National Salmonella Enteritidis Response Management Plan

A guidance document for government and industry in the event of Salmonella Enteritidis potentially linked to eggs or poultry meat in Australia

Version 1.1
January 2021

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List of acronyms/definitions

AESEORP	Australian Eggs: *Salmonella* Enteritidis operational response plan
AHC	Animal Health Committee
BFSN	Bi-National Food Safety Network
Cluster	Epidemiological cluster (two or more people, linked by time, place and/or product)
CVO	Chief Veterinary Officer
CDNA	Communicable Diseases Network Australia
DAWE	Australian Government Department of Agriculture, Water, and the Environment
FSANZ	Food Standards Australia New Zealand
OHP	Office of Health Protection (Australian Government Department of Health)
MJOI	Multi-Jurisdictional Outbreak Investigation
NFIRP	National Food Incident Response Protocol
NSEMAP	National *Salmonella* Enteritidis Monitoring and Accreditation Program
NSW DPI	New South Wales Department of Primary Industries
PCR	Polymerase Chain Reaction (molecular DNA analysis tool)
SE	*Salmonella* Enteritidis (*Guidance in this document does not include SE types or strains which are recognised as not having links to infection in-ovum – see Appendix 1 for more detail*)

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Explanatory note

The purpose of this document is to provide best practice guidance for affected stakeholders in the event of suspected or confirmed *Salmonella* Enteritidis (SE) linked to poultry, and knowledge of the various response networks that may be activated. The document itself has no legal basis and responses to a detection of SE may vary depending on circumstances. There are a number of different stakeholders and sector specific plans referenced in this document. However, there is no requirement or need for detailed working knowledge of all plans by all stakeholders for this document to be effective.

1. Introduction

Preamble

Salmonella Enteritidis (SE) and its importance is outlined in Appendix 1. Unlike other *Salmonella* serovars, SE is capable of entering the egg prior to lay. Before September 2018, SE had not been detected on commercial egg laying properties in Australia and it is important to prevent further incursions.

The most common origin of locally acquired SE food poisoning in humans is from poultry products. This document refers to actions required for the protection of human health from SE with respect to poultry related activities. Actions to prevent SE outbreaks in Australia should occur across the continuum of farm, food supply chain, and consumer levels. Therefore, the management of SE in Australia requires collaboration between human health, food safety, animal health agencies and poultry industries (egg layer and meat birds).

Primary responsibility for SE management, and the operation of government, differ across Australian jurisdictions. This guidance plan involves a One Health approach to deliver a nationally consistent response to the management of SE across Australia and minimise the impact on both public health and the poultry industry. The document is the result of cooperation and agreement between all jurisdictional health, food safety, animal health agencies, veterinarians and the poultry industries in Australia. Additional industry specific plans for eggs and poultry meat have also been developed and would complement the actions and objectives of this plan.

Plan Objectives

1. To prevent locally acquired human illness due to SE from poultry in the supply chain by:
    - promoting early detection of SE in the poultry and poultry products through initiatives such as the National *Salmonella* Enteritidis Monitoring and Accreditation Program (NSEMAP) or other on-farm surveillance to allow the appropriate response to be implemented to contain and remove the risk of further infection;
    - promoting rapid communication between sectors and jurisdictions when SE relating to a poultry source is detected;
    - reducing transmission of SE from infected premises, including recall and removal of potentially contaminated eggs and/or poultry products from the food supply (including food retail, consumers) and restrictions on the movement of potentially infected material off the affected premises; and
    - supporting elimination of SE from farms and maintaining commercial poultry free from SE infection.
2. To promote consistency in the outcomes of regulatory responses to SE between jurisdictional agencies; and
3. To minimise disruption to the poultry industry not affected by SE, and enable the return to business of affected premises that take appropriate control and eradication measures.

Development of the plan

The 2018-19 SE outbreak in the egg industry in New South Wales (NSW) and Victoria highlighted that there was no national multi-sector plan for responding to an SE outbreak in poultry. To address this, the New South Wales Department of Primary Industries (NSW DPI) and Departments of Australian Government Departments of Health, and Agriculture, Water, and the Environment ran a joint workshop in October 2019 to discuss the development of a national response plan for managing SE

derived from poultry. Participants at the workshop included jurisdictional and national representatives from human health, food safety and animal health agencies and industry representatives. The outcomes of the workshop informed the content of a national management plan for SE in the poultry industry. A smaller committee was formed for the drafting of the plan. This draft was circulated widely for review and revised based on comments provided.

This plan will be hosted by Animal Health Australia and will be reviewed every 5 years by stakeholder groups, including:

- Communicable Diseases Network Australia (CDNA),
- Implementation Subcommittee for Food Regulation (ISFR),
- Animal Health Committee, and
- Egg layer and poultry meat industries.

2. Stakeholders and overarching principles

This section summarises the overarching principles for the plan, key stakeholders and networks that may be involved in a SE response, relevant legislation, and case definitions.

High level principles

- Ensuring protection of human health (in general SE does not affect poultry health) from exposure to SE via eggs, egg products and chicken meat.
- Wellbeing of poultry farmers and staff involved in managing and cleaning up outbreaks, including the ability to begin trading as soon as possible and maintaining animal welfare during depopulation.
- Minimising economic and reputational loss to the egg and poultry meat industries.

This plan should enable rapid notification of infected premises across borders and between relevant stakeholders to quickly reduce the spread of SE from farm to farm or other supply chain premises and enable rapid recall of potentially infected eggs and/or poultry products from infected premises. Pertinent information exchange to relevant jurisdictional authorities and in-contact businesses should be as efficient as possible and not be constrained by privacy legislation.

Existing national response networks, jurisdictional & industry plans and mechanisms should be utilised as part of this plan.

Relevant legislation that may be utilised in managing an SE response

International

- The International Health Regulations 2005

Australian Government

- Health
    - National Health Security Act 2007
    - National Health Security Agreement
    - Australia and New Zealand Food Standards Code
- Biosecurity
    - Biosecurity Act 2015 (Commonwealth)

Jurisdiction (State/Territory)

- Public health legislation
- Food safety legislation
- Animal health/biosecurity legislation
- Animal welfare legislation

Stakeholders

Responsible functional areas

There are five 'functional areas' involved in responding to SE at the jurisdictional and national levels (see Figure 1). In this document, the following terms are being used for these areas:

- **Public health** – refers to the functional area of government that investigates human cases of SE. In most jurisdictions, this is the Communicable Disease Unit within health departments in conjunction with jurisdictional OzFoodNet representatives. At the national level, public health refers to the Office of Health Protection within the Australian Government Department of Health (OHP) and OzFoodNet Central within the OHP.
- **Food safety** – refers to the functional area of government responsible for the investigation of the safety of food at supply chain premises including egg packing/grading facilities and poultry processing plants. In some jurisdictions this agency is within the Department of Health (or equivalent), while in others these functions may sit with specific commodity-based agencies. At the national level, coordination of cross border food safety is undertaken by Food Standards Australia New Zealand (FSANZ) providing secretariat function as part of the Binational Food Safety Network.
- **Animal health** – refers to the functional area of government responsible for animal biosecurity, in this case, poultry and/or egg farms. In most jurisdictions this agency is in the Department of Primary Industries or equivalent. At the national level, the remit for animal health policy and 'animal biosecurity' sits within the Department of Agriculture, Water and the Environment (DAWE). Animal health agencies may be referred to as 'biosecurity agencies', however in this document, 'animal health' will be used.
- **Industry** – for the purposes of this management plan 'Industry' refers to industry bodies that represent poultry and egg farmers within Australia and includes Egg Farmers of Australia, Australian Eggs, Australian Chicken Meat Federation, Australian Duck Meat Association, Australian Chicken Growers Council and Australasian Turkey Federation.
- **Industry veterinarians** who may be employees of poultry firms or independent consultants who would generally be involved with detection, diagnosis, reporting, and giving critical advice and direction on decontamination, and restocking implementation.

National committees/coordination structures

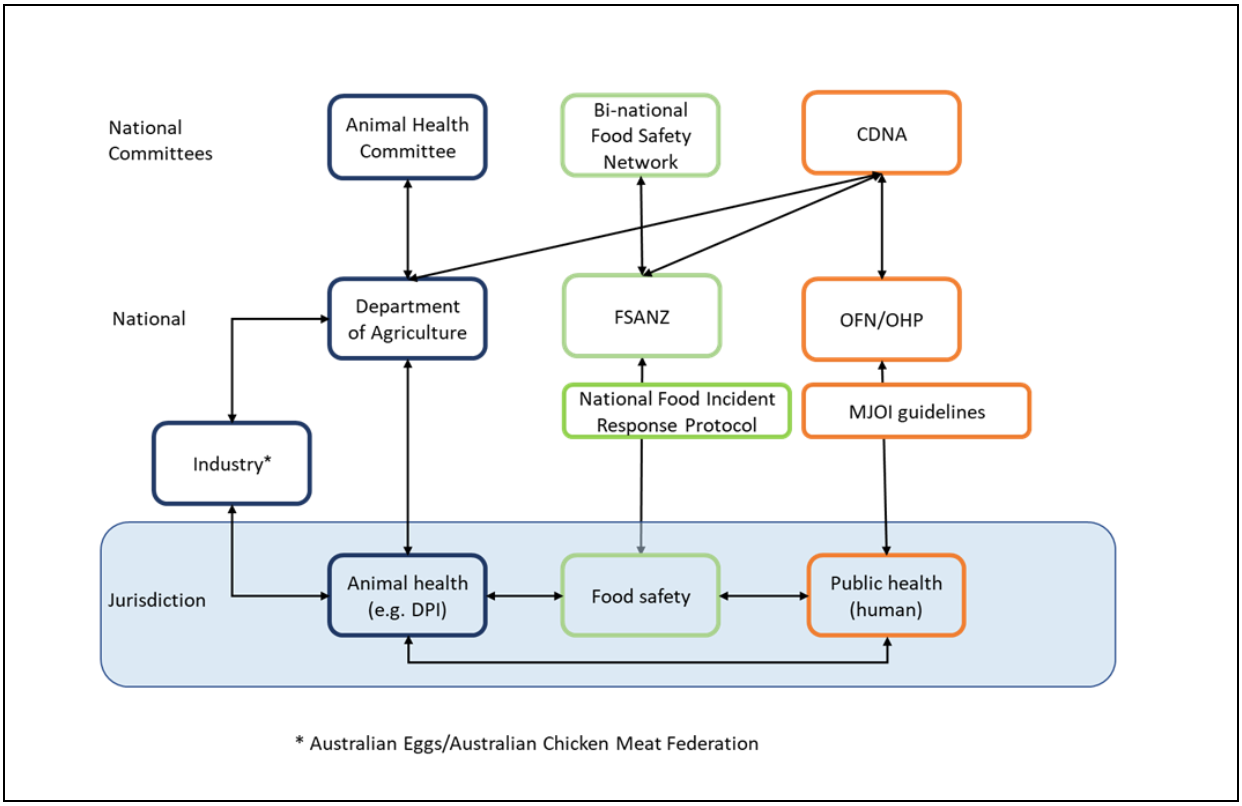
Three coordination structures exist for investigation and management of SE in Australia.

