AUSTRALIAN VETERINARY EMERGENCY PLAN

AUSVETPLAN

Management manual

Laboratory preparedness

Version 5.0

AUSVETPLAN is a series of technical response plans that describe the proposed Australian approach to an emergency animal disease incident.
The documents provide guidance based on sound analysis, linking policy, strategies, implementation, coordination and emergency-management plans.

National Biosecurity Committee

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- This publication was created in May 2024. Laws, practices and regulations may have changed since that time. You should make your own inquiries as to the currency of relevant laws, practices and regulations, as these may have changed since publication of this work.

Text under development

In this manual, text placed in square brackets [xxx] and greyed out indicates that that aspect of the manual remains unresolved or is under development; such text is not part of the official manual. The issues will be further worked on by experts and relevant text included at a future date.

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EMERGENCY ANIMAL DISEASE HOTLINE: 1800 675 888

The Emergency Animal Disease Hotline is a toll-free telephone number that connects callers to the relevant state or territory officer to report concerns about any potential emergency disease situation. Anyone suspecting an emergency disease outbreak should use this number to get immediate advice and assistance.

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Contents

1 Introduction

1.1 This document

1.1.1 Purpose

This management manual has been developed to help diagnostic testing laboratories prepare a contingency plan for an animal disease emergency, and to help response personnel understand the operations of diagnostic testing laboratories during an emergency animal disease (EAD) response. This management manual guides decision making and supports the implementation of an efficient and effective response (Figure 1.1).

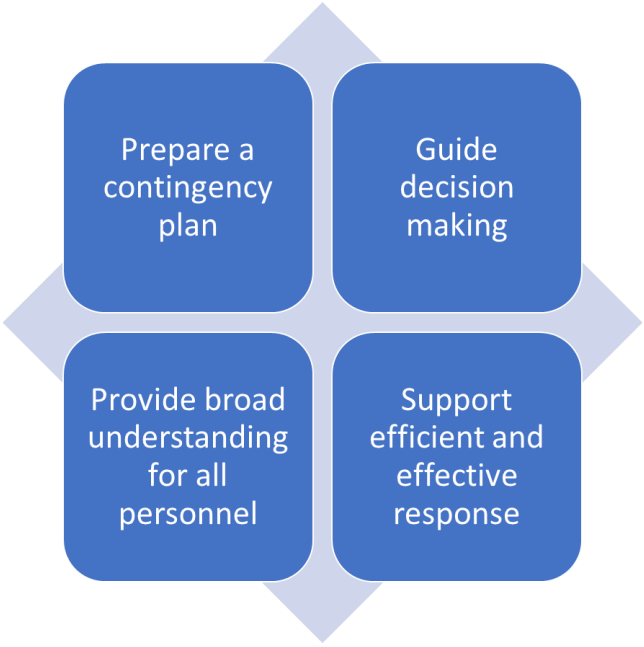


Figure 1.1 Purpose of the laboratory preparedness management manual

1.1.2 Scope

Diagnostic testing laboratories are a critical component of the response to EAD incidents. This management manual is designed to help response personnel understand the roles, responsibilities and coordination of laboratories during an EAD response, and help laboratories prepare to deal with an EAD and document their preparations in an EAD Contingency Plan. To do this, this management manual contains information on:

- what happens in an EAD response and how laboratory activities are coordinated nationally
- the responsibilities of laboratories
- laboratory standards
- communications for laboratories in an EAD response
- logistics for a laboratory EAD response
- information technology (IT) that aids the laboratory EAD response
- training of laboratory personnel
- microbiological security in laboratories

- handling of diagnostic specimens
- components of a laboratory EAD Contingency Plan.

In this management manual, diagnostic testing laboratories include government (national, state and territory) animal health laboratories, as well as the following establishments that may offer support to an emergency response:

- university animal health laboratories
- commercial veterinary laboratories, industry veterinary laboratories and laboratory facilities in private veterinary practices
- mobile laboratory facilities, provided they comply with the regulatory and operational standards of the supervising or parent laboratory
- other facilities, including medical laboratories that receive veterinary diagnostic specimens.

Activities outside the laboratory (eg sample collection), and field-based and point-of-use/care testing, are not included in the scope of this manual.

1.1.2 Other documentation

This management manual should be read and implemented in conjunction with:

- relevant AUSVETPLAN documents, including disease-specific response strategies; operational, enterprise and management manuals; and any relevant guidance and resource documents. The complete series of manuals is available on the Animal Health Australia website[1]
- relevant nationally agreed standard operating procedures (NASOPs).[2] These procedures complement AUSVETPLAN and describe in detail specific actions undertaken during a response to an EAD incident
- relevant jurisdictional or industry policies, response plans, standard operating procedures (SOPs) and work instructions
- relevant Commonwealth and jurisdictional legislation and legal agreements (such as the Emergency Animal Disease Response Agreement [EADRA],[3] where applicable).

1.3 Training and training resources

1.3.1 Laboratory training

Training for laboratory staff is driven by each jurisdiction to meet the accreditation requirements of the National Association of Testing Authorities (NATA) and International Organization for Standardization/ International Electrotechnical Commission ISO/IEC 17025:2017 General Requirements for the Competence of Testing and Calibration Laboratories.[4] The breadth of the training will depend on the diagnostic tests that the laboratory offers. Training records must be maintained, even during an outbreak. In the event of

[1] https://animalhealthaustralia.com.au/ausvetplan

[2] https://animalhealthaustralia.com.au/nationally-agreed-standard-operating-procedures

[3] https://animalhealthaustralia.com.au/eadra

[4] www.iso.org/standard/66912.html

high-throughput sample processing and testing, workflows might be adapted and appropriate training provided for relevant staff. Bottlenecks are typically seen in the accessions area.

1.3.2 Emergency animal disease preparedness and response training in Australia

A freely available and valuable resource is the online EAD foundation course.[5] It provides livestock producers, veterinarians, veterinary students, government personnel and emergency workers with foundation knowledge for further training in EAD preparedness and response in Australia.

[5] https://animalhealthaustralia.com.au/online-training-courses

2 Emergency animal disease response

2.1 What happens in an emergency animal disease response?

An overview of Australia's EAD response structures and governance is provided in the **AUSVETPLAN *Control centres management manual*** and is summarised below and in Figure 2.1.

The chief veterinary officer (CVO) in the state or territory in which the incident occurs is responsible for instituting animal disease control action within that state or territory. The strategies to control the disease, including the budget for the proposed response actions, are documented in an Emergency Animal Disease Response Plan (EADRP). When the EAD is suspected or confirmed to be a zoonosis, the EADRP is developed in collaboration with the chief health officer (CHO) of the affected state or territory.

For a response to be cost shared under the EADRA, EADRPs must be consistent with, and guided by, any relevant AUSVETPLAN manuals. It is recognised that the Consultative Committee on Emergency Animal Diseases (CCEAD) can, if it thinks reasonable, recommend to the National Management Group (NMG) an EADRP even if part of the response plan deviates from AUSVETPLAN (eg due to new knowledge). For responses that are not cost shared under the EADRA, the development of response plans consistent with AUSVETPLAN is voluntary and is usual practice. AUSVETPLAN therefore serves as the authoritative reference on policies and guidelines for the management of EADs in Australia.[6]

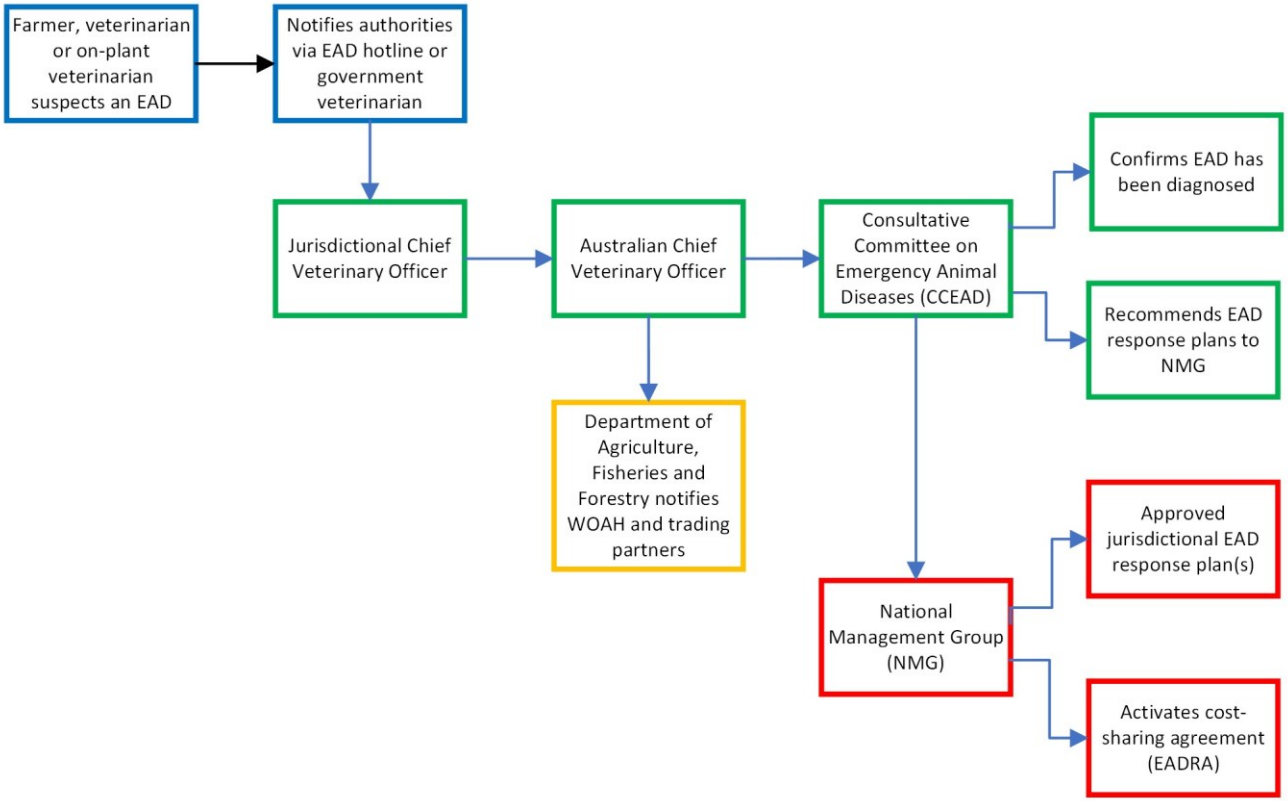
The CVO is responsible for recommending the EADRP to the CCEAD. Unaffected jurisdictions may also need to develop response plans to address jurisdictional activities that may be eligible for cost sharing.

The CCEAD provides technical review of the EADRP and may recommend it to the NMG convened for the incident. The NMG decides on whether cost sharing will be invoked (following advice from the CCEAD) and whether to approve the EADRP.

CVOs and, where relevant, CHOs implement disease control measures as agreed in the EADRP and in accordance with relevant legislation. They make ongoing decisions on followup disease control measures — including termination of the response — in consultation with the CCEAD and, where applicable, the NMG, based on epidemiological and other relevant information about the incident.

It is also important to note that the overall response policy contained in the various AUSVETPLAN manuals is used to inform responses to new and emerging diseases.

[6] Because of the potentially wide range of circumstances that can occur during an EAD incident, EADRPs may deviate from AUSVETPLAN with the agreement of the CCEAD and, where applicable, the NMG.



EAD = emergency animal disease; EADRA = Emergency Animal Disease Response Agreement; WOAH = World Organisation for Animal Health

Figure 2.1 Summary of steps in the reporting of an EADRA-listed cost-shared response

2.1.1 The Emergency Animal Disease Response Agreement

The EADRA[7] sets out the basis for government and industry stakeholders to collectively reduce the risk of EAD incursion and manage an EAD response, including sharing the laboratory and other costs.

Cost sharing in an EAD incident is contingent on the parties to the EADRA agreeing to an EADRP.

2.1.2 Emergency Animal Disease Response Plan

Drafting an EADRP usually requires the involvement of relevant laboratories, to provide information such as appropriate tests and testing regimes, and estimates of laboratory costs. Laboratory staff should be prepared to contribute to the development and execution of EADRPs in terms of diagnostic tests to be undertaken, laboratories that will undertake the diagnostic testing and expected laboratory costs.

For reimbursement of the costs incurred under an EADRP, laboratories must keep separate, auditable records of these costs.

[7] Further information about the EADRA is available at https://animalhealthaustralia.com.au/eadra

3 The national laboratory network

3.1 National laboratory network

The Laboratories for Emergency Animal Disease Diagnosis and Response (LEADDR) network is the primary animal health laboratory network responsible for an EAD incident response. It consists of the jurisdictional animal health laboratories from all states and the Northern Territory, the CSIRO Australian Centre for Disease Preparedness (CSIRO-ACDP), and the Australian Government Department of Agriculture, Fisheries and Forestry.

The LEADDR network is a working group of, and reports to the Animal Health Committee (AHC) Subcommittee on Animal Health Laboratory Standards (SCAHLS).

3.2 National coordination of laboratories

3.2.1 Laboratories for Emergency Animal Disease Diagnosis and Response

The LEADDR network provides a way for laboratories to collaborate using harmonised or standardised testing methods and software platforms for targeted EAD management. It also participates in the response to individual EAD incidents, as required. Sections 6 and 7 describe the role of the network, including communication and reporting guidelines, and the functions of the laboratory interface (see **AUSVETPLAN *Control centres management manual, Part 2***).

In the event of an EAD outbreak, LEADDR may be required to carry out testing appropriate to the testing capability of the individual laboratory and its level of biosecurity containment.

To manage workload peaks, LEADDR may choose to share work between laboratories to make the most efficient use of laboratory capacity. As all LEADDR laboratories work in a harmonised quality framework, results from different laboratories can be regarded as equivalent.

3.2.2 Laboratories for Emergency Animal Disease Diagnosis and Response Coordinating Committee

The LEADDR Coordinating Committee comprises the senior representative of each LEADDR member organisation, is chaired by the LEADDR Coordinator (or their delegate) and meets as required to consider urgent issues.

