



Rural and Regional Affairs and Transport References Committee  
Adequacy of Australia's biosecurity measures and  
response preparedness, in particular with respect to  
foot-and-mouth disease

Submission of the  
Australian Veterinary Association Ltd  
26 August 2022

## The Australian Veterinary Association (AVA)

The Australian Veterinary Association (AVA) is the national organisation representing veterinarians in Australia. Our 8,500 members come from all fields within the veterinary profession. Clinical practitioners work with companion animals, horses, livestock and wildlife. Government veterinarians work with our animal health, public health and quarantine systems while other members work in industry, research and teaching. Veterinary students are also members of the Association.

## Adequacy of Australia's biosecurity measures and response preparedness, in particular with respect to foot-and-mouth disease

The AVA thanks the *Rural and Regional Affairs and Transport References Committee* for the opportunity to provide input to this review.

### Summary

In March this year, the AVA provided input to the consultation draft of Australia's Biosecurity Strategy. In our submission we highlighted issues which are pertinent to the specific role of the veterinary profession in the national biosecurity system, including risks to the continuity of this role, and opportunities to address these.

Veterinarians play a vital role in all key components of animal disease control and management, namely quarantine, early diagnosis, response and eradication. At the same time, similar to other skilled professions, the veterinary profession is facing critical workforce shortages and other sustainability challenges, especially in rural and regional areas. There is a pressing need for government investment and support to ensure an effective veterinary workforce is in place to safeguard this essential service.

Effective surveillance, diagnosis and eradication requires a well-trained veterinary workforce experienced in disease investigation. There are significant risks to industry, government and the community if Emergency Animal Diseases (EADs) are not diagnosed early, traced effectively and eradicated as quickly as possible.

The AVA supports the government's recent work to ramp up biosecurity measures at our borders, cargo and mail centres in response to the increased threat posed by diseases such as Foot and Mouth Disease (FMD) and Lumpy Skin Disease from Indonesia. We know that a potential incursion of FMD alone could cost the economy up to \$80 billion over a decade and devastate our local livestock industries. We also support implementation of improved traceability systems for livestock species, and are pleased that there is unanimous support and increased investment for future improvements on this front.

However the AVA believes that the current contribution of the private veterinary sector to EAD surveillance and preparedness, and the value this brings to animal industries and the economy, is insufficiently recognised and supported at present. We believe that government and industry have not developed an effective response to the issues identified by the Frawley (2003) and Matthews (2011) reports, and the findings of the 2015 World Organisation for Animal Health (OIE) *Performance of Veterinary Services (PVS)* audit. These reports identified the risks associated with provision of surveillance, early diagnosis and eradication when veterinary services are not available for production animals. There are similar risks associated with inadequate laboratory capacity and significant costs of disease investigation, leading to a reluctance by farmers to investigate diseases and an overall reduction in surveillance effectiveness.

**In this submission we have highlighted risks and opportunities relevant to the role of the veterinary profession in Australia's EAD response preparedness, with suggestions for improvements to safeguard Australia's favourable disease status.**



## Private veterinary sector role in surveillance

In Australian agriculture, our ‘clean and green’ reputation has provided a privileged trading position for many years, ensuring consumer confidence in terrestrial and aquatic livestock production in both local and international markets. This reputation is reliant on a sound animal disease biosecurity, surveillance and reporting system, and veterinarians play a crucial role in maintaining this.

Currently, many mixed practices in rural and peri-urban areas cannot sustain economic viability based on farm practice, and their focus has changed to companion animal work; this was described by Frawley in his 2003 report, with no appreciable improvement since that time:

*“E.13 The commercial returns for services typically provided by rural veterinarians to individual production animal customers are barely sufficient to maintain most rural mixed practices and their viability is generally underpinned by companion animal medicine.”*

We know that the impacts on our livestock and export industries would be catastrophic and cost the economy many billions of dollars, should diseases such as Foot and Mouth Disease, African Swine Fever or Lumpy Skin Disease gain entry to the country. In a time of heightened risk from both exotic and emerging diseases, as well as rapidly increasing global trade in animal products and human travel and resettlement, it is imperative that Australia’s governments appropriately resource the gaps which are identified in the Frawley, Matthews and OIE reports.

The AVA believes that adequately resourcing public-private partnerships between the government and private veterinary sectors, and development of a coordinated framework to ensure adequate veterinary capacity for disease surveillance, prevention and control, is key to the success of this shared approach.