- OzFoodNet/Communicable Diseases Network Australia (CDNA)
- Bi-national Food Safety Network (BFSN)
- Animal Health Committee (AHC)

National coordination is required for multi-jurisdictional SE investigations in the poultry sector within Australia. This will involve coordination between public health through OzFoodNet/OHP and CDNA, animal health through the AHC/DAWE, and food safety through jurisdictional food safety

agencies in conjunction with FSANZ and the BFSN. The agency to take direct responsibility for managing the response and triggering the national coordination mechanism (including dissemination of sitreps, stakeholder engagement and communications) will depend on where SE is initially detected and may need to change as an incident unfolds. More details are provided in Section 4.

Figure 1: Flowchart of stakeholders involved in SE investigations in Australia.



Funding a response

Costs are to be borne by each sector, agency, and business as it affects them. For example, health departments bear the cost of investigating human disease clusters and individual farmers bear the cost of cessation of trading and depopulation, clean out, monitoring and repopulation when approved.

There are no cost sharing arrangements for SE outbreak response under the Emergency Animal Disease Response Agreement (EADRA).

Case definitions

Human cases of SE

Notified human cases of SE are investigated by the jurisdiction public health agency to determine, where possible, travel and occupational exposure, with two circumstances relevant for this national plan:

- Individual case of SE that reports an occupation linked to poultry farming or poultry product processing that has workplace risks for further spread (occupational SE case); and
- SE cluster of locally acquired cases linked by person, place or time that have reported similar poultry/egg exposures.

Infected flock

1a. A flock is considered to be infected with SE when:

i. SE (other than SE types or strains which are recognised as not having links to infection in-ovum) has been detected by culture in bird(s) OR
ii. SE (other than SE types or strains which are recognised as not having links to infection in-ovum) has been detected by culture in environmental sample(s) [see NOTE below] from poultry manure, eggs or swabs collected from the housing/range area. See AESEORP appendices for details.

1b. A flock is *potentially infected* with SE when:

i. SE has been detected by polymerase chain reaction (PCR) in bird(s) OR
ii. SE has been detected by PCR (s) [see NOTE] from poultry manure, eggs or swabs collected from the housing/range area.

Infected egg handling and processing premises/poultry meat and further-processing establishments

2a. A premises or establishment is *contaminated* with SE when:

i. SE has been detected by culture in environmental sample(s) [see NOTE] from swabs collected from any equipment in the egg handling facility, egg contact areas or surface of eggs, or from poultry products and equipment in poultry meat and further processing establishments, including water used for washing.

2b. An egg handling facility/poultry-meat or further processing establishment would be *potentially contaminated* with SE when:

i. SE has been detected by PCR in environmental sample(s) [see NOTE] from swabs collected from the egg handling facility, egg contact areas or surface of eggs , or from poultry products and equipment in poultry meat and further processing establishments, including water used for washing.

NOTES:

1. Where flocks or egg handling facilities are potentially infected/contaminated with SE, movement restrictions of birds, eggs, manure, vehicles, and personnel must be applied under jurisdictional biosecurity legislation until further investigation confirms or clears the infection/contamination status.

2. Where there is additional supporting evidence, such as:

- epidemiological evidence to link human cases to a premises and/or
- birds/environment samples test PCR positive and/or serological assays in poultry are positive,

then serology together with environmental PCR positive results may provide sufficient evidence that a premises is infected. Assessment of PCR detections will need to be on a case-by case basis (e.g. number of PCR detections, detection in sensitive areas such as laying sheds). It is preferable to confirm positive PCR detections by culture.

3. Also note Graham *et al.* (2018) for a report on endemic SE lineages from Queensland. Detections of these endemic strains that are not capable of trans-ovarian transmission fall outside this plan.

3. National coordination mechanism

Investigation of SE may require activation of national networks, particularly where human cases, movement of equipment or vehicles, or consignments of eggs/poultry meat cross between two or more jurisdictions.

This section provides guidance on national coordination when two or more response networks are activated to manage SE.

Figure 2 summarises the key activities of the three networks:

- OzFoodNet (human disease investigation);
- Animal Health Committee taskforce (animal biosecurity investigation and control); and
- Binational Food Safety Network (coordination of food safety investigation and control measures).

Additional supporting agencies/groups:

- National Biosecurity Communications and Engagement Network (NBCEN); Responsible for coordinating biosecurity messaging and consists of jurisdictional & national government reps plus Animal Health Australia and others. They are usually activated in a cost shared response but will need to be actively engaged in a non cost shared response
- Animal Health Australia- are the custodians of the Emergency Animal Disease Response Agreement (EADRA) and also function to assist with training and communication in an emergency animal disease outbreak

Government protocols have been developed that describe the operation and function of these networks. There are also supporting industry response plans that provide operational guidance for the industry. These include:

- Australian Eggs: *Salmonella* Enteritidis operational response plan (AESEORP)
- OzFoodNet *Guidelines for the epidemiological investigation of multi-jurisdictional outbreaks that are potentially foodborne* (MJOI) guidelines)
- BFSN Standard operating procedures (SOPs)
    - National Food Incident Response Protocol (NFIRP)
- Biosecurity Emergency Management Response Planning Guide (Biosecurity Emergency Preparedness Working Group)

Note: The guidance information in this document does not require expert knowledge of all networks and their procedures by those involved in a national response, but stakeholders need to be aware of their existence and basic function.

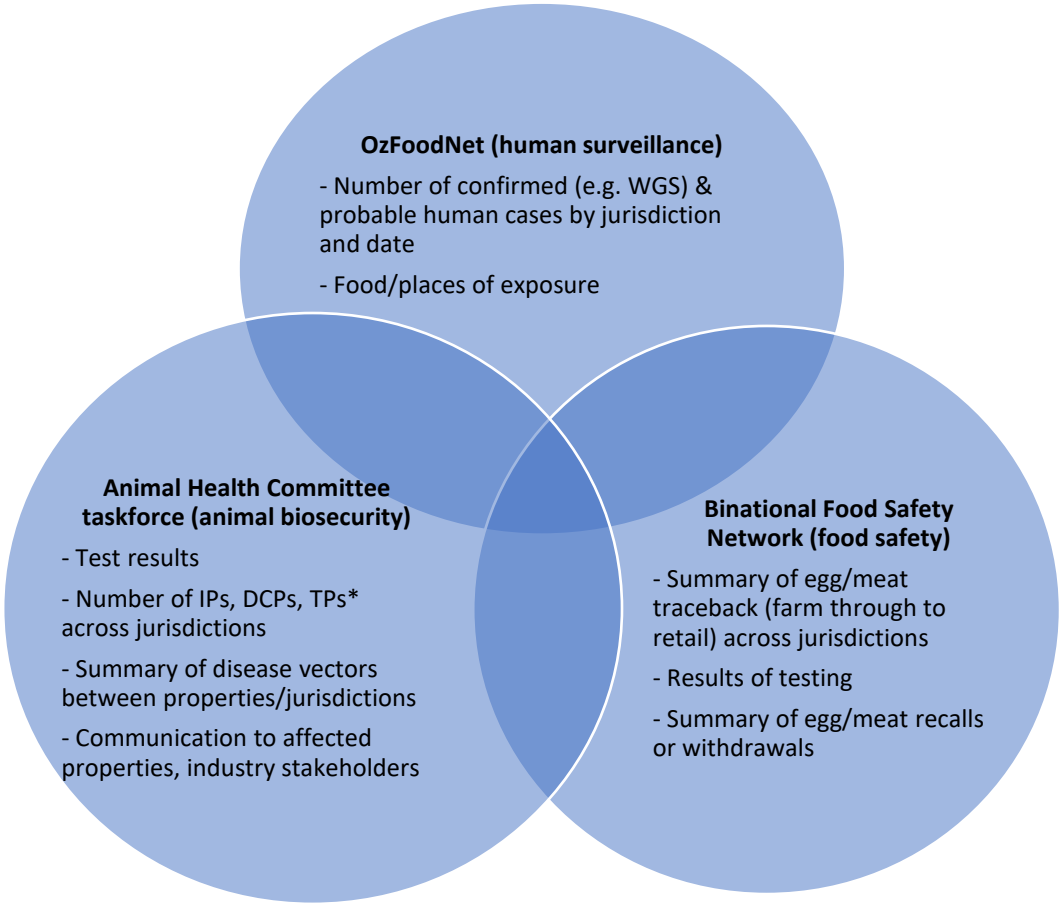
Where a response only requires activation of one network (e.g. OzFoodNet investigating human disease cluster across two or more jurisdictions, but no farm or food source confirmed), the network coordinator is responsible for putting together a summary of the incident and dissemination to relevant stakeholders.

For situations where two or more of the networks in Figure 2 are activated (e.g. multiple human cases linked across two or more jurisdictions [OzFoodNet investigation] and infected properties or bird/egg movements between two jurisdictions [Animal Health Committee investigation]) an additional level of coordination is required.

In these situations, the Chair of each network and representatives from affected jurisdictions should have a joint meeting to prepare a national sitrep (*note that a unique sitrep template is not required*) and ensure that information on sources of human disease, movement of high-risk material, and suitable control measures and communication activities are understood and agreed to.

At these joint meetings, a lead agency or network Chair will be identified as having responsibility for collating relevant information and preparing the national sitrep. An appropriate frequency for joint meetings should also be discussed.

Figure 2: Summary of responsibilities and key information captured for each network involved in SE outbreak response



*IP – infected property (SE detected), DCP - dangerous contact property, TP – trace property

The agency to take responsibility for managing the national coordination mechanism will depend on the incident and may need to change as the incident unfolds. Generally, the following is proposed:

- Locally acquired human SE cluster across more than one jurisdiction; OzFoodNet /OHP is the national coordinator.
- Infected farm or egg handling or poultry processing premises linked to properties in other jurisdictions (including through use of shared contractors, transport vehicles, workers); the CVO network/AHC manages the national coordination mechanism.
- Potential for movement of eggs, chicken meat, from an infected property/processing facility to another jurisdiction, FSANZ is the national coordinator (providing secretariat function for the BFSN/NFIRP).

In all cases, the national coordinator is to:

- organise and chair meetings of the national coordination mechanism,
- collate updates on cases/implicated properties or premises/investigations and status to all members of the national coordination mechanism, and
- assist with development of communication messages and talking points as necessary (Refer to Section 5 of this document).

4. Response to *Salmonella* Enteritidis detections across different settings

This section gives a broad outline of the response functions that should occur depending on where SE is detected, and if more than one jurisdiction is implicated. There are no specific trigger points or timeframes specified in this document. These will be determined by agencies involved in any response, noting that rapid action is required to prevent further spread and human disease.

Notification and investigation

Notification of SE in Australia occurs either due to detection of a human SE case/cluster, detection of SE on a farm or processor (including grading floor) or detection of SE in food products such as eggs, chicken meat, or environmental sampling (including at processor, retail and food manufacturing level).

1. Human SE case or SE cluster

Human cases of SE are notified to and investigated by jurisdictional health departments .

There are three potential scenarios involving human cases and clusters of SE;

1.1. An individual SE case (which could be overseas acquired) with a poultry/egg farm/processing plant occupation;

1.2. Locally acquired SE cluster within a jurisdiction potentially linked to poultry/eggs; or

1.3. Locally acquired SE cluster across more than one jurisdiction with potential links to poultry/eggs.

The first two scenarios are managed within the affected jurisdiction, with reporting between the jurisdictional public health/OzFoodNet, animal health and food safety agencies as per internal jurisdictional protocols. Regular reporting from each jurisdiction to the national level occurs from the relevant agency through OzFoodNet and to the Australian CVO/AHC and FSANZ as required.