Once the CCEAD is formed, the ACDP Director, as a member of CCEAD, convenes the committee as the LEADDR Emergency Committee (LEC). The LEC is then chaired by the ACDP director, or their delegate. The LEC may co-opt technical specialists appropriate for the disease in question. The role of the LEC is to provide technical advice to the CCEAD and technical coordination among laboratories involved in the EAD response.

In a declared EAD outbreak, the LEC will assume the primary role in managing the coordination of laboratory services to the outbreak response by:

- reviewing initial and ongoing laboratory findings, including test results, and providing advice to the CCEAD and its other working groups on followup laboratory needs and strategies, including facilitating relevant test harmonisation or standardisation and research activities
- assessing and coordinating the capacity of the national laboratory service to respond to the disease outbreak, based on epidemiological and other relevant information available from the CCEAD
- implementing appropriate quality assurance procedures and mechanisms for submission of data for outbreak management
- reviewing the laboratory findings and other technical aspects of activities undertaken by the laboratories represented on the LEC and other laboratories involved in the outbreak, on a regular basis or as required
- facilitating agreement on costs for laboratory testing and other relevant services, even though these may differ between participating laboratories.

3.2.3 Animal Health Committee

The main purpose of the AHC is to develop science-based and nationally consistent policy on animal health issues, and to provide animal health advice as necessary to the National Biosecurity Committee. The AHC provides leadership in developing and implementing policy, programs, operational strategies and standards for government in the areas of animal health, domestic quarantine, animal welfare and veterinary public health.

AHC members include the CVOs of the Commonwealth, states and territories, along with representatives from the CSIRO-ACDP and the Department of Agriculture, Fisheries and Forestry. There are also observers from Animal Health Australia, Wildlife Health Australia, and the New Zealand Ministry for Primary Industries.

3.2.4 Subcommittee on Animal Health Laboratory Standards

The AHC SCAHLS provides technical and policy advice to the AHC on terrestrial animal health laboratory issues. SCAHLS coordinates various essential laboratory functions to support the continued improvement of Australia's national animal health system, including the production of Australian and New Zealand standard diagnostic procedures (ANZSDPs), evaluation of new test methodologies and validation data for new or modified tests, and technical advice on specific testing issues.

3.2.5 Public Health Laboratory Network

In the event of an EAD outbreak with zoonotic potential, coordination with public health will be required. The counterpart committee to SCAHLS is the Public Health Laboratory Network (PHLN), which is a standing committee of the Australian Health Protection Principal Committee (AHPPC). The PHLN works with other AHPPC standing committees such as the Communicable Diseases Network Australia, the National Health Emergency Management Subcommittee and the Environmental Health Committee as needed. The PHLN provides leadership and consultation in all aspects of public health microbiology and communicable disease control, and consists of state, territory and Australian government expert, national and observer members, including a representative from the CSIRO-ACDP.

3.3 Other laboratories

Although private, university and industry laboratories that receive diagnostic specimens from animals do not currently have a direct role in an EAD incident, they could be involved in testing for specific EADs and may be required to assist the LEADDR network on a case-by-case basis. In the future, some of these laboratories may be involved in the LEADDR network functions. Appropriately prepared nongovernment laboratories may be used during an EAD response if additional capacity is required.

4 Responsibilities of laboratories

All states and territories have policies and regulations that restrict testing for EADs to certain laboratories, place conditions on testing at these laboratories and/or prescribe procedures for releasing results. Generally, this may include requirements such as accreditation to ISO/IEC 17025, membership of the LEADDR network and/or participation in relevant external quality assurance programs such as proficiency testing. Heads of laboratories should confirm local requirements from their jurisdiction's CVO.

4.1 Limitation of testing and reporting

Field veterinarians are expected to promptly notify their CVO of the suspicion of an EAD incident and undertake investigation, including sample collection for the exclusion of EADs, in a timely manner. For this purpose, testing at the state laboratory should be initiated as soon as practical. However, such testing should not delay referral of specimens to the CSIRO-ACDP. The laboratory manager (or their delegate) should liaise with the CVO to confirm that provisional negative results may be reported promptly to the field veterinarian and advise that a definitive result will be based on confirmatory testing undertaken at the CSIRO-ACDP.

4.2 Notification

Individuals who know of, or suspect, the presence of an EAD must, by law, notify the CVO of their own state or territory, or the CVO's delegate. Substantial penalties may apply for failure to do so. CVOs who are notified of an EAD in and/or linked to another state or territory will relay the notification to the CVO of the affected jurisdiction, and to the Australian CVO (ACVO).

Notification may be made by phone to the Emergency Animal Disease Hotline (1800 675 888). The government officer receiving the notification on the hotline will notify the CVO.

When laboratories receive specimens submitted for EAD testing, or if suspicion of an EAD incidentally arises during routine testing, they should immediately notify their CVO for followup action. If they have suspicion of an EAD, they should also notify the CVO even if subsequent nonconfirmatory testing does not support that suspicion. Further communications are detailed in Section 6.

The National Notifiable Animal Diseases List and jurisdictional lists are on the website of the Australian Government Department of Agriculture, Fisheries and Forestry.[8] The National Notifiable Animal Diseases List includes some diseases that are not EADs.

4.3 Initial diagnosis

With the head of laboratory's approval, laboratory veterinarians may be required to join a diagnostic team in the investigation of a suspected EAD case at the laboratory or, if necessary, in the field. The **AUSVETPLAN** ***Control centres management manual, Part 1*** describes the functions of a field diagnostic team.

[8] www.agriculture.gov.au/biosecurity-trade/pests-diseases-weeds/animal/notifiable

4.4 Emergency animal disease response

Laboratory staff may be involved in an EAD response by testing for the EAD, or by the redistribution of other work (unrelated to the EAD) from other laboratories.

With the head of laboratory's approval, staff of government laboratories may be redeployed to assist in field investigations, or to work at a mobile laboratory or control centre. For example, staff who are familiar with the laboratory information management system, sample submission procedures and reporting methods may undertake the function of laboratory interface at a control centre. The **AUSVETPLAN *Control centres management manual, Part 2*** describes this officer's functions.

During the proof of freedom phase, laboratory staff will be engaged to provide expertise on laboratory tests and in designing surveys for country or zone proof of freedom.

4.5 Reporting results during an emergency animal disease response

4.5.1 Positive laboratory test results for an emergency animal disease

If results of laboratory tests are positive for the detection of, or host response to, an EAD pathogen, the following communication procedures will be followed.

- An initial positive laboratory finding for an EAD must be reported immediately to the relevant CVO, who will follow the established lines of reporting to the ACVO, CCEAD and/or other key stakeholders as appropriate.
- Until confirmatory testing has been undertaken, usually at or through the CSIRO-ACDP, the outcome of the investigation should be considered as 'unconfirmed'. However, appropriate laboratory and/or field actions in response to the initial laboratory finding (as deemed by the CVO of the affected jurisdiction) may be taken.
- The CSIRO-ACDP Director may also convene the LEADDR Emergency Committee (LEC) as described in Section 3.2.2. once the CCEAD has been established.
- If/when the LEC is formed, laboratory findings, including test results, from a testing laboratory can be shared with the LEC subject to clearance by the CCEAD, including the CVO of the jurisdiction in which the samples originated.

4.5.2 Indeterminate laboratory test results for an emergency animal disease

Any contentious, unusual or potentially sensitive laboratory findings or test results unresolved by the CSIRO-ACDP and relating to EADs listed in the EADRA, or to potentially novel infectious agents, must be reported as follows:

- The results of concern should initially be shared immediately with the CVO of the investigating jurisdiction, who will follow the established lines of reporting to the ACVO for advice.
- If relevant, at the request of the CVO of the investigating jurisdiction and the ACVO, the LEADDR Coordinator will urgently convene a meeting of the LEADDR Coordinating Committee to discuss the case. The results from a testing laboratory can only be shared with the committee after these results have been cleared by the CVO of the jurisdiction in which the samples originated.
- Meetings of the LEADDR Coordinating Committee should be convened as soon as possible, and within 24 hours of the result becoming available.
- The LEADDR Coordinating Committee will provide the investigating jurisdiction and ACVO with its interpretation of the results and recommend any followup action to be taken.

4.6 Maintenance of expertise and resources

All laboratory veterinarians should maintain a high level of proficiency in recognising the clinical and pathological signs of major EADs, and relevant biosecurity procedures. This expertise is crucial in helping clients to recognise an EAD in a live animal or at necropsy, and to select suitable specimens for submission to an appropriate laboratory without risking spread of the disease.

Laboratories that routinely receive veterinary diagnostic specimens for testing for EADs should maintain sufficient resources and appropriate levels of knowledge and skills for testing services commonly used for EAD detection and/or diagnosis, such as anatomic pathology, serology, molecular diagnostics, microbiology (eg virology, bacteriology, mycology) and/or parasitology. In an EAD response, these laboratories could be asked to introduce new technologies or to greatly increase testing capacity.

These laboratories should include in their EAD Contingency Plan (see Section 4.4) sources for extra staff and equipment, and associated issues (eg competence training, supervision, chain-of-command components, communication staff, equipment calibration), if their existing resources are insufficient.

Laboratories' capability and resources to conduct EAD testing should be regularly reviewed, and these reviews should be documented. Maintenance of expertise, and resources for ensuring biosecurity and biosafety, are addressed in Section 7.

4.7 Laboratory Emergency Animal Disease Contingency Plan

Laboratories that routinely receive veterinary diagnostic specimens for testing for EADs must be properly prepared to deal with such an emergency and should document their preparations as an EAD Contingency Plan.

In an EAD incident, laboratories are often required to test specimens collected from animals in infected premises or dangerous contact premises. These premises are subject to stringent, legally enforceable restrictions, including movement restrictions. A laboratory that receives specimens from animals in such premises may be exempted from these restrictions if it has implemented an EAD Contingency Plan that includes adequate biosecurity and biosafety measures.

Each laboratory's EAD Contingency Plan should be sufficiently detailed to manage all biosecurity risks relevant to the laboratory's operations, while being sufficiently flexible to deal with individual risks appropriately.

The EAD Contingency Plan should also consider the laboratory's ability to maintain business continuity regarding other diagnostic services that may be separate from the EAD response.

Appendix 1 provides a suggested format for an EAD Contingency Plan.

4.7.1 Exercising the Emergency Animal Disease Contingency Plan

The laboratory should test its EAD Contingency Plan annually, or more frequently if changed circumstances make this desirable. Such testing should complement training, ideally forming part of a national, state or territory EAD preparedness exercise, or being done independently. It could involve:

- drills, in which operational staff undertake specific procedures
- discussion exercises, in which key staff workshop an EAD response
- functional and field exercises, in which personnel and resources are mobilised in a coordinated, real-time response to a scenario that has been purposefully designed to test much or all of the contingency plan.

The planning and direction of these exercises may be outsourced to optimise effectiveness.

After each drill or exercise, the plan and the operating procedures that support it should be evaluated in a timely manner, with a view to identifying and addressing their strengths and weaknesses. The exercise program should be informed by assessing need and be informed by evaluation of previous exercises and responses.

4.7.2 Activating the Emergency Animal Disease Contingency Plan

The laboratory's EAD Contingency Plan should be activated when an EAD or suspect EAD disrupts normal operations through any of the following scenarios:

- there is a high level of suspicion of an EAD
- a laboratory is notified of the expected submission of specimen(s) from a suspected EAD outbreak
- laboratory results indicate a high probability that an EAD has been detected
- epidemiological presentation of the incident
- laboratory examinations indicate that specimen(s) from an EAD outbreak have probably entered the laboratory
- the laboratory has been notified of the presence of an EAD in the area from which its specimen(s) would normally be obtained (eg within the same jurisdiction as the laboratory)
- the laboratory is notified or requested to support sample testing as part of LEADDR agreements.

Contingency plans for supply of reagents, equipment, personnel, etc may also be required when a shortage is identified that would have implications if an EAD is reported.

5 Laboratory standards

5.1 Requirements for laboratories in the national network

Laboratories approved to conduct EAD exclusion testing during an EAD incident (usually limited to the LEADDR network) should have relevant SOPs and quality assurance programs. They should follow the diagnostic procedures approved previously by SCAHLS, or otherwise by the AHC or CCEAD. Ideally, laboratories should be accredited by NATA and comply with the requirements of the most recent version of ISO/IEC 17025 (General Requirements for the Competence of Testing and Calibration Laboratories) to ensure that investigation of a suspected EAD is prompt, rapid and reliable; does not jeopardise the health or safety of laboratory or other personnel; and does not risk spreading the disease.

5.1.1 Quality management systems

Quality assurance (QA) is an integral component of the management and operation of any accredited diagnostic laboratory. Laboratories that receive diagnostic samples from animals and participate in an EAD response should routinely engage in an appropriate QA program, for example, the Australian National Quality Assurance Program (ANQAP). They should also seek and maintain suitable national and/or international accreditation for performing relevant EAD tests, in compliance with the requirements of the most recent version of ISO/IEC 17025 General Requirements for the Competence of Testing and Calibration Laboratories, through NATA or an equivalent provider.

A suitable QA program should:

- confirm the status of the laboratory's QA system and test proficiency
- provide assurance that test results are repeatable and reproducible
- provide reference data to help identify and solve systematic and random errors
- develop data for the ongoing validation of diagnostic assays
- allow QA data to be used for
    - monitoring assay performance
    - initiating appropriate intervention strategies
    - evaluating assay performance during and after an incident response or related activity.

5.1.2 Unvalidated tests for emergency use

Not all tests used in an EAD incident or outbreak can or would be fully validated or approved by SCAHLS. SCAHLS or LEC, as appropriate, can advise on the selection of appropriate tests for such an emergency situation based on available scientific evidence. This includes selection of tests for known diseases when no validated assay is in established use, or for a novel or previously unknown disease when tests are being developed. Test data generated during the incident or outbreak should then be used for subsequent validation purposes.

