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Conducting After Action Reviews for animal health emergencies

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Foreword

Animal health emergencies arising from infectious diseases and other threats have a high potential to spread rapidly within a country or around the world. These events appear to be more and more frequent, as a result of growing animal populations, their concentration and market intensification, human and animal movements, and global trade. This growing trend is also increased by the management capacity issues of animal health services.

The Emergency Management Centre for Animal Health (EMC-AH) of the Food and Agriculture Organization of the United Nations (FAO) is a joint platform of the FAO Animal Production and Health Division and the Office of Emergencies and Resilience. It has published the third edition of the FAO manual “Good Emergency Management Practice: The Essentials” (GEMP manual), with the aim to support the advancement of key components of emergency management as countries continue their efforts to work and prepare together to minimize the impact of animal health emergencies. The GEMP manual highlights the importance of preparedness activities, including in the phase that follows an emergency event. It is incumbent upon animal health services to promote a culture of continuous improvement, and preparedness actions during the “reconstruction phase” aim to reflect on lessons learned, and incorporate changes and best practices to enhance the state of operational readiness.

In this regard, After Action Reviews (AARs) are essential activities that contribute to the process of continuous improvement. An AAR is a critical review of actions taken to respond to an emergency. It strives to identify best practices, gaps and lessons learned, and is a space for collective learning. It brings together relevant individuals or stakeholders to analyse or assess decisions and actions taken during the response, critically and systematically. The objective of an AAR is learning. This can occur at a personal, collective or institutional level. AARs have been widely used successfully in other sectors such as public health, both in the field and in emergency operation centres.

The EMC-AH developed this AAR manual to provide insight into current practices for organizational learning and how these can be applied in the context of animal health emergencies. The AAR manual also introduces lessons management approaches so that the lessons of animal health emergencies can be analysed and integrated into an organization's cycle of continuous improvement.

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The authors also acknowledge with thanks the research undertaken by the World Health Organization and its subsequent reports, which provided a sound basis for the content of this manual.

Introduction

PURPOSE OF THIS MANUAL

The purpose of this manual is to explain what an animal health emergency After Action Review (AAR) is and to instruct the reader on how to design, prepare, conduct and report on an AAR.

This manual also describes how to apply lessons from AARs within a broader framework of lessons management. In this way, veterinary services can improve their ability to prepare for and respond to animal health emergencies.

The principles in this manual may be applied to AARs at the country level or in other settings, such as producer organizations, multicountry regional commissions or international organizations.

The terms used in this manual should be understood in the meaning applied in the FAO Good Emergency Management Practice: The Essentials (the GEMP manual) and the Terrestrial Animal Health Code of the World Organisation for Animal Health (OIE).

INTENDED USERS OF THIS MANUAL

This manual has been written for use by veterinary services (public and private sector) and competent authorities responsible for managing the response to animal health emergencies at national, regional and subregional levels. It is to be read in conjunction with the GEMP manual¹ and other FAO guidance documents, such as the Animal Health Emergencies Operations Manual.²

As the content has been drawn from many sources, and across many disciplines and countries, this manual can be applied in other contexts, such as natural or man-made disasters, which can affect the health and welfare of animals.

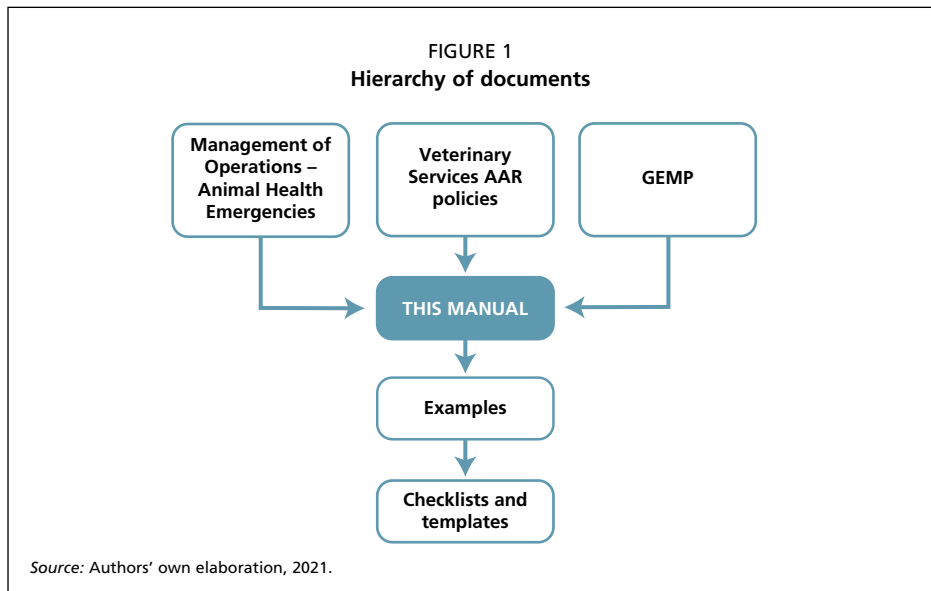
STRUCTURE OF THIS MANUAL

This manual provides an outline of contemporary approaches to AARs and lessons management. It is not intended to replace the AAR and lessons management policies of veterinary services (where they exist); rather, it is to be used as a guide to support those policies.

This manual provides examples, checklists and templates; other relevant documents are referenced throughout and provided as separate documents.

¹ For further information, this manual is available at <http://www.fao.org/3/cb3833en/cb3833en.pdf>

² In the process of publication



After Action Reviews

WHAT IS AN AFTER ACTION REVIEW?

Although the term is widely used, there is no internationally standardized definition of AAR.

The term was first used by the military in the 1970s and has since been adopted by and adapted to many streams of society. While still used in the military, it is also widely used by emergency management agencies, organizations and businesses across the globe, each having its own approach and terminology.

The common definition for an AAR is a professional discussion of an event, focused on performance during that event. Within this definition, the term AAR and debrief are synonymous and can be conducted at any time during, at the conclusion of, or subsequent to an emergency. In the context of this manual, the use of the term AAR has a broader application, being a detailed quantitative and qualitative analysis of actions taken during or after the response to an animal health emergency; this manual will focus on AARs that are undertaken shortly after the conclusion of a response activity.

It is universally accepted that AARs form an integral part of organizational learning and are critical for ensuring enhanced performance in dealing with future emergencies. Indeed, an AAR is one component of an organization's comprehensive evaluation and improvement process and corrective action programme. Although AARs will generally focus on the response to animal health emergencies, the same approach should also be practised in reviewing the performance of veterinary services during simulation exercises. This manual takes the various approaches applied to AARs and synthesizes them into a model that can also be used by veterinary services when reviewing their efforts in relation to animal health emergencies. Where possible, the veterinary service's review and evaluation policies should identify the circumstances under which an AAR should be undertaken. This should suggest that an AAR is routinely conducted at the conclusion of an animal health emergency response.

An AAR can be undertaken by staff from within veterinary services or led by an independent team appointed by the veterinary services. An AAR may be conducted over a period of time and use multiple approaches to gather quantitative and qualitative data.

Purpose of an After Action Review

An AAR is a learning activity that should be used by veterinary services to continuously improve the way in which they prepare for and respond to animal health emergencies.

AARs provide an opportunity to:

- bring together a team or group of stakeholders to obtain their feedback on identified aspects of an animal health emergency
- consolidate key information about ongoing or past emergencies
- explore issues that arose during the response and identify potential rapid solutions and areas for improvement in future or current emergencies
- identify areas of the response that worked well
- identify practices that should be sustained in the future.

Benefits of an After Action Review

An AAR is a process that can produce quick results by:

- giving team members an opportunity to share their views and develop a common perspective on which they can base future work
- sharing and learning from experiences during an emergency
- consolidating a groups' observations about a particular weakness or strength
- allowing team members to immediately apply the lessons identified.

Although AARs have traditionally focused on changing behaviour to address something that did not work well, what is often overlooked is the opportunity to learn from what was done well and should be sustained or encouraged as good practice.

Characteristics of an After Action Review

AARs are built around an analytical framework to explore:

- What happened?
- What was supposed to happen?
- Was there a difference and why?
- What was done well?
- What could be improved?

Within this framework, there will be a mixture of facts and opinions. Properly structured, an AAR will allow for a clear separation and analysis of these two elements. This is outlined in Figure 2.

When to conduct an After Action Review

The term AAR suggests that this is an activity that is undertaken after the response to an emergency has concluded.