When a public health investigation implicates a farm or food product; the jurisdictional animal health and/or food safety investigation commences.

When there are human cases reported from more than one jurisdiction and there is reason to consider that they are linked, as in scenario 1.3 (above), a MJOI is considered through OzFoodNet mechanisms as per the *Guidelines for the epidemiological investigation of multi-jurisdictional outbreaks that are potentially foodborne* (MJOI guidelines). Relevant OzFoodNet representatives are included in determining whether a MJOI is required and in the actions following declaration of a MJOI (CDNA endorses the MJOI; FSANZ notify the BFSN). The national coordination mechanism is managed by OzFoodNet/OHP with participation from all relevant jurisdictional public health, animal health and food safety, plus FSANZ and DAWE as per the MJOI guidelines.

2. SE detected on a farm or poultry and egg handling premises

There are three potential scenarios involving the detection of a positive SE poultry premises:

2.1. SE detected on farm/egg handling, or poultry processing premises (e.g. routine surveillance). No linked human cases;

2.2. Farm, egg handling or poultry processing premises linked to human cases by epidemiological trace back (with or without genotypic or isolate linkage) in same jurisdiction; or

2.3. Infected farm, egg handling or poultry processing premises linked to farm or premises (as above) in other jurisdictions.

All positive SE detections from farm samples are to be reported to the jurisdictional CVO who then notifies the Australian CVO, as SE is a nationally notifiable animal disease.

The first two scenarios are managed within the affected jurisdiction, with the jurisdiction's animal health and food safety agencies conducting the investigation at the farm(s) and premises, with regular reporting between public health and food safety agencies and industry as per jurisdictional protocols. Regular reporting from the jurisdiction to the Australian CVO/AHC, OzFoodNet and FSANZ is undertaken as appropriate.

When the infected farm or egg handling premises is linked to properties in other jurisdictions, as in 2.3, then the Animal Health Committee (AHC) may establish a specific working group or taskforce. This taskforce should have participation from all jurisdictional CVOs and other relevant jurisdictional public health and food safety agencies, plus FSANZ and OzFoodNet/OHP. Other organisations such as Animal Health Australia may also participate, along with relevant industry representatives.

As specified in 2.3, this would be subsequent to public health, animal health and food safety agencies and industry in linked jurisdictions being immediately notified by the relevant agency where the identified infected premises is located.

Privacy considerations, notification of affected contacts

There are **no** privacy restrictions that prevent information on infected or trace properties, egg movements being shared between government agencies for the purpose of investigation and disease control. All businesses that may have had contact with an infected property (including through movement of equipment, eggs, packaging materials, vehicles) should be contacted as soon

as possible by the relevant animal health agency in that jurisdiction. This should also including neighbouring properties to an infected property (including non-poultry related).

As part of a response to SE detection in a poultry-related operation, animal health agencies may choose to release generic information on disease control to all businesses within a specific area. This generic information is likely to be constrained by privacy legislation where businesses have had no known direct contact with potentially affected properties or equipment (including through roaming of pests).

Obligations for infected farms/poultry businesses

While jurisdictional animal health agencies will follow up contacts of infected properties, ***any farm or premises that is designated or declared as an infected property also has a responsibility to contact all businesses and visitors that they have had contact with***. This should include all visitors or businesses that have had contact within the last 8-10 weeks at a minimum. This responsibility is captured under relevant biosecurity legislation in most jurisdictions (e.g. as a General Biosecurity Duty under the NSW *Biosecurity Act 2015*).

3. SE detected in food product (such as eggs or poultry meat)

All detections of SE in poultry food products must be notified to the jurisdictional food safety agencies.

The two potential scenarios involving SE detection in food are:

3.1. Detection of SE in any poultry food product in one jurisdiction only with no evidence of trade of these products to other jurisdictions;

3.2. Detection of SE in any poultry food product in one jurisdiction only with evidence of trade of these products to other jurisdictions.

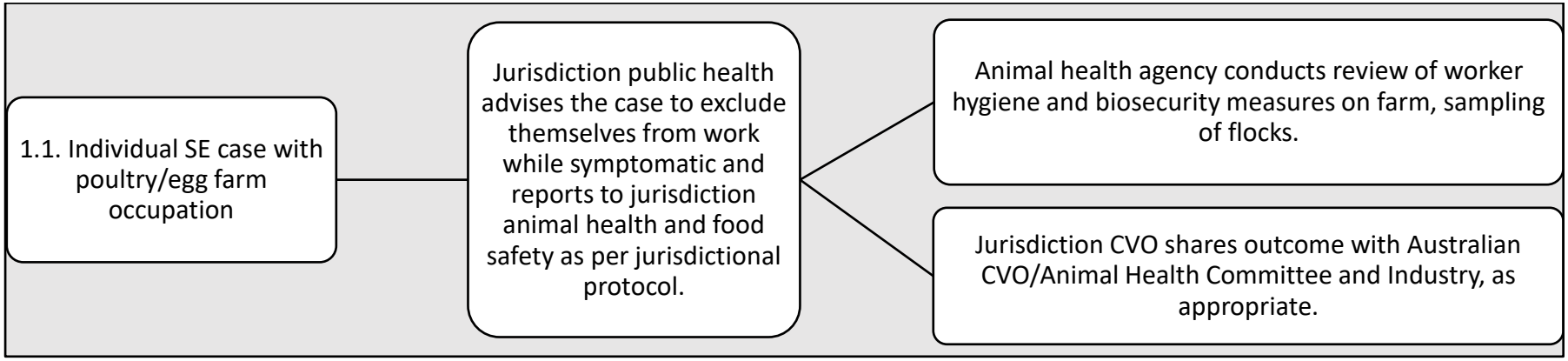
The first scenario is limited to one jurisdiction and is managed by the food safety agency, with notification and regular reporting to the public health and animal health as per the jurisdictional protocol, as well as notification and regular reporting to BFSN (via FSANZ), OzFoodNet/OHP/CDNA and the Australian CVO/AHC and industry as appropriate.

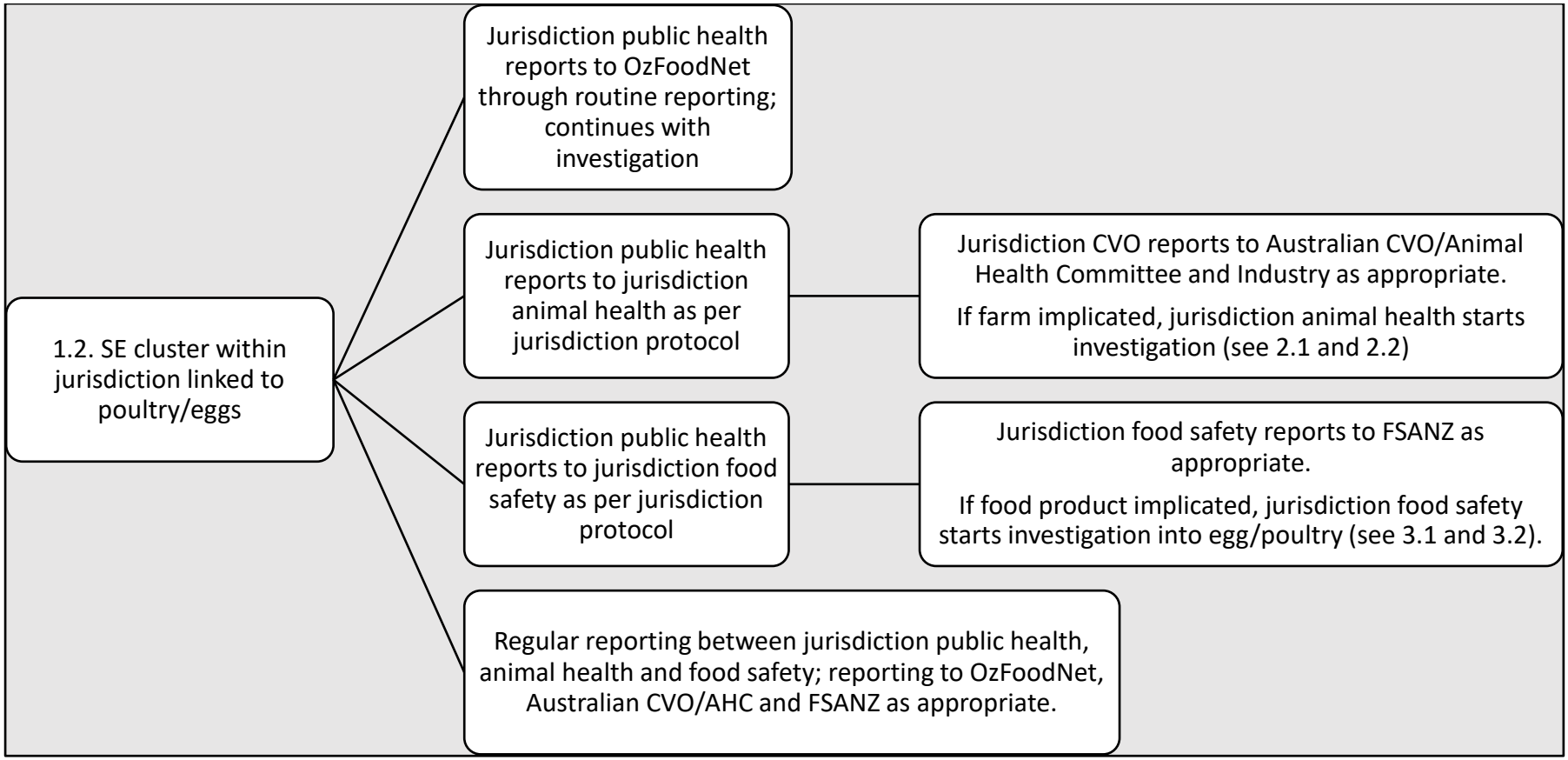
When the investigation implicates a poultry food in another jurisdiction, as in 3.2, then the national coordination mechanism can be activated by any jurisdiction to trigger the NFIRP. This process is coordinated through FSANZ, with participation from all relevant food safety regulators and invitations to jurisdictional public health, animal health and, plus DAWE and OzFoodNet/OHP as appropriate.

