

National Animal Health Surveillance and Diagnostics Business Plan 2016–2019

Foreword

Surveillance and diagnostics are key components of Australia's animal health system. They enable early detection of emergency and emerging animal diseases, facilitate access to international markets, and support the management of endemic pests and diseases. These functions underpin national and international trade in livestock products and help to safeguard the health of Australians. A coordinated approach at a national level ensures that Australia is able to continue meeting international and domestic expectations and requirements for animal health.

The National Animal Health Surveillance and Diagnostics Business Plan 2016–2019 represents the commitment of Australian governments and industry to maintain and further improve our surveillance and diagnostic systems.

The plan summarises existing surveillance and diagnostic programs and outlines additional priority activities for Australian governments and industry to implement over the next three years. These new activities will build on existing strengths and address identified gaps in the system.

This plan was developed collaboratively by a wide range of government and industry organisations and will rely on their leadership and support for effective implementation. With continued partnership, this plan will result in a more effective and efficient Australian animal health system.

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Acronyms

AAHL	Australian Animal Health Laboratory
AHA	Animal Health Australia
AHC	Animal Health Committee
AQUAPLAN	Australia's National Strategic Plan for Aquatic Animal Health
AVA	Australian Veterinary Association
BEF	Bovine Ephemeral Fever
BIMS	Biosecurity Incident Management System
BJD	Bovine Johne's disease
DAF	Department of Agriculture and Fisheries, Queensland
DAFWA	Department of Agriculture and Food, Western Australia
DEDJTR	Department of Economic Development, Jobs, Transport, and Resources
DPIPWE	Department of Primary Industries, Parks, Water and Environment
EAD	Emergency Animal Disease
IGAB	Intergovernmental Agreement on Biosecurity
LBN	Livestock Biosecurity Network
MAX	Maximum Disease and Pest Management System
NAHIS	National Animal Health Information System
NAMP	National Arbovirus Monitoring Program
NAQS	Northern Australian Quarantine Strategy
NLIS	National Livestock Identification Scheme
NSDIP	National Significant Disease Investigation Program
NSHMP	National Sheep Health Monitoring Program
NSW	New South Wales
NTSESP	National Transmissible Spongiform Encephalopathy Surveillance Program
OIE	World Organisation for Animal Health
PIC	Property Identification Code
PIIMS	Primary Industries Information Management System
PIRSA	Primary Industries and Regions, South Australia
QLD	Queensland
SA	South Australia
SDIP	Significant Disease Investigation Program
SWFSPP	Screw-worm Fly Surveillance and Preparedness Program
TAS	Tasmania
TSEFAP	Transmissible Spongiform Encephalopathies Freedom Assurance Program
VIC	Victoria
WHA	Wildlife Health Australia

Introduction

The National Animal Health Surveillance and Diagnostics Business Plan 2016–2019 is Australia's first national business plan for animal health surveillance in Australia. It is intended to guide the efficient and effective delivery of surveillance activities in accordance with nationally agreed objectives and priorities. It has been developed collaboratively by the governments and livestock industries that will be chiefly responsible for its implementation.

Background

Australia has a relatively favourable animal health status, free from many of the economically important diseases that occur in other parts of the world. Assurance in Australia's animal health status underpins the 'clean, green' image of Australia's animal industries and our competitive advantage in international markets. It also supports domestic consumer confidence in Australian livestock products.

However, Australia is not immune to the threats posed by exotic and emerging infectious diseases. International trade and travel, intensification of livestock production, new technologies, climate change and other factors are contributing to a growing risk of disease emergence. The social, economic and environmental costs of disease incursions can be exceedingly high. In addition, trading partners and the World Animal Health Organisation (OIE) are tending to demand more robust evidence in support of claims of disease freedom.

Surveillance enables the identification of exotic, emerging and nationally significant endemic animal diseases. If done well, it provides the necessary information to support disease control policies, programs and reporting requirements. Surveillance is a critical element of an effective and efficient animal health system and a core competency of the Veterinary Service as described by the OIE.

The majority of emerging infectious diseases of people are caused by microbes that originate in animals and cross the species barrier to infect humans. For this reason, surveillance and control of diseases in animals is an important measure to safeguard the health of people.

Australia's current capacity for animal health surveillance and diagnostics is outlined briefly in Annex A. These existing surveillance programs and systems provide a strong foundation on which to further build national capacity.

The benefits of an effective animal health surveillance system are substantial and far-reaching across governments, livestock industries and the wider community. The Intergovernmental Agreement on Biosecurity (IGAB) has recognised that surveillance is a shared responsibility and all parties have a role in Australia's animal disease surveillance system. With common interests and a diverse range of stakeholders, it is imperative to have a coordinated national approach to strengthening this system.