However, to get the greatest benefit and learning from an emergency response, AARs should be conducted periodically during and at the conclusion of an animal health emergency. An AAR may be conducted:

- daily or at the end of a shift, when practical

FIGURE 2
Characteristics of an After Action Review

What happened?	What was supposed to happen?	FACTS
Was there a difference and why?	What was done well; what can be improved?	OPINION

Source: Author – adapted from WHO (2019), The Global Practice of After Action Review.

- periodically during the response to an animal health emergency
- after a major task or component of the response action
- as soon as possible after the response to an animal health emergency has concluded
- at a pre-determined time after the response to an animal health emergency.

Conducting an AAR during an emergency is consistent with the original intent of AARs. This approach allows for a focused review of a particular activity, group of activities, part of the response or period of time. The approach also allows for immediate corrections or a change in course to improve the ongoing response and offers opportunities for multiple cycles of improvement during a response, which is critical in animal health emergencies, and which may be conducted over many months. While conducting an AAR may seem difficult during the response to an animal health emergency, the benefits and improvements to operational activities will exceed the effort.

Conducting an AAR only after an animal health emergency has concluded may allow for a holistic review of all activities. However, this approach in isolation will only provide a single opportunity to gather information that contributes towards learnings. While this may occur when resources are more available, critical participants may not be available or could be focused on other activities.

An After Action Review is not ...

Importantly, an AAR is not:

- a lecture or one-way dialogue
- dominated by an individual's point of view, hierarchy or position
- an opportunity to air grievances
- about apportioning blame or embarrassing anybody
- the forum to solve all problems or provide lengthy explanations.

AFTER ACTION REVIEWS WITHIN A FRAMEWORK OF ORGANIZATIONAL LEARNING

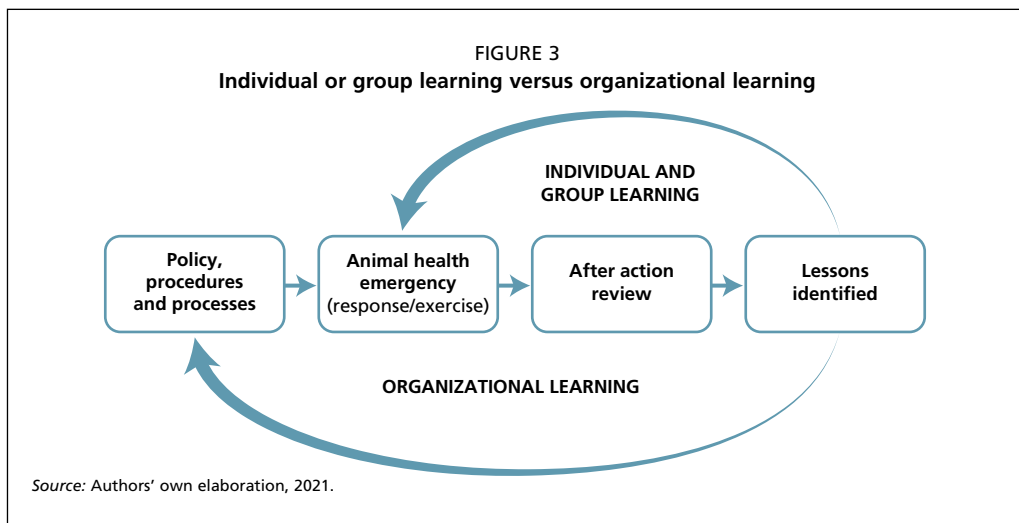
An AAR in isolation is just one tool that can be used by veterinary services to continually improve performance and should be embedded within a culture of continuous improvement within the organization.

The knowledge gained by individuals who participate in an AAR is valuable and will assist them in similar circumstances in the future. However, this alone may not translate into creating, retaining and transferring knowledge within the organization.

The lessons identified from conducting a single AAR in isolation can be described as "single loop" learning, meaning that the benefits are limited to a particular group of people within a limited context.

For an organization to improve over time, it needs to develop knowledge and experience within the organization. By taking lessons from multiple AARs and other learning events and incorporating these into a larger framework of continuous improvements, the benefits of each AAR are magnified.

The following diagram illustrates the difference between applying the lessons of AARs to individuals' learning as opposed to organizational learning.



TYPES OF AFTER ACTION REVIEWS

An AAR can be formal or informal.

A formal AAR is often scheduled in advance and conducted at predetermined times during an emergency response. A formal AAR may last one or more hours or be conducted over a number of days.

An informal AAR is more spontaneous or opportunistic and is often conducted at the conclusion of a task, a shift or an operational period. An informal AAR may be undertaken in whatever time the team has available and led by a member of the team. A conversation as short as 15 minutes may be sufficient to identify issues and opportunities to address them.

While an informal AAR might bring quicker solutions, a formal one would have a larger impact in terms of policy, system or procedural improvement.

A comparison of formal and informal AARs is outlined in the following table.

TABLE 1
Formal and informal After Action Reviews

Formal AARs	Informal AARs
Are initiated from upper level in the hierarchy	Are initiated at the operational level by team leaders or team members
Are typically pre-planned, with time to be well organized	May be ad hoc with a short planning period
Are led by an objective facilitator (may be from within or outside the veterinary services)	Are conducted by those closest to the emergency response activity
Take more time	Take less time
Use complex techniques and tools	Use simple review techniques and tools
Are scheduled beforehand, either during or at the end of the emergency response	Are conducted when needed, during the emergency response
Are conducted as meetings, workshops, interviews or other formal settings	Are carried out at the site of the intervention or coordination activity
Outputs are documented and provided in a formal report to the initiating body	Outputs should be documented and included in briefings to the next level of authority

USING THIS MANUAL

The information in this manual is focused on designing, preparing for, conducting and reporting on a formal AAR, particularly those that are conducted as a holistic review, following the response to an animal health emergency. This manual outlines a process to be followed and provides examples, templates and a checklist that can be used for this purpose.

When conducting an informal AAR, the same approach should be applied; however, this can be done with less advanced planning and documentation than a formal AAR.

MANAGING AN AFTER ACTION REVIEW

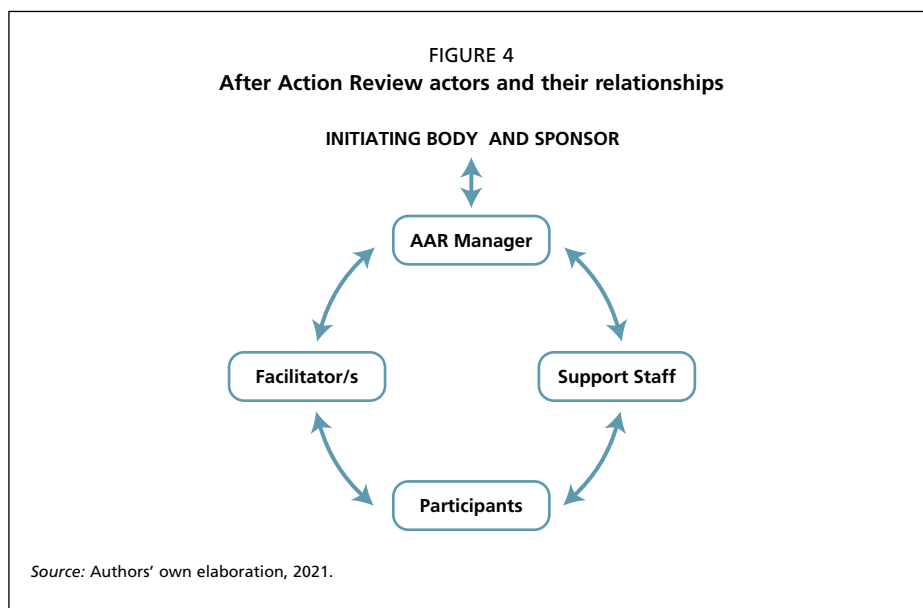
An AAR, like any activity undertaken during an emergency response, requires a structure and framework, which will include a number of individuals and parts of the veterinary services, including veterinarians, para-veterinary professionals and other non-health personnel from public or private sectors. These actors, their relationships and their responsibilities for a formal AAR are illustrated in the following diagram and described below.

Initiating body

The AAR initiating body has overall responsibility for the AAR – not only for initiating the AAR, but also for taking action to address the outcomes of the AAR.

The initiating body may be the executive of the veterinary services, the Chief Veterinary Officer or the officer in overall charge of the response to an animal health emergency. To avoid confusion, veterinary services should have a policy for reviewing or evaluating responses to animal health emergencies, and the initiating body should be identified in the policy.

The initiating body is responsible for establishing the terms of reference for the particular AAR.



The initiating body should also appoint an individual or small group to manage all aspects of the AAR, i.e. designing, preparing, conducting and reporting. This AAR manager will report to the initiating body.