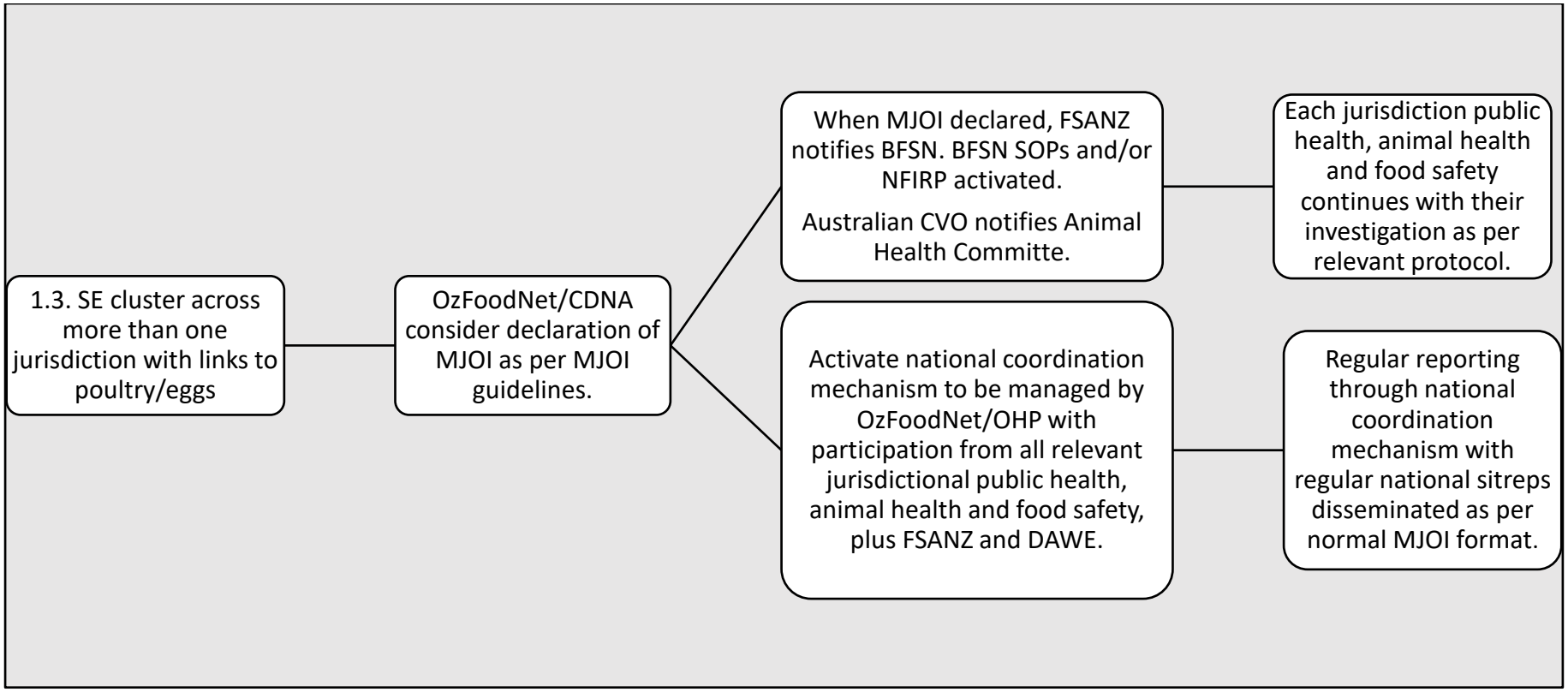
Where it is necessary to conduct a food recall, this should occur according to existing guidelines (refer to Appendix 7 – Guidance for the recall of shell eggs).

Flowcharts for the Notification and investigation process

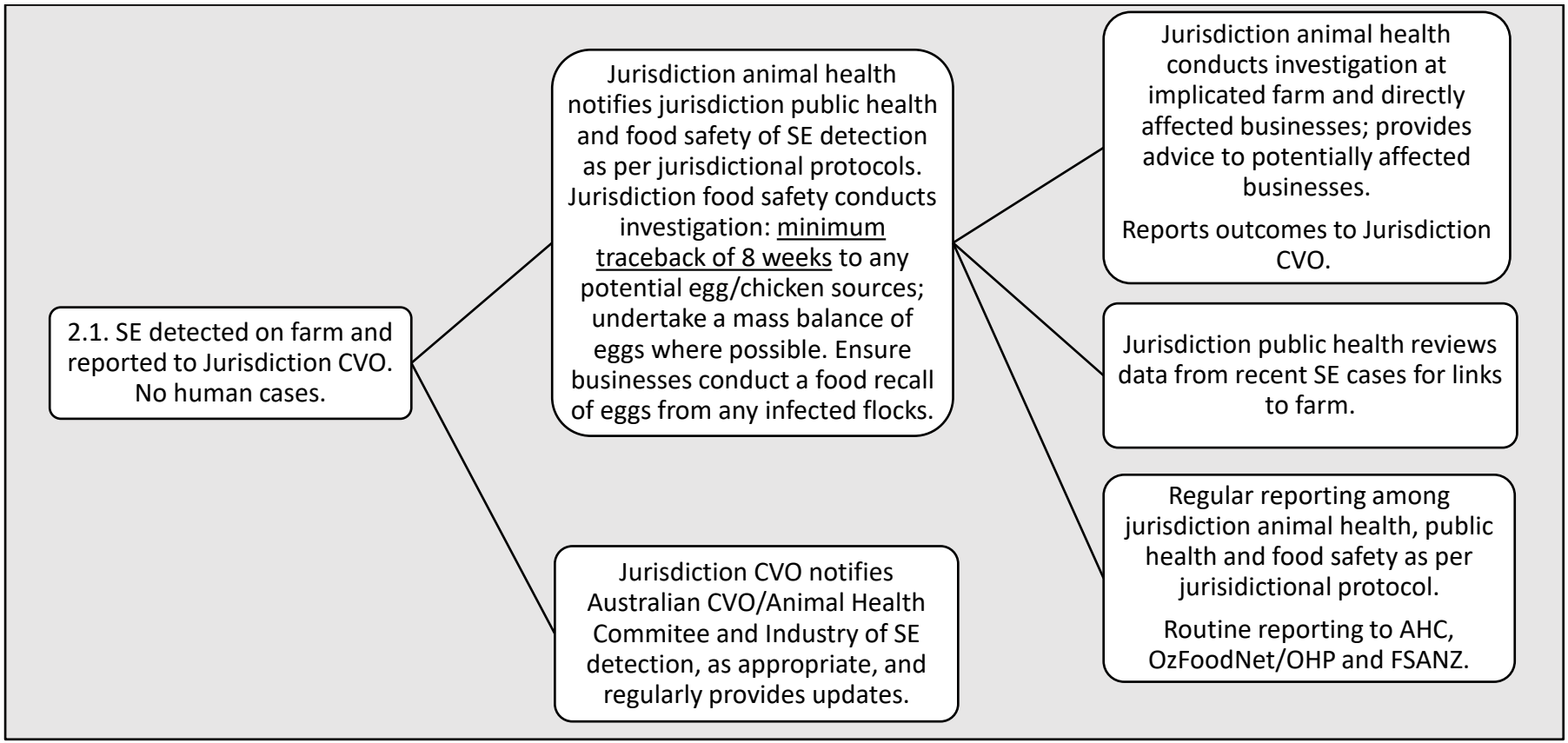
Figure 3: Flowcharts for the notification and investigation process for human SE case or cluster (corresponding to scenarios 1.1-1.3)

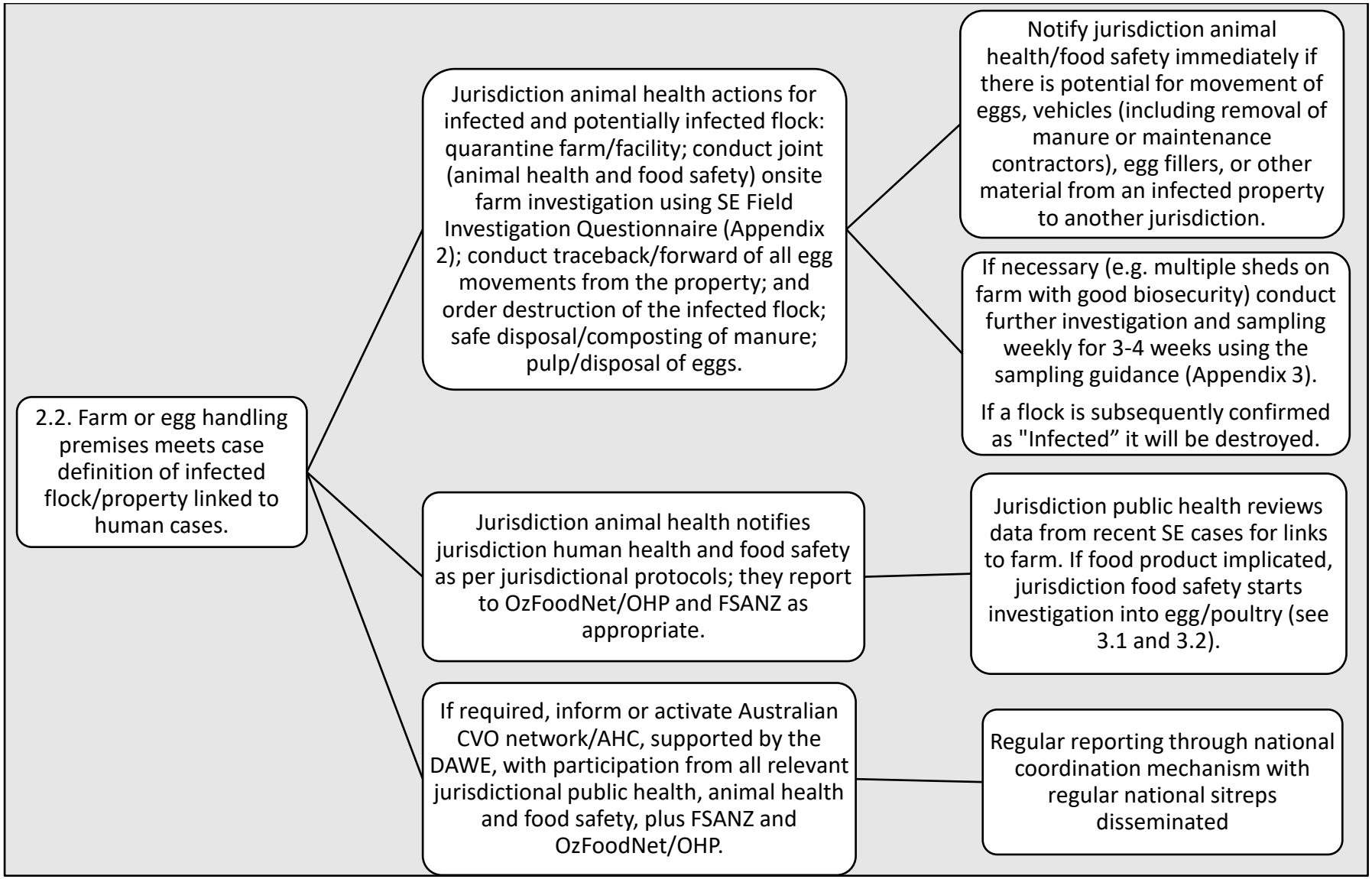



1.2. SE cluster within jurisdiction linked to poultry/eggs
Jurisdiction public health reports to OzFoodNet through routine reporting; continues with investigation
Jurisdiction public health reports to jurisdiction animal health as per jurisdiction protocol
Jurisdiction CVO reports to Australian CVO/Animal Health Committee and Industry as appropriate.
If farm implicated, jurisdiction animal health starts investigation (see 2.1 and 2.2)
Jurisdiction public health reports to jurisdiction food safety as per jurisdiction protocol
Jurisdiction food safety reports to FSANZ as appropriate.
If food product implicated, jurisdiction food safety starts investigation into egg/poultry (see 3.1 and 3.2).
Regular reporting between jurisdiction public health, animal health and food safety; reporting to OzFoodNet, Australian CVO/AHC and FSANZ as appropriate.