Over the past 20 years there has been a rationalisation of government veterinary service roles in many Australian jurisdictions, with the exception of NSW which retains a robust district veterinarian model. The contraction of government veterinary services in many rural and regional locations has reduced surveillance and laboratory testing of suspect animal disease events. This withdrawal of government services has not been met by an equivalent advancement of private services in these locations, leaving a gap in surveillance capacity. There are a range of reasons for this: economic sustainability of rural veterinary practice remains a challenge, and there are critical veterinary workforce shortages. Mechanisms to support the rural veterinary sector into the future are essential if adequate animal disease prevention, surveillance and response is to be maintained.

Private veterinary practices could be better utilised for provision of both active and passive surveillance data for diseases of terrestrial and aquatic livestock, wildlife and companion animals. Though some government supported schemes do exist to engage private veterinarians in disease surveillance<sup>1</sup>, their effectiveness is questioned and there is considerable scope for improvements in uptake and to develop additional approaches.

## Private veterinary sector role in response

The veterinary profession has a proud history of leading in the eradication of diseases with examples including bovine pleuropneumonia, bovine TB, bovine brucellosis and equine influenza. The World Organisation for Animal Health (OIE) *Performance of Veterinary Services* evaluation in Australia in 2015 noted that private veterinarians are a vital link in biosecurity and emergency response plans. However, there is no formal or enforceable agreement to ensure their participation in an EAD outbreak, and this is viewed as a potential weak link in the nation’s biosecurity capabilities.

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<sup>1</sup> Eg Transmissible Spongiform Encephalopathies (TSE) Freedom Assurance program; National Significant Disease Investigation Program (NSDIP)



Veterinarians with appropriate skills for involvement in a response may not be available due to the current relative paucity of private veterinarians with experience in farm animal disease. In addition, remuneration of veterinary involvement needs to consider both their professional time as well as the considerable financial overheads associated with running a veterinary practice.

In 2014, the AVA assisted in the development of national standards for the employment of private veterinarians in an EAD. Whilst addressing payment of veterinarians, the national standards do not ensure veterinary participation. Veterinary businesses that release veterinary staff are placed at a financial disadvantage because they are not compensated for losses of earnings of the employed veterinarian and maintenance of infrastructure. Models should be developed to address this deficiency. Recruitment on a whole of practice basis may ensure supply of veterinarians and support staff, with less disruption to private practices.

## Veterinary workforce shortages

The veterinary profession is currently facing unprecedented workforce attrition and a critical workforce shortage. Response and eradication capacity in any major EAD is going to rely on participation of the private veterinary sector, however it is likely that the current veterinary workforce may not have the capacity to undertake the work necessary. This is a critical risk to the nation's biosecurity system. The vulnerability of veterinary services (government and private sector) was highlighted in the OIE PVS report which was conducted as one of the recommendations that came out of the Matthews review.

Veterinary shortages in the production animal sector have long been an issue in rural and remote areas of Australia. As there has not been coordinated integration of rural veterinary practices into the provision of services that have industry and community benefits (as recommended by Frawley in 2003), the trends observed in the report have continued, and the risks have been realised. In some industry sectors, veterinary services have been viewed as optional rather than essential. In order to remain viable, rural veterinary practices have modified their models to include significant companion animal work. This has led to an overall reduction in production and mixed animal veterinarians, and associated services. Despite this modification, some practices have not been able to maintain viability, and this has led to some communities losing all veterinary services in their region. This poses a risk to Australia's way of life, biosecurity, and economy.

Drift from rural practices and food production animal medicine has seen a parallel rise in lay operator intrusion, with an intrinsic lowering of standards of both biosecurity surveillance and animal welfare. With the ever-increasing demands for professional services to the rural sector, failure by the veterinary profession to supply services due to lack of staff has seen less-skilled technicians and lay operators fulfilling these roles. Although this may be a short-term solution, it poses an increased overall risk to the food animal sector's integrity, continuity and access to sensitive overseas markets.

Solutions to support the delivery of veterinary services are urgently needed. To date, there has been a relative under-investment and prioritisation of veterinary services by governments against other priorities for public funding. The veterinary profession should be compensated for delivering services that have community and industry benefit. The AVA believes this may be best served by government support in the form of rural practice incentives, and expansion of existing public-private surveillance initiatives to keep veterinary practice financially viable in rural locations.

For example, there is an opportunity to better support food safety, animal health, production and welfare by involving veterinarians in preparing on-farm biosecurity plans through government-subsidised programs.