After Action Review manager

The AAR manager is responsible for managing all aspects of the AAR, which include designing, preparing, conducting and reporting on the AAR. Each of these steps is discussed in Sections 3, 4, 5 and 6 of this manual.

The AAR manager may facilitate the AAR or appoint others to this role.

After Action Review facilitators

The AAR facilitator/s are appointed by the AAR manager. An AAR facilitator should have experience in facilitation, understand the AAR process and have a reasonable level of knowledge about the AAR subject.

During an AAR, the facilitator will follow the programme or agenda, facilitate discussions, conduct interviews and explore key points with participants.

After Action Review participants

AAR participants will vary depending upon the purpose, scope and timing of the AAR. Further information on participants and their role in an AAR is provided in Section 3.4.

After Action Review support staff

Support staff may be engaged by the AAR manager to assist with all aspects of the AAR design, preparation, conduct and reporting. AAR support staff will report to the AAR manager and undertake duties assigned to them. This could include:

- identifying and sourcing the logistical requirements for the AAR
- identifying participants, requesting their availability and arranging AAR meetings
- assisting with the conduct of AAR-related activities
- recording discussions and key points during AAR meetings
- assisting with report writing.

Designing an After Action Review



The design step is crucial in the AAR process. It will identify and analyse the need (or reason) for undertaking the AAR. During the design step, the AAR manager will work with the initiating body to confirm the need for the AAR and agree on the terms of reference.

As a minimum, the terms of reference should include:

- the purpose of the AAR
- the scope of the AAR
- participants
- format
- reporting requirements.

These elements are outlined below and summarized in a table in Appendix A.

NEEDS ANALYSIS

The initiating body will work with the AAR manager to develop the terms of reference for the AAR. The foundation for this is to understand why the AAR is being undertaken, and what for. It is important that this be identified and documented up front, to design a fit-for-purpose AAR.

The need to conduct an AAR may arise due to:

- issues being identified within an emergency response that need to be resolved
- an activity, or group of activities, within an animal health emergency response being completed and lessons needing to be identified that will contribute to subsequent response activities
- the finalization of an emergency response and lessons needing to be identified that will contribute to organizational learning and continuous improvement
- communication, media or internal reports pointing out possible malfunction
- managerial or political pressure.

AFTER ACTION REVIEW PURPOSE

The AAR purpose is influenced by the need (discussed above) and provides guidance on what will be achieved by undertaking the AAR.

The AAR purpose will be agreed by the initiating body and documented in the terms of reference for the AAR. The AAR purpose statement will describe what will be addressed during the AAR.

Example 1 – After Action Review purpose statement

The purpose of this After Action Review is to:

- review the actions of the veterinary services in responding to the outbreak of HPAI in three poultry enterprises
- identify possible opportunities to improve the response to future animal health emergencies
- identify any actions taken in this response that should be retained as good practice for future animal health emergencies.

AFTER ACTION REVIEW SCOPE

The scope of the AAR will be guided by the need and purpose. Determining and documenting the scope are important to ensure that the AAR remains focused on what it is intended to achieve. The scope of the AAR should be clear and documented in the terms of reference.

The scope will identify what is to be included as well as what is not included in the AAR. This could include focusing on a single emergency, period of time or set of actions. An AAR is not an opportunity to analyse past unrelated emergencies; if this is required, it should occur as a separate process.

Example 2 – After Action Review scope statement

The scope of this After Action Review will be limited to the actions taken by veterinary services while investigating and reporting on the outbreak of HPAI in three poultry properties during February and March 2020.

This After Action Review will not include actions taken by other agencies, as this will be addressed in a separate process.

PARTICIPANTS

The purpose, scope and timing will determine who should participate in the AAR. This may include participants from within the veterinary service as well as from outside the veterinary service that were involved in the animal health emergency response.

As far as possible, AAR participants should have direct experience in the emergency response that is the subject of the AAR. This will allow participants to speak with authority on:

- what occurred
- the context in which it occurred
- why it occurred
- the impact it had
- what worked well and why
- what should be improved, how to make the improvements, and what the impact will be
- suggestions for specific corrective action, including what office should lead the correction and suggested timeframes for completion.

During a formal AAR, participants may be asked to provide a written report, which should be incorporated into the written records generated from AAR meetings and/or subsequent reports.

The design step should identify whether participants should provide their input verbally, in writing or a mixture of both.

FORMATS FOR CONDUCTING AN AFTER ACTION REVIEW

There are a number of options for conducting an AAR.

While the standard approach is for participants to congregate in one place in the form of a meeting or workshop, this may not always be practical, due to geographical constraints, timing or other restrictions placed on participants.

Where circumstances mean that participants cannot effectively or efficiently be brought together, other formats for conducting an AAR should be considered. Some common approaches include:

- interviews
- questionnaires
- video conferencing.

These formats, their application and considerations are outlined in Appendix B.

REPORTING REQUIREMENTS

The reporting requirements for an AAR should be determined during the design step, as this may influence how the AAR is conducted.

Further information about AAR reporting is included in Section 6.

Preparing for an After Action Review



Once the AAR has been designed, as outlined in Part 3, detailed preparation can commence. This will include identifying and agreeing on:

- facilitation
- timing
- location
- agenda
- invitations
- logistics and support arrangements
- identifying and managing potential risks.

FACILITATION

Selecting an appropriate facilitator or facilitators for an AAR is essential to ensuring the AAR is conducted in an objective and impartial manner. For a single meeting, one facilitator who chairs that meeting and structures the discussion is usually sufficient. As far as possible, at least for a formal AAR, the facilitator/s should not have been directly involved in the animal health emergency response, in order to avoid any bias they may have from such participation.

For more complex approaches, such as workshops and interviews, more than one facilitator may be required.

While the AAR manager can also be the facilitator, the appointment of a dedicated facilitator, either from within or external to the veterinary services, may be the best option.

The facilitator/s must be able to stay focused and keep the discussion of the AAR on track. Ideally the facilitator/s will have knowledge about the subject of the AAR, in order to reduce their learning time and enable technical discussions to be conducted in a structured manner.

A good facilitator will ensure that all participants have a voice, with equal opportunity to contribute to the discussion, while avoiding expressing her/his own opinion.

Whether the AAR is undertaken in the form of a meeting, workshop or interviews, it should not be rushed and should provide sufficient time for all participants to contribute equally.

TIMING

The AAR should occur as soon as possible, while memories are fresh and not influenced by other events or controversy. For an animal health emergency, this can be at predetermined intervals during the response, or within a few weeks of the conclusion of response activities.

Timely conduct of the AAR will provide the greatest opportunity to identify lessons that can be used in the future.

LOCATION

Selecting an appropriate location for an AAR should consider the following:

- **Accessible to all participants.** This could be at or near their normal place of work.
- **Sufficient space to accommodate all participants.** If the AAR is conducted in a meeting format, a boardroom may be sufficient; if the AAR is conducted as a workshop, a large facility may be required.
- **Able to display relevant visuals.** This may include maps (electronic/hard copy), photographs, diagrams and anything else required to facilitate the AAR.
- **Supplied with the necessary materials to conduct the AAR.** This may include the logistics and support arrangements discussed below.

If the animal health emergency response is still ongoing, the AAR should be conducted away from where the response operations are being managed. If this is not possible, normal work may need to stop while the AAR is being conducted.

If practical, a field visit by the AAR facilitator/s and participants may assist with providing context and situational awareness for the AAR.

Under some circumstances it may be necessary to conduct an AAR virtually or remotely, using connected technology. When this occurs, consideration needs to be given to:

- participants' access to the required technology, hardware and internet connectivity
- hosting arrangements, including supporting the facilitator and participants during the AAR
- the number of participants and duration of the AAR. Where appropriate, smaller group sizes should be encouraged and limited timeframes applied. This may mean that an AAR is conducted in a number of parts, over a period of time.

AGENDA

The agenda for an AAR should be developed by the AAR manager, in consultation with the initiating body and the facilitator/s.

The agenda should be provided to participants in advance of the AAR, together with instructions on how they are expected to contribute during the AAR. Participant contributions could include verbal reports, written reports, workshop activities and discussions.

An example of an AAR agenda is included as Appendix C.

INVITATIONS

It is important to know who is attending the AAR. This can be managed through formal invitations and collecting replies in advance of the AAR.

The invitations should provide enough information for participants to prepare for and actively participate in the AAR, including the following:

- purpose and scope of the AAR
- date, time and location
- format for the AAR (e.g. meeting, workshop, interviews)
- details about expected participation in the AAR (e.g. contribute to discussions, represent agency's perspective, provide a written report, provide a verbal report)
- arrangements for confirming attendance.

