

Mass Chicken Euthanasia in the face of HPAI - Policy perspective

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1. Introduction

Avian influenza (AI) is a highly contagious viral disease caused by influenza A viruses. These viruses occur naturally among wild aquatic birds and occasionally spillover into domestic poultry and other bird and animal species, sometimes resulting in high morbidity or mortality. Wild aquatic birds, especially dabbling ducks, are considered reservoirs for avian influenza A viruses.

Avian influenza A viruses are classified into the following two categories: low pathogenicity avian influenza (LPAI) A viruses, and high pathogenicity avian influenza (HPAI) A viruses. Clinical presentations vary with the subtype and strain of virus, the species infected, and the presence of other diseases.

LPAI viruses cause either no signs of disease or mild disease in chickens and other poultry (such as ruffled feathers and a drop in egg production). Most avian influenza A viruses are low pathogenic and cause few signs of disease in infected wild birds. In poultry however, some LPAI viruses (H5 and H7 subtypes) can mutate into high pathogenicity avian influenza.

HPAI viruses cause severe disease and high mortality in infected poultry. HPAI subtype H5N1 clade 2.3.4.4b has spread globally, which, in addition to poultry, is also causing unprecedented mortality events in wild birds and several species of mammals.^{1,2}

There have been 13 outbreaks of high pathogenicity avian influenza (HPAI) disease in Australia since 1976. All the outbreaks have been associated with the subtype H7 and of Australian lineages. Of the 30 commercial chicken, duck, turkey and emu farms impacted, 20 have been in Victoria, eight in NSW, one in Queensland and one in the ACT. An estimated 3.7 million birds were destroyed during these outbreaks per the nationally agreed stamping-out policy for high pathogenicity avian influenza (Figure 1).

In addition to the HPAI outbreaks, there have been a further 19 confirmed cases of LPAI in Australia since 1976.³

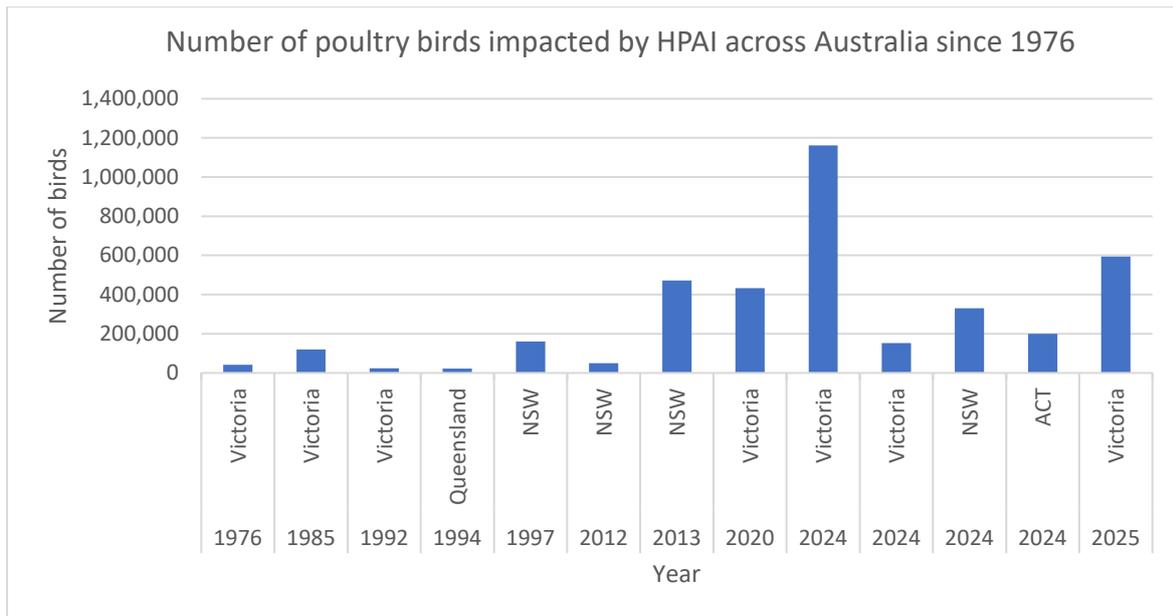


Fig 1. Number of commercial poultry birds destroyed since 1976 following HPAI detections

2. Australian policy

Avian influenza is a notifiable disease in all states and territories of Australia. High pathogenicity avian influenza (HPAI) and low pathogenicity avian influenza (LPAI) subtypes H5 and H7 are included in Australia's Emergency Animal Disease Response Agreement (EADRA). The detection of these AI subtypes in domestic poultry or captive birds would trigger an emergency response as described in the *AUSVETPLAN Response Strategy: Avian Influenza*.⁴

The Emergency Animal Disease Response Agreement (EADRA) is a formal, legally binding agreement between Animal Health Australia, the Australian government, all state and territory governments, and currently fourteen livestock industry signatories. The EADRA covers the management and funding of responses to emergency animal disease (EAD) incidents.⁵