Enhancements for veterinary graduates to take up positions in rural locations and remain there could be explored, such as HECS 'forgiveness' opportunities for veterinary graduates.

Unfortunately the new job-ready graduate funding model will not help the universities to recruit more applicants for veterinary science (an undergraduate student now only has access to 7 years



of government funding). There needs to be some consideration for professional degrees such as veterinary science in this model.

There will be additional future challenges facing the veterinary profession from increased ambient temperatures, more frequent droughts, and other natural disasters such as fires. There is a need for a strong, appropriately trained workforce to service the animal production industries, as these are challenged by more variable feed availability, changing disease incidence and distribution, and other effects of climate change.

## Coordinated preparedness and response

While acknowledging that any EAD response is predominantly the role of states and territories, the Australian government can play a significant role in coordinating and funding response agreements with the private sector.

The continuing threat of current and emerging diseases requires a coordinated national One Health approach to Australia's health security, disease surveillance and effective national preparedness and response. Within this, strengthening of animal health systems for livestock, wildlife and companion animals is critical due to the zoonotic origin of many emerging infectious diseases. Japanese Encephalitis is just one recent example of this.

Development of a framework or agency whose responsibility is disease prevention and control based on a One Health approach would ensure disease prevention, preparedness, response and wellbeing in humans, animals, and plants in their shared environment. This would provide cost effective management of communicable and non-communicable diseases as well as other problems with local, regional and global impact such as antimicrobial resistance (AMR) and food security.

### Training

The AVA supports the EAD training activities funded by the government to date, including state-delivered continuing education for veterinarians in emergency animal disease recognition, and real-time training in Foot and Mouth Disease in Nepal, and recommends ongoing government support for these types of initiatives. These should be expanded and prioritised, including attention given to ways of incentivising practitioner involvement. Successful participation in an EAD response demands a sound understanding of the AIIMS structure and systems, and while government veterinarians are well versed in these, private practitioners generally are not. Incentivising private practitioner participation by subsidising their time away from the practice to attend this training is recommended.

Giving the increasing threat of climate change, there is a need for more veterinarians highly skilled in monitoring and detection of pathogens and diseases, including zoonotic diseases, as animal and human populations interact. The magnitude of such challenges is evident from recent experiences with pathogens such as influenza viruses, henipaviruses, lyssaviruses and coronaviruses.

### Companion animal disease surveillance

For companion animals in Australia, disease surveillance has historically only taken the form of *ad hoc* surveys, or has focussed on adverse reactions to pharmaceuticals, and no formal companion animal disease surveillance activities are currently undertaken by government. Australia's only national Australian companion animal multi-disease surveillance system was introduced by a pharmaceutical company in 2010. It operated for 7 years before being closed through lack of resourcing; over 26,000 cases of disease reports were collected during this time.

An historic lack of surveillance does not reflect a lack of need, and it is estimated that tens of thousands of pet animals currently succumb to preventable disease every year in Australia, many fatally, and many with zoonotic implications such as leptospirosis. In the event of a highly



infectious disease outbreak affecting companion animals, Australia is placed at significant risk due to the lack of formal surveillance or response framework for companion animals. For example, the (formerly) exotic disease *Ehrlichia canis* was recently introduced, and was not detected until it was quite widespread.

Current advances in technology offer the potential for new surveillance systems for companion animals, such as VetCompass, which can analyse data from companion animal veterinary practices Australia-wide. Such systems are being developed by universities and not-for-profit animal welfare organisations, but with very limited funding, and are dependent on grants, donations, and self-generated funds. Government investment is needed to enhance this type of capability.

### *Wildlife disease surveillance*

Disease surveillance in Australian wildlife is coordinated by Wildlife Health Australia (WHA), who work collaboratively with a range of government, non-government, private veterinary services and lay wildlife groups. Seventy-five percent of emerging infectious diseases are zoonotic, with recent serious examples arising from wildlife (eg Hendra virus, Japanese Encephalitis) so wildlife disease surveillance will only become more important in the face of climate change, land clearing and ongoing human encroachment on wildlife habitat. The AVA welcomes the recent announcement by the government for improved funding of WHA to undertake this important activity.

Climate change is a major factor in the changing epidemiology of vector-borne diseases that affect human and animal health and in the spread of these diseases from equatorial regions. Increased regional sea and land temperatures and rain events that facilitate vector reproduction have resulted in an increased incidence of such diseases and/or in shifting geographical ranges, as well as increasing the risk from zoonotic diseases. Sustained government investment in wildlife disease surveillance will be required to adapt and improve our collective readiness to respond to significant biosecurity threats.