LOGISTICS AND SUPPORT ARRANGEMENTS

Under the direction of the AAR manager, the AAR support staff should make and implement arrangements for the venue and logistical support for the AAR. This could include:

- developing plans or instructions for room set-up
- identifying, obtaining and setting up supporting documents, supplies, stationery and computer technology
- identifying and obtaining catering, if necessary
- prior to the AAR, undertaking a trial of all equipment, computer technology, visual displays and audio systems.

The AAR manager should also consider the potential financial implications of conducting an AAR. If necessary, a budget may need to be identified and secured to cover the cost of logistics and support arrangements for an AAR, which may include venues, printing, information technology, catering, and travel and accommodation for facilitators and participants.

IDENTIFYING AND MANAGING POTENTIAL RISKS

In preparing for an AAR, the AAR manager should identify and address potential risks associated with conducting the AAR, or consequences that may affect the AAR participants. These may include:

- applying normal occupational health and safety requirements of the veterinary services
- providing an environment for the AAR that is safe and free of hazards
- identifying risks that may affect the venue or technology being used
- for highly sensitive or contentious issues, considering and addressing any safety risks to the participants of the AAR
- ensuring confidentiality and security of sensitive information
- identifying any issues that may affect transparency and openness in reporting, including political and managerial pressures.

Conducting an After Action Review



When AAR preparation is complete and participants are present, it is time to conduct the AAR.

At this point, the facilitator is responsible for opening, facilitating and concluding the AAR in accordance with the agenda. At the same time, information is collected or recorded, which will inform the AAR reporting.

OPENING AN AFTER ACTION REVIEW

Whether the AAR is conducted as a meeting, workshop, interview, or remotely, opening the AAR in a structured way is important to ensure that all participants are aware of why they are there, what will be discussed, and how the AAR will be conducted. Typically, the opening of an AAR should include:

- a welcome to all participants and any officials present
- paying respects to any cultural aspects or local customs
- introduction of the AAR facilitator/s and their role during the AAR
- introduction of AAR manager and support staff and their role during the AAR
- an overview of the purpose, scope, format and sequence of the AAR
- any ground rules for participating in the AAR, including confidentiality of information
- confirmation by participants that they understand what an AAR is and how it will be conducted.

FACILITATING AN AFTER ACTION REVIEW

Facilitating an AAR will be focused on:

- What actually happened?
- What was supposed to happen?
- Was there a difference and why?
- What was done well and what could be improved?

The facilitator may employ a range of methods to navigate through these questions. This may include a series of presentations, discussions and questioning techniques and technology.

Throughout an AAR, information provided by participants can be presented verbally or by written reports.

What actually happened?

This is a factual discussion about the animal health emergency and the period that is subject to the AAR. It is intended to establish the context in which the AAR is being conducted.

Information that was generated during the response should be shared with participants, either by the facilitator or technical specialists who were involved in the response. Typically, this information could include:

- a chronology of events, i.e. a timeline of significant events that triggered the initial response and that happened during the response
- disease maps, showing how the disease spread during the response
- epidemiological data, showing transmission pathways and rate of spread
- photographs of significant events during the response.

Time should be allowed in the agenda for participants to discuss this information and how it may align with their recollection of events. This will also help the facilitator to identify if there are other issues that need to be considered during the AAR or whether these should be referred to another discussion or forum.

What was supposed to happen?

This should start with a factual discussion or presentation about what was planned by the Incident Management Team.³ It should outline the purpose of the response and the objectives that were agreed to.

This information is supported by documentation generated prior to and during the response, such as response plans or records of meetings. If available, these should also be made available to participants during the AAR.

This information can be presented by the facilitator or individuals who were responsible for these response plans and actions. In the latter case, the individual should be able to discuss the rationale for these decisions and factors that influenced decision-making at the time.

Was there a difference and why?

This is an opportunity for the facilitator to explore with participants any identified differences between what was planned and what actually happened. The purpose is to identify why there was a difference and what led to this difference.

An effective technique for identifying the underlying reason (or root cause) for a difference is to repeat the question “why?” In this technique, each answer forms the basis for the next question. Anecdotally, asking “why” five times is the number of iterations needed to solve a problem.⁴ An example is given below.

³ An Incident Management Team is an assembled group of individuals established to manage all aspects of the response to an incident, event or emergency. The Incident Management Team is made up of staff who perform defined functions, which usually include Command, Planning, Operations and Logistics. Additional functions such as Public Information and Administration and Finance may also be included in the Incident Management Team.

⁴ Further information is available at https://en.wikipedia.org/wiki/Five_whys

Example 3 – Five “whys”

In this example, an AAR participant identifies that a response objective, which was written in the response plan, was not fully achieved during the response.

- Why – because field staff were not aware of the response objectives
- Why – because the response objectives were not communicated to field staff
- Why – because briefing and tasking of field staff did not follow the approved standard operating procedures
- Why – because supervisors were not aware that there was a standard operating procedure
- Why – because supervisors had not been trained on standard operating procedures, where to find them or how to use them.

In this example, the initial conclusion may be to assume that there was something wrong with the response objective or the field team’s performance. However, by repeating the question “why?”, the facilitator was able to identify that a lack of supervisor training was a contributing factor that could be addressed to reduce the likelihood of a reoccurrence of this issue.

What was done well and what could be improved?

This part of the discussion should bring together key aspects of the previous points and be focused on identifying lessons that will contribute to continuous improvement.

The identification of what was done well and should be sustained is equally as important as what can be improved and needs to be addressed. It is essential to keep in mind that by focusing only on addressing negative aspects, good practices can be overlooked and forgotten in future responses.

This discussion can be a general one, in which all participants are invited to contribute; or the discussion can be structured around a predetermined set of indicators or elements of response capability. These indicators can be qualitative or quantitative and are explored in more detail in Appendices F, H and I.

Tips for facilitators

While facilitating the AAR, the facilitators should:

- follow the agenda to maintain flow and structure to the discussion
- reinforce the fact that there may be differences of opinion and that it is acceptable to disagree
- make every effort to include all participants in the AAR process
- encourage open and honest discussion
- paraphrase, restate or summarize key discussion points before moving to another topic.

The facilitators should avoid:

- solving problems during the AAR
- offering their own opinion on the response actions.

CONCLUDING AN AFTER ACTION REVIEW

To conclude the AAR, the facilitator should:

- summarize key points made during the discussion
- ensure that key points of discussion have been captured and recorded
- explain what will happen with the outcomes of the AAR – this could range from distributing notes/minutes of the discussion through to a formal report
- identify if there are further opportunities to contribute and how to do so.

The facilitator should avoid introducing any new material or discussion at this stage. If additional points are raised by participants, they should be dealt with in a separate or subsequent activity.

At this point, the AAR manager may also meet with the initiating body to confirm whether the work of the AAR to date is achieving the anticipated results and whether further investigation is required before committing to a formal report.

RECORDING INFORMATION AND CAPTURING KEY INFORMATION

When an AAR is being designed, the way in which information will be captured should be agreed upon. Typically, notes on what was discussed will be recorded. For interviews or small group discussions, this may be undertaken by the facilitator. In the case of larger groups, meetings or workshops, staff may be dedicated to recording agreed-upon information. This may include one or all of the following:

- minutes, which reflect in detail the discussions of all participants
- notes which capture the key points
- notes made by participants
- written reports provided by participants
- recording observations⁵ made by the participants during the AAR.

Audio and video recording are also acceptable. However, permission should be obtained from participants beforehand. This permission should indicate that they understand how these audio/video recordings will be used to inform subsequent reporting.

⁵ An “observation” is a record of a noteworthy fact or occurrence as seen during an animal health emergency. In the context of lessons management, it is the evidence or data that is collected and collated for detailed analysis. Observations can be of good practices, which should be sustained, or of opportunities for improvement. Observations are discussed in detail in Section 7.

Reporting on an After Action Review



Following the completion of an AAR, a report should be prepared by the AAR manager and provided to the initiating body, in accordance with the terms of reference for the AAR.

The approach to reporting on an AAR will be determined in the design step; this part of the manual will look at two forms of reporting:

- a written record of an AAR
- a formal report from an AAR.

WRITTEN RECORD OF AN AFTER ACTION REVIEW

The simplest form of reporting on an AAR is to provide a written record of the AAR. This may be in the form of minutes or notes taken during the AAR.

This level of reporting can be achieved quickly (sometimes in a few hours) and is relevant when:

- the AAR is addressing a specific issue that requires immediate attention
- the AAR is being conducted during a response and more AARs will follow
- timing is relevant and information is required in a short time frame in order to contribute to other processes/activities
- multiple AARs are being conducted in a short time frame for multiple responses that are contributing to a more significant review process.

