (AVA) A national association representing members of the veterinary profession to all levels of government, in the media and within the community.

<http://www.ava.com.au/>

Australian Veterinary Reserve (AVR) - A reserve of private veterinarians who can work with government authorities during an emergency animal disease outbreak.

<http://www.animalhealthaustralia.com.au/programs/training/avr.cfm>

AUSVETPLAN (Australian Veterinary Emergency Plan) – A series of documents that describe the Australian response to emergency animal diseases; linking policy, strategies, operations, coordination and emergency management plans.

<http://www.animalhealthaustralia.com.au/aahc/index.cfm?E9711767-B85D-D391-45FC-CDBC07BD1CD4>

AVA – see Australian Veterinary Association

Avian Influenza (AI) – A contagious viral disease, with different pathogenicities, affecting mainly chickens, turkeys, ducks and other birds.

http://www.oie.int/eng/info/en_avinf.htm

http://www.who.int/csr/disease/avian_influenza/avianinfluenza_factsheetJan2006/en/index.html

www.outbreak.gov.au

www.avianinfluenza.com.au

AVR – see Australian Veterinary Reserve

BIOSIRT - The replacement for ANEMIS, the existing animal health emergency information system, which will provide national access to response information integrating data from all jurisdictions.

CCEAD - see Consultative Committee on Emergency Animal Diseases

CDNA - see Communicable Diseases Network of Australia

Chief Health Officer (CHO) - The senior medical officer of each State or Territory human health authority who has responsibility for human disease control in that State or Territory.

Chief Veterinary Officer (CVO) - The senior veterinarian of each State or Territory animal health authority who has responsibility for animal disease control in that State or Territory.

CHO - see Chief Health Officer

CMO - Australian Government Chief Medical Officer

<http://www.health.gov.au/internet/wcms/publishing.nsf/Content/health-profile-horvath.htm>

<http://www.health.gov.au/internet/wcms/publishing.nsf/Content/health-about-cmo-index.htm>

COAG - see Council of Australian Governments

Communicable Diseases Network of Australia (CDNA) - A joint initiative of the National Health and Medical Research Council and Australian Health Ministers' Advisory Council created to oversee the co-ordination of national communicable disease surveillance, the response to communicable disease outbreaks of national importance and field training of communicable disease epidemiologists.

<http://www.health.gov.au/internet/wcms/publishing.nsf/Content/cda-cdna-index.htm>



Consultative Committee on Emergency Animal Diseases (CCEAD) - A committee of State/Territory CVOs, AAHL and CSIRO, chaired by the ACVO, to consult in emergencies due to the introduction of an emergency disease of livestock, or other serious disease incidents.
<http://www.affa.gov.au/content/output.cfm?ObjectID=0098057A-8A45-4CD1-911F238F127567BA>

Council of Australian Governments (COAG) - The peak inter-governmental forum in Australia, comprising the Prime Minister, State Premiers, Territory Chief Ministers and the President of the Australian Local Government Association.
<http://www.coag.gov.au/>

CSIRO - Commonwealth Scientific and Industrial Research Organisation

CVO - see Chief Veterinary Officer

DAFF - Australian Government Department of Agriculture Fisheries and Forestry
www.daff.gov.au

DHA - Australian Government Department of Health and Ageing www.health.gov.au

EAD - Emergency animal disease

EADRA - see Emergency Animal Disease Response Agreement

EADRP - see Emergency Animal Disease Response Plan

EMA - see Emergency Management Australia

Emergency Animal Disease Response Agreement (EADRA) - An agreement which sets out cost-sharing arrangements between Australia's Commonwealth, State and Territory governments and livestock industries for the control, containment and eradication of 63 specific animal diseases.
<http://www.animalhealthaustralia.com.au/programs/eadp/eadra.cfm>

Emergency Animal Disease Response Plan (EADRP) - An Emergency Animal Disease Response Plan developed by jurisdictions in accordance with the Emergency Animal Disease Response Agreement.