5.1.3 Containment

The Australian/New Zealand standard (AS/NZS) 2243.3:2022 (Safety in Laboratories, Part 3: Microbiological Safety and Containment) classifies infectious microorganisms — including many of those that cause EADs — by risk. Specific national regulatory requirements and guidelines for biocontainment

also apply for the possession of EAD pathogens. For example, for pathogens that are classified as security sensitive biological agents (SSBAs), compliance with the SSBA regulation is also required. See Section 10 for more details.

5.1.4 Official recognition

Each state or territory jurisdiction may have their own requirements for recognition and/or approval of laboratories for EAD testing. It is expected that laboratories performing EAD testing satisfy the requirements relevant to the jurisdiction in which they operate.

5.2 Requirements for laboratories in an emergency animal disease

5.2.1 Laboratories part of the Laboratories for Emergency Animal Disease Diagnosis and Response network

All LEADDR laboratories must be NATA accredited and comply with the requirements of the most recent version of ISO/IEC 17025. The scope of accreditation must match the class and subclass relevant to the testing performed. If NATA accreditation is suspended or withdrawn for the relevant class or subclass of test, the laboratory in question must immediately suspend all testing under the LEADDR program unless otherwise agreed by the AHC.

LEADDR laboratories also regularly participate in a network external QA program (ie proficiency testing) under LEADDR, as outlined in the LEADDR SOPs (not part of this manual).

Where possible, each EAD test must be validated or reviewed by SCAHLS. Each laboratory's deployment of the test must meet the appropriate standards for equipment, methods and reagents.

There is ongoing collection of quality control data across the LEADDR network and regular participation in proficiency testing by all participants. This helps ensure that there is harmonisation of testing across the network.

5.2.2 Other laboratories

Currently, private, university and industry laboratories that receive diagnostic specimens from animals do not have a direct role in an EAD incident. If they are required to assist the LEADDR network for specific EADs, SCAHLS or LEC, as appropriate, will advise on relevant laboratory standards for this purpose on a case-by-case basis.

6 Communications

The following communication guidelines and procedures apply to an EAD diagnosis and response, regardless of whether the laboratory is a LEADDR member. Laboratories involved in the diagnosis of EADs must balance openness and transparency with an appropriate level of confidentiality. All laboratory staff must observe confidentiality, as directed by their CVO or head of laboratory.

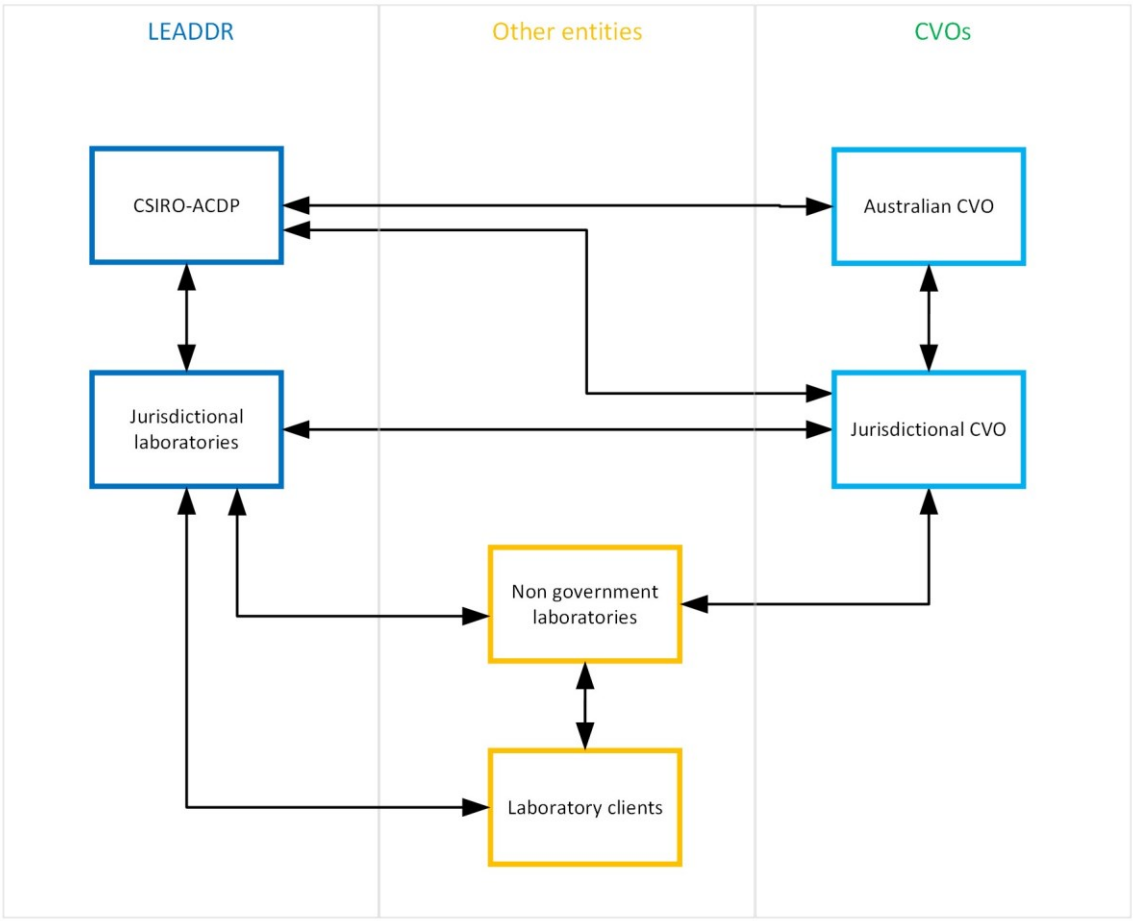
Communications, including the reporting of laboratory findings, can be separated into:

- communications during routine operations of laboratories, such as the daily work in the laboratory and surveillance activities throughout Australia
- communications during the initial diagnosis of, and subsequent laboratory response to, an EAD incident.

Each laboratory must keep up-to-date contact details — names, phone numbers (including mobile and after-hours numbers) and email addresses — for other LEADDR members, to facilitate communication within the network.

6.1 Communication during routine operations

The general responsibility of laboratories for notifying or reporting laboratory findings and test results are detailed in other parts of this document. Figure 6.1 shows the lines of communication between the main bodies involved with information and policy matters relevant to laboratories during routine operations. Communication is through both formal and informal channels.



CSIRO-ACDP = CSIRO Australian Centre for Disease Preparedness; CVO = chief veterinary officer; LEADDR = Laboratories for Emergency Animal Disease Diagnosis and Response

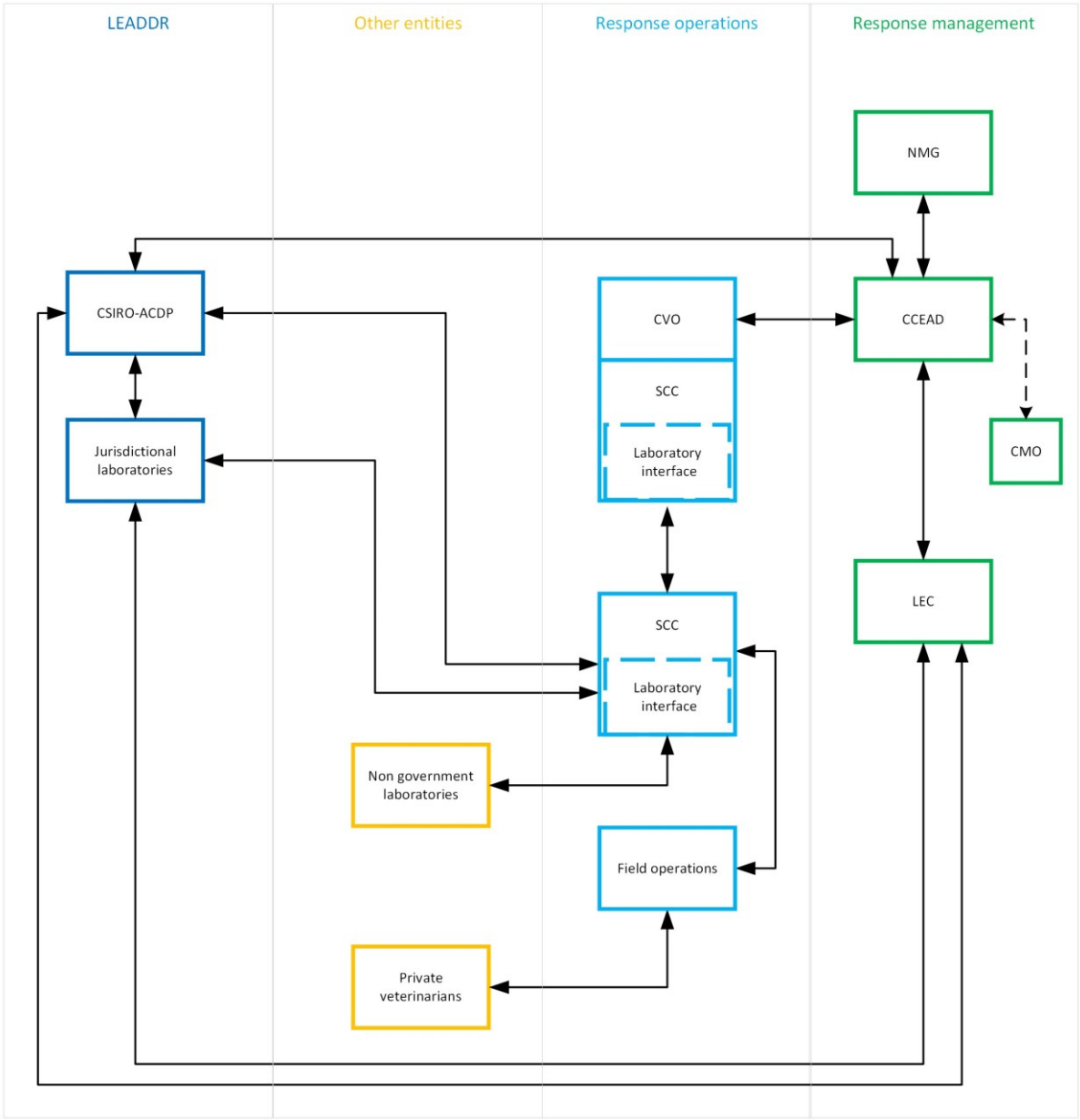
Notes:

1. Clients include government and private veterinarians, animal health officers and researchers.
2. Informal communications between different groups may take place, as required.

Figure 6.1 Formal lines of communication for laboratories involved in emergency animal disease diagnosis and response (routine operations)

6.2 Communication during an emergency animal disease outbreak

During an EAD outbreak, regardless of whether a CCEAD is formed, the CVO of the jurisdiction in which the samples for EAD testing originate controls the flow of the testing results from all involved laboratories (both LEADDR and non-LEADDR). However, the CSIRO-ACDP, as the national animal health laboratory, will also advise the ACVO of both potential and confirmed EAD cases in a timely manner (within 24 hours, whenever possible and appropriate). Results should only be released to the CVO/ACVO or their delegate, such as the control centre laboratory interface (Figure 6.2).



CCEAD = Consultative Committee on Emergency Animal Disease; CMO = chief medical officer; CSIRO-ACDP = CSIRO Australian Centre for Disease Preparedness; CVO = chief veterinary officer; LCC = local control centre; LEADDR = Laboratories for Emergency Animal Disease Diagnosis and Response; LEC = LEADDR Emergency Committee; NMG = National Management Group; SCC = state or territory control centre

Note: Informal communications between different groups may take place, as required.

Figure 6.2 Formal lines of communication for laboratories involved in emergency animal disease diagnosis and response (emergency response operations)

6.3 Communication with clients

6.3.1 Veterinarians

Reporting of results to submitting veterinarians, and other submitters in general, during an outbreak response will be managed by the control centres established under the jurisdictional EADRP. Laboratories will communicate results to the control centres via the laboratory interface function.

6.3.2 Animal industries

During an EAD outbreak or other EAD incidents, it is expected that laboratories would not be in direct communication with industry bodies. These communications should be handled by the control centre, the CVO/ACVO and/or their agencies as relevant.

7 Logistics

A major reason to have the LEC actively participate in discussion of an EAD incident as early as practical is to prepare the LEADDR network for a response. A critical part of this early involvement is to alert the LEADDR laboratories to the nature of the incident (eg agent responsible, location, species involved), to assist with early planning — from review of staffing needs through to the possible needs for reagents and materials and, if necessary, activation of procurement of supplies. To ensure that each jurisdiction can meet the possible demands ahead, it is likely that there will be need for a laboratory coordinator to function at a national level. This role will generally be filled by the LEADDR Coordinator, or another suitable person(s) nominated by the LEADDR Coordinating Committee or LEC.

LEADDR laboratories have an established capability to undertake diagnostic and associated testing that may be required during an EAD incident. Testing will generally involve real-time polymerase chain reaction (PCR) assay for agent detection and enzyme-linked immunosorbent assay (ELISA)-based serology for detection of antibodies. Once an outbreak has been confirmed, laboratory services may be needed for a wide range of purposes. This may include testing for disease exclusion, surveillance, animal movement and, ultimately, proof of freedom. The state laboratory may also need to supply resources such as transport medium and swabs to field investigation teams. The number of samples submitted for testing can vary significantly depending on the stage of an outbreak and the disease status of an individual state. Early in an outbreak, sample numbers submitted for exclusion testing can be relatively small, but submission patterns are likely to be very erratic and unpredictable. In contrast, proof-of-freedom testing can involve extremely large numbers of samples, but they may be submitted in a more orderly manner.

7.1 Managing high-volume testing

To meet the testing demands of an EAD response, a representative of each affected LEADDR laboratory should maintain close contact with their counterpart in the jurisdictional control centre(s) (ie LCC and state or territory control centre) undertaking field surveillance for high-level awareness of sampling plans — especially concerning potential sample numbers for sample prioritisation and other critical processing arrangements, where required. This will also enable a proper assessment of the availability of trained and/or vaccinated staff, laboratory space and other resources for undertaking testing.

The most important determinant for rapid turnaround of large numbers of samples is the linkage between the field and laboratory for rapid and reliable specimen accession, delivery, and the specimen receival process. Consideration should be given to remote (field-based) sample identification and tracking methods that can be automated and minimise sample handling and data entry in the laboratory.