While this level of reporting may be effective in contributing to individual or group learning, it will need to be supported by additional information or reports from other AARs in order to contribute to organizational learning.

A written record of an AAR should reflect the agenda and include:

- who participated in the AAR
- the purpose and scope of the AAR
- a chronology of response actions (i.e. a summary of “what occurred”)
- what was intended to be achieved during the emergency response (e.g. response aim and objectives)
- what was actually achieved during the response
- observations or insights about what was done well and what could be improved.

Where written reports are provided by participants, these may be appended to or summarized in the written record of the AAR.

FORMAL REPORT OF AN AFTER ACTION REVIEW

In some circumstances, a formal report of the AAR may be required. This will be more time-consuming than a written record of an AAR. However, it will include additional detail and analysis that has been informed by the AAR and potentially other related learning activities.

A formal report may be appropriate when:

- an AAR is detailed and involves multiple facets or modes of data collection
- the outcomes of multiple AARs are being consolidated into one report
- the AAR is not the only source of information for the report.

As a minimum, the AAR report should include:

- **Executive summary** – which provides a rundown of the lessons identified and an intended course of action for addressing these
- **Introduction** – which establishes the context in which the AAR was conducted and outlines the method for conducting the AAR
- **Lessons identified** – which is a summary of each of the key themes or topics identified in the AAR. This will also identify good performance that should be sustained in future activities and areas of improvement that need to be addressed.

Where practical the AAR report should recommend courses of action, priorities and timelines for implementing or addressing the lessons identified in the AAR. The initiating body should be responsible for reviewing these lessons and in turn determining the most appropriate actions to address them.

A template for an AAR Report is included in Appendix D.

A summary checklist for AAR planning, conduct and reporting is included in Appendix E.

Learning from an After Action Review

An AAR is a vital tool, assisting veterinary services to strive towards an enhanced level of maturity and capability to respond to future animal health emergencies. The value of AARs comes from veterinary services being able to apply the outcomes of multiple learning events to future situations.

While an AAR will identify a range of lessons that can be acted upon in the short term and by individuals, care should be taken to ensure that the lessons from one AAR do not unduly influence investment in future capability development.

For this reason, a programme of lessons management should be implemented by veterinary services that will capture learnings from a range of sources, including multiple AARs, and analyse these for patterns or recurring themes. Lessons management is a complex process that occurs at a higher level than AARs and is an integral part of organizational learning.

Appendix F provides further guidance on learning from AARs and outlines principles and processes that can be applied by veterinary services to effectively learn from AARs and enhance their capability and capacity to manage animal health emergencies.

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Appendices

Appendix A

Designing an After Action Review

Type of AAR		When conducted	Facilitated by	Participants	Format	Recording and reporting requirements
Informal AAR	During an emergency	End of shift	Team member, leader or supervisor	Team members, team leader and/or supervisor	Face to face	Record details in operations logs Verbal report to management Brief written report
	At the conclusion of an emergency	End of all response activities	Supervisor	Team members, team leader and/or supervisor	Face to face, may follow up with a questionnaire	Record details in operations logs Verbal or written report to formal AAR
	At the conclusion of an emergency	End of all response activities	Supervisor	Staff and supervisors	Face to face, may follow up with a questionnaire	Record details in operations logs Verbal or written report to formal AAR
Formal AAR	During an emergency	End of a significant part of the response or major activity	Nominated facilitator	Supervisors and managers	Face to face, interview, questionnaire, video link	Written record of meeting Written report to management
	At the conclusion of an emergency	End of all response activities	Nominated facilitator	Supervisors and managers	Face to face, interview, video link	Written record of meeting Written report to management
	After an emergency	Within # months following an emergency	External facilitator (preferred)	Managers and executives	Face to face, video link	Written record of meeting Formal report

Appendix B

After Action Review formats and application

Format	Application	Considerations
AAR meeting	This is the standard approach for AARs, where participants come together in a venue, discussion is led by a facilitator, and participants are asked to contribute. This is effective for small and large groups and can generate good discussion.	For large groups, consideration should be given to breaking into smaller groups for discussion or conducting separate AARs. Care needs to be taken to ensure participants contribute and discussion is not dominated by a few individuals.
AAR workshop	This is a slight variation on the AAR meeting. In a workshop, participants come together to explore issues raised during the response in an endeavour to identify possible causes of and solutions for those issues.	Workshops can be used for small or large groups. In a workshop, large groups can be divided into smaller groups, with each of them assigned different issues to address and report on.
Interviews	Interviews can be conducted by a facilitator with one or a small number of participants. Interviews are effective in gaining individual perspectives from participants who are reluctant to contribute in large group discussion.	Interviews prevent participants from being influenced by the views of others. Interviews can be time-efficient for a small number of participants or time-consuming if there are a large number of participants.
Questionnaires	Questionnaires are an effective approach to attain feedback from a large number of participants, particularly when they are not able to attend a face-to-face AAR.	Care needs to be taken in developing the questionnaire to ensure it is consistent with the purpose and scope of the AAR. Well-designed questionnaires will support data collation and analysis. Questionnaires provided without explanation or context may not receive a high level of response and will require follow-up to get an appropriate level of participation.
Video link	Video meetings are becoming more popular as technology improves. Video meetings bring people together in an online environment. This is effective for small groups but may have limitations if the group becomes too big.	Video meetings rely on a hosting platform that may not be available to all participants. Large groups are difficult to manage. Open discussion and feedback are a little more difficult than in a face-to-face format.

Appendix C

Template – After Action Review agenda

After Action Review
<<insert Animal Health Emergency title>>
<<insert date of AAR>>

- Item 1 Welcome and introductions
- Item 2 Purpose and scope of the AAR
- Item 3 Ground rules and agenda
- Item 4 Chronology of the emergency and response actions
- Item 5 Response aim and objectives
- Item 6 What was achieved during the response
- Item 7 What went well and what can be improved
 - ... (may be addressed by referring to each response objective, key topic or participating group)
 - ...
 - ...
- Item 8 Next steps – reporting and follow-up

Appendix D

Template – After Action Review report

Title page – title page information may include title of the response, location and dates

Version control

Executive summary

This is a high-level summary of the response and key or significant lessons identified during the AAR. It is also an opportunity to provide an indication of how the lessons identified are going to be addressed by the veterinary service.

Introduction

- 1.1 **Authority** – who authorized, initiated and conducted the AAR
- 1.2 **Background** – key information about the animal health emergency or emergencies covered in this report
- 1.3 **Chronology** – a summary of what occurred and when; if lengthy or detailed, this may be included as an appendix or separate document
- 1.4 **Response aim and objectives** – what was planned during the response

Lessons identified

This is the body of the report and will provide discussion on what was identified during the AAR. This information can be presented against:

- *Each of the response objectives*
- *Each of the key topics discussed in the AAR*
- *Each of the key themes that emerged while conducting the AAR.*

Each section should include dialogue on:

- *The response objective/key topic/key theme*
- *What was done well and should be sustained*
- *What could be improved*
- *Suggestions for either sustaining good practice or addressing what can be improved*
- *Summary or suggested approach to addressing the lessons identified.*

Appendices (may include)

- AAR process
- AAR terms of reference
- AAR timing and location
- AAR participants

Appendix E

Checklist – After Action Review preparation, conduct and reporting

AAR preparation	AAR conduct	AAR reporting
Documentation		
<input type="checkbox"/> AAR terms of reference developed and agreed on <input type="checkbox"/> AAR methodology agreed on and documented <input type="checkbox"/> AAR documentation prepared and distributed	<input type="checkbox"/> AAR agenda followed <input type="checkbox"/> AAR documentation and supporting information presented to participants	<input type="checkbox"/> AAR report drafted <input type="checkbox"/> AAR report submitted
Staff		
<input type="checkbox"/> AAR positions and staff identified <input type="checkbox"/> AAR staff appointed <input type="checkbox"/> AAR staff briefed	<input type="checkbox"/> AAR conducted by facilitator <input type="checkbox"/> AAR staff performed assigned roles	<input type="checkbox"/> AAR staff debriefed
Logistics		
<input type="checkbox"/> AAR facilities identified and secured <input type="checkbox"/> Travel and accommodation arrangements identified and communicated	<input type="checkbox"/> Facilities and logistical arrangements applied, monitored and adapted to the needs of the AAR	<input type="checkbox"/> Logistics issues recorded and reported
Communication		
<input type="checkbox"/> AAR details and expectations communicated to participants	<input type="checkbox"/> AAR facilitated in accordance with the agenda	<input type="checkbox"/> AAR outcomes communicated

Appendix F

Learning from After Action Reviews

As mentioned in this manual, an AAR is a vital tool that assists veterinary services to strive towards an enhanced level of maturity and capability to respond to future animal health emergencies. The value of AARs comes from the veterinary service being able to apply the outcomes of multiple learning events to future situations.