Scope

In principle, biosecurity is a responsibility shared by governments, producers and the general public. The scope of this business plan is limited to the legitimate domain of governments and livestock industries as providers and users of animal health surveillance information: these parties will be chiefly responsible for its implementation. However, delivery of outcomes will require engagement with a broader range of stakeholders.

The business plan covers the collection, analysis and reporting of surveillance information for infectious diseases considered to be of national and/or international significance. This includes exotic, emerging and nationally significant (notifiable) endemic diseases of terrestrial animals. It has an emphasis on economically important diseases of production animals and zoonotic diseases, and also includes disease of wildlife. It does not include surveillance for aquatic animal diseases, as this is covered in Australia's National Strategic Plan for Aquatic Animal Health (AQUAPLAN 2014–2019).

Surveillance for non-infectious diseases, environmental toxins and microorganisms that may affect food safety, chemical pollutants affecting animal health, and invasive animal species are considered to be beyond the scope of this business plan. Whilst technically in scope, this plan does not include activities to maintain and enhance laboratory diagnostic capacity. This omission is acknowledged and will be addressed in future plans.

For completeness, this business plan refers to ongoing targeted and general surveillance programs as well as new activities to strengthen priority areas and add value to existing activities, data and practices.

Goals of Australia's animal health surveillance and diagnostics system

Surveillance for animal diseases is ultimately intended to achieve the following high level goals:

1. Detect emerging and emergency animal diseases early

Delays in the detection of disease incursions allow further spread of infection and may result in significantly greater health, economic and social consequences. Australia's animal health system must be able to detect emergency animal (including wildlife) disease incursions and emerging diseases early to enable a rapid response and minimise deleterious impacts.

2. Support claims of disease freedom

Assurances of freedom from certain diseases facilitate international and domestic trade and underpin consumer confidence in the quality and safety of Australian livestock and livestock products. In keeping with international trade obligations, the standards of the OIE and the demands of trading partners, Australia is expected to provide robust surveillance evidence to support its claims regarding animal health status – it is not sufficient to state 'not known to occur' or rest on the assurance of being 'historically free'.

3. Assist in the management (prevention and control) of nationally significant endemic diseases

Knowledge about the distribution of nationally significant (notifiable) endemic diseases informs policies and programs for disease management and supports the efficient allocation of resources for surveillance, disease control and research.

4. Identify changes in factors or events that influence biosecurity risks

The global distribution of diseases and/or factors that drive their emergence is constantly changing and this may alter the risk of disease occurring in certain places, industries or animal populations in Australia. The efficient, risk-based allocation of surveillance resources depends on the ongoing identification, analysis and communication of off-shore, border and onshore risks.

Objectives and activities

This National Animal Health Surveillance and Diagnostics Business Plan 2016–2019 identifies four objectives:

- 1. To maintain and enhance surveillance programs and activities that are focussed on the highest risks**
- 2. To enhance the collection, management and effective use of animal health surveillance information**
- 3. To strengthen the knowledge, attitudes and practices of people involved in surveillance**
- 4. To cultivate effective partnerships and stewardship**

These objectives collectively underpin the achievement of the high-level goals and are based on knowledge of existing gaps and strengths on which to build. Aligned with these objectives, Australian governments and livestock industries have identified specific activities and outcomes to be delivered over a three-year period.

1. Maintaining and enhancing surveillance programs and activities that are focussed on the highest risk

Surveillance for animal diseases in Australia is achieved through a combination of programs, including those targeting specific diseases, and activities that enable the detection of a wide range of endemic, exotic and emerging diseases. Given the export focus of large sectors of Australia's livestock industry, surveillance to meet market access requirements will remain a key part of this objective. To varying degrees, these programs and activities involve governments, industries and people working with animals throughout the supply chain.

To address this objective, Australia will maintain a suite of programs that provide surveillance information for diseases that have importance for trade and/or human health. In some cases, these programs are managed jointly by industry and government. These include surveillance programs for the following diseases:

- Transmissible Spongiform Encephalopathies
- Economically important arboviruses such as bluetongue virus, Akabane and bovine ephemeral fever (BEF)
- Enzootic Bovine Leukosis in dairy herds
- Screw Worm Fly
- Avian influenza in wild birds

Brief descriptions of these programs are provided in Annex A, together with an overview of the substantial and ongoing surveillance programs and activities implemented by jurisdictional governments and livestock industries. The management of these programs is expected to continue largely as per current arrangements.