To facilitate high-volume testing, the laboratory should have established workflows that take into consideration standardised sample types and packaging that minimise further laboratory processing, for example, by reducing manual handling. In addition, it is essential to consider specimen storage and disposal at the outset of a large-scale EAD response, as this can be demanding of both staff time and storage facilities. This should aim to establish minimum sample retention times, appropriate storage conditions (to maintain sample integrity as well as biocontainment), and disposal methods that are both practical and ensure inactivation of all pathogens. While it is essential for all waste to be sterilised before leaving the laboratory, disposal of large quantities of decontaminated specimens and laboratory waste can also

present challenges, so disposal on a regular basis should be undertaken to avoid build-up of such quantities. See Section 10 for more details.

7.2 Supply chain and availability of key consumables

Each LEADDR laboratory should be equipped with a suite of detection assays based on real-time PCR for agent detection and ELISA assays for host response detection in sufficient quantity to support initial exclusion testing. As these or similar assays are run regularly, each LEADDR laboratory should ensure their supply and availability for the initial phase of an outbreak (eg first 2 weeks), when sample numbers submitted to the laboratory are modest. The quantity of key consumables that have a long shelf life (especially plasticware, transport medium, swabs and other specimen collection materials) should be reviewed on a regular basis and maintained at a level that would meet an unexpected large demand, considering usual supply times for the individual laboratory. Supplementary supplies of reagents used in ELISA and PCR assays should be secured at an early stage. There can be unexpected demands and disruptions to supply chains due to, for example, other concurrent disease emergencies.

At an early stage in an EAD incident, and on an ongoing basis, the LEADDR Coordinator will liaise with each laboratory to determine its need for assistance in procuring reagents and materials, including import permits where necessary.

7.3 Managing equipment in an emergency animal disease incident

In general, the specialised equipment needed to run ELISA and PCR assays is not readily transferable between laboratories. Additionally, this equipment will usually be needed to maintain a 'business as usual' capability. However, laboratory managers should be aware of alternative local supply sources of equipment that may not be utilised to capacity, especially to meet an unexpected need if there is a breakdown. Major equipment suppliers may be able to assist with the leasing of key items.

8 Technology

8.1 Information and data management

Robust and scalable information and data management systems are critical to supporting EAD responses and for allowing the LEADDR network to function as a coherent entity. Depending on jurisdictional needs, dedicated information technology support may be required during an EAD response.

8.1.1 Data standards and reporting

Data standards are the basis of any robust laboratory information management system (LIMS) that extends beyond a single, simple application. A common metadata schema to describe the data being shared, as well as the technical means to facilitate that sharing, are fundamental requirements. The Sample Tracking and Reporting System (STARS) network (Section 8.1.2) enforces data standards within the network but provides the tools to translate data to/from individual systems at its boundaries. The latest version of STARS extends this concept to the use of open standards to support this interchange.

8.1.2 The STARS network

The STARS network is an electronic interface allowing rapid communication between the CSIRO-ACDP and state laboratory LIMS instances, supporting digital exchange of case data and testing results to support outbreak responses. The STARS network has been operational since 2011, providing rapid data interchange between animal health laboratories and critical support to surge capacity in outbreak situations.

As of 2023, an active project is underway to refresh the STARS framework (STARS v2) over a modern architecture to provide a more robust and extensible platform for the future. This project will enhance the STARS network to provide a modern, standards-based platform for data exchange and interoperability. This will strengthen and enhance the current laboratory-focused functionality of the network, supporting the ability of all participating laboratories to respond to disease emergencies.

8.2 Robotics and high-volume testing

Each LEADDR laboratory should anticipate probable demands on the laboratory in the event of a large-scale EAD outbreak. Capability should be developed to support this demand in the form of appropriate robotic and/or other high-volume testing platforms. Such capability may find other uses in day-to-day testing but should be regularly exercised in its outbreak configuration to provide confidence in the laboratory's ability to respond in an emergency.

8.3 Standardisation of specimen handling

Benefits of standardising specimen handling across a national laboratory network, as outlined below, are widely recognised. There is an ongoing interest in establishing a national agreement on how to implement the approach.

8.3.1 Standard specimen containers

Deployment of standardised specimen containers would enhance efficiency in specimen handling within laboratories. It would also simplify the exchange of specimens between laboratories, or submission to multiple laboratories, to provide increased flexibility during an outbreak response.

8.3.2 Prelabelling of specimen containers

The use of standardised specimen containers that are prelabelled with a barcoded specimen identification would further enhance automation and specimen interchange, as well as opening opportunities for field-to-laboratory traceability of specimens. The STARS network can support transfer of specimen identifications across multiple laboratory or non-laboratory nodes. The practical implementation of this concept would parallel standardised specimen containers.

9 Training

Many of the technologies used to detect and characterise pathogens and host responses are transferable between EADs. These technologies are constantly evolving, and staff need to maintain training for their competencies to remain current. Laboratories that may undertake testing in support of an EAD response should ensure that sufficient key staff are trained to proficiency in these technologies, so that EAD testing can be promptly implemented when required. Training and competency assessment is part of a laboratory's quality management system under ISO/IEC 9001 and ISO/IEC 17025.

The World Organisation for Animal Health (WOAH) *Manual of diagnostic tests and vaccines for terrestrial animals*[9] describes internationally validated EAD testing technologies.

The Australian and New Zealand standard diagnostic procedures (ANZSDPs) are based on WOAH's recommended diagnostic methods, with inclusion of additional requirements specific to Australia's unique testing and epidemiological conditions. The primary objective of the ANZSDPs is to standardise testing procedures to ensure consistency between laboratories, using methods selected for their optimal accuracy, sensitivity, specificity and robustness. The ANZSDPs provide another reference source for current technologies.

Heads of laboratories should ensure that their scientific staff are sufficiently trained to be aware of and recognise major EADs, especially exotic diseases. Relevant staff should:

- have resources, including texts and reference materials, to facilitate recognition of EADs
- have knowledge of, and immediate access to, relevant expert opinion
- attend seminars, conferences and other training programs for the laboratory aspect of EADs
- participate in QA programs for testing that are applicable or transferable to testing for EADs
- experience major exotic EAD incidents overseas, when opportunities arise
- participate in relevant exercises for testing the laboratory EAD Contingency Plan (see Sections 4.7, 4.7.1 and Appendix 1).

9.1 Training in jurisdictional laboratories

The LEADDR network contributes to training of laboratory personnel through its QA program and various interactive discussion forums.

During an EAD response, the LEC may have a role in transferring technology and facilitating training for laboratories as required.

9.2 Just-in-time training during a response

Laboratories sometimes need to expand their workforce during a large-scale outbreak response. This may include bringing in nonlaboratory staff from within the organisation, and/or reaching out to others from

[9] www.woah.org/en/what-we-do/standards/codes-and-manuals/terrestrial-manual-online-access

outside the organisation. In either case, laboratory-specific 'just in time' training might be required. This will be managed by the broader emergency response within a jurisdiction.

9.3 Laboratory managers

Participation of heads of laboratories in EAD preparedness exercises and training can increase both their skills in EAD planning and the response by laboratories. Training offered by the Australian Institute for Disaster Resilience[10] and by state and territory emergency management agencies may also be relevant.

9.4 Other training

Laboratories that are accredited to the most recent version of ISO/IEC 17025 (General Requirements for the Competence of Testing and Calibration Laboratories), including accreditation by NATA, are obliged to ensure that all testing and reporting are done by staff who are trained to appropriate competence.

All relevant laboratory staff should also receive appropriate training in biocontainment and decontamination.

Staff who package and consign specimens from animals, or cultures of pathogens (ie Dangerous Goods, Class 6.2), or who advise clients in these matters, must be trained, tested and accredited to the International Air Transport Association (IATA) specifications (see Section 12.6).

[10] https://knowledge.aidr.org.au/collections/education-and-professional-development-resources

10 Microbiological security

Biosecurity hazards at diagnostic laboratories are generally associated with:

- receipt, processing, testing, transfer, storage and disposal of specimens or waste that contain EAD agents
- handling and disposal of reagents and animals used for testing
- contamination of laboratory equipment and facilities
- contamination, infection and movement of staff.

In this manual, the term *biosecurity* does not cover bioterrorism involving the unofficial or malicious use of EAD agents, unless otherwise specified.

The risks associated with these hazards vary with each EAD agent and with the nature of the laboratory work during the different phases of an EAD incident. The microbiological risk of an EAD response should be considered in relation to 3 major factors:

- risk to the laboratory worker
- risk to the community
- availability of effective treatments or vaccinations.

The control measures and considerations referred to in this section will influence these risks.

AS/NZS 2243.3:2022 (Safety in Laboratories, Part 3: Microbiological Safety and Containment) classifies infective microorganisms — including many of those that cause EADs — by risk according to World Health Organization guidelines. The standard, which focuses on human pathogens, sets standards of laboratory practice to contain these microorganisms. Laboratories that handle potentially infective materials should have this standard and implement procedures that meet its requirements.

Australian standards are available from Standards Australia.[11]

Specific national regulatory requirements and guidelines also apply for the possession of EAD pathogens that are classified as SSBAs. Although certain circumstances, including disease emergencies and responses, may allow possession and handling of SSBAs to be partially exempt from the SSBA Regulatory Scheme, laboratories are required to closely observe any changes in the requirements and guidelines to ensure that they always comply.

SSBA regulatory requirements and guidelines are available from the Australian Government Department of Health and Aged Care.[12]

When deciding on appropriate primary and secondary containment, consideration should be given to the risk group of the material being handled (as defined in AS/NZS 2243.3:2022). When the standard provides no specific guidance for the disease agent (as is the case for some veterinary pathogens and novel disease

[11] www.standards.org.au

[12] www.health.gov.au/SSBA

agents), the decision on appropriate physical containment should be risk based. Use of biological safety cabinets and the physical characteristics of the facility (eg negative air pressure and high-efficiency particulate air [HEPA] filtration) should be appropriate for the risks posed by the disease agent. The laboratory plan should minimise the potential for spread of the agent and contamination of other areas of the facility.

Tertiary containment may also be considered. This involves preventing contact between infectious materials and susceptible animals outside the containment areas by appropriate measures, such as restrictions on staff access to such animals.

10.1 Standard operating procedures

Each laboratory should have documented SOPs that ensure microbiological security during normal operation. Standard procedures form a sound basis for any special procedures required during an animal disease emergency. Test methods should be written to AS 2929:1990 (Test Methods — Guide to the Format, Style and Content) and include appropriate cautions. Manuals containing these procedures should be readily accessible by staff.

For some EADs, disease-specific SOPs may have been developed to supplement the existing SOPs. There are nationally agreed SOPs (NASOPs)[13] and jurisdictional SOPs that cover personal disinfection and sample collection.

10.2 Laboratory equipment and facilities

Laboratory facilities, equipment, personnel and waste that have been exposed to EAD agents or other pathogens must be decontaminated. This minimises the likelihood that infectious agents will spread from the laboratory or that the pathogen will contaminate pathogen-free samples and reagents. It also protects people from laboratory-acquired infection.

If equipment required for sample processing is likely to come in contact with infectious materials, it should be assessed for its potential to be properly decontaminated. Equipment, especially liquid-handling devices, should be assessed for the potential to create aerosols.

10.3 Waste handling, sterilisation and disposal

All waste produced from an EAD response must be decontaminated or treated appropriately. In many cases, this will require sterilisation or incineration. If adequate equipment, such as an autoclave or incinerator, is not available at the facility, plans and risk assessments should be in place for transporting waste material to a suitable facility. Any transport must comply with the requirements of relevant regulatory bodies (see Section 12.6) and AS/NZS 2243.3:2022. The expected volume of waste generated will be an important consideration in these plans.

[13] https://animalhealthaustralia.com.au/nationally-agreed-standard-operating-procedures

10.4 Personal protective equipment

As a general principle, when laboratory staff are at risk of exposure to pathogens, they must use appropriate personal protective equipment (PPE), regardless of whether the pathogens are zoonotic. Essential PPE may include overalls, boots, gloves, coats, eyewear and, when there is a risk of human infection by aerosol, HEPA-filtered breathing apparatus. PPE should be disposable, or able to be readily decontaminated.

10.5 Safe specimen handling

As a general principle, it should be considered that all specimens could carry potentially infectious material or pathogens, regardless of whether they are zoonotic. Staff should be competent in the use of aseptic techniques, appropriate PPE, and equipment such as Class 2 (or higher) biological safety cabinets, to provide protection to the operator, other staff and the environment. Specimens should be removed from transport containers in a dedicated area and only removed from secondary packaging once they have been placed in a biological safety cabinet. The outer packaging should be carefully removed and placed in an appropriate receptacle for autoclaving. The external surfaces of primary specimen containers should be decontaminated with a suitable disinfectant. Any processing of specimens (eg centrifugation, homogenisation) should only be undertaken after the risk of contamination with a zoonotic agent has been considered and, if necessary, biosecure equipment is used.

10.6 Zoonoses

AS/NZS 2243.3:2022 classifies infective microorganisms that can be considered to be zoonoses, and describes the availability and use of vaccines as well as appropriate levels of biocontainment. The selection of PPE and handling procedures will vary depending on the mode of transmission of the agent and type of procedures to be undertaken. For example, transfer of a small volume of a liquid sample into a polymerase chain reaction (PCR) lysis buffer solution that immediately inactivates the pathogen carries different risks to the collection of samples from an animal infected with a zoonotic agent. High-risk procedures should only be undertaken by suitably qualified and experienced staff. Handling of specimens that may contain a zoonotic agent should be confined to areas where there is limited access by other staff.

10.7 Training

A prerequisite for working with specimens that may contain an EAD or zoonotic agent is that a staff member must have been suitably and extensively trained. The staff member should demonstrate adequate competency before being allowed to work without close supervision. All staff should regularly review laboratory biosafety documents that deal with, for example, handling of potentially infectious material, procedures for handling of spills and appropriate decontamination methods.