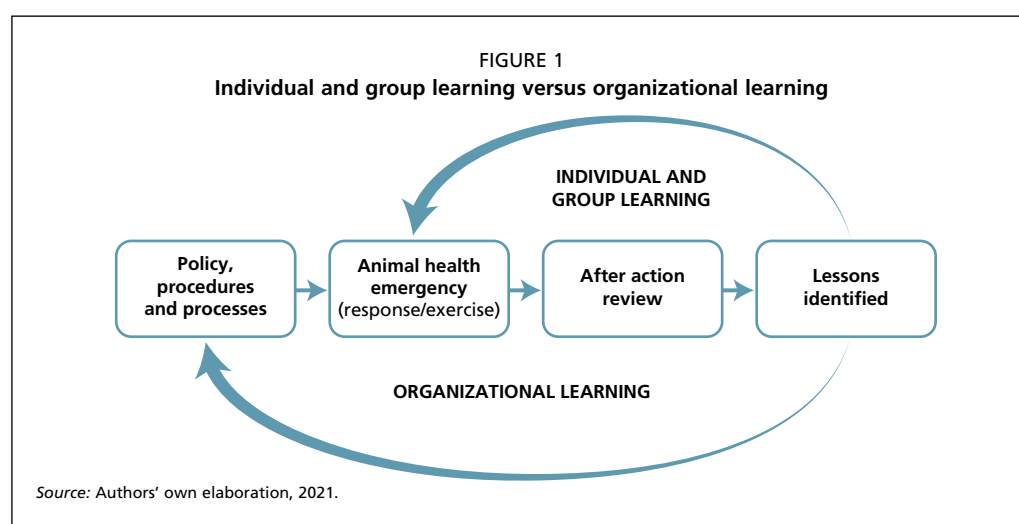
While AARs will identify a range of lessons that can be acted upon in the short term and by individuals, care should be taken to ensure that the lessons from one AAR do not unduly influence investment in future capability development.

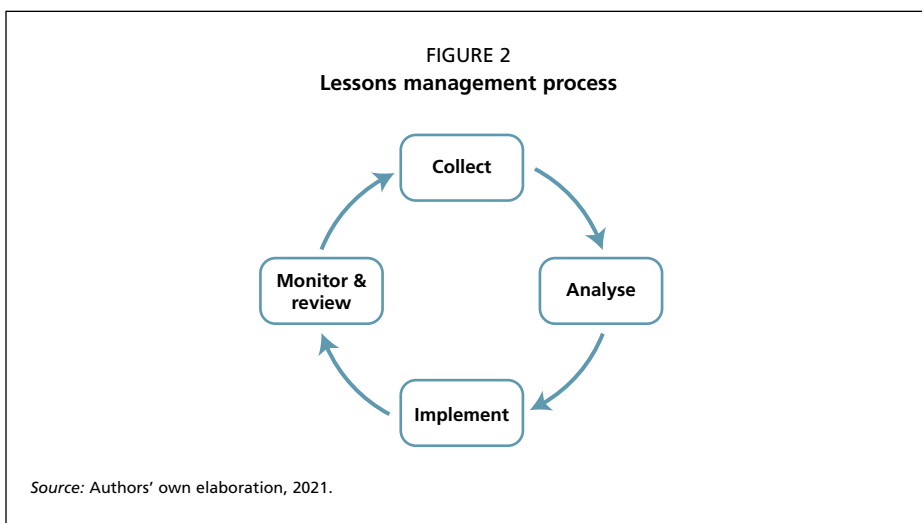
For this reason, a programme of lessons management should be implemented by the veterinary services that will capture learnings from a range of sources, including multiple AARs, and analyse these for patterns or recurring themes. Lessons management is a complex process that occurs at a higher level than AARs and is an integral part of organizational learning.

1. WHAT IS LESSONS MANAGEMENT?

Lessons management is an overarching term that refers to the collection, analysis and dissemination of experiences from real life or simulated activities. In the context of animal health emergencies, lessons management can be informed by:

- reports from AARs conducted during or following an animal health emergency
- individuals' observations made during an emergency response
- reports provided by individuals or groups during an emergency response





- independent real-time evaluation conducted during an emergency response
- formal independent reviews following an emergency
- reports from various types of simulation exercises.

When properly managed, lessons identified will contribute to the continuous improvement of the veterinary service and its ability to prepare for and respond to animal health emergencies.

For this to occur in a structured and meaningful way, a lessons management approach needs to be adopted that will:

- collect and collate the outcomes from a range of learning opportunities
- analyse these outcomes in a consistent manner
- develop an improvement plan (see template – Appendix G) and implement corrective action and follow-up activities
- monitor and review performance over a period of time.

2. LESSONS MANAGEMENT PRINCIPLES

The following principles are a guide and provide a context for establishing and maintaining a lessons management framework.

Learning-focused

Lessons management is focused on learning opportunities to inform change and future improvement. Learning is collaborative, open and transparent; practices support a culture that is accountable and fair.

Inclusive

Lessons management benefits from collaborative approaches and the involvement of relevant stakeholders during all steps of the lessons management cycle.

- Governance and accountability are in place and promote stakeholder commitment to the process

- Planning and implementation processes and outcomes are shared with relevant organizations and stakeholders
- Transparency and effective two-way communication are promoted within and between organizations, within jurisdictions, across sectors, and in the community.

Consistent

Lessons management uses consistent, scalable, sustainable processes, tools and themes to support stakeholders to contribute and enable trend analysis across events.

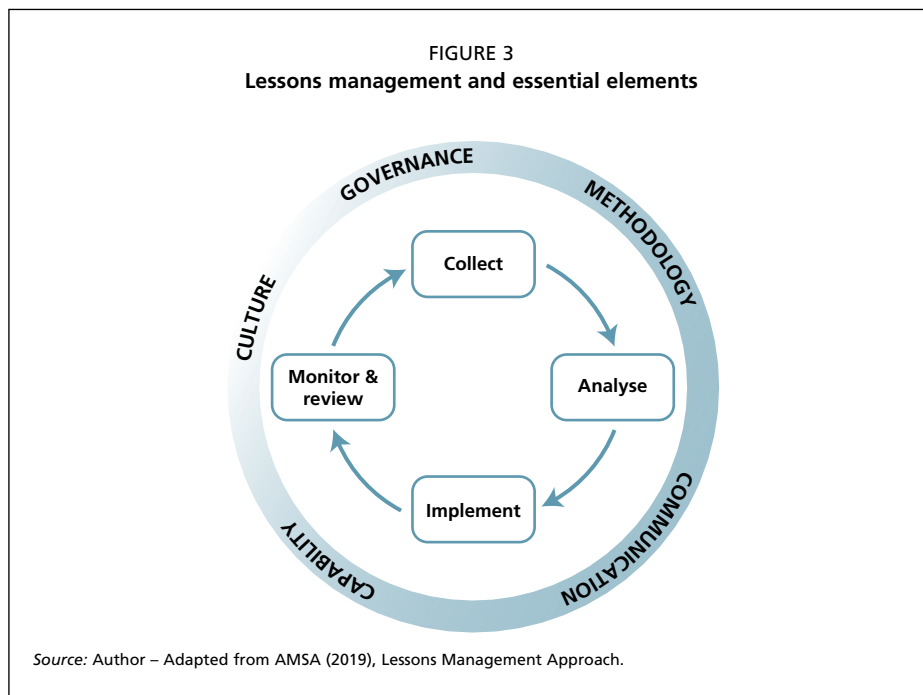
- Trends-based lessons management uses multiple information sources to identify lessons
- Information can be aggregated and made accessible for analysis and interpretation
- Lessons implementation can be scaled to adapt to available resources.

3. LESSONS MANAGEMENT – ESSENTIAL ELEMENTS

Lessons management within an organization relies on a framework of key elements: culture; governance; methodology; communication and engagement; capability, planning and resources.

Culture

The lessons management principle of “learning-focused” relies on a culture within an organization that embraces learning and change. This includes a culture that encourages and supports continuous improvement and lesson-sharing.



Governance

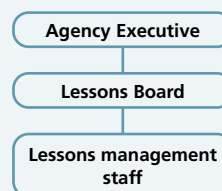
Effective governance provides structure and leadership that will facilitate the management of lessons and ensure accountability and a fair and equitable learning culture. Governance includes:

- alignment with relevant legislation and organizational plans and priorities
- agreed-upon structures and reporting requirements
- clear roles and responsibilities established and communicated
- leadership positions that support, promote and reinforce lessons management activities, including the allocation of resources
- commitment to principles of equality and diversity.