1.3. SE cluster across more than one jurisdiction with links to poultry/eggs
OzFoodNet/CDNA consider declaration of MJOI as per MJOI guidelines.
When MJOI declared, FSANZ notifies BFSN. BFSN SOPs and/or NFIRP activated.
Australian CVO notifies Animal Health Committe.
Each jurisdiction public health, animal health and food safety continues with their investigation as per relevant protocol.
Activate national coordination mechanism to be managed by OzFoodNet/OHP with participation from all relevant jurisdictional public health, animal health and food safety, plus FSANZ and DAWE.
Regular reporting through national coordination mechanism with regular national sitreps disseminated as per normal MJOI format.

Figures 4: Flowcharts for the notification and investigation process for SE detected on farm (corresponding to scenarios 2.1-2.3)




2.2. Farm or egg handling premises meets case definition of infected flock/property linked to human cases.
Jurisdiction animal health actions for infected and potentially infected flock: quarantine farm/facility; conduct joint (animal health and food safety) onsite farm investigation using SE Field Investigation Questionnaire (Appendix 2); conduct traceback/forward of all egg movements from the property; and order destruction of the infected flock; safe disposal/composting of manure; pulp/disposal of eggs.
Notify jurisdiction animal health/food safety immediately if there is potential for movement of eggs, vehicles (including removal of manure or maintenance contractors), egg fillers, or other material from an infected property to another jurisdiction.
If necessary (e.g. multiple sheds on farm with good biosecurity) conduct further investigation and sampling weekly for 3-4 weeks using the sampling guidance (Appendix 3).
If a flock is subsequently confirmed as "Infected" it will be destroyed.
Jurisdiction animal health notifies jurisdiction human health and food safety as per jurisdictional protocols; they report to OzFoodNet/OHP and FSANZ as appropriate.
Jurisdiction public health reviews data from recent SE cases for links to farm. If food product implicated, jurisdiction food safety starts investigation into egg/poultry (see 3.1 and 3.2).
If required, inform or activate Australian CVO network/AHC, supported by the DAWE, with participation from all relevant jurisdictional public health, animal health and food safety, plus FSANZ and OzFoodNet/OHP.
Regular reporting through national coordination mechanism with regular national sitreps disseminated

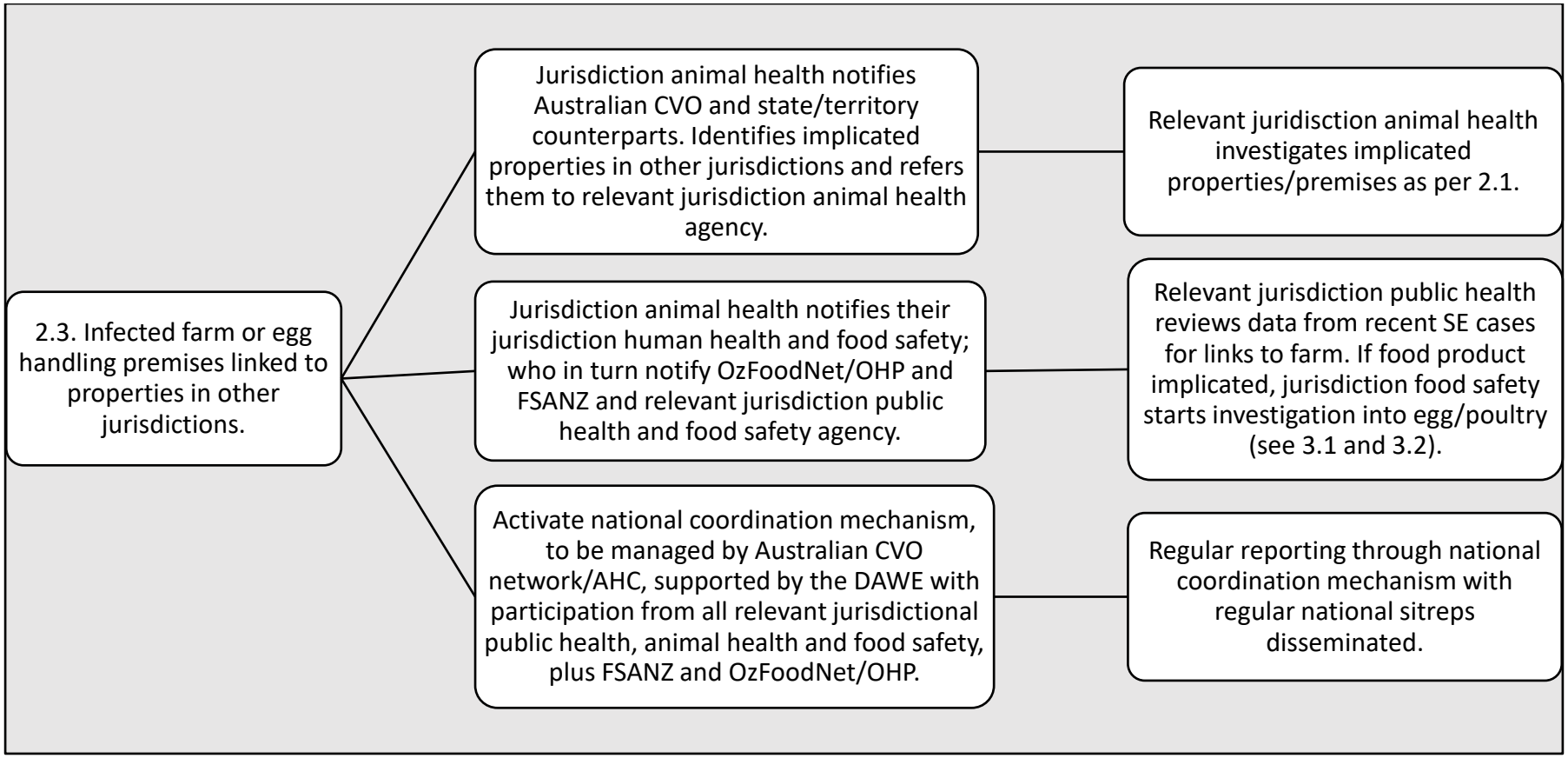
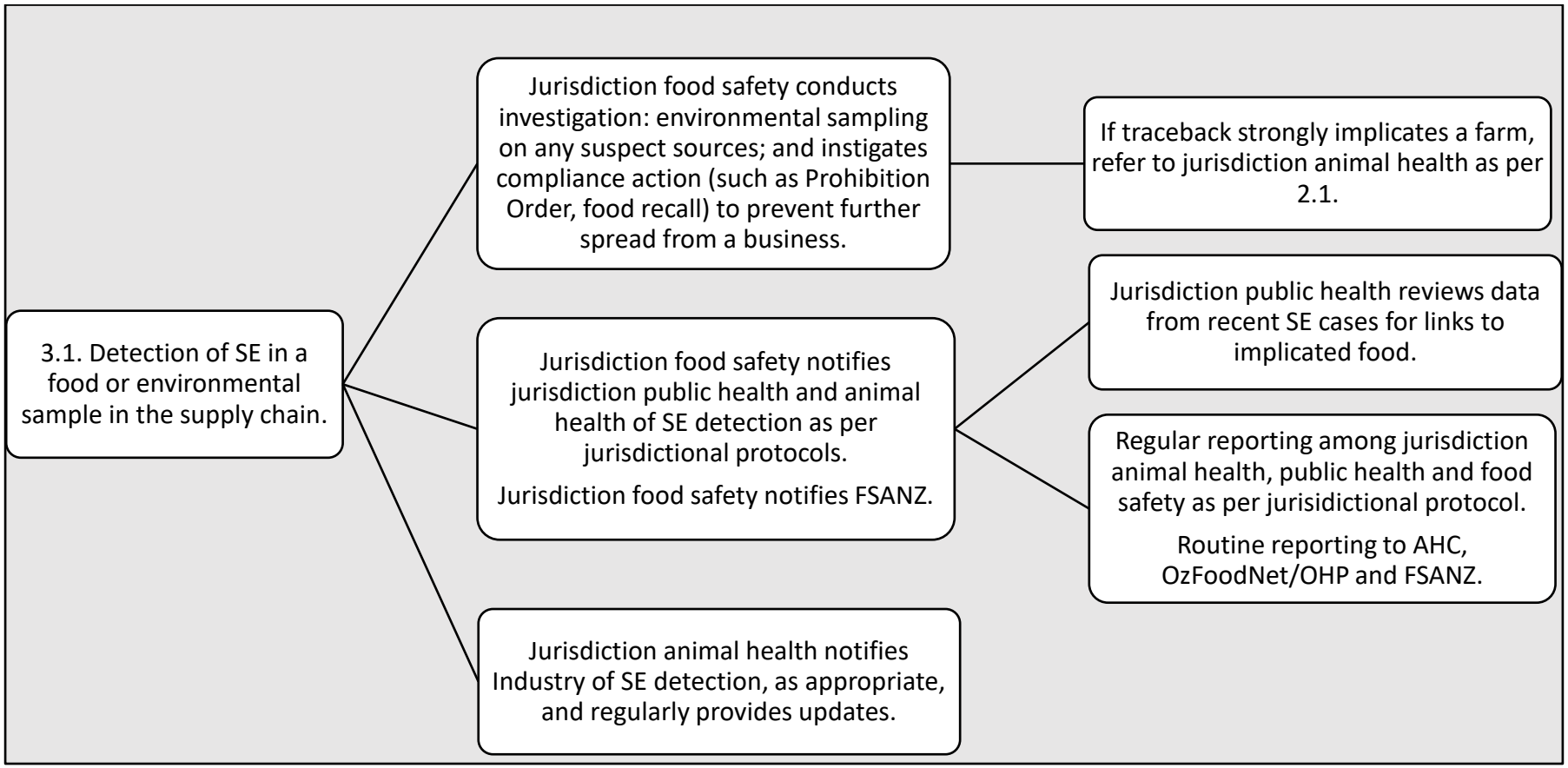
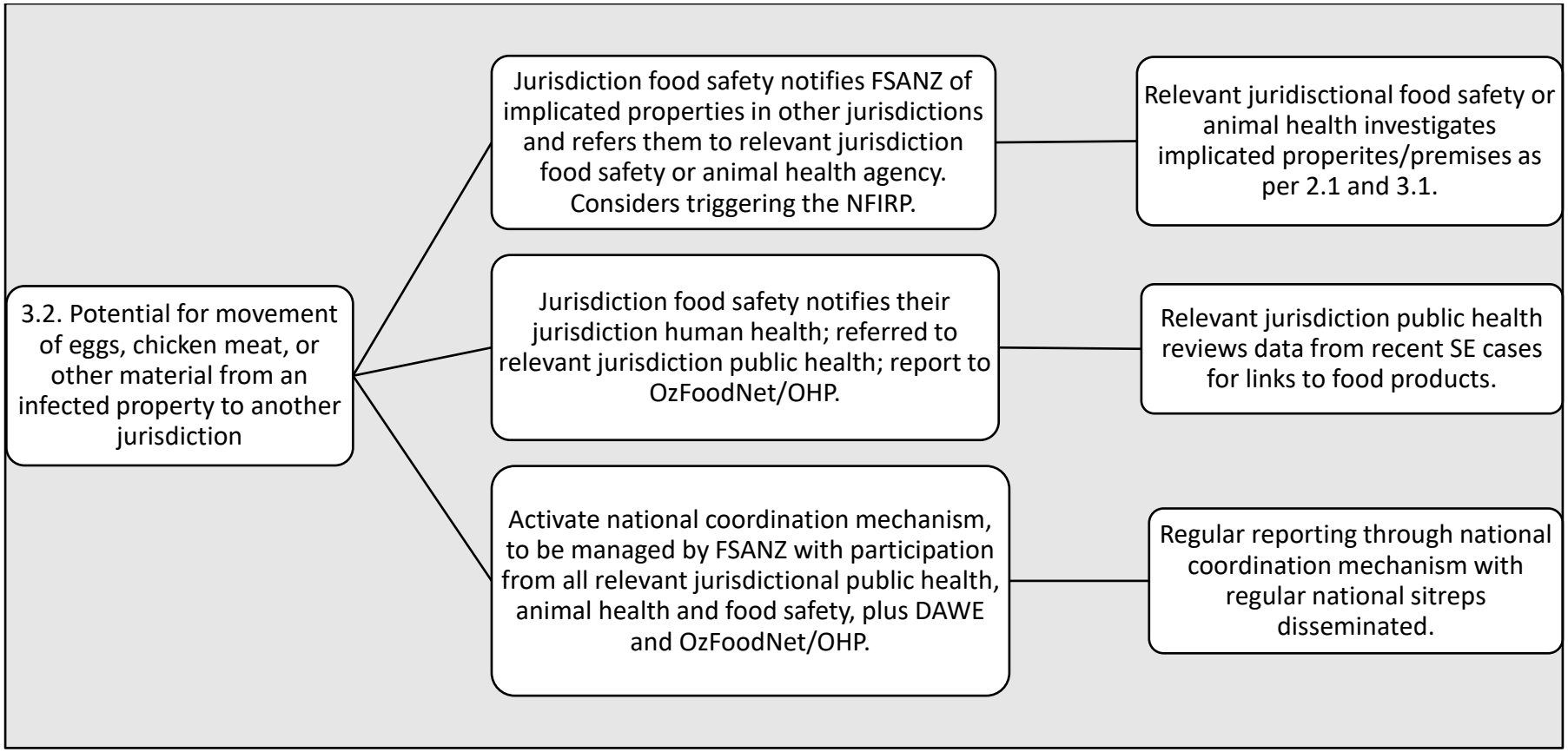