10.8 Control of access and workflow

The locations in which EAD-related material or specimens may be handled in a laboratory will be governed by the levels of biocontainment available, the type of specimens being handled and the nature of work being undertaken. AS/NZS 2243.3:2022 provides general guidance. In general, material that is considered to have a high risk or likelihood of infection with an EAD pathogen should be handled at an appropriate level of biocontainment to manage any potential risk. There should be a mechanism to physically limit

access (eg swipe card) to such areas to trained staff, and it should be isolated from other sections of the facility and the general public.

Nevertheless, during an EAD response there is likely to be pressure on resources and, sometimes, limited space available with high levels of containment (eg Physical Containment Level 3, or PC3). Under such circumstances, it may be necessary to 'stream' the manner and location in which samples are handled, so that high-throughput workflow is not unduly impeded but there is an acceptable level of risk management. For example, viral transport medium containing lesion swabs may be opened in a biological safety cabinet in a secure area. After a small volume of transport medium has been transferred to a suitable PCR lysis buffer, the lysis buffer may be transferred to an area of lower containment if it has been validated for inactivation of the agent. The original specimen can be sealed and retained in the secure facility. However, issues related to appropriate longer-term storage or disposal of tested specimens should not be overlooked.

10.9 Animal handling

In this document, handling of animals is only considered in the context of working in a containment facility with an animal infected, or likely to be infected, with an EAD agent. Whenever possible, handling of infected animals should be avoided or minimised. In general, there is a need for a high level of biocontainment and more rigorous use of PPE, including respiratory protection (depending on the pathogen of concern).

Additionally, there should be restrictions on contact with animals outside the containment facility. These measures are important because there are often larger quantities of pathogen excreted from experimentally infected animals and there is a greater likelihood of cross-contamination of both PPE and operators with excretions, discharges and aerosols. Collectively, these issues increase the risks associated with working with infected animals, regardless of whether it is in the context of infection of staff with a zoonotic agent or transfer of the agent to the environment.

11 Decontamination

11.1 Principles

The **AUSVETPLAN** ***Operational manual: Decontamination*** outlines the general principles of decontamination for EAD agents and other pathogens at field sites. Although these are relevant to laboratories, specific procedures also apply to laboratory situations. The decontamination elements of each laboratory's EAD Contingency Plan must be tailored to that laboratory's physical containment level, layout and sample flow.

AS/NZS 2243.3:2022 (Safety in Laboratories, Part 3: Microbiological Safety and Containment) describes preferred disinfection methods in microbiology laboratories.

Jurisdictions should decide on and practice these decontamination procedures during periods when there is no EAD response.

11.2 Personal decontamination

Personal decontamination aims to remove pathogens from a person's body surfaces and clothing (without imposing a health risk on the person) so that they can leave the contaminated environment without risking the spread of the agent. Chemical hand cleaners or detergents should be selected for both their safe use on skin and their efficacy in inactivating the microbiological agent being handled.

11.3 Laboratory decontamination

Immediately after it is known or suspected that materials containing an EAD agent have been in the laboratory, all areas that may have been in direct or indirect contact with the material should be risk-assessed and, if appropriate, decontaminated. For this reason, it is recommended that samples be opened and processed in a biosafety cabinet whenever possible and appropriate.

11.4 Selection of disinfectants

Disinfectants that are effective against EAD pathogens are grouped based on their chemical activity. Guidance on the applications for chemical disinfectants in microbiological laboratories is provided in the **AUSVETPLAN** ***Operational manual: Decontamination***.

11.4.1 Safety

Personnel should consult the relevant safety data sheets (SDSs) before using cleaning materials and disinfectants and, unless specific procedures indicate otherwise, use the products according to the manufacturers' instructions. This may involve the use of PPE, because many of these substances (or vapours from them) are an irritant or harmful to people.

SDSs, which are supplied by the manufacturer, contain information on the identity, physical characteristics, health hazards and precautions for safe storage, use and disposal of the chemical. SDSs should always be available to laboratory staff.

11.4.2 Regulatory requirements

For laboratories handling imported biological materials, the Australian Government Department of Agriculture, Fisheries and Forestry provides a list of approved disinfectants and other chemicals used for inactivation of infectious materials.

11.5 Fumigation

Fumigation can be used to quickly decontaminate large, enclosed areas, including areas with equipment that is difficult to decontaminate in any other way. However, it can be hazardous to operators and other personnel in the area and requires highly trained skills.

Fumigation may not be effective for porous materials (eg cardboard and paper), which can also adversely affect the fumigation process by absorbing the humidity required for the process to be effective. Fumigation decontaminates surfaces and will not penetrate occluded spaces or sealed containers.

Formaldehyde gas is a commonly used fumigant. The practicalities of its use are discussed in the **AUSVETPLAN** ***Operational manual: Decontamination***. Formaldehyde gas should be used only:

- when it is impossible or impractical to use other procedures
- by experienced personnel with appropriate safety equipment.

There are other less-toxic options (eg peroxide) that may be available, but their activity spectrum should be checked before use.

12 Handling of specimens

12.1 Selection of specimens

Specimens required for investigation of each EAD are identified in:

- AUSVETPLAN response strategies[14]
- *Emergency animal diseases: A field guide for Australian veterinarians*.[15]

Additional information may also be found in:

- ANZSDPs (some of which are known as Australian Standard Diagnostic Techniques)[16]
- the WOAH Manual of diagnostic tests and vaccines for terrestrial animals[17]
- *Foreign animal diseases*, 7th edition (Committee on Foreign and Emerging Diseases of the United States Animal Health Association 2008).

Because of the variable frequency with which EADs are investigated, the ongoing evolution of testing technologies and methods for some EADs, and the need for rapid diagnosis, **submitters should ideally consult the testing laboratory before selecting specimens.**

In an EAD response, the EADRP or new SOPs may specify specimens to be collected for surveillance testing and, as appropriate, vaccine efficacy testing.

12.2 Collection and documentation of specimens

Laboratories (principally LEADDR laboratories) may contribute pathologists to diagnostic teams during the incident definition phase of an EAD response (see the **AUSVETPLAN *Control centres management manual, Part 1***). Once a local control centre (LCC) is established, it will provide instructions for sample collection. Field veterinarians should supply the laboratory with all pertinent details of the history, clinical signs and any postmortem findings. This information will allow the laboratory veterinarian to interpret the laboratory results and suggest additional testing as appropriate.

For details on the collection and documentation of specimens, consult the appropriate NASOP (*Collecting emergency animal disease samples for laboratory testing*).[18]

Guidance on equipment required for collecting samples for EAD testing is available in *Emergency animal diseases: A field guide for Australian veterinarians*.[15]

14 https://animalhealthaustralia.com.au/ausvetplan

15 www.outbreak.gov.au/prepare-respond/identify-pests-diseases/emergency-animal-diseases-field-guide

16 www.agriculture.gov.au/agriculture-land/animal/health/laboratories/procedures/anzsdp

17 www.woah.org/en/what-we-do/standards/codes-and-manuals/terrestrial-manual-online-access

18 https://animalhealthaustralia.com.au/nationally-agreed-standard-operating-procedures

12.3 Submission of specimens to jurisdictional laboratories

Each jurisdiction will maintain their own arrangements for field sample submission to their laboratories, and the laboratory should be contacted for specific details as required.

EAD diagnostic submissions should be sent to the appropriate jurisdictional laboratory in the first instance, and only be sent to the CSIRO-ACDP from state or territory government, or government-approved, laboratories, unless the government laboratory, in consultation with the state or territory CVO, has given prior approval for a direct submission from elsewhere. For example, in an outbreak situation, samples may be sent directly from a LCC.

12.4 Submission of specimens to the CSIRO Australian Centre for Disease Preparedness

Initial testing for EADs may be performed in jurisdictional laboratories that are members of the LEADDR network, with confirmatory testing done at or through the CSIRO-ACDP. For suspected exotic EAD cases, the CSIRO-ACDP is responsible for all testing, unless otherwise decided by CCEAD or arranged through the LEADDR network.

CSIRO-ACDP's role in an EAD response may include the detection, confirmation, isolation and characterisation of the EAD agent, and characterisation of the host response (particularly serology) to the EAD agent. Relevant details on the testing capabilities of the CSIRO-ACDP, and state and territory government laboratories, are available from the laboratories, and in information maintained by SCAHLS.[19] For any particular case, submitters should determine appropriate specimens and tests through discussion with the CSIRO-ACDP duty veterinarian.

In an EAD response, subject to advice from the CCEAD, the CSIRO-ACDP may devolve certain testing to other laboratories, according to the dynamics of the outbreak, the location of relevant expertise, the volume of testing (particularly serology), the availability of resources and logistic support, and other valid reasons. This may be done through the LEADDR network.

Whenever possible, submitters should use the STARS network, which allows rapid and secure electronic exchange of animal health data between participating laboratories and the CSIRO-ACDP. The STARS login portal and the CSIRO-ACDP Specimen Advice Note are available online.[20]

CSIRO-ACDP's delivery address is:

Australian Centre for Disease Preparedness
5 Portarlington Rd
East Geelong VIC 3219

[19] www.agriculture.gov.au/agriculture-land/animal/health/laboratories/tests

[20] https://stars.csiro.au/dsr_login.aspx

12.6 Transport of specimens

All laboratories should have staff members who are accredited to package infectious substances in compliance with the IATA Dangerous Goods Regulations and can provide professional advice to clients. Laboratories should also have documented procedures that are consistent with regulatory requirements for the transport of specimens and cultures of pathogens.

Before specimens are transported from the field, from a control centre or from one laboratory to another, they must be appropriately identified and packed to meet IATA requirements, and the consignee must be notified. The receiving laboratory should be advised of consignment details, including the expected arrival date and time and a contact number.

These procedures must all comply with the IATA Dangerous Goods Regulations and, where relevant, the SSBA Regulatory Scheme.

12.6.1 Regulatory requirements

Regulatory requirements that apply to the transport of specimens are subject to constant review and may change. Consignors must comply with the requirements that apply at the time of consignment, and with any carriers' and/or consignees' requirements that also apply.

The Civil Aviation Safety Authority (CASA)[21] regulates the air transport of dangerous goods in Australia. The regulations that apply to air transport of infectious substances are set out in the IATA Dangerous Goods Regulations. A new edition of the IATA Dangerous Goods Regulations becomes effective on 1 January each year. Interim changes are published on the IATA website.[22]

Copies of the IATA Dangerous Goods Regulations may be purchased from the International Forwarders and Customs Brokers Association of Australia.[23]

The states and territories regulate land transport, based on the Australian Code for the Transport of Dangerous Goods by Road and Rail, which is maintained by the National Transport Commission. The code is based on the recommendations of the United Nations Committee of Experts on the Transport of Dangerous Goods. In general, compliance with requirements for air transport of specimens will ensure compliance with requirements for land transport.

12.6.2 Responsibility for specimen transport

The shipper is legally responsible for ensuring that consignments of dangerous goods, including specimens, comply with regulatory requirements.

The IATA Dangerous Goods Regulations and CASA require that shippers be trained, tested and certified to consign dangerous goods. Trainers must be approved by CASA, which maintains a list of approved trainers.

[21] www.casa.gov.au

[22] www.iata.org/dangerousgoods

[23] www.ifcbaa.com

Approved training that is specifically for shippers of infectious substances and dry ice is available.[24] Certification is valid for 2 years.

In general, airlines and courier companies are not common carriers, and may refuse consignments that do not meet regulatory or company requirements. To ensure the expeditious transport of specimens, laboratories should maintain a close working relationship with the local agent of at least one national air courier, and with that company's dangerous goods manager.

Laboratories that are accredited to ISO/IEC 17025 (General Requirements for the Competence of Testing and Calibration Laboratories) should have documented procedures that are consistent with regulatory requirements for the transport of specimens and cultures of pathogens.

Heads of laboratories should assign responsibility for specimen transport to specific, appropriately trained staff. Although these staff may provide advice and materials to the laboratory's clients, this does not relieve the clients of their responsibility to comply with regulations.

In the response and proof-of-freedom phases of an EAD response, specimen submission may be coordinated by the laboratory interface function at an LCC. Laboratory staff who are certified to ship diagnostic specimens and infectious substances may be seconded to that position.

12.6.3 Classification and packaging

The IATA Dangerous Goods Regulations include criteria for classifying specimens, and how they must be identified, packed, marked, labelled and documented for shipping.

12.6.4 Packaging materials

Suppliers of packaging can be found in the IATA Dangerous Goods Regulations, or by using a web search for keywords such as 'infectious substance packaging'. Some overseas suppliers have distributors in Australia.

Purchasers of approved packaging must obtain specifications for its use from the supplier and comply with those specifications. Purchasers should ascertain specifications and limitations that apply to inner packaging components, including primary specimen containers.

12.6.5 Labelling and documentation

The IATA Dangerous Goods Regulations specify the labelling and documentation that must be used when consigning diagnostic specimens or infectious substances.

The regulations:

- specify the appearance, number, placement and orientation of labels
- give instructions for, and examples of, proper completion of dangerous goods declarations, air waybills and consignment notes.

[24] A list of approved course providers can be obtained from CASA (www.casa.gov.au).

12.6.6 Regulatory compliance

Laboratory staff and others who consign specimens should check the completed package, consignment note and, if applicable, dangerous goods declaration for compliance with the IATA Dangerous Goods Regulations. This check is best done using the *Dangerous goods checklist for a non-radioactive shipment* that is in the current edition of the IATA Dangerous Goods Regulations. The checklist may be downloaded from the IATA website.[25]

12.6.7 Further information

Sources of further information on the requirements for transport of specimens include:

- IATA
- CASA
- Australian Government Department of Infrastructure, Transport, Regional Development, Communications and the Arts
- providers of dangerous goods training
- dangerous goods managers of courier companies.

[25] www.iata.org/en/programs/cargo/dgr/download

Appendix 1 Format of an Emergency Animal Disease Contingency Plan

The following is a suggested format and checklist for a laboratory EAD Contingency Plan.