Example 1 – Lessons management governance structure

Many organizations have developed a lessons management capability, which includes staff who are dedicated to the identification and management of lessons. These staff work within the structure of the organization and report to senior management.

In some cases, organizations will establish a “Lessons Board” comprising senior management who are presented with and make decisions to address the lessons that have been identified by the lessons management staff.



Source: Authors' own elaboration, 2021.

Methodology

An agreed-upon and documented lessons management methodology is essential. Typical methods include a continuous process of collection, analysis, improvement planning, implementation of corrective actions, and monitoring and review. This is covered in more detail in Section 7.3.

Communication and engagement

Communication is essential throughout the lessons management cycle. An organization should develop and implement a communication strategy that identifies:

- key stakeholders and their requirements
- types of communication
- what is communicated
- when to communicate
- how to communicate.

Capability, planning and resources

A lessons management capability within an organization is central to success. This lessons management capability should include dedicated staff with the knowledge, skills and abilities required to support continuous improvement within the organization. The three essential elements of a lessons management capability are people, processes and tools.

Example 2 – Lessons management capability

An organization's lessons management capability will include one or more staff who are dedicated to the role of lessons management for the organization. These staff members are supported with the necessary resources to implement their responsibilities within their organization for emergency responses and simulation exercises.

Typical responsibilities for lessons management staff include:

- design, prepare, conduct and report on AARs
- collect, collate and analyse data generated from AARs
- identify lessons from AARs
- develop an improvement plan
- work with stakeholders to implement the strategies and corrective actions that address the lessons identified
- monitor and review the lessons management process
- report to the Lessons Board on lessons identified and their implementation.

4. LESSONS MANAGEMENT PROCESS

The lessons management process is a holistic approach that builds on the outputs from multiple activities in order to identify and address themes that may be immediately evident or have developed over a period of time.

An effective lessons management process relies on a structured approach to the collection and analysis of data, turning this information into lessons and concrete actions that can be implemented, which in turn are monitored and reviewed. This whole process occurs within a cycle of continuous organizational improvement.

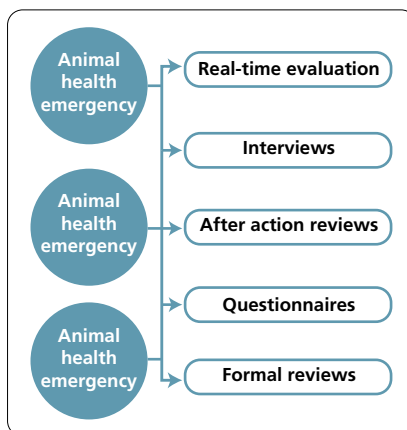
Lessons management takes place over a period of time, and may rely on addressing trends, rather than addressing a single observation or occurrence. In doing this, lessons management takes the outcomes from a number of evaluation activities to identify recurring themes, assess these and consider an appropriate course of action to address the underlying causes.

5. COLLECTING AND COLLATING DATA

All emergency responses and simulation exercises provide opportunities to collect quantitative and qualitative data. Data collection can take place informally during an emergency response, daily, at the conclusion of a shift (i.e. in "real time"), or in more formal settings at the conclusion of an animal health emergency. These collection opportunities include:

- Real-time evaluation undertaken by the veterinary service during an emergency response or simulation exercise
- Interviews with response personnel during and following a response
- AARs conducted during or immediately following an emergency response
- Questionnaires completed during or following an emergency response
- Formal reviews or investigations undertaken by independent bodies, subsequent to one or more animal health emergencies.

FIGURE 4
Data collection opportunities



Source: Authors' own elaboration, 2021.

Once collected, data need to be collated in a format that can be analysed. Databases and spreadsheets are readily available tools and are ideal for sifting through, sorting and grouping the large amounts of data that can be generated by a mature lessons management process.

6. QUANTITATIVE DATA ANALYSIS

Quantitative data are factual and can be defined in terms of numbers, time frames, locations or actions, which can be analysed in isolation or compared against previous events.

Example 3 – Quantitative data

Number of cases (or outbreaks) during a given period compared with the number of cases in a previous period.

Rates of detection for each surveillance method

Time frame between disposal and cleansing in properties

Quantitative data are measured against established standards and can be compared to previous responses to identify trends that should be sustained or addressed. This type of data can be readily collated in spreadsheets and represented in visual formats, such as tables and graphs.

Examples of key indicators which can be used when reviewing the response to an animal health emergency are included in Appendix H.

Analysing quantitative data in isolation will simply identify what has happened and, as such, may not provide the underlying information or evidence required to identify why this may have occurred.

To develop a “full picture”, analysis of quantitative data must be supported by the analysis of qualitative data.

7. QUALITATIVE DATA ANALYSIS

Qualitative data are often subjective and defined more in terms of what was observed during the response, and the impact this may have had on the response objectives. Contemporary lessons management approaches use the term “observation” to refer to a record of a noteworthy fact or occurrence as seen during an event. In the context of lessons management, observations are the evidence or data collected and collated for detailed analysis. Observations can be of good practices, which should be sustained, or of opportunities for improvement.

Example 4 – Qualitative data (observations)

7.1 During the AAR conducted at the conclusion of the response to HPAI in poultry, the Incident Manager identified that Incident Management Team (IMT) members who had completed IMT training were better able to undertake their assigned roles in the response than those that had no previous training.

7.2 During the real-time evaluation conducted during the response to ASF, the independent evaluator identified that Incident Management Team (IMT) members were not wearing their assigned coloured tabards, which made it difficult to identify who was responsible for each response function. IMT members stated that coloured IMT tabards were not provided by their organization.

Good observations should be stand-alone statements that have a number of characteristics that will assist with future analysis. These characteristics are described in the following table, using the above examples.

TABLE 2
Observation characteristics

Observation characteristics	Example 7.1	Example 7.2
• Who made the observation	The Incident Manager	The evaluator
• The context of the observation	During the AAR conducted at the conclusion of the response to HPAI in poultry	During the real-time evaluation conducted during the response to ASF
• What was observed	IMT members who had completed training were better able to undertake assigned roles the IMT members were not wearing their assigned coloured tabards ...
• The impact this may have had	Not stated but it seems to have had a positive impact on the response	... made it difficult to identify who was responsible for each response function
• Why this occurred	Knowledge gained through IMT training	IMT tabards were not made available to IMT members

Once collected, observations should be collated in a way that will assist with their future analysis.

Qualitative data analysis can be complex and will involve a range of different approaches to achieve a useable outcome. In the process described below, analysis involves reviewing observations (data) to identify trends or themes that may be used to determine learning opportunities. This in turn informs possible solutions and treatment options.

Analysis of qualitative data should include the following steps:

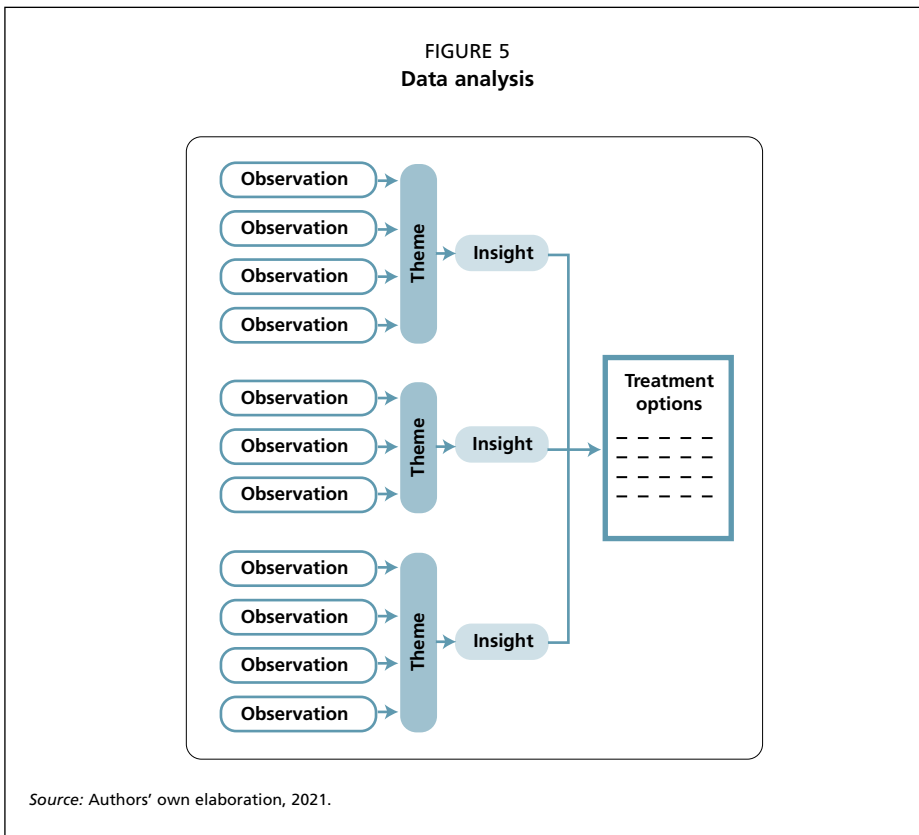
- Coding, which includes collating in a database (spreadsheet), identifying key words and search terms, and assigning values and metadata to each observation
- Grouping similarly themed observations
- Analysing themed observations to develop insights⁶ and potential lessons
- Identifying possible corrective actions.