2.3. Infected farm or egg handling premises linked to properties in other jurisdictions.
Jurisdiction animal health notifies Australian CVO and state/territory counterparts. Identifies implicated properties in other jurisdictions and refers them to relevant jurisdiction animal health agency.
Jurisdiction animal health notifies their jurisdiction human health and food safety; who in turn notify OzFoodNet/OHP and FSANZ and relevant jurisdiction public health and food safety agency.
Activate national coordination mechanism, to be managed by Australian CVO network/AHC, supported by the DAWE with participation from all relevant jurisdictional public health, animal health and food safety, plus FSANZ and OzFoodNet/OHP.
Relevant juridisction animal health investigates implicated properties/premises as per 2.1.
Relevant jurisdiction public health reviews data from recent SE cases for links to farm. If food product implicated, jurisdiction food safety starts investigation into egg/poultry (see 3.1 and 3.2).
Regular reporting through national coordination mechanism with regular national sitreps disseminated.

Figure 5: Flowcharts for the notification and investigation SE detected in food or food product (corresponding to scenarios 3.1-3.2)




3.2. Potential for movement of eggs, chicken meat, or other material from an infected property to another jurisdiction
Jurisdiction food safety notifies FSANZ of implicated properties in other jurisdictions and refers them to relevant jurisdiction food safety or animal health agency. Considers triggering the NFIRP.
Relevant juridisctional food safety or animal health investigates implicated properites/premises as per 2.1 and 3.1.
Jurisdiction food safety notifies their jurisdiction human health; referred to relevant jurisdiction public health; report to OzFoodNet/OHP.
Relevant jurisdiction public health reviews data from recent SE cases for links to food products.
Activate national coordination mechanism, to be managed by FSANZ with participation from all relevant jurisdictional public health, animal health and food safety, plus DAWE and OzFoodNet/OHP.
Regular reporting through national coordination mechanism with regular national sitreps disseminated.

5. Communication guidance

Effective communication across a range of stakeholders is critical to any SE response. The aim of a communications plan under these circumstances should be to:

- Provide accurate, timely and consistent information to ensure all stakeholders are appropriately informed; and
- Work with the egg and poultry industries to manage risks in response to SE detection in a layer/meat chicken flock or associated enterprise.

A communications role/team should be assigned by the national coordinator for animal health responses, ideally through the NBCEN, with objectives to include the following:

- Ensure key stakeholders are informed about the detection and response to SE in a specific area;
- Inform farmers how they can manage the risk of SE and provide them with the opportunity to seek further information if necessary;
- Inform all levels of the supply chain (including transporters, wholesalers, other packing processing facilities) on managing the risk of SE;
- Ensure affected businesses maintain a high level of awareness and vigilance;
- Inform stakeholders of biosecurity and food safety management efforts; and
- Communicate with concerned and interested community members and consumers to maintain confidence in the egg/poultry industry.

Key messages

A set of key messages and talking points should be developed for every response and reviewed regularly; these may be tailored to a specific audience. Examples of key messages and talking points, as well as a stakeholder analysis for communication strategies, are provided in Appendix 4. A list of key stakeholders, their function, and suggested methods of communication are provided in Appendix 5.

Examples of targeted website communication to specific audiences (e.g. layer farms, consumers) is provided at Appendix 6.

6. Stand down/routine monitoring

The decision to stand down any nationally coordinated investigation and response will be made based on a review of human cases and any notifications across jurisdictions, and an evaluation of whether cross-border activity in relation to egg/poultry operations needs further coordination.

These decisions will be made on a case-by-case basis, and may be specific to animal health, food safety or human health sectors. For example, there may be a need to maintain a coordinated response by animal health agencies where infected properties and equipment require ongoing surveillance across jurisdictions, even though human cases are no longer reported or linked to the incident.

Considerations and actions to determine whether a response may no longer be necessary include:

Public health:

- Notify the other sectors (agencies, industry) when the outbreak is resolved or no longer requires coordination through an MJOI,
- Participate in a multi-jurisdictional/multi-agency review, or for MJOIs OzFoodNet/CDNA decision to declare the investigation over.

Food Safety:

- Notify other sectors when all premises are either compliant or licenses (or other legal permissions to operate) are revoked.
- Determine ongoing monitoring of affected premises if needed beyond normal requirements.
- Participate in joint BFSN/NFIRP decision to declare the investigation over.

Animal health:

- Notify other sectors when all farm quarantines are removed, or a coordinated national response is no longer required, and any affected farms are subject to ongoing monitoring.
- Participate in joint decision to declare the investigation over.

All sectors/industry:

- Where any investigation has involved all 3 groups (animal health, human health, food safety), or has required cross border investigation, all agencies should participate in a joint-debrief/after action review meeting.
- Debriefs should include industry stakeholders and veterinarians where possible

7. Decontamination and restocking of infected properties

1. Develop and implement a decontamination plan

All infected properties, regardless of intention to resume or cease operating permanently, will need to develop and implement a plan to decontaminate the premises and equipment.

These plans should be developed with advice from a veterinary consultant follow the guidelines specified in the AESEORP.

Jurisdictional animal health agencies will assess the effectiveness of any decontamination before considering an infected property is resolved. It is incumbent on the business to develop and implement an effective plan with advice from their veterinary consultant.

2. Conditions for restocking

Farms wishing to restock must engage a veterinary consultant and develop a plan for restocking. This must include demonstration of proof of freedom, and specify ongoing monitoring and surveillance frequencies for SE. Further guidance on this is outlined in the AESEORP.

Jurisdictional animal health agencies will require proof of freedom and ongoing monitoring before allowing businesses restock.

While businesses may do their best to provide proof of freedom at a particular time, there is no certainty that SE will not reinfect flocks or equipment at a later date. If this occurs then businesses will again have to bear the cost of destruction flocks and decontamination of properties and equipment.

Vaccination may also be considered as an option for additional control and preventative measure where feasible. Options for vaccination should be discussed with a veterinary consultant.

8. References

SE State and territory plans

NSW

Queensland

Relevant industry plans

Australian Eggs *Salmonella* Incident Response Plan

Australian Eggs *Salmonella* Enteritidis Response Plan

Chicken Meat Industry *Salmonell*a Enteritidis Strategy

Graham, R. M., Hiley, L., Rathnayake, I. U., & Jennison, A. V. (2018). Comparative genomics identifies distinct lineages of S. Enteritidis from Queensland, Australia. *PLoS One, 13*(1): e0191042. https://doi.org/10.1371/journal.pone.0191042

National *Salmonella* Enteritidis Monitoring & Accreditation Program Guidelines
https://www.dpi.nsw.gov.au/__data/assets/pdf_file/0020/722081/NSEMAP-Guidelines.pdf

9. Appendices

Appendix 1: Background on SE

General

- Salmonellosis is a disease caused by infection bacteria of the genus *Salmonella*, which is comprised of > 2,500 types based on serological testing – termed serovars. These organisms are found throughout the environment and can infect many species of animals, but only a few serovars are considered a risk to food safety. Of particular public health importance are food safety issues caused by infection with these serovars. Generally, these serovars rarely cause disease in poultry. Food safety incidents involving *Salmonella* in eggs are generally also associated with the following factors; poor egg grading and handling, poor egg storage (unrefrigerated or stored beyond shelf life), poor food handling and undercooking, and/or the use of raw poultry and egg products. *Salmonella* can enter the egg following faecal or environmental contamination of the shell. However, the albumin contains antimicrobial enzymes and will generally limit the amount of microbial growth for several weeks or more depending on egg storage temperatures.
- SE has several key differences from most other *Salmonellae* of importance to human health. The most significant difference is that SE can potentially infect the ovary or the F1 follicle of the hen and be passed directly into the egg yolk or the yolk membrane. Egg yolk is a good bacterial growth medium and greatly reduces the time it takes for the organism to multiply to infective levels. The human infectious dose is low, and SE can survive well in the environment. Globally, SE is also one of the most common *Salmonella* serovars isolated from human outbreaks linked to poultry product consumption.
- On occasion, a different class of SE has been isolated from poultry in Queensland, in particular Clade A as described by Graham *et al* (2018) including Phage Type 26. These isolates do not appear to be capable of infecting the internal egg contents directly and so are not included as part of this response plan.
- Disease in humans caused by SE generally occurs within 6-72 hours of ingesting affected food and symptoms include fever, diarrhoea, vomiting, abdominal cramping, muscle aches Patients who were hospitalised during the 2018-19 SE outbreak required a stay of between 1 and 13 days
- Until recently, there have been relatively few SE outbreaks in Australia, with most human SE salmonellosis cases occurring in people returning from overseas as SE is endemic in poultry in many other countries. However, Australia has been regarded as SE free (i.e. free from endemically infected commercial chicken farms).
- SE rarely causes disease in poultry.
- SE is a notifiable disease in humans and poultry. All cases of laboratory confirmed *Salmonella* in humans are notifiable to jurisdiction health agencies who then report the cases to the National Notifiable Diseases Surveillance System (NNDSS). SE cases are investigated to determine, where possible, if the infection was overseas or locally acquired. Locally acquired cases are investigated and reported through OzFoodNet routine reporting mechanisms.
- Farms with commercial poultry flocks can enrol in the National SE Accreditation Monitoring and Accreditation Program to facilitate ongoing and consistent monitoring, and to enable export of eggs to overseas markets. The scheme comprises testing requirements and accreditation processes to accredit farms as SE free. Results from the scheme indicate there

the general presence of *Salmonella* serovars in Australian poultry flocks, but none of the farms have had SE present. All farm samples positive for SE through this scheme must be reported by industry to the CVO in their jurisdiction.