AUSVETPLAN contains the nationally agreed approach for responding to emergency animal disease (EAD) incidents in Australia. The *AUSVETPLAN Response Strategy: Avian Influenza* describes the nationally agreed approach for the response to an incident - or suspected incident - of AI in poultry, or captive birds. It determines the specific policy to be implemented for disease control based on virus subtyping and pathogenicity undertaken by the CSIRO Australian Centre for Disease Preparedness (ACDP).⁴

2.1 Policy for the management of HPAI in poultry, or in captive birds

An outbreak of HPAI in poultry or captive birds in Australia is defined as infection with influenza A virus (with or without clinical signs) accompanied by confirmed laboratory diagnosis that meets the pathotyping criteria for HPAI virus.⁴

The policy is to use stamping out to control spread of HPAI (any subtype). The response will depend on the assessed risk. A combination of strategies may be employed, including:

- *stamping out* by destruction, disposal and decontamination of all birds and contaminated avian products on infected premises (IP) to remove the source of infection
- *biosecurity controls* such as quarantine and the use of declared areas and movement controls over properties
- *tracing and surveillance*
- *flock or area* depopulation by pre-emptive slaughter, process slaughter or controlled marketing of birds not infected with HPAI
- *vaccination*

2.2 Policy for the management of LPAI (H5/H7) in poultry, or in captive birds

An outbreak of LPAI (H5/H7) in poultry or captive birds in Australia is defined as infection with influenza A virus (with or without clinical signs) accompanied by confirmed laboratory diagnosis that identifies an H5 or H7 subtype that meets the pathotyping criteria for LPAI virus.⁴

The response will depend on the assessed risk. A combination of strategies may be employed, including:

- *stamping out* by destruction, disposal and decontamination of birds and contaminated avian products on infected premises (IP). Destruction may not be immediate and may be based upon risk assessment. Exemptions may exist for special and rare birds.
- *biosecurity controls* such as quarantine and the use of declared areas and movement controls over properties
- *tracing and surveillance*
- *flock or area* depopulation by pre-emptive slaughter, process slaughter or controlled marketing of birds not infected with HPAI
- *vaccination*

2.3 Policy for the management of LPAI (not H5/H7) in poultry, or in captive birds

Avian influenza that is caused by a strain of virus that is not HPAI or LPAI (H5/H7) virus, that is producing no or mild clinical disease in infected birds and is not genetically related to strains associated with severe clinical disease in humans in other countries, is not considered an immediate threat. Such virus strains would not be treated as an emergency animal disease (EAD) outbreak, and no action is mandated unless a risk assessment indicates an unacceptable threat to animal or public health.⁴ However, a Chief Veterinary Officer (CVO) may, at their discretion, choose to implement increased tracing and surveillance measures together with the implementation of declared areas and movement controls.

3. Decision making hierarchy during a HPAI response

A detection of HPAI will typically be the subject of a cost-shared Emergency Animal Disease Response Agreement (EADRA). Consequently, the decision-making process for how a response will be managed and funded requires the agreement and endorsement of the signatories to the EADRA. These include Animal Health Australia, the Australian

government, all state and territory governments, and the impacted (poultry) industry signatories.

The general sequence of events for a **cost-shared EAD response** is shown in Figure 2. This is a simplified representation, and activities within and outside of Figure 2 can and often do occur concurrently in a non-linear manner.



Fig 2. General sequence of events for a cost-shared emergency animal disease response.

4. Destruction of poultry infected with HPAI or LPAI (H7/N8)

Stamping out is the default control measure for HPAI and LPAI (H5/H7) infections and involves the destruction of animals in accordance with the *AUSVETPLAN Operational*

*manual: Destruction of animals (Version 3.2)*⁶, and in a manner that permits appropriate disposal of carcasses and decontamination of a site.

The manual provides guidance on approved destruction techniques for use on poultry and/or captive bird premises subject to a stamping-out policy.

The choice of destruction techniques used in a response will largely be based on the number of infected birds, production type and housing, work health and safety considerations and animal welfare and the available resources and capability of the jurisdiction responsible for overseeing or undertaking destruction. Timeliness of destruction and the effectiveness of destruction to limit disease spread may also be significant factors influencing the choice of destruction method(s).

For small numbers of birds or large bird species (ratites), the methods of destruction may include dislocation or decapitation, non-penetrating and penetrating captive bolts, injectable agents, carbon dioxide gassing and firearms.

The destruction of large numbers of birds may include maceration for birds less than 72 hours old, gassing with carbon dioxide or inert gasses in containers or in sheds, and the use naturally aspirated or high expansion gas filled foam. Water-bath and head-to-body stunning methods are also under consideration.

If currently approved destruction methods are failing to manage the spread of disease or are found to be impractical under some circumstances, a jurisdictional Chief Veterinary Officer (CVO) may approve the use of non-approved destruction methods subject to a welfare assessment.

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