Veterinary laboratory, [location]

Emergency Animal Disease Contingency Plan

INTRODUCTION

- **This contingency plan is an extension of the procedures that apply for normal laboratory operation.** During formulation and review of the plan, deficiencies in the standard operating procedures (SOPs) can be identified and rectified. It is less disruptive to tighten up sound, low-risk routines with which laboratory staff are familiar than to impose a completely new set of procedures during an emergency animal disease (EAD) incident. The plan should consider the possibility that amendments may be necessary to normal testing procedures or methodology (eg in light of turnaround times; availability of reagents, consumables, equipment, controls, scopes), and the consequences of such changes (eg for method validation or verification, or in compliance with National Association of Testing Authorities accreditation).
- **The plan should be reviewed regularly (at least annually) and as required.** The plan, particularly its security components, should be tested regularly, with minimum disruption to normal laboratory operations.
- **The plan is an 'active' document.** It is stored electronically and updated following regular testing and review.
- **The plan should be readily accessible to laboratory staff.** All staff should be familiar with the current plan, as well as with other SOP manuals for the laboratory (eg occupational health and safety manual, microbiological safety and biosecurity procedures, SOPs for laboratory methods).
- **The plan contains specific activities and not simply a list of principles.** It has sufficient information and instructions for all laboratory staff to understand what is required of them specifically.
- **The plan is comprehensive and self-contained, where possible.** Copies of relevant information from other sources (eg departmental circulars, other publications) and completed examples of all forms that must be used (eg Shipper's Declaration for Dangerous Goods) are included as Appendixes A–I to make the plan a 'one-stop shop' for all laboratory staff in the event of a disease emergency.
- The AUSVETPLAN management manual *Laboratory preparedness* is included as Appendix I of the contingency plan.

1 PROCEDURES FOR QUARANTINE AND DECONTAMINATION OF THE LABORATORY AFTER SPECIMENS FROM A SUSPECTED OR CONFIRMED EAD HAVE BEEN HANDLED (IE AFTER A SINGLE EXPOSURE)

1.1 Notification

1.1.1 Laboratory staff immediately notify the head of laboratory when a specimen from a suspected EAD is identified.

1.1.2 Head of laboratory notifies the state or territory chief veterinary officer (CVO).

1.2 Evaluation of level of security required for the suspected agent

1.2.1 References:

- Australian/New Zealand standard AS/NZS 2243.3:2022 (Safety in Laboratories, Part 3: Microbiological Safety and Containment), which classifies infective microorganisms
- *Foreign animal diseases*, 7th edition, Committee on Foreign and Emerging Diseases of the United States Animal Health Association, 2008[26]
- **AUSVETPLAN response strategy** for the specific EAD suspected
- Security Sensitive Biological Agents (SSBA) Regulatory Scheme, Australian Government Department of Health and Aged Care.[27]

1.2.2 Head of laboratory nominates staff involved in assessment (eg senior laboratory staff).

1.2.3 Issues to be considered include:

- risk of spread of the agent via aerosols, animals, animal products, fomites, instruments, equipment, staff, effluent, etc
- viability of the agent, and resistance to cleaning and disinfection
- zoonotic potential
- risk to animals at laboratory and on surrounding property.

1.3 Handling of specimens

1.3.1 Situations where EAD specimens may be handled include:

- EAD suspected or requiring exclusion during routine examination of laboratory specimens
- specimens for which an EAD is suspected or requires exclusion by either a laboratory that is part of the LEADDR network or at the CSIRO-ACDP
- low-risk specimens brought in by a veterinary practitioner, government field officer, farmer or courier.

[26] www.usaha.org/upload/Publication/Other/FAD_7th_Combined.pdf at https://www.usaha.org/publications

[27] www.health.gov.au/our-work/ssba-regulatory-scheme

1.3.2 Disposal of contaminated material:

- This should occur at the laboratory, to minimise the area of potential contamination.
- When possible, bag and incinerate animal bodies and tissues on site. Bag other laboratory waste in autoclave bags and autoclave. After autoclaving, dispose of through the normal laboratory system, preferably by incineration.
- Double-bag protective clothing (laboratory coats, overalls) in autoclave bags. Thoroughly disinfect the surface of the outer bag before transporting it from the contaminated area for autoclaving and subsequent laundering.
- Soak grossly contaminated protective clothing overnight in disinfectant before laundering.
- Immerse boots in disinfectant.

1.4 Identification of high-risk laboratory areas

1.4.1 Refer to site plan and building plan (see Appendix A).

1.4.2 Isolation and quarantine of high-risk areas:

- Identify all areas exposed to specimens (eg courier vehicle, driveway, outside reception area, holding pens, specimen reception area, postmortem room, laboratories, cold rooms).
- Prepare and display appropriate notices.
- Specify physical barriers (eg doors, gates, fences).
- Place footbaths at all entry points to the building and contaminated area.
- Organise protective clothing.
- Hold and treat effluent. If this is not possible, advise CVO.
- Treat contaminated laboratory materials (see Section 1.3 — Handling of specimens).

1.4.3 Consider consequences of security measures:

- See Section 1.1 — Notification.
- Assess impact on adjacent facilities and their operations. Notify affected laboratory sections, adjacent units and administrators.
- Assess implications for laboratory animal facilities. The head of laboratory should consult with appropriate authorities (eg regional manager, CVO) and liaise with local officers to determine whether any animals in laboratory animal facilities should be destroyed.
- Assess whether to continue, discontinue, reduce or relocate routine diagnostic services during the EAD emergency. This should be reviewed regularly during an incident, as workloads and priorities can quickly change.
- Advise clients of alternative arrangements for routine diagnostic specimens if changes are made.

1.5 Identification of high-risk staff

1.5.1 Refer to staff list (see Appendix B).

1.5.2 Staff with direct or indirect contact with specimens may include:

- couriers
- staff in specimen reception area
- duty veterinarians
- duty pathologists

- postmortem room staff
- cleaners and general assistants
- other laboratory staff.

1.5.3 Staff briefing — head of laboratory or nominee briefs all staff regarding:

- restriction of staff movement
- restriction of staff contact with other animals
- fate of animals and birds at home
- zoonotic potential
- decontamination requirements, including treatment of clothing and shoes
- situation reports.

1.6 Dispatch of specimens to the CSIRO-ACDP

1.6.1 Reference:

- **AUSVETPLAN management manual *Laboratory preparedness***.

1.6.2 Approval:

- For Category 3 specimens, head of laboratory obtains CVO approval to send specimens to CSIRO-ACDP.
- Head of laboratory advises duty veterinarian at CSIRO-ACDP and other appropriate personnel by phone, confirming type of specimens to be submitted.

1.6.3 Packing and dispatch:

- International Air Transport Association (IATA)-accredited staff member (see Appendix B) packs and dispatches specimens to CSIRO-ACDP (see Appendix F).

1.6.4 Shipping details:

- Head of laboratory advises CSIRO-ACDP by phone or fax of all shipping details (including courier consignment number for specimens).
- Head of laboratory also advises Victorian CVO of all shipping details if Category 3 specimens are being sent to CSIRO-ACDP.

1.7 Cleaning and decontamination

1.7.1 References:

- **AUSVETPLAN management manual *Laboratory preparedness***
- **AUSVETPLAN operational manual *Decontamination*.**

1.7.2 Methods include:

- cleaning
- disinfection.

1.7.3 Targets include:

- high-risk areas
- low-risk areas
- high-risk staff
- low-risk staff
- vehicles (eg courier vehicles)
- contaminated laboratory protective clothing
- contaminated street clothes and shoes
- waste.

2 PROTOCOL FOR QUARANTINE AND OPERATION OF THE LABORATORY INVOLVED IN AN EAD OUTBREAK (ONGOING OPERATIONS)

2.1 Notification

- Head of laboratory notifies appropriate individuals in charge of adjacent establishments affected by the EAD emergency.

2.2 Evaluation of level of security required for the suspected agent

- As for Section 1.2.

2.3 Handling of specimens

- As for Section 1.3.

2.4 Establishment of an EAD laboratory

- Comprehensive plans should be developed for the establishment and operation of a microbiologically secure facility designated as the EAD laboratory (EDL) within the laboratory complex, to provide ongoing laboratory services for an EAD emergency.
- Different levels of microbiological security may be required in the EDL at different stages of the EAD emergency
  - during the active high-risk phase
  - during the later low-risk phase (eg serological testing).

2.4.1 Refer to site plan and building plan (see Appendix A):

- Consider the type of laboratory work required (eg necropsy, agent identification, serology).
- Define the appropriate EDL location for this work.

2.4.2 Specify all actions required to secure the EDL:

- Restrict access and movements of
  - EDL staff (restricted to EDL)
  - other laboratory staff within the laboratory buildings
  - the public to laboratory site and buildings
  - couriers for suspected EAD specimens
  - couriers for routine specimens
  - staff vehicles
  - public vehicles, including trade vehicles.

- Specify physical barriers (eg doors, gates, fences).
- Place footbaths, showers — specify locations.
- Organise protective clothing — specify requirements.
- Relocate existing staff and equipment for the EDL.
- Establish SOPs for the EDL. The standard procedures that apply to normal operation of the laboratory are upgraded appropriately to meet the microbiological security requirements of the EDL. It is essential that the SOPs for normal operation of the laboratory are sound and able to be easily upgraded for the EDL.
- Set up the EDL with laboratory equipment and facilities appropriate for the disease concerned, including a postmortem area if required.
- Arrange, through the state or territory control centre (SCC), requisition of equipment not immediately available (eg egg incubators, dunk tanks).
- Set up a communications centre in the EDL.
- Arrange through SCC for supply of
  - telephones
  - scanner
  - photocopier
  - computer link to EAD database, Sample Tracking and Reporting System (STARS) and Laboratory Information Management System (LIMS)
  - mobile telephones.

2.4.3 Consider consequences of security measures:

- Assess impact on adjacent facilities and their operations (see Section 2.1 — Notification).
- Assess whether to continue, discontinue, reduce or relocate routine diagnostic services and other laboratory activities (eg research) during the EAD emergency. Review throughout the emergency.
- Advise clients of alternative arrangements for routine diagnostic specimens if changes are made.

2.4.4 Independent evaluation of security components of the EAD Contingency Plan by a CSIRO-ACDP officer:

- This review should be undertaken as part of the testing of the contingency plan.

2.4.5 Diagnostic procedures for the specific EAD disease:

- CSIRO-ACDP will assist with the protocols, reagents and, if necessary, training for EDL staff.

2.5 Operation of EAD laboratory

2.5.1 Management structure:

- Appoint head of laboratory for EDL.
- Identify line responsibilities in high-risk areas (the EDL) and low-risk areas of the laboratory complex.

2.5.2 Staff numbers:

- Identify professional, technical and administrative staff required.
- Prepare a list of staff skills.
- Prepare staff rosters.

2.5.3 Morale:

- Designate a personnel officer to monitor staff needs.
- Monitor workload, overtime and time off.
- Monitor morale of laboratory staff not directly involved in the EAD emergency.

2.5.4 Communication:

- Within EDL — conduct daily briefing of staff.
- Within non-EDL area — conduct daily briefing of staff section leaders, regular briefing of all staff.
- Between EDL and non-EDL areas of the laboratory —ensure daily contact.
- Between laboratory and local control centre (LCC), and between laboratory and SCC — ensure daily contact.

2.5.5 Integration of EDL operation with **AUSVETPLAN operational manuals**, **management manuals** and **response strategies**:

- Establish diagnostic team (see the **AUSVETPLAN *Control centres management manual***).
- Establish means of communication with EDL (email, phone, computer network, written, other).
- Establish communication protocols.
- Ensure compatibility with EAD database
  - specimen accession
  - reporting system
  - senior laboratory veterinarian responsible.
- Identify and follow an established line of responsibility (CVO, SCC, LCC, EDL).
- Provide situation reports
  - to EDL from LCC
  - from EDL to LCC.
- Conduct a daily debriefing at a standard time from LCC.
- Nominate a contact person in laboratory for all external contacts other than LCC, SCC or CVO.
- Nominate officer(s) for the role of laboratory liaison function officer.

2.6 Stores, equipment, reagents

2.6.1 EAD diagnostic kit (see Appendix D):

- Ensure kit includes a supply of specimen transport containers and appropriate transport media (which may need to be stored frozen).
- Hold kits at the laboratory for immediate dispatch to the field with an investigating veterinarian or a diagnostic team.
- Specify how frequently the kit is checked (eg 6-monthly, annually).

2.6.2 Cleaning and decontamination (see Appendix E):

- Maintain adequate stores of disinfectants at the laboratory for initial phase of an EAD emergency.

2.6.3 Diagnostic reagents:

- To be supplied by CSIRO-ACDP, as required.

2.6.4 Other stores:

- Normal laboratory stores of protective clothing (eg boots, overalls, laboratory coats) should be maintained in quantities sufficient to meet initial demands of an EAD emergency.
- It is impractical to maintain permanent surge capacity of these items exclusively for EAD outbreaks. Extra supplies of protective clothing (eg overalls, boots, coats, shoes) will need to be ordered. Laboratory consumables should be stored in sufficient quantities for an EAD outbreak, if possible. If this is not possible, the laboratory staff involved in the response should consider options if the usual sources and grades of consumables are unavailable at the time required, including use of alternative sources and grades (eg obtaining consumables from another laboratory).

2.6.5 Ordering of laboratory consumables during an EAD emergency:

- Nominate one person to coordinate ordering within the EDL.
- Nominate one person as administrative support contact outside the EDL.
- Nominate key people from each discipline to advise on sources of laboratory consumables.

2.7 Finances

- Establish accounting procedures that identify laboratory costs, which may be claimed under the cost-sharing arrangements.

3 STAFF TRAINING

3.1 References

- **AUSVETPLAN management manual *Laboratory Preparedness***
- **AUSVETPLAN *Overview***
- **AUSVETPLAN response-specific documents**.

3.2 EAD awareness and strategies to re-establish freedom

3.3 Development of technical and scientific skills

3.4 Exercises to test laboratory EAD Contingency Plan

4 APPENDICES

A Site and building plans

- Air-conditioning
- Building drainage system.

B Staff

- Staff list — skills and EAD experience
- IATA-accredited staff.