Emergency Management Australia (EMA) - An Australian Government agency which advises and supports governments and the broader emergency management community to enhance their capacity to best manage the risks that disasters present to communities.
www.ema.gov.au

EOC - Emergency operations centre

Epidemic - A widespread occurrence of a disease in a community at a particular time.

Exercise control team - The group of people who have overall responsibility for managing all stages of the exercise.

Exercise director - Exercise control person who provides overall direction and control of the exercise.

Exercise Eleusis '05 - A major national emergency animal disease exercise conducted in late 2005, which simulated an outbreak of avian influenza and evaluated the industry and government's national capability to manage a zoonotic disease outbreak.
<http://www.daff.gov.au/eleusis>



Exercise evaluator - Exercise control staff who observe exercise players and note actions taken against expected actions and evaluate exercise players and arrangements based on these actions.

Exercise facilitators - Exercise control staff who provide briefings/debriefings for exercise players, provide exercise inputs, monitor the progress of the exercise, report to control team and solve problems when the exercise is going off-track.

Exercise Minotaur - A major emergency animal disease exercise conducted in September 2002 which assisted Australia's ability to manage a foot and mouth disease outbreak and led to the enhancement of Australia's response capability in both industry and government sectors. <http://www.affa.gov.au/exerciseminotaur>

Exercise Observer - Key international or domestic stakeholders who observe the exercise and provide recommendations on the potential improvement of Australia's emergency zoonotic disease outbreak preparedness and validate the exercise as a realistic and thorough test of such preparedness.

Exercise players/participants - Personnel in industry, in each State/Territory, Australian Government organisations and national organisations, deployed to perform their tasks as if during an actual disease outbreak. The role of exercise players will primarily be decision-making and undertaking activities to support decision-making and should be as described in the relevant emergency response plans and manuals.

Exercise - A controlled, scenario-driven activity used mainly for training or assessing personnel, or testing processes or capabilities.

FMD - foot and mouth disease
<http://www.animalhealthaustralia.com.au/aahc/index.cfm?E9711767-B85D-D391-45FC-CDBC07BD1CD4#dis1>

Food Standards Australia New Zealand (FSANZ) - A bi-national independent statutory authority that develops food standards for composition, labelling and contaminants that apply to all food produced or imported for sale in Australia and New Zealand.
<http://www.foodstandards.gov.au/>

FSANZ - see Food Standards Australia New Zealand

H5N1 - a subtype of the avian influenza virus - see Avian Influenza

H7N2 - a subtype of the avian influenza virus - see Avian Influenza

HPAI - Highly Pathogenic Avian Influenza - see Avian Influenza

IDC - see inter-departmental committee

ILO - see Industry Liaison Officer

Industry Liaison Officer (ILO) - A trained representative of an affected industry in an emergency animal disease outbreak who works in a Local Disease Control Centre.

Inter-departmental Committee (IDC) - A committee of government agencies within a jurisdiction with portfolio responsibility for issues arising from an incident.

LDCC - see Local Disease Control Centre

Liaison Officer (LO) - A representative of a stakeholder organisation affected by an emergency animal disease who works in emergency operations centres of other organisations.



LO - see Liaison Officer

Local Disease Control Centre (LDCC) - An operations centre responsible for the command and control of agricultural field operations in a defined area.

LPAI - Low Pathogenicity Avian Influenza - See Avian Influenza

National Coordination Centre (NCC) - A centre established in Canberra from which national disease control actions are coordinated in an animal disease emergency.

National Emergency Animal Disease Business Plan - A national business plan for prevention and preparedness activities related to emergency animal diseases.

National Emergency Animal Disease Management Group (NMG) - A senior committee which sets policy for management of emergency animal disease responses. It comprises Chief Executive Officers of agriculture agencies in all jurisdictions and the presidents of affected industries.