Several additional outcomes have been identified to promote the provision of surveillance data in a targeted and efficient manner. These outcomes and priority activities to deliver them are summarised in Table 1.

Table 1: Maintaining and enhancing surveillance programs and activities that are focussed on the highest risk

Outcome <i>Expected benefits or effects</i>	New activity <i>Tasks to deliver planned results</i>	Lead	Resource/ financial implications
The allocation of surveillance resources is informed by a transparent, consistent and technically sound process of prioritisation	Develop risk criteria and methods for prioritisation and/or optimisation of surveillance [1.1.A ¹]	DEDJTR and Department of Agriculture and Water Resources	In-kind contributions
	Pilot an approach to the prioritisation or optimisation of surveillance activities for selected diseases in each livestock sector [1.1.B]	DEDJTR and Department of Agriculture and Water Resources	Funding will be required
	Implement a system for prioritisation/optimisation of surveillance at the jurisdictional level [1.1.C]	State/Territory governments	
There is an increase in the quantity and quality of investigations of unusual disease events by [private] veterinary practitioners	Undertake a stakeholder-driven review of the NSDIP and identify options for strengthening the program [1.2.A]	Animal Health Australia	In-kind contributions
	Modify the NSDIP in accordance with agreed recommendations from the review and agreed national standards for investigation of priority diseases [1.2.B]	Animal Health Australia	In-kind contributions

2. Enhancing the collection, management and effective use of animal health surveillance information

Timely and accurate information facilitates the management of market access issues, supports decision-making and underpins the development and implementation of disease control policies and programs.

Data on animal disease is collected and managed by a range of government, non-government and private sector organisations, agencies and industries. The Australian Government draws on nationally collated disease data to meet Australia’s international reporting obligations, underpin market access negotiations, provide export certification and satisfy the requests of trading partners. Summary data on nationally significant diseases is provided quarterly by numerous stakeholders to the National Animal Health Information System (NAHIS). However, there is no common national

¹ ‘A’, ‘B’, ‘C’ etc. indicate related (usually sequential) sub-activities that contribute to the outcome

platform for the rapid collation and analysis of disease data, including disease management/response data for international reporting.

Nationally, there is much to be gained by better integration of information systems and adoption of more efficient data management processes. New technologies and the recent implementation of compatible systems in some jurisdictions provide opportunities to enhance data sharing. There is also potential to make better use of available data to meet the information needs of government and industry stakeholders.

Table 2 provides a summary of agreed outcomes and activities to enhance the collection, management and effective use of animal health information for surveillance purposes.

Table 2: Enhancing the collection, management and effective use of animal health surveillance information

Outcome <i>Expected benefits or effects</i>	New activity <i>Tasks to deliver planned results</i>	Lead	Resource/ financial implications
Policy and governance arrangements are in place to facilitate the sharing of national surveillance data	Develop National Minimum Data Standards for animal health surveillance [2.1.A]	Department of Agriculture and Water Resources (with AHA and jurisdictions)	In-kind contributions
	Develop formats and protocols for the transfer of national surveillance data [2.1.B]	National Veterinary Epidemiology and Surveillance Group (with PIRSA)	In-kind contributions
National animal health surveillance data are managed in a more coordinated and integrated way	Develop a Commonwealth facility capable of managing agreed national surveillance data [2.2.A]	Department of Agriculture and Water Resources	Funding will be required
	Conduct a pilot project to develop and demonstrate the capacity to share national surveillance data [2.2.B]	PIRSA (with Department of Agriculture and Water Resources)	In-kind contributions
	Develop an online user interface and 'dashboards' to graphically present real-time snapshots and trends in national animal health surveillance data [2.2.C]	Department of Agriculture and Water Resources in collaboration with the National Veterinary Epidemiology and Surveillance Group and industries	Funding will be required

Outcome <i>Expected benefits or effects</i>	New activity <i>Tasks to deliver planned results</i>	Lead	Resource/ financial implications
Onshore activities are guided by timely intelligence of offshore and border risks	Establish a system to collect, collate and analyse border interception data to identify emerging trends/threats [2.3.A]	Department of Agriculture and Water Resources	In-kind contributions
	Establish mechanisms to integrate interception data with border and offshore situation analyses and communicate findings to jurisdictions and other stakeholders [2.3.B]	Department of Agriculture and Water Resources	In-kind contributions
Investigations of possible priority disease events provide data that are sufficient for initial assessment and the fulfilment of international/trade reporting obligations	Develop national standard protocols for the investigation and reporting of syndromes indicative of high-priority diseases [2.4.A]	National Veterinary Epidemiology and Surveillance Group (with AAHL)	In-kind contributions
	Update policies and procedural guidelines to reflect agreed national standards [2.4.B]	Animal Health Committee	In-kind contributions
Surveillance data are effectively turned into information and made available to relevant stakeholders to support policy development, decision-making and trade	Identify and document the needs of key stakeholders (including governments, industries, private practitioners and producers), so as to inform subsequent collection, analysis, presentation and dissemination of surveillance information [2.5]	AHA and NAHIS Coordinating Committee	
	Examine data collected by the livestock industries (or other private sector groups) to determine its value and the feasibility of its contribution to a national animal health information system [2.6]	AHA and NAHIS Coordinating Committee	In-kind contributions
	Create an index of animal health databases containing metadata that is accessible to all stakeholders [2.7]	AHA and NAHIS Coordinating Committee	Funding will be required