Appendix 2: Example of NSW SE Field Investigation Questionnaire

NB: Fill in known Area of Interest (AOI) information (page 1) and print google map images of holding before attending premises to minimise question fatigue/ time. Check validity of pre-recorded information with interviewee and record information on google map images.

Information is collected under the biosecurity and or food safety legislation as appropriate

Authorised Officer:	Visit date: / /	Case No:	Page 1 of …
LOCATION / PROPERTY PHYSICAL ADDRESS (AOI = AREA OF INTEREST)			
Property name:	Flat / Unit:	No:	
Street number:	Street name:		
Town / Suburb:	Postcode:	State:	
Location of the Enterprise			
Enterprise types: eg. Commercial egg layer farm (free range/caged/barn), egg grading facility, broiler farm, or other (please specify)			
PIC:	Property ID:	Other identifier:	GPS lat: long:
PRIMARY CONTACT (PERSON)			
Role:	This person is responsible for the animals involved yes ☐ no ☐		
Title:	Given name:	Family name:	
OR	Organisation name:		
Phone:	Fax:	Mobile:	Other:
Email:			
Website/Facebook:			
Primary contact physical address			
Property name:	Flat / Unit:	No:	
Street number:	Street name:		
Town / Suburb:	Postcode:	State:	
Primary contact mail address	☐ Use physical address for mail		
Property name:	Flat / Unit:	No:	
Street number:	Street name:		
Town / Suburb:	Postcode:	State:	
Contact's other premises/ enterprises (record address and summary)			

Private veterinarian		
Name:	Contact:	Last visit date:

☐ Attach google map images indicating where species and infrastructure are located on the AOI.
☐ ***Draw a mud map to provide enhanced detail where required***.
☐ Label items to identify components (including entry & exit points within & onto/off)
☐ Mark the **North point.**
☐ Record GPS coordinates for mud map site.
☐ Take photos representative of the mud map site
☐ Identify direction/location of neighbours if have poultry Mark **North** point above

Location (AOI) mud map of relevant features	**Case No.**	
Coordinates	Lat: …….. [S]	Long: …….. [N]

Map drawn by		
Name:	Phone:	Mobile:

SURVEILLANCE DETAILS – FOR PREMISES (AOI)

Case #: …….. Page 3 of ……..

Observation details – number of susceptible animals

Species ☒	☐ breeders ☐ ducks ☐ layers ☐ broilers ☐ other _____			
Shed no. or range area - ***mark on map***	No. of poultry in shed	Age of poultry in shed	Breed of poultry	Enterprise type (eg free range, barn, caged & rows/tiers of cages
1				
2				
3				
…etc				

Clinical signs (numbers)

Insert symptom	number	Insert symptom	number	Insert symptom	number
Insert symptom	number	Insert symptom	number	Insert symptom	number

Additional comments/ general health of birds:

Samples collected (if applicable) – attach copy of submission form

Sample type	**Number**	**Comment**

Date collected: / /	Submission date: / /	Laboratory:

Other animals/ livestock currently on the premises & numbers of each

Type of livestock	*Numbers*

What animals (including poultry) have moved on or off the property in the last 12 months?

Species:	*Number:*	*Destination/ phone:*	*Transporter/ phone:*	*Date:*

What poultry or other livestock are within 2 kms of the AOI?	
Address	*Type of stock*

Overall health of the poultry on AOI
Any changes to mortalities over last 6 months? Include details (age, number/ percentage)
Any signs of sickness/illness in the birds over the last 6 months? Include details (age, number, clinical signs)
Any external stressors on the poultry? eg. change in feed, extreme weather, recent introduction…
Previous testing history for SE

Testing:	*Who by/ contact phone:*	*Date:*

GENERAL BIOSECURITY ONTO/OFF THE FARM
What **entry and exit** biosecurity measures are in place for **vehicles** entering and exiting from the farm?
What **entry and exit** biosecurity measures for **people** are in place for entry to and exit from the **farm**?

GENERAL BIOSECURITY WITHIN THE ENTERPRISE BETWEEN DIFFERENT SHEDS/AREAS
What **entry and exit** biosecurity measures are in place for **vehicles** entering and exiting between different production areas within the farm enterprise? (where applicable)
What **entry and exit** biosecurity measures for **people** are in place for entry to and exit from each individual shed, grading facility, feed mill, amenities, retail shop etc within the farm enterprise?
What happens to clothing/shoes worn by staff while working within the enterprise?

MOVEMENTS ONTO & OFF THE FARM (last 8 weeks)			
Poultry onto			
Where did the poultry come from?			
Source/ phone no.	*Age of birds:*	*Delivered by/ phone no.*	*Date:*
What happens to the delivery cages/boxes?			
How does the poultry delivery truck decontaminate onto or off the premises? (Any difference from the general biosecurity measures above?)			

Poultry off		
What happens to spent hens?		
Destination/ phone no:	*Transported by/ phone no:*	*Date/ frequency:*
What happens to dead poultry (die or killed on farm)?		
Destination/ phone no:	*Transported by/ phone no:*	*Date/ frequency:*
How do the truck(s) decontaminate onto or off the premises? (Any difference from the general biosecurity measures above?)		
Feed onto/off		
Where does the poultry feed (feed materials if milled onsite) come from? Is feed heat treated or additives applied?		
Source/phone no:	*Transported by/ phone no:*	*Date/frequency:*
Does feed leave the premises? If so where does it go and who transports it?		
Destination/ phone no:	*Transported by/ phone no:*	*Date/frequency:*
How do the feed truck(s) decontaminate onto or off the premises? (Any difference from the general biosecurity measures above?)		
Water		
What is the source of drinking water for the poultry? Is this treated (and how, if so)?		
What is the source of water for cooling/ climate control?		

If applicable, what is the water source for cleaning the eggs?		
What is the source of water for human consumption?		
If water is transported onto the property, please provide details of the transport.		
Source/ phone no:	*Transported by/ phone no:*	*Date/frequency:*
How does the water truck decontaminate onto or off the premises? (Any difference from the general biosecurity measures above?)		
Eggs & associated packaging		
Where do all the ***eggs*** go that leave this premises and who delivers them? - Include movements at least 8 weeks before SE detection and all private sales and unacceptable/broken eggs. Can a mass balance of eggs be undertaken?		
Destination/ phone no:	*Transported by/ phone no:*	*Date/frequency:*
If applicable, list all sources of ***eggs*** delivered to the premises and who delivers the eggs?		
Source/ phone no:	*Transported by/ phone no:*	*Date/frequency:*
Where do your egg packaging (crates, flats and fillers etc) come from?		
Source/ phone no:	*Transported by/ phone no:*	*Date/frequency:*

How do the egg truck(s) decontaminate onto or off the premises? Private sale vehicles?		
Have you ever been sent or reused egg packaging? When? Who from? How often?		
Source/ phone no:	*Transported by/ phone no:*	*Date/frequency:*
Other poultry products (if applicable)		
What other poultry products are moved off the premises? e.g. feathers, meat, offal		
Product:	*Purchaser/ phone:*	*Delivered by/ phone:*	*Date/ frequency:*
What other poultry products are brought onto the premises?			
Product:	*Source/ phone:*	*Delivered by/ phone:*	*Date/ frequency:*
WASTE			
Litter (if applicable)			
Where does the litter come from?			
Source/ phone:	*Transported by/ phone no:*	*Date/frequency:*	
What happens to used litter? If it leaves the property where does it go to and who removes it?			
Destination/ phone:	*Transported by/ phone no:*	*Date/frequency:*	

How do the truck(s) delivering/removing the litter decontaminate onto or off the premises? (Any difference from the general biosecurity measures above?)		
Other associated waste		
What happens to effluent from the premises?		
Destination (if applicable)/ phone no:	*Transported by/ phone no:*	*Date/frequency:*
What happens to manure from the premises?		
Destination/ phone no:	*Transported by/ phone no:*	*Date/frequency:*
Vermin & feral animals/wildlife		
What vermin are on the premises? (eg rats, mice, rabbits)		
What do you use to control vermin?		
What feral animals or wildlife come onto the premises? (eg feral cats, pigs, wild birds)		
What do you use to control feral animals/ wildlife?		

PEOPLE				
Employees (current and left in the last 6 months)				
Name of employee or visitors	Phone/Mobile	Work other poultry premises? Where?	Poultry at home - Y/N	Travelled overseas or sickness last 6 months? - including details where known

Do you or anyone associated with the farm eat eggs from the farm?
Other people movements onto/off premises
What other people enter your premises? (eg technicians/ contractors/ vets/visitors) & do they work on other poultry farms?

Person:	*Contact details:*	*Dates on premises:*	*Other places visited:*

Other vehicle/machinery/equipment (if applicable)		
What vehicles or equipment are shared/loaned with other premises?		
Vehicle/equipment:	*Who with/ phone no:*	*Dates:*

What is owner's opinion on source of disease on their premises
OTHER COMMENTS / SUMMARY
DECLARATION
I declare the information provided about the AOI premises listed above is true and accurate. I acknowledge that it is an offence to provide false and/or misleading information to an Authorised Officer under biosecurity regulations.

AOI representative name:	**Authorised officer name:**
Signature:	***Signature***:
Date:	Date:

Appendix 3: On farm sampling guidance

Guide for Number of Samples

Note: 1. This is a general guide. Consider additional swabs and samples if sheds are multi-tiered or very large.

2. With barn and free-range facilities separate relevant barn / shed / caravan / indoor and outdoor spaces into quadrants for sampling.