C State emergency contact numbers

D EAD diagnostic kit

- References:
  - **AUSVETPLAN *Control centres management manual***
  - *Foreign animal diseases*, 7th edition, Committee on Foreign and Emerging Diseases of the United States Animal Health Association, 2008.[28]

E Stores

- Cleaning and decontamination materials (see the **AUSVETPLAN *Operational manual: Decontamination***)
- Equipment and chemicals
- Suppliers of overalls, laboratory coats, boots and shoes
- Suppliers of consumables.

F Packaging and transport of specimens to CSIRO-ACDP

- Reference: **AUSVETPLAN Management manual: *Laboratory preparedness***
- Checklist, including examples of completed forms (eg CSIRO-ACDP Specimen Advice Note, Shipper's Declaration for Dangerous Goods).

G State or territory government publications on EAD procedures

H Training resources

- Publications
- DVDs, digital images
- Appropriate web-based material
- Histopathology slides.

I AUSVETPLAN management manual *Laboratory preparedness*

[28] www.usaha.org/upload/Publication/Other/FAD_7th_Combined.pdf

Glossary

Manual-specific terms

Term	Definition
Australian and New Zealand standard diagnostic procedure (ANZSDP)	Standardised procedures used by Australian and New Zealand laboratories to facilitate the performance of test procedures and to ensure consistency between laboratories.
Emergency Animal Disease Response Plan (EADRP)	A response to an emergency animal disease that is developed by a state or territory chief veterinary officer, endorsed by the Consultative Committee on Emergency Animal Diseases and the National Management Group, and is subject to government and industry cost sharing in accordance with the Emergency Animal Disease Response Agreement.
Laboratories for Emergency Animal Disease Diagnosis and Response (LEADDR)	A national network of laboratories established in 2009 to effectively prepare and respond to an Australian emergency animal disease incursion. The network reports directly to the Animal Health Committee.
Subcommittee on Animal Health Laboratory Standards (SCAHLS)	A subcommittee of the Animal Health Committee comprising the laboratory representatives of Australia and New Zealand, including the Australian Government Department of Agriculture, Fisheries and Forestry; the CSIRO Australian Centre for Disease Preparedness; state and territory government laboratories; private laboratories; veterinary schools; the Australian National Quality Assurance Program; the National Association of Testing Authorities; Animal Health Australia; and the Public Health Laboratory Network. The committee provides advice to the Animal Health Committee on animal health laboratory matters, focusing on technical issues and regulatory policy.
Sample Tracking and Reporting System (STARS)	A data interchange system that allows rapid and secure electronic exchange of animal health data between laboratory and other information systems.
Security Sensitive Biological Agent (SSBA) Regulatory Scheme	A scheme that aims to limit opportunities for acts of bioterrorism or biocrime using harmful biological agents. The Australian Government Department of Health and Aged Care administers the scheme. The scheme is built around a tiered list of SSBAs and requires all entities and facilities handling SSBAs to comply with the Commonwealth *Health Security Act 2007* and Health Security Regulations 2008, and the SSBA Standards.

Standard AUSVETPLAN terms

Term	Definition
Animal	
- captive wildlife	A wild animal that has been tamed and lives under human supervision and control to serve a purpose.
- domestic animal	An animal that lives under human supervision and control to serve a purpose – especially a member of those species that have, through selective breeding, become notably different from their wild ancestors.
- feral animal	A previously domesticated animal that now does not live under human supervision or control.
- wildlife/wild animal	An animal that does not live under human supervision or control, and has not been selectively bred or its phenotype selected by humans.
Animal byproducts	Products of animal origin that are not for consumption but are destined for industrial use (eg hides and skins, fur, wool, hair, feathers, hooves, bones, fertiliser).
Animal Health Committee	A committee whose members are the chief veterinary officers of the Commonwealth, states and territories, along with representatives from the CSIRO Australian Centre for Disease Preparedness (CSIRO-ACDP) and the Australian Government Department of Agriculture, Fisheries and Forestry. There are also observers from Animal Health Australia, Wildlife Health Australia, and the New Zealand Ministry for Primary Industries. The committee provides advice to the National Biosecurity Committee on animal health matters, focusing on technical issues and regulatory policy. *See also* National Biosecurity Committee
Animal products	Meat, meat products and other products of animal origin (eg eggs, milk) for human consumption or for use in animal feed.
Approved disposal site (ADS)	A premises that has zero susceptible animals and has been approved as a disposal site for animal carcasses, or potentially contaminated animal products, wastes or things.
Approved processing facility (APF)	An abattoir, knackery, milk or egg processing plant or other such facility that maintains increased biosecurity standards. Such a facility could have animals or animal products introduced from lower-risk premises under a permit for processing to an approved standard.
Assessed negative (AN)	A qualifier that may be applied to at-risk premises, premises of relevance and premises previously defined as suspect premises, trace premises, dangerous contact premises or dangerous contact processing facilities that have undergone an epidemiological and/or laboratory assessment and have been cleared of suspicion at the time of classification, and can progress to another status.
At-risk premises (ARP)	A premises in a restricted area that contains one or more live susceptible animals but is not considered at the time of classification to be an infected premises, dangerous contact premises, dangerous contact processing facility, suspect premises or trace premises.

Term	Definition
Australian Chief Veterinary Officer	The nominated senior veterinarian in the Australian Government Department of Agriculture, Fisheries and Forestry who manages international animal health commitments and the Australian Government's response to an animal disease outbreak. *See also* Chief veterinary officer
AUSVETPLAN	Australian Veterinary Emergency Plan. A series of technical response plans that describe the proposed Australian approach to an emergency animal disease incident. The documents provide guidance based on sound analysis and link policy, strategies, implementation, coordination and emergency-management plans.
Carcase	The body of an animal slaughtered for food.
Carcass	The body of an animal that died in the field.
Case fatality rate	The proportion of infected animals that die of the disease among all animals diagnosed with the disease at the time.
Chief veterinary officer (CVO)	The senior veterinarian of the animal health authority in each jurisdiction (national, state or territory) who has responsibility for animal disease control in that jurisdiction. *See also* Australian Chief Veterinary Officer
Compartmentalisation	The process of defining, implementing and maintaining one or more disease-free establishments under a common biosecurity management system in accordance with World Organisation for Animal Health (WOAH) guidelines, based on applied biosecurity measures and surveillance, to facilitate disease control and/or trade.
Compensation	The sum of money paid by government to an owner for livestock or property that are destroyed for the purpose of eradication or prevention of the spread of an emergency animal disease, and livestock that have died of the emergency animal disease. *See also* Cost-sharing arrangements, Emergency Animal Disease Response Agreement
Consultative Committee on Emergency Animal Diseases (CCEAD)	The key technical coordinating body for animal health emergencies. Members are state and territory chief veterinary officers, representatives of CSIRO-ACDP and the relevant industries, and the Australian Chief Veterinary Officer as chair.
Control area (CA)	A legally declared area that acts as a disease-free buffer[29] between the restricted area and the outside area (the limits of a control area and the conditions applying to it can be varied during an incident according to need) where the disease controls and movement controls applied are of lesser intensity than those in a restricted area.
Cost-sharing arrangements	Arrangements agreed between governments (national, states and territories) and livestock industries for sharing the costs of emergency

[29] The use of the term 'disease free' implies that disease is not known to occur within the geographic area described by the CA.

Term	Definition
	animal disease responses. *See also* Compensation, Emergency Animal Disease Response Agreement
Dangerous contact animal	A susceptible animal that has been designated as being exposed to other infected animals or potentially infectious products following tracing and epidemiological investigation.
Dangerous contact premises (DCP)	A premises, apart from an abattoir, knackery or milk or egg processing plant (or other such facility) that, after investigation and based on a risk assessment, is considered to contain one or more susceptible animals not showing clinical signs, but is considered highly likely to contain one or more infected animals and/or contaminated animal products, wastes or things, and that requires action to address the risk.
Dangerous contact processing facility (DCPF)	An abattoir, knackery, milk or egg processing plant or other such facility that, based on a risk assessment, appears highly likely to have received infected animals, or contaminated animal products, wastes or things, and that requires action to address the risk.
Declared area	A defined tract of land that is subjected to disease control restrictions under emergency animal disease legislation. There are two types of declared areas: restricted area and control area.
Decontamination	Includes all stages of cleaning and disinfection.
Depopulation	The removal of a host population from a specified area to control or prevent the spread of disease.
Destroy (animals)	To kill animals humanely.
Disease agent	A general term for a transmissible organism or other factor that causes an infectious disease.
Disinfectant	A chemical used to destroy disease agents outside a living animal.
Disinfection	The application, after thorough cleansing, of procedures intended to destroy the infectious or parasitic agents of animal diseases, including zoonoses; applies to premises, vehicles and different objects that may have been directly or indirectly contaminated.
Disinsection	The destruction of insect pests, usually with a chemical agent.
Disposal	Sanitary removal of animal carcasses, animal products, materials and wastes by burial, burning or some other process so as to prevent the spread of disease.
Emergency animal disease	A disease that is (a) exotic to Australia or (b) a variant of an endemic disease or (c) a serious infectious disease of unknown or uncertain cause or (d) a severe outbreak of a known endemic disease, and that is considered to be of national significance with serious social or trade implications. *See also* Endemic animal disease, Exotic animal disease
Emergency Animal Disease Hotline	24-hour freecall service for reporting suspected incidences of exotic diseases — 1800 675 888.

Term	Definition
Emergency Animal Disease Response Agreement	Agreement between the Australian, state and territory governments and livestock industries on the management of emergency animal disease responses. Provisions include participatory decision making, risk management, cost sharing, the use of appropriately trained personnel and existing standards such as AUSVETPLAN. *See also* Compensation, Cost-sharing arrangements
Endemic animal disease	A disease affecting animals (which may include humans) that is known to occur in Australia. *See also* Emergency animal disease, Exotic animal disease
Enterprise	*See* Risk enterprise
Enzyme-linked immunosorbent assay (ELISA)	A serological test designed to detect and measure the presence of antibody or antigen in a sample. The test uses an enzyme reaction with a substrate to produce a colour change when antigen–antibody binding occurs.
Epidemiological investigation	An investigation to identify and qualify the risk factors associated with the disease. *See also* Veterinary investigation
Epidemiological unit	In the context of infectious disease, an epidemiological unit is a unit which shares the same likelihood of exposure to a pathogen.[30] For the purposes of AUSVETPLAN premises classifications, an epidemiological unit can be defined as a discrete area encompassing all, or part, of a premises, within which control measures can be applied to achieve disease control outcomes.
Epidemiology	The study of disease in populations and of factors that determine its occurrence.
Exotic animal disease	A disease affecting animals (which may include humans) that does not normally occur in Australia. *See also* Emergency animal disease, Endemic animal disease
Exotic fauna/feral animals	*See* Wild animals
Feeding prohibited pig feed	Also known as 'swill feeding', it includes: • feeding, or allowing or directing another person to feed, prohibited pig feed to a pig • allowing a pig to have access to prohibited pig feed • the collection and storage or possession of prohibited pig feed on a premises where one or more pigs are kept • supplying to another person prohibited pig feed that the supplier knows is for feeding to any pig. This definition was endorsed by the Agriculture Ministers' Council through AGMIN OOS 04/2014.

[30] www.woah.org/fileadmin/Home/eng/Health_standards/tahc/2018/en_glossaire.htm#terme_unite_epidemiologique

Term	Definition
Fomites	Inanimate objects (eg boots, clothing, equipment, instruments, vehicles, crates, packaging) that can carry an infectious disease agent and may spread the disease through mechanical transmission.
General permit	A legal document that describes the requirements for movement of an animal (or group of animals), commodity or thing, for which permission may be granted without the need for direct interaction between the person moving the animal(s), commodity or thing and a government veterinarian or inspector. The permit may be completed via a webpage or in an approved place (such as a government office or commercial premises). A printed version of the permit must accompany the movement. The permit may impose preconditions and/or restrictions on movements. *See also* Special permit
In-contact animals	Animals that have had close contact with infected animals, such as noninfected animals in the same group as infected animals.
Incubation period	The period that elapses between the introduction of the pathogen into the animal and the first clinical signs of the disease.
Index case	
– for the outbreak	The first case of the disease to be diagnosed in a disease outbreak. *See also* Index property
– for a herd, flock or other defined group	The first diagnosed case of an outbreak in a herd, flock or other defined group.
Index property	The property on which the index case is found. *See also* Index case
Infected area (IA)	An area on which wild/feral animals meeting the case definition are or were present, or the causative agent of the emergency animal disease is present, or there is a reasonable suspicion that either is present, and that the relevant chief veterinary officer or their delegate has determined to be an infected area. The area may be subject to wild/feral animal disease controls, including, as necessary, destruction, disposal and decontamination activities, vaccination, intense surveillance and movement controls.
Infected premises (IP)	A premises on which animals meeting the case definition are or the causative agent of the emergency animal disease is present, or there is a reasonable suspicion that either is present, and that the relevant chief veterinary officer or their delegate has declared to be an infected premises.
Local control centre (LCC)	An emergency operations centre responsible for the command and control of field operations in a defined area.
Monitoring	Routine collection of data for assessing the health status of a population or the level of contamination of a site for remediation purposes. *See also* Surveillance
Movement control	Restrictions placed on the movement of animals, people and other things to prevent the spread of disease.