Outcome <i>Expected benefits or effects</i>	New activity <i>Tasks to deliver planned results</i>	Lead	Resource/ financial implications
Information derived from congregation points (including surveillance data from saleyards and abattoirs) is available to support claims of disease freedom	Develop tools to collate existing data from NLIS, PICs, saleyards, abattoirs and other congregation points and assess its value in providing surveillance information [2.8]	Department of Agriculture and Water Resources (for an initial scoping study to determine the feasibility and value of further work)	Funding may be required to support a consultant
Better tools are available to facilitate the reporting of significant disease events by producers and animal health practitioners	Develop/enhance and test a mobile phone application for reporting of disease signs and syndromes [2.9]	Animal Health Australia and AVA	Funding will be required

3. Strengthening the knowledge, attitudes and practices of people involved in surveillance

The detection and reporting of animal disease events fundamentally depends on the contribution of people working with animals throughout the production system. Valuable contributions are made by a variety of people in government, non-government organisations, the private sector and the community: farmers, stockmen, veterinarians and animal health technicians, meat inspectors, saleyard operators, animal transporters and many others. Effective surveillance depends on these people being aware, capable of detecting signs of disease, motivated to report their findings and/or investigating unusual disease events appropriately. The priority activities outlined in Table 3 are intended to strengthen the knowledge, attitudes and practices of some of the key groups of people on which effective surveillance depends.

Table 3: Strengthening the knowledge, attitudes and practices of people involved in surveillance

Outcome <i>Expected benefits or effects</i>	New activity <i>Tasks to deliver planned results</i>	Lead	Resource/ financial implications
Government and private veterinarians have the right knowledge and skills to investigate and report on disease events	Develop a nationally agreed checklist of skills required by government field veterinarians [3.1]	DEDJTR	In-kind contributions
	Assess Australian universities with reference to the World Animal Health Organisation (OIE) 'Day 1 Competencies' [3.2]	Australian Veterinary Boards Council	Funding will be required

Outcome <i>Expected benefits or effects</i>	New activity <i>Tasks to deliver planned results</i>	Lead	Resource/ financial implications
	Pilot the European Union on-line training program for private and government field veterinarians [3.3]	Department of Agriculture and Water Resources	Funds committed
	Update the Field Guide of Exotic Animal Diseases (the 'blue book') and publish on-line [3.4]	Department of Agriculture and Water Resources	Funds committed
	Training program in animal disease investigation: review requirements and develop a program [3.5]	AHA in collaboration with the Australian Veterinary Association (AVA) and NSDIP Coordination Committee	Funding required
Producers, livestock industry workers and other people are more likely to recognise and report unusual signs of animal disease	Undertake a program of social research to identify drivers and impediments to producers and others in the supply chain for participating in surveillance [3.6.A]	Department of Agriculture and Water Resources	Funded
	In response to the findings of the social research project, develop a strategy to improve private sector awareness and engagement in disease surveillance [3.6.B]	<i>To be confirmed</i>	Funding will be required
	Develop communication, education and information materials and pilot in specific stakeholder groups; e.g. on-line producer awareness campaign linked to PIC registration [3.6.C]	<i>To be confirmed</i>	Funding will be required

4. Cultivating effective partnerships and stewardship

Biosecurity is a shared responsibility. It requires cooperative partnerships among governments, non-government organisations and industry, and strong engagement with the Australian community. Building these partnerships will be central to the effective implementation of the national surveillance and diagnostics strategy.