### *Diagnostics*

Governments must ensure that veterinary laboratory capacity meets Australia's needs, including those of regional and remote locations. This may include evaluating options to increase private veterinary laboratory involvement in reference laboratory support, in order to supplement the government laboratory system. There is also a need for priority training of laboratory personnel, including veterinary pathologists, microbiologists and toxicologists. Our laboratories currently have a shortage of high-level scientific staff. This is essential to maintain Australia's favourable animal health status.

Improved processes for sample submission and testing for notifiable, exotic or emergency animal disease exclusion should be established. Better systems for sample transportation to the laboratories should be a priority, as well as improved turnaround times. This also has public health and welfare implications: for example, the loss of diagnostic government laboratories from North QLD has meant that a Hendra exclusion test can take 3-4 days. Prior to the contraction in government veterinary laboratories, producers were much more willing to submit cases for workup. This meant that more cases were seen, surveillance was better, animal health outcomes were better, and the rural veterinary profession was more sustainable.

### *Data*

Disease surveillance would be enhanced by developing systems that provide timely, de-identified, regional syndromic data of sufficient quality to meet identified needs of both government and practices. Standardising reporting systems across state borders to enable aggregation of data will maximise the reliability, accuracy and useability of surveillance data.



## Traceability

The early actions after a disease is diagnosed are critical. Currently most EAD responses involve a livestock standstill and tracing using antiquated paper-based measures. Paper-based vendor declarations should be phased out and replaced by clear identification and electronic recording of all livestock species so there is capacity to trace all movements electronically. To this end the AVA welcomes the agreement to advance a national approach to Australia's livestock traceability system and the recognition of the urgent need for individual identification for sheep at the recent Agriculture Ministers' Meeting.

## Research

Research and development of stall-side rapid diagnostics and other advances in early disease detection will be critical in future disease response and containment activities.

Climate change is a major factor in the changing epidemiology of vector-borne diseases that affect human and animal health and in the spread of these diseases from equatorial regions.

There is a need for active collaboration using a One Health approach to support research to:

- Reduce the negative effects of climate change on animal health and welfare, the environment and wildlife.
- Reduce the potential for spread of arboviruses, henipaviruses and other zoonotic disease agents as a consequence of climate change.
- Provide technical advice and public education regarding disease control programs.
- Mitigate the negative effects of a changing environment on sustainable terrestrial and aquatic animal production and nutrition; promote agricultural practices that produce less carbon and those that actively fix carbon long term in soils and vegetation,
- Reduce human contributions to climate change.

## Key Recommendations – Summary

- Increased government funding and expansion of existing public-private schemes such as the National Significant Disease Investigation Program (NSDIP) to enhance collaboration between private and government veterinary services;
- Development of additional models which seek to increase the presence of veterinarians on farms to undertake active and passive surveillance; for example, by involving veterinarians in preparing and reviewing on-farm biosecurity plans through government-subsidised programs;
- Australia's veterinary workforce capacity should be regularly audited against the present and future risks to Australia's animal industries, and any deficits addressed. Workforce planning that takes a holistic approach is needed to ensure that Australia has the right number of veterinarians into the future;
- Government-supported schemes to enhance retention in the veterinary workforce, including rural practice incentives and HECS 'forgiveness' programs, should be investigated. This is essential to support the veterinary profession's contribution to Australia's favourable biosecurity status;
- Investment is required into emerging areas of surveillance importance, such as companion animal and wildlife diseases;



- Increased EAD continuing education for veterinarians including monitoring and detection of emerging diseases and EAD response arrangements;
- Prioritisation of veterinary laboratory capacity, including workforce skills, sample transportation, disease testing, rapid diagnostics and standardised reporting;
- Research into the changing epidemiology of vector-borne diseases and other impacts on biosecurity as a result of climate change;
- Development of an independent national One Health framework for disease prevention and control.

## References

Frawley PT (2003) Review of Rural Veterinary Services. Department of Agriculture, Fisheries and Forestry. Commonwealth of Australia: 1-109.

Matthews K (2011) A review of Australia's preparedness for the threat of foot-and-mouth disease. <https://www.agriculture.gov.au/sites/default/files/sitecollectiondocuments/animal-plant/pests-diseases/animal-pests-diseases/footandmouth.pdf>

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