Term	Definition
National Biosecurity Committee (NBC)	A committee that was formally established under the Intergovernmental Agreement on Biosecurity (IGAB). The IGAB was signed on 13 January 2012, and signatories include all states and territories except Tasmania. The committee provides advice to the Agriculture Senior Officials Committee and the Agriculture Ministers' Forum on national biosecurity issues, and on the IGAB.
National management group (NMG)	A group established to approve (or not approve) the invoking of cost sharing under the Emergency Animal Disease Response Agreement. NMG members are the Secretary of the Australian Government Department of Agriculture, Fisheries and Forestry as chair, the chief executive officers of the state and territory government parties, and the president (or analogous officer) of each of the relevant industry parties.
Native wildlife	*See* Wild animals
Operational procedures	Detailed instructions for carrying out specific disease control activities, such as disposal, destruction, decontamination and valuation.
Outside area (OA)	The area of Australia outside the restricted and control areas.
Owner	Person responsible for a premises (includes an agent of the owner, such as a manager or other controlling officer).
Polymerase chain reaction (PCR)	A method of amplifying and analysing DNA sequences that can be used to detect the presence of viral DNA.
Premises	A geographically defined tract of land including its buildings. A premises may be represented geospatially (eg on maps) as a polygon for whole or parts of a property, or as a centroid to identify the entire property. A premises may be part of, or an entire property. Premises with a case number are assigned a premises classification for disease control management and monitoring purposes. As such, a premises is an 'epidemiological unit' for disease control purposes. A premises can also be a separate epidemiological unit internal of a land parcel in some circumstances. On an exceptional basis and subject to a risk assessment, a property may be divided into multiple, discrete biosecure epidemiological units. These units may then be reclassified as separate premises for disease control purposes. An epidemiological unit may define the extent of the premises.
Premises of relevance (POR)	A premises in a control area that contains one or more live susceptible animals but is not considered at the time of classification to be an infected premises, dangerous contact premises, dangerous contact processing facility, suspect premises or trace premises.
Premises with susceptible species (PSS)	A premises in the outside area that contains one or more live susceptible animals or other units of interest, but is not considered at

Term	Definition
	the time of classification to be an infected premises, dangerous contact premises, dangerous contact processing facility, suspect premises or trace premises.
Prevalence	The proportion (or percentage) of animals in a particular population affected by a particular disease (or infection or positive antibody titre) at a given point in time.
Primary case	The individual that introduces disease into a herd, flock or other group under study. Not necessarily the first case diagnosed case in that herd, flock or other group under study.
Prohibited pig feed	Also referred to as 'swill'. Material of mammalian origin, or any substance that has come in contact with this material, but does not include: (i) milk, milk products or milk byproducts either of Australian provenance or legally imported for stockfeed use into Australia (ii) material containing flesh, bones, blood, offal or mammal carcases which is treated by an approved process[1] (iii) a carcass or part of a domestic pig, born and raised on the property on which the pig or pigs that are administered the part are held, that is administered for therapeutic purposes in accordance with the written instructions of a veterinary practitioner (iv) material used under an individual and defined-period permit issued by a jurisdiction for the purposes of research or baiting. [1] In terms of (ii), approved processes are: 1. rendering in accordance with the Australian Standard for the Hygienic Rendering of Animal Products 2. under jurisdictional permit, cooking processes subject to compliance verification that ensure that a core temperature of at least 100 °C for a minimum of 30 minutes, or equivalent, has been reached 3. treatment of cooking oil, which has been used for cooking in Australia, in accordance with the National Standard for Recycling of Used Cooking Fats and Oils intended for Animal Feeds 4. under jurisdictional permit, any other nationally agreed process approved by the Animal Health Committee for which an acceptable risk assessment has been undertaken and that is subject to compliance verification. The national definition is a minimum standard. Some jurisdictions have additional conditions for feeding of prohibited pig feed that pig producers in those jurisdictions must comply with, over and above the requirements of the national definition.
Qualifiers	
— assessed negative	Assessed negative (AN) is a qualifier that may be applied to premises previously defined as SPs, TPs, DCPs or DCPFs. The qualifier may be applied following surveillance, epidemiological investigation, and/or laboratory assessment/diagnostic testing, and indicates that the premises is assessed as negative at the time of classification.

Term	Definition
— sentinels on site	Sentinels on site (SN) is a qualifier that may be applied to IPs and DCPs to indicate that sentinel animals are present on the premises as part of response activities (ie before it can be assessed as a resolved premises).
— vaccinated	The vaccinated (VN) qualifier can be applied in a number of different ways. At its most basic level, it can be used to identify premises that contain susceptible animals that have been vaccinated against the EAD in question. However, depending on the legislation, objectives and processes within a jurisdiction, the VN qualifier may be used to track a range of criteria and parameters.
Quarantine	Legal restrictions imposed on a place or a tract of land by the serving of a notice limiting access or egress of specified animals, persons or things.
Resolved premises (RP)	An infected premises, dangerous contact premises or dangerous contact processing facility that has completed the required control measures and is subject to the procedures and restrictions appropriate to the area in which it is located.
Restricted area (RA)	A relatively small legally declared area around infected premises and dangerous contact premises that is subject to strict disease controls and intense surveillance. The limits of a restricted area and the conditions applying to it can be varied during an incident according to need.
Risk enterprise	A defined livestock or related enterprise that is potentially a major source of infection for many other premises. Includes intensive piggeries, feedlots, abattoirs, knackeries, saleyards, calf scales, milk factories, tanneries, skin sheds, game meat establishments, cold stores, artificial insemination centres, veterinary laboratories and hospitals, road and rail freight depots, showgrounds, field days, weighbridges and garbage depots.
Sensitivity	The proportion of truly positive units that are correctly identified as positive by a test. *See also* Specificity
Sentinel animal	Animal of known health status that is monitored to detect the presence of a specific disease agent.
Sentinels on site (SN)	A qualifier that may be applied to infected premises to indicate that sentinel animals are present on the premises as part of response activities.
Seroconversion	The appearance in the blood serum of antibodies (as determined by a serology test) following vaccination or natural exposure to a disease agent.
Serosurveillance	Surveillance of an animal population by testing serum samples for the presence of antibodies to disease agents.
Serotype	A subgroup of microorganisms identified by the antigens carried (as determined by a serology test).
Serum neutralisation test	A serological test to detect and measure the presence of antibody in a sample. Antibody in serum is serially diluted to detect the highest

Term	Definition
	dilution that neutralises a standard amount of antigen. The neutralising antibody titre is given as the reciprocal of this dilution.
Slaughter	The humane killing of an animal for meat for human consumption.
Special permit	A legal document that describes the requirements for movement of an animal (or group of animals), commodity or thing, for which the person moving the animal(s), commodity or thing must obtain prior written permission from the relevant government veterinarian or inspector. A printed version of the permit must accompany the movement. The permit may impose preconditions and/or restrictions on movements. *See also* General permit
Specificity	The proportion of truly negative units that are correctly identified as negative by a test. *See also* Sensitivity
Stamping out	The strategy of eliminating infection from premises through the destruction of animals in accordance with the particular AUSVETPLAN manual, and in a manner that permits appropriate disposal of carcasses and decontamination of the site.
State coordination centre (SCC)	The emergency operations centre that directs the disease control operations to be undertaken in that state or territory.
Surveillance	A systematic program of investigation designed to establish the presence, extent or absence of a disease, or of infection or contamination with the causative organism. It includes the examination of animals for clinical signs, antibodies or the causative organism.
Susceptible animals	Animals that can be infected with a particular disease.
Surveillance area	A geographically defined area in which animals are subject to intensive surveillance for the purposes of early detection of, or proof of freedom from, EADs, It may or may not be legally declared, and may be used for disease control purposes in some jurisdictions.
Suspect animal	An animal that may have been exposed to an emergency disease such that its quarantine and intensive surveillance, but not pre-emptive slaughter, is warranted. *or* An animal not known to have been exposed to a disease agent but showing clinical signs requiring differential diagnosis.
Suspect premises (SP)	Temporary classification of a premises that contains one or more susceptible animals showing clinical signs similar to the case definition, and that therefore requires investigation.
Swill	*See* Prohibited pig feed
Swill feeding	*See* Feeding prohibited pig feed
Trace premises (TP)	Interim classification of a premises that tracing indicates may have susceptible animals that have been exposed to the disease agent, or contains potentially contaminated animal products, wastes or things, and that requires investigation.

Term	Definition
Tracing	The process of locating animals, persons or other items that may be implicated in the spread of disease, so that appropriate action can be taken.
Transmission area	An area, not usually legally declared, that is used for vectorborne diseases for epidemiological purposes, recognising that vectors are not confined by property boundaries.
Unclassified processing facility (UPF)	An abattoir, knackery, milk or egg processing plant or other such facility where the current presence of susceptible animals and/or risk products, wastes or things is unknown.
Units of interest	Units of interest may require classification commensurate with the needs of a response and may include: • transporters, and transport depots where trucks carrying potentially infected stock and animal products are stored, or through which livestock may transiently move • milk tankers • veterinarians, and other personnel of specific interest that move between properties.
Unknown status premises (UP)	A premises where the current presence of susceptible animals and/or risk products, wastes or things is unknown.
Vaccination	Inoculation of individuals with a vaccine to provide active immunity.
Vaccine	A substance used to stimulate immunity against one or several disease-causing agents to provide protection or to reduce the effects of the disease. A vaccine is prepared from the causative agent of a disease, its products or a synthetic substitute, which is treated to act as an antigen without inducing the disease.
— adjuvanted	A vaccine in which one or several disease-causing agents are combined with an adjuvant (a substance that increases the immune response).
— attenuated	A vaccine prepared from infective or 'live' microbes that are less pathogenic but retain their ability to induce protective immunity.
— gene deleted	An attenuated or inactivated vaccine in which genes for non-essential surface glycoproteins have been removed by genetic engineering. This provides a useful immunological marker for the vaccine virus compared with the wild virus.
— inactivated	A vaccine prepared from a virus that has been inactivated ('killed') by chemical or physical treatment.
— recombinant	A vaccine produced from a virus that has been genetically engineered to contain only selected genes, including those causing the immunogenic effect.
Vaccinated (VN)	A qualifier that may be used to identify premises that contain susceptible animals that have been vaccinated against the emergency animal disease in question.

Term	Definition
Vaccination area	A geographically defined area in which emergency vaccination is applied for the purpose of EAD control. It may or may not be legally declared, and may be used for disease control purposes in some jurisdictions.
Vector	A living organism (frequently an arthropod) that transmits an infectious agent from one host to another. A *biological* vector is one in which the infectious agent must develop or multiply before becoming infective to a recipient host. A *mechanical* vector is one that transmits an infectious agent from one host to another but is not essential to the life cycle of the agent.
Veterinary investigation	An investigation of the diagnosis, pathology and epidemiology of the disease. *See also* Epidemiological investigation
Viraemia	The presence of viruses in the blood.
Wild animals	
— native wildlife	Animals that are indigenous to Australia and may be susceptible to emergency animal diseases (eg bats, dingoes, marsupials).
— feral animals	Animals of domestic species that are not confined or under control (eg cats, horses, pigs).
— exotic fauna	Nondomestic animal species that are not indigenous to Australia (eg foxes).
Wild animal management area	A geographically defined area in which wild animal management or control activities are conducted for the purpose of EAD control. It may or may not be legally declared, and may be used for disease control purposes in some jurisdictions.
WOAH Terrestrial Code	Describes standards for safe international trade in animals and animal products. Revised annually and published on the internet at: www.woah.org/en/what-we-do/standards/codes-and-manuals/terrestrial-code-online-access.
WOAH Terrestrial Manual	WOAH Manual of diagnostic tests and vaccines for terrestrial animals. Describes standards for laboratory diagnostic tests, and the production and control of biological products (principally vaccines). The current edition is published on the internet at: www.woah.org/en/what-we-do/standards/codes-and-manuals/terrestrial-manual-online-access.
Wool	Sheep wool.
Zero susceptible species premises (ZP)	A premises that does not contain any susceptible animals.
Zoning	The process of defining, implementing and maintaining a disease-free or infected area in accordance with World Organisation for Animal Health (WOAH) guidelines, based on geopolitical and/or physical boundaries and surveillance, to facilitate disease control and/or trade.
Zoonosis	A disease of animals that can be transmitted to humans.

Acronyms and abbreviations

Manual-specific acronyms and abbreviations

Acronym or abbreviation	Full title
ACVO	Australian Chief Veterinary Officer
AS/NZS 2243.3:2022	Australian/New Zealand Standard 2243.3:2022 Safety in Laboratories, Part 3: Microbiological Safety and Containment
CASA	Civil Aviation Safety Authority
EDL	emergency animal disease laboratory
HEPA filter	high-efficiency particulate air filter
IATA	International Air Transport Association
LEADDR	Laboratories for Emergency Animal Disease Diagnosis and Response
LEC	LEADDR Emergency Committee
NATA	National Association of Testing Authorities
PPE	personal protective equipment
QA	quality assurance
SCAHLS	Subcommittee on Animal Health Laboratory Standards
SOP	standard operating procedure
SSBA	security sensitive biological agent
STARS	Sample Tracking and Reporting System

Standard AUSVETPLAN acronyms and abbreviations

Acronym or abbreviation	Full title
ACDP	Australian Centre for Disease Preparedness
ADS	approved disposal site
AN	assessed negative
APF	approved processing facility
ARP	at-risk premises
AUSVETPLAN	Australian Veterinary Emergency Plan
CA	control area
CCEAD	Consultative Committee on Emergency Animal Diseases

Acronym or abbreviation	Full title
CSIRO	Commonwealth Scientific and Industrial Research Organisation
CVO	chief veterinary officer
DCP	dangerous contact premises
DCPF	dangerous contact processing facility
EAD	emergency animal disease
EADRA	Emergency Animal Disease Response Agreement
EADRP	Emergency Animal Disease Response Plan
EDTA	ethylenediaminetetraacetic acid (anticoagulant for whole blood)
ELISA	enzyme-linked immunosorbent assay
GP	general permit
IETS	International Embryo Transfer Society
IP	infected premises
LCC	local control centre
NASOP	nationally agreed standard operating procedure
NMG	National Management Group
OA	outside area
PCR	polymerase chain reaction
POR	premises of relevance
PSS	premises of susceptible species
RA	restricted area
RP	resolved premises
SCC	state coordination centre
SP	suspect premises
SpP	special permit
TA	transmission area
TP	trace premises
UP	unknown status premises
UPF	unclassified processing facility
VN	vaccinated
WOAH	World Organisation for Animal Health
ZP	zero susceptible species premises

References

Committee on Foreign and Emerging Diseases of the United States Animal Health Association (2008). *Foreign animal diseases*, 7th edn, Boca Publications Group, Inc., Boca Raton, Florida.