Table 4: Cultivating effective partnerships and stewardship

Outcome <i>Expected benefits or effects</i>	New activity <i>Tasks to deliver planned results</i>	Lead	Resource/ financial implications
Key stakeholders are committed to the strengthening of Australia’s animal health surveillance system	Develop and implement a communications strategy to raise awareness about Australia’s animal health surveillance and diagnostics strategy and the desired outcomes described in this Business Plan [4.1]	...	
A national veterinary epidemiology and surveillance group (NVESG) is effective in fostering collaboration and providing technical leadership/advice	Define the purpose, roles and governance arrangements of the NVESG [4.2]	PIRSA	In-kind contributions

Project Management

Governance

Animal Health Committee (AHC) and the AHA Industry Forum will jointly provide high-level leadership and oversight to ensure that the Business Plan remains relevant and aligned with the priorities of government and industry stakeholders. These senior leadership groups will endorse major revisions to the Business Plan and advocate to garner support for activities.

A Task Group will be established to drive the coordinated implementation of the Business Plan. Comprising representatives of state/territory governments, several peak industry bodies and the Commonwealth, the Task Group will monitor progress, identify opportunities or problems, and collectively support the effective delivery of the Business Plan. The Task Group will report to AHC and the AHA Industry Forum, and will be supported by a secretariat provided by AHA.

The nominated leaders of each activity will be responsible for planning, coordination with relevant stakeholders, implementation and reporting.

Resources

Resources to implement Business Plan activities will be sought independently for each activity through the lead agency, as there is no overarching budget for implementation of the plan. Some activities may be supported by funds administered by the Commonwealth and State/Territory governments, including funds attached to the implementation of the Agricultural Competitiveness White Paper, and those identified by industry. In addition, funds may be requested from other government and industry sources. However, it is acknowledged that implementation will largely rely

on in-kind contributions (particular of human resources) from governments and representatives of livestock industries.

Communication

Effective communication with a variety of stakeholders will be required to raise awareness about Australia's animal health surveillance goals and garner support for the outcomes described in this business plan. The Task Group will oversee the development of a communications strategy as a priority in the first phase of the plan's implementation.

Monitoring and evaluation

Appropriate measures of success and a simple framework for monitoring and evaluation will be developed. This will support management of the Business Plan and periodic reporting on progress to stakeholders.

Annex A: Baseline national surveillance and diagnostic capacity

Animal health surveillance within Australia is carried out by jurisdictional veterinary authorities, private practitioners, industries and non-government organisations. National technical policy for surveillance and diagnostics is endorsed by Chief Veterinary Officers through the Animal Health Committee (AHC).

Jurisdictional legislation underpins surveillance activities and the legal obligation to report [nationally notifiable diseases](#).

Field surveillance is supported by a network of diagnostic laboratories operated by governments and the private sector: these include reference laboratories for specific diseases.

National surveillance programs

The national surveillance programs described in this section are sustained by a variety of government and industry partnership arrangements, many of which are managed by Animal Health Australia.

National Arbovirus Monitoring Program

The [National Arbovirus Monitoring Program](#) (NAMP) monitors the distribution of economically important arboviruses (insect-borne viruses) of ruminant livestock and associated insect vectors in Australia. Arboviruses monitored by NAMP include bluetongue, Akabane and bovine ephemeral fever (BEF) viruses.

Screw-worm Fly Surveillance and Preparedness Program

The [Screw-worm Fly Surveillance and Preparedness Program](#) (SWFSPP) utilises a mixture of fly trapping and myiasis investigations to detect an incursion of screw-worm fly early enough to enable eradication. Other elements of the program relate to raising awareness, entomology training and risk monitoring.

Transmissible Spongiform Encephalopathies Freedom Assurance Program

The [Transmissible Spongiform Encephalopathies Freedom Assurance Program](#) (TSEFAP) includes surveillance (brain tissue sampling) and regulatory actions to ensure Australia maintains its negligible risk status for diseases like bovine spongiform encephalopathy. The program is science-based and carried out in accordance with OIE standards to ensure credible outcomes.

National Sheep Health Monitoring Project

The [National Sheep Health Monitoring Project](#) (NSHMP) monitors lines of adult sheep in selected abattoirs for approximately 20 endemic conditions. In the 2013–2014 financial year, 3 082 347 sheep (excluding lambs) were monitored across 18 domestic and export abattoirs.

The NSHMP has generated a comprehensive and contemporary dataset that provides a good indication of the animal health status of the Australian flock for a range of conditions with visible pathology. This information can be used by farmers, governments, industry groups and processors as solid evidence in support of market access and to demonstrate the quality of Australian product.

National Significant Disease Investigation Program

The [National Significant Disease Investigation Program](#) (NSDIP) aims to encourage the investigation and reporting of unusual and potentially significant disease events in livestock and wildlife. The program subsidises approved private veterinary practitioners to conduct full investigations which might otherwise be limited by competing priorities and commercial realities such as the low economic value of individual animals relative to the cost of veterinary services. Government veterinarians are obliged to investigate cases where there is a genuine suspicion of a notifiable disease and are not subsidised by the program.