<http://www.animalhealthaustralia.com.au/programs/eadp/eadra.cfm>

National Emergency Media Response Network (NEMRN) – A network of media liaison managers from health agencies in all jurisdictions and other relevant government departments. The NEMRN plays a vital role in informing the public and media during a national health emergency and in supporting the AHDMPC, CDNA, CMO and CHOs.

National Communications Network (NCN) – A network of communications managers from agriculture agencies in all jurisdictions, CSIRO, Animal Health Australia and the national peak bodies of affected industries. It is directed by the National Management Group and facilitates the rapid flow of information between local, state and national agencies.

National Influenza Pandemic Action Committee (NIPAC) - A national committee that provides scientific and clinical advice on pandemic influenza preparedness and response.

http://www.health.gov.au/internet/wcms/publishing.nsf/Content/health-pubhlth-strateg-bio-factsht_nipac.htm

NCC - see National Coordination Centre

NCN - see National Communications Network (agriculture)

NEMRN - see National Emergency Media Response Network (health)

NIPAC - see National Influenza Pandemic Action Committee

NIR - Australian Government Department of Health and Ageing National Incident Room
http://www.health.gov.au/internet/wcms/publishing.nsf/Content/health-pubhlth-strateg-bio-factsht_inc_room.htm

NMG - see National Emergency Animal Disease Management Group

OIE - Office Internationale des Epizooties (World Organisation for Animal Health) www.oie.int

OHS - occupational health and safety

Pandemic (of a disease) - A disease prevalent over a whole country or the world.

PHLN - see Public Health Laboratory Network

PIMC – see Primary Industry Ministerial Council

PISC – see Primary Industry Standing Committee

PPE - personal protective equipment

Primary Industry Ministerial Council (PIMC) – The peak government forum for consultation, coordination and, where appropriate, integration of action by governments on primary industries issues. It comprises Australian/State/Territory and New Zealand government Ministers responsible for agriculture, food, fibre, forestry, fisheries and aquaculture industries/production and rural adjustment policy.

http://www.mincos.gov.au/about_pimc.htm

Primary Industries Standing Committee (PISC) – The support committee for the Primary Industries Ministerial Council. It comprises all Department Heads/ Chief Executive Officers of Australian/State/Territory and New Zealand government agencies responsible for agriculture, food, fibre, forestry, fisheries and aquaculture industries/production and rural adjustment policy issues.

http://www.mincos.gov.au/about_pi_sc.htm

Public Health Laboratory Network (PHLN) – A collaborative group of laboratories, nominated by State and Territory health departments, which have expertise and provide services in public health microbiology.

<http://www.health.gov.au/internet/wcms/publishing.nsf/Content/cda-cdna-phln-index.htm>

Rapid Response Team (RRT) – A team comprising highly competent personnel drawn from across Australia which can be deployed within 24 hours to assist smaller jurisdictions in the initial establishment of a Local Disease Control Centre and State Disease Control Headquarters during an Emergency Animal Disease response.

RRT – see Rapid Response Team

Scenario - A description of an exercise setting and event, including a general idea and one or more special ideas.

SDCHQ – see State Disease Control Headquarters

SEOC - State/Territory emergency operations centre <http://www.emergency.nsw.gov.au/seoc/>

SITREP - Situation report

State Disease Control Headquarters (SDCHQ) - The operations centre that directs the agricultural disease control operations to be undertaken across the State.

Tracing - The process of locating animals, persons or things that may be implicated in the spread of disease.

WHO - World Health Organization www.who.int

WHO Influenza Reference Laboratory – WHO Collaborating Centre for Reference and Research on Influenza, Melbourne. This centre, along with its three counterparts in London, Atlanta and Tokyo, form part of the WHO influenza surveillance network, established to monitor the frequent changes in influenza viruses with the aim of reducing the impact of influenza through the use of vaccines containing currently circulating strains.

Zoonosis – A type of disease that can be transmitted to humans from animals. Adjective zoonotic.