Sample site	Site size	Sample Type		
		Boot Swabs	**Manure samples**	**Sponge Swabs**
Grading area		1 pair for grading area. Consider additional for large grading areas or refrigerated cool rooms and other adjoining areas	N/A	Minimum of 12. Focus on unclean and unsanitised with egg contact, especially raw pulp/cracked eggs and dirty/reject egg chutes.
Cage sheds	**1-5 rows**	1 per row	1 swab/jar per row being a composite from each side of row (lower levels often more contaminated)	N/A
	6-20 rows	1 per 2 rows	1 swab/jar per 2 rows being a composite from each side of each row with a minimum of 5 swabs/jars	N/A
	> 20 rows	1 set Boot Swabs per 4 rows	1 jar per 4 rows being a composite from each side of row	N/A
Barn shed	**See note 2 above**	1 set Boot Swabs per quadrant	1 jar per quadrant noting that manure may be located in distinct areas	N/A
Free range				
Equipment needed per sample or swab		Pre-prepared boot swab set – pre-prepared per instructions below	250 ml plastic screw top sampling jar	Sponge swabs with gloves Buffered Peptone Water (BPW) (see equipment list, below)
Egg samples		Collect samples of discarded/broken eggs and/or floor eggs from the grading room floor or layer sheds. Samples should be pooled for effectiveness (e.g. 12 eggs per shed and/or grading floor)		

Equipment List

Equipment numbers are dependent on size of farm as outlined in guide for number of samples:

- Egg cartons and snap lock bags
- 250 ml plastic screw top sampling jars

- 500 ml plastic screw top sampling jars
- White plastic boot covers (to wear under blue fabric covers)
- Blue fabric boot covers
- Buffered peptone water diluent, (BPW)
- Garbage bags
- Esky
- Work boots
- Disposable overalls
- Hand sanitiser
- Pen & Permanent marker
- Sample submission form
- Sponge swabs and sterile gloves

Method

Boot swab preparation

1. Prepare before leaving for farm. This can be prepared the evening before and then stored under refrigeration overnight
2. Decide approximate number of boot swabs to be made up based on farms size
3. Each boot swab set will require a 500 ml plastic screw top sampling jar; 4 vials of diluent and 2 blue boot covers
4. Add approximately 50mL BPW, then one of the boot covers, then approximately 100mL of BPW, followed by the remaining blue boot cover then finally a further 50mL of BPW and replace lid.

General

5. Samples should be transported at < 7 deg C (e.g. in an Esky with freezer bricks).
6. Sample Grading area (if present) then laying sheds then external areas, in that order
7. Handle and store material to prevent cross-contamination. Be mindful of sanitising, replacing disposable overalls and gloves when moving from one sampling site to the next. See attachment A
8. Boot swabs are performed first before entry for other officers or other tasks in order to prevent cross contamination
9. Photos are taken throughout process to explain areas sampled – each sample should have at least one correlating photograph, e.g. down the respective row.
10. Ensure rubbish is disposed of on site or if bins are not available onsite then double bag waste to prevent contamination of vehicle

Attachment A – Suggested General Process

<u>Commencing each specified area on farm:</u>

- Do not enter grading area / shed before sampling preparations
- Door is generally opened by business operator
- Avoid contaminating the esky by placing it on the large garbage bag
- Using gloved clean hands place on over-suit (for laying sheds)
- Using gloved clean hands place white plastic boot covers on shoes one foot at a time while crossing from outside to inside shed

<u>Sampling process using boot swabs</u>

- At the edge of the grading area / selected row / quadrant open jar of prepared blue boot swabs and put on boot swabs using clean gloved hands while wearing clean white plastic boot covers
- Walk down row dragging feet and sweeping across row and under cages. Be careful not to catch boot swab on rough surfaces
- Complete specified rows / quadrant and return to start

- Remove boot covers and return to jar
- Seal jar and label
- Place in esky / container to store samples during transport to the laboratory. Samples should reach the laboratory within 48 hours of collection
- Move to next area using hand sanitiser, new gloves and new white plastic boot covers

Sponge Swabs

- Sponge swab sites are assessed, and photos are taken of each. Suggested areas for swabbing are surfaces regularly touched by hands or eggs. The rule of thumb is to swab processes in order from start to finish paying attention to egg contact surfaces.
- Sampling site examples:

Laying sheds	Grading rooms
Conveyors, Dusty surfaces/corners, laying mats and Feed bins. Running a sponge swab through the nest top dust when walking boot swabs through a shed is an efficient way of sampling. Use 2 swabs for large sheds.	Conveyors; Dusty surfaces; Buttons; Rollers; Hand wash basins; Waste bins; Waste chutes; Areas where egg residue lies

- Sponge swab packages are labelled with sites to be swabbed, and photos taken
- BPW is added to each swab pack prior to sampling
- Areas are swabbed one at a time using aseptic technique and gloves supplied
- Packs are sealed one at a time as samples are taken

Egg Samples

- At the edge of the grading area / selected row / quadrant with clean gloved hands and an egg carton or 500 mL jar
- Take samples of eggs from the defined area
- Close then label container used for eggs – if carton then place in snap lock bag
- Place in esky / container to store samples

Manure Samples

- At the edge of the selected row / quadrant with clean gloved hands and a 250ml jar
- Take random samples of manure from the defined area – fresh and wetter manure wherever possible
- In multi-tiered cage systems, the manure belts should be sampled. This is best achieved using a swab tied to allow manure to fall over the swab as the manure belts are run.
- Close then label container
- Place in esky / container to store samples

Other Samples

- After samples from grading area (if present) and laying sheds are taken other areas can be sampled if appropriate using aseptic techniques: Feed; External environment (eg – mud, dirt, pest faeces, water in puddles, creek water etc) (jar or boot swab samples); Bird drinking water, particularly if exposed, or bird spraying water (foggers in sheds)

Appendix 4: Guidance for communication (examples of talking points)

General

- *"The Department of Agriculture, Water, and Environment (DAWE), NSW Department of Primary Industries (DPI) and Local Land Services (LLS) are working with industry to manage risks arising from the detection of SE in commercial egg laying properties in NSW.*
- *DPI is leading a surveillance group, made up of industry, DPI, NSW Food Authority and LLS, to conduct inspections and monitoring of higher risk properties.*
- *DAWE is providing assistance and coordination with authorities in other states and territories to ensure that potential interstate exposures are investigated.*
- *Normal compliance and food safety checks and inspections will continue."*

Poultry producers

- *"All poultry owners should ensure they implement good biosecurity practices on their properties to prevent the impact of disease, to protect our egg industry, as well as our community.*
- *To lessen the impact of disease, protect the local poultry industries and protect the broader community, ensure that you have good biosecurity measures on your own property. This may include:*
    - *Cleaning, sanitising and/or checking your vehicles, equipment, clothing and boots in a designated area when you arrive and leave the property.*
    - *Have a register for when you or visitors arrive on the property. You should also erect signs directing people to contact the property owner or manager before entering.*
    - *Seeking advice from your veterinarian or industry regarding how to identify biosecurity risks and maintain good biosecurity practices.*
    - *Not sharing equipment and minimising people moving between properties.*
    - *Ensuring good rodent control and preventing access of vermin to your poultry sheds.*
- *If you suspect a SE infection on your property, or have unexplained health problems in your bords* ***report it immediately*** *to the relevant biosecurity authority or your veterinarian respectively in your state or territory."*

Resources

- DPI Primefact (Sep 2018)
- Prevent the spread of Salmonella Enteritidis (March 2019)
- Rodent control and Salmonella Enteritidis (March 2019)

Health - public

- *"Eggs/poultry remain a safe and nutritious food, but as with all raw foods, care should be taken to minimise food safety risks.*
- *The risk of SE can be reduced by cooking eggs or egg products.*
- *Consumers should always practice good hygiene when preparing food and keep their hands, surfaces and utensils clean and dry before and after handling eggs/poultry."*

Appendix 5. Stakeholder analysis

Key stakeholders for every incident must be identified and informed with targeted messaging. Examples of stakeholders and stakeholder groups are outlined in the table below.

Stakeholder group	Organisations / who	Purpose	Communication mechanism
Relevant government agencies	● Affected jurisdictional agencies (health, food safety, animal health, primary production) ● Commonwealth (FSANZ, OzFoodNet/CDNA, DAWE) ● BNFSN ● Relevant environmental agencies	- Manage risks of SE within industry. - Reduce spread of SE when detected. - Reduce impacts on human health. - Investigate and identify source of human infections - Provide timely and consistent information to the community when SE is detected to retain consumer confidence.	- Meetings/teleconferences - Reduce spread of SE when detected. - Preparation of holding statements and agreed media/talking points - Development of website content - Social media strategy
Local Government	Affected local councils	Inform	- Factsheet, website
Industry groups	● Australian Eggs ● Australian Chicken Meat Federation (ACMF) ● Australian Chicken Growers Council ● Australasian Veterinary Poultry Association (AVPA) ● Egg Farmers Australia ● Jurisdictional-based farming groups (e.g. NSW Farmers' Association)	Communicate/engage to manage impact and reduce spread	The relevant agency will: - Contact key industry groups specified by phone/email - Hold meetings/teleconferences with immediate neighbours/businesses in the affected area (e.g. 2km radius of property) - Contact all visitors and businesses that have been to an infected property (not just within affected are) - Develop factsheet/website material
Egg producers / processors	Within affected area (e.g. Sydney basin)	Inform/communicate Provide basic advice and hotline number to report suspected SE	
Poultry producers	Within affected area		
Poultry abattoirs	Within affected area		
Egg/poultry meat industry service providers (feed suppliers, manure removal, other contractors)	Within affected area and all businesses that have had contact with an affected property (regardless of proximity to the infected property)	Inform/communicate Provide basic biosecurity advice	
Neighbouring residents or businesses to infected farms/properties	Adjoining residents or business should be contacted for information and to evaluate any potential for inadvertent transfer or spread	Inform/communicate	Factsheet, doorknock Evaluate whether adjoining businesses need to disinfect vehicles/equipment
Egg consumers and general public	Public in affected area/jurisdiction	Inform	- Website - Recall notices (website, media release, social media)

Appendix 6. Examples of website content for target audiences

Website communication provides a simple way to provide updates to a wide range of audiences at bit local and national levels, including consumers, industry, and media.

Provided these are updated regularly they allow for easy reference points and many stakeholder enquiries can be dealt with quickly and efficiently.

Local/State specific examples

https://www.dpi.nsw.gov.au/animals-and-livestock/poultry-and-birds/health-disease/salmonella-enteritidis

https://www.health.nsw.gov.au/Infectious/alerts/Pages/enteritidis-eggs-2018.aspx

National example

https://www.foodstandards.gov.au/consumer/safety/Pages/Salmonella-Enteritidis-linked-to-eggs.aspx

Appendix 7. Guidance for the recall of shell eggs

Guidance for the recall of eggs linked to *Salmonella* Enteritidis

Salmonella Enteritidis (SE) poses an additional risk to human health in comparison to other species as some strains are capable of transovarian transmission, resulting in contamination of the egg prior to lay. Where SE has been found on farm, additional recall or withdrawal action may be necessary, regardless of the absence of any process failure or biosecurity concerns on a property.

Eggs associated with SE should be recalled from the market under the following scenarios:

1. *Strong epidemiological link to human infections and detection of SE on farm*

Where there is a confirmed epidemiological link to human cases and detection of SE on a farm (either by PCR or culture) and eggs are still within their best before dates, a consumer recall should occur.

or:

Strong epidemiological link to human infections, no confirmation of SE on farm, but poor biosecurity and traceability

Where there are multiple human cases with a strong epidemiological link to a farm that has poor biosecurity and food safety practice, eggs should be recalled through a consumer level recall (even though the farm may not have been tested).

2. *Multiple detections of SE on a farm in the layer shed environment, with no associated human infections*

Where SE may be detected in layer sheds on a farm through routine surveillance, a trade level recall or withdrawal may be appropriate. This will need to be determined on a case-by-case basis and take into account the level of biosecurity on the farm, the number and location of SE detections (such as multiple sheds).

In instances where a single SE detection occurs on a property (particularly if located away from the layer shed environment) and there are no linked human cases, a recall is not appropriate. Under these circumstances the property and movements of eggs should be quarantined until further investigation and SE testing is undertaken.