Northern Australia Quarantine Strategy

The [Northern Australia Quarantine Strategy](#) (NAQS) is a Commonwealth-funded program implemented in coastal regions of Western Australia, Queensland and the Northern Territory to address biosecurity risks in northern Australia. It is an integrated program of targeted and general surveillance measures, including:

- Targeted surveys and monitoring programs, including sentinel cattle herds and insect trapping
- Biosecurity surveillance services delivered by Indigenous ranger groups and other stakeholders
- Strategic collaborations with Queensland, Northern Territory and Western Australian biosecurity agencies and other stakeholders
- Collection and analysis of relevant risk data through the offshore–onshore continuum
- Public awareness and community reporting under the Biosecurity Top Watch initiative.

National Avian Influenza in Wild Birds Surveillance Program

The [National Avian Influenza in Wild Birds Surveillance Program](#) is conducted Australia-wide. It comprises two components: targeted surveillance via sampling of apparently healthy and hunter-killed wild birds, and general surveillance via investigation of significant unexplained morbidity and mortality events in wild birds, including captive and wild birds within zoo grounds. Sources for targeted wild bird surveillance data include state and territory government laboratories, universities, and samples collected through the NAQS program. Samples from sick birds are sourced from members of the public, private practitioners, universities, zoos and wildlife sanctuaries. This program is managed by Wildlife Health Australia.

National Enzootic Bovine Leukosis Freedom Assurance Program

The National Dairy Industry Enzootic Bovine Leukosis Freedom Assurance Program (NEBLFAP) is a monitoring program involving the testing of all dairy farms in a structured survey coordinated by the dairy industry. Other elements of the program include the adoption of biosecurity measures on dairy farms.

Wildlife Health Australia

[Wildlife Health Australia](#) (WHA) administers Australia's general wildlife health surveillance system. Key elements of the system include a network of WHA coordinators appointed by Chief Veterinary Officers; coordinators at zoos; 'sentinel clinic' wildlife hospitals and university wildlife hospitals; and a web-enabled national database of wildlife health surveillance information. Targeted projects and a number of focus groups or working groups coordinated by WHA are also part of the system: this

includes maintaining the national dataset of Australian bat lyssavirus testing in bats. WHA coordinators represent each of Australia's states and territories, including the Australian Antarctic Territory. Ten zoos across Australia participate in the Zoo Based Wildlife Disease Surveillance Program—a collaborative project between WHA and the Zoo and Aquarium Association, the peak representative body for zoos and aquaria in Australia. A new surveillance program involving sentinel veterinary clinics that have a high wildlife caseload began in 2014. A pilot project for a university based wildlife disease surveillance program commenced in 2015.

General surveillance and diagnostics by jurisdictional governments²

Australia's state and territory governments recognise the importance of surveillance for suspect notifiable diseases; that is, exotic, emergency and endemic diseases of national significance. Collectively, they invest in more than 100 field veterinarians with district surveillance responsibilities, supported by seven modern government veterinary laboratories, veterinary pathology staff, abattoir veterinarians and inspectors, and stock inspectors.

Laboratory disease confirmation is a highly technical process, requiring infrastructure, equipment and expertise. In many cases a free or subsidised field and laboratory service is provided, particularly where an EAD is suspected and there is a public benefit in the diagnosis. This subsidised service may be extended if the case is clinically consistent with significant zoonotic, regulated endemic or notifiable diseases. Generally a full set of diagnostic samples is required to allow a diagnosis to be made and any clinically similar reportable diseases to be excluded.

A key component of general surveillance is the individual and combined activities of jurisdictions and industry in the areas of communications; engagement; resources; and training to raise disease awareness and facilitate disease investigations.

New South Wales

New South Wales has 49 government veterinarians and five animal health officers in the field; they report to the Local Land Services Authorities, a form of local government. In New South Wales, cases of suspect notifiable diseases are investigated after private practitioners or government staff submit diagnostic specimens to the State Veterinary Laboratory of the New South Wales Department of Primary Industries. State and district government veterinary officers collate data from these investigations and often assist in investigating or managing cases referred by private practitioners. Private practitioners receive subsidised laboratory testing for cases in which notifiable diseases are suspected. They also receive training in sample submission, disease investigation methods for some notifiable diseases and the use of personal protective equipment. Surveillance for swine brucellosis in feral pigs and pig dogs and defining the epidemiology of 3-D syndrome in the western division are two examples of targeted state surveillance efforts.

Northern Territory

The Northern Territory Department of Primary Industry and Fisheries encourages and supports participation of private practitioners in disease surveillance. In addition, three district veterinarians and six animal health officers are involved in disease surveillance. This includes investigation of significant disease events for the NSDIP, and investigation of cattle and sheep exhibiting progressive behavioural changes or displaying neurological signs for the NTSESP. Laboratory samples submitted

² Figures current as of October 2015

Annex A: Overview of Australia's existing national surveillance and diagnostics system

by private practitioners for disease investigations in livestock and significant events in wildlife are tested as a free service.

Queensland

Ten field veterinarians and 53 animal health officers are deployed for disease surveillance and control work. To promote the role of private veterinarians in disease surveillance, private veterinary practitioners involved in large animal practice are regularly visited or contacted by veterinary or biosecurity officers from the Queensland Department of Agriculture and Fisheries (DAF) to discuss disease incidents in their area. Private practitioners are reminded of the importance of reporting significant animal disease events, including notifiable diseases and suspect EADs. Departmental veterinary officers also work with private veterinary consultants in the intensive pig and poultry industries to manage serious disease issues.

The Biosecurity Sciences Laboratory (BSL) is a veterinary diagnostic testing facility for terrestrial and aquatic animals located at Coopers Plains in Brisbane. The laboratory has NATA accreditation for veterinary testing. The department's veterinary pathologists provide telephone advice and in-field support to private practitioners and field veterinary officers investigating complex disease cases, particularly when no clear cause for the problem has been identified. Laboratory services are subsidised where public benefit is involved.

South Australia

Biosecurity South Australia (Biosecurity SA), a division of Primary Industries and Regions South Australia, employs six veterinarians and 13 animal health officers to carry out surveillance. These are supported by a network of 30 contracted private practices that make a valuable contribution to surveillance by investigating potential incidents of notifiable diseases and significant disease events. Biosecurity SA has an Enhanced Disease Surveillance Program to promote disease incident investigations in South Australian livestock. In partnership with the NSDIP, the program funds laboratory submissions for suspect infectious diseases in livestock and subsidises contracted private veterinary practitioners for costs incurred in investigating unusual disease events. Biosecurity SA offers training and refresher courses in EAD detection and necropsy technique to practitioners, and provides ongoing technical support, when required. Biosecurity SA also implements an expanded NSHMP.

Tasmania

In Tasmania, government services are small (four field veterinarians) and surveillance relies strongly on private veterinary practices via personal contacts with animal health staff from the Department of Primary Industries, Parks, Water and Environment (DPIPWE). Practitioners also participate in the NSDIP and various targeted disease surveillance programs, such as the NTSESP. Tasmania runs specific disease survey projects to enhance laboratory diagnostic capabilities and capacity and support entry requirements for livestock entering the state, as well as ongoing surveillance programs for echinococcosis (hydatids) at abattoirs, clinical salmonellosis detection (farm based), avian influenza and Newcastle disease.

Victoria

The Victorian government has 26 veterinarians deployed in the field, augmented by 146 contracted private practitioners. In Victoria, private veterinary practitioners make an important contribution to surveillance by providing reports of notifiable diseases and significant disease events. Since 2005,

Annex A: Overview of Australia's existing national surveillance and diagnostics system

private veterinary practitioners in Victoria have investigated significant disease events as part of the Victorian Significant Disease Investigation Program. Participating practitioners receive a payment from the Victorian Department of Economic Development, Jobs, Transport and Resources (DEDJTR) for reporting the investigation, and a subsidy towards laboratory investigation costs. In 2010, the department also introduced a subsidy for cattle, sheep, goat and pig owners who initiate an investigation of a significant disease event, to partially cover the cost of engaging a veterinary practitioner. Victoria also operates sudden death investigations with special arrangements for an anthrax exclusion testing program, a lamb and kid mortality surveillance project, and a knackery surveillance project.

Western Australia

The Department of Agriculture and Food, Western Australia (DAFWA) has eleven field veterinarians (five full-time equivalent) and two animal health officers employed in field surveillance activities; surveillance capability is underpinned by the network that has been established between private and DAFWA veterinarians and livestock owners. Private veterinarians form an integral part of the animal health surveillance network through regular contact with producers and provide vital disease investigation services to the livestock industries. The NSDIP operates in conjunction with a DAFWA subsidised disease investigation program. DAFWA and WA industry also implement a separate bovine Johne's disease (BJD) testing program for cattle that involves post mortem and sample collection from clinically consistent investigations and follow up testing on cattle that react to serum testing for BJD during pre-export testing.

Surveillance activity by industry sectors

Livestock producers are the front-line for observing and reporting disease outbreaks and unusual events in their animals. Industry organisations and networks take an active role in promoting biosecurity and EAD awareness, and include specific industry projects for managing priority diseases risks.

Australian Veterinary Association (AVA)

The AVA is the professional organisation that represents veterinarians across Australia including private and government veterinary sectors. Both these groups play a key role in general surveillance by conducting disease investigations and reporting notifiable disease detections.

The AVA works to promote sustainable veterinary businesses in rural and regional areas: these are considered essential to supporting farm productivity, food safety, improving animal welfare, achieving effective disease surveillance in livestock industries and providing frontline responders in the event of an emergency animal disease outbreak. By promoting the value of veterinary services and increasing demand for rural veterinary services, the AVA supports the sustainability of rural veterinary practices. The AVA also promotes awareness of the information, resources and competencies required for effective disease surveillance.

Livestock industries

Livestock producers are the front-line for observing and reporting disease outbreaks and unusual events in their animals. Industry organisations and networks take an active role in promoting biosecurity and EAD awareness.

Livestock Biosecurity Network

The [Livestock Biosecurity Network](#) (LBN) is an independent industry initiative established by the Cattle Council of Australia, Sheepmeat Council of Australia and Wool Producers Australia. Regional Officers in all states and territory provide livestock producers with the necessary tools and useful information to manage disease (endemic and exotic), pest and weed events on their farms. The LBN is developing mechanisms for public consultation on animal health, welfare and biosecurity issues. LBN is working in collaboration with industry and state and federal agencies to address industry concerns about responses to existing or emerging biosecurity threats to livestock production in all jurisdictions.

Intensive industries: pigs, poultry and cattle feedlots

The pig, poultry and cattle feedlot sectors are each serviced by a small number of specialist veterinarians. These industry veterinarians have close relationships with producers and regularly meet with their respective industry groups. Cattle feedlots manage a database of treatment data for clinical disease incidents.

National information management and reporting

Australia's [National Animal Health Information System](#) (NAHIS) collates validated data from a wide range of government and nongovernment surveillance and monitoring programs to provide an overview of animal health in Australia. The information in NAHIS is essential for supporting trade in animal commodities and meeting Australia's international reporting obligations. NAHIS is administered by Animal Health Australia.

Diagnostic laboratories

Animal health laboratories play an integral part in Australia's animal health surveillance system. These laboratories include the Australian Animal Health Laboratory (AAHL), state and territory government animal health laboratories, and university and private veterinary laboratories. Collaboration with public health laboratories is an important element of surveillance for zoonotic diseases.

Australian Animal Health Laboratory

The Australian Animal Health Laboratory (AAHL) plays an integral role in investigating exotic and emergency disease incidents, allowing such diseases to be ruled out or enabling the rapid implementation of control strategies. AAHL also provides diagnostic testing services for surveillance programs such as the National Arbovirus Monitoring program (NAMP), the Northern Australia Quarantine Strategy (NAQS) and the National Transmissible Spongiform Encephalopathies (TSE) Surveillance Program.

AAHL employs 14 veterinarians who play a role in investigating exotic and emergency disease incidents. Veterinarians in the disease investigation team provide telephone advice and in-field support to field veterinary officers and staff at state laboratories investigating complex disease cases, particularly when no clear cause for the problem has been identified.

Laboratories for Emergency Animal Disease Diagnosis and Response

The Laboratories for Emergency Animal Disease Diagnosis and Response (LEADDR) network consists of members from the Australian Government, AAHL, and state and territory government laboratories. The network plays an important role in ensuring quality assurance for targeted

Annex A: Overview of Australia's existing national surveillance and diagnostics system

emergency animal diseases through standardising or harmonising the relevant testing performance in all member laboratories. The network has an ongoing role in building diagnostic capacity for important emergency animal diseases as directed by the Animal Health Committee (AHC).

Quality Assurance and National Reference Laboratories

The AHC National Laboratory Task Group oversees laboratory quality assurance, especially relating to national standard testing procedures, new test development and evaluation, biosafety and biosecurity and laboratory skills training. All government laboratories and the major private laboratories in Australia are accredited by the National Association of Testing Authority (NATA) for testing of various emergency animal diseases (accreditation for exotic animal disease testing is limited mainly to AAHL).

The Australian National Quality Assurance Program (ANQAP) provides various proficiency testing programs relevant to endemic emergency animal diseases. Animal Health Australia runs the Australian Animal Pathology Standard Program, which improves and maintains the standards of histopathology through the collection of references, training workshops and proficiency testing programs.

AAHL and some state/university laboratories also serve as the national reference laboratory for specific emergency animal diseases and provide in-depth investigational, research and training capacities nationally.