These steps are shown in the following figure.

Data coding

Observations should undergo some form of coding to assist with the grouping of related observations and in turn the identification of trends or themes. This can be achieved in a database or spreadsheet, where metadata such as date, location, activity and context can be added.

⁶ An insight is a deduction drawn from the collated data, which needs to be further considered. Insights provide guidance for future analysis and potential action. Insights can be positive or negative.



In addition to metadata, each observation should be assigned at least two levels of classification which will assist in grouping and analysing similar observations. An example is provided below.

Example 5 – Theming observations		
Observation	Theme Level 1	Theme Level 2
During the AAR conducted at the conclusion of the response to HPAI in poultry, the Incident Manager identified that Incident Management Team (IMT) members who had completed IMT training were better able to undertake their assigned roles in the response than those who had no previous training.	Incident management	Knowledge
During the real-time evaluation conducted during the response to African swine fever, the evaluator identified that Incident Management Team members were not wearing their assigned coloured tabards, which made it difficult to identify who was responsible for each response function. IMT members stated that coloured IMT tabards were not provided by their organization.	Incident management	Resources

Grouping similarly themed observations

Once coded in this fashion, similar observations can be grouped to identify patterns or recurring themes. Not all observations from an activity will immediately lead to a treatment action. However, if the same or similar observations are recorded on several occasions, this may translate into a theme or trend that may need to be addressed.

Analysis of themed observations

Once themed, observations can be further analysed in order to identify causal factors (rather than simply addressing the symptoms). This can be undertaken through root-cause analysis —what contributed to the observation and why it may have occurred.

This step will lead to the identification of insights, which can relate to good practices that should be encouraged and sustained or actions that need to be addressed or improved.

Identify possible corrective measures

Following the analysis and identification of a root cause, options for sustaining good practices or addressing areas for improvement can be developed and documented.

8. IMPLEMENTING LESSONS

The outcomes from quantitative and qualitative analysis will be the identification of a range of insights or lessons that either represent good practice and should be sustained, or that need to be addressed to enhance the capability of the veterinary service.

Not all lessons identified can or should be implemented, and the veterinary service should establish a mechanism for identifying which lessons can and should be implemented.

One approach is to establish a body within the veterinary service that is responsible for reviewing lessons and deciding which lessons should be implemented. Such a body, or lessons board, would comprise high-level officials within the organization and would have the authority to make decisions and commit resources on behalf of the organization.

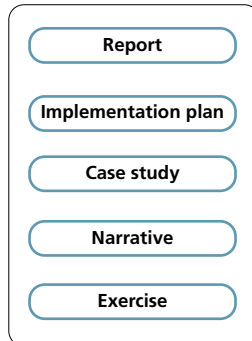
To assist the lessons board with its decision-making, a “maturity matrix” approach (example provided in Appendix I) can be used to identify the:

- current level of maturity of a particular element of capability
- desired level of maturity for that element of capability
- lessons that can be implemented to reach the desired level of capability
- investment (time, human, physical and financial) required to implement the required lessons.

While direct action may seem to be the most appropriate way of implementing lessons, there is a range of approaches that can be used to great effect. Some examples of how lessons can be implemented and embedded in organizational learning include:

- Report – on AARs and lessons identified
- Develop and implement plans focused on addressing lessons identified
- Develop and distribute case studies that discuss the learning activity, the lessons identified, and how they are being addressed
- Develop a narrative or dialogue that is embedded in the organization’s policies, plans, procedures and communications (e.g. websites)

FIGURE 6
Implementation of lessons



Source: Authors' own elaboration, 2021.

- Conduct exercises that practice, validate or test the lessons that have been identified during AARs.

9. MONITORING AND REVIEWING

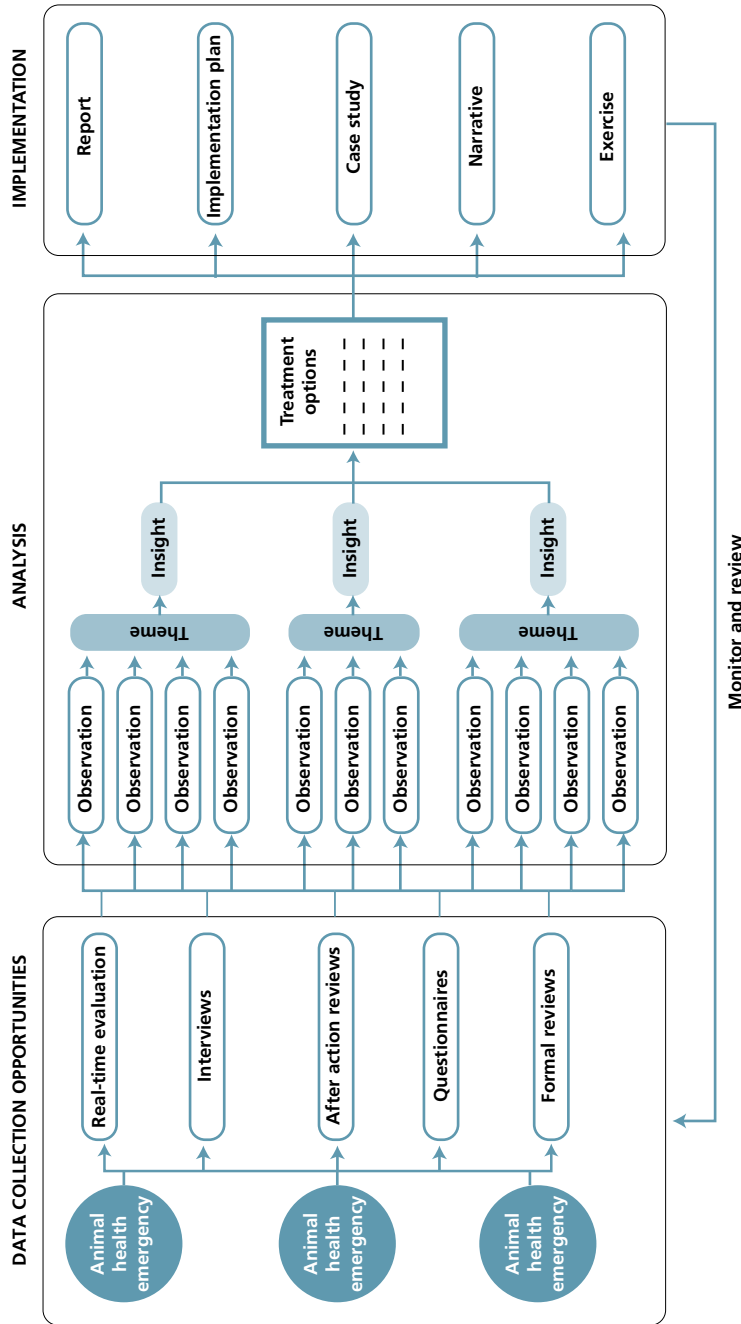
Monitoring and reviewing the lessons management program is essential to ensure that there is genuine learning across the veterinary service.

Should it be found that the same lessons continue to be identified repeatedly, this is an indicator that there may be underlying issues that are not being adequately addressed.

It is also an opportunity to quantify the return that is being achieved by the lessons management program. This can occur through self-assessment or external review processes, to identify if changes in organizational maturity are being achieved and the same lessons are not being repeated.

The figure below brings all of the pieces of the lessons management framework together into a cycle which contributes to continuous learning and improvement of the veterinary service.

FIGURE 7
Lessons management process



Source: Authors' own elaboration, 2021.

Appendix G

Template – Improvement plan

This improvement plan is developed for <<insert organization name>> as a result of the After Action Review conducted on <<insert dates>> for the emergency response to <<insert details>>.

Emergency management actions	Area for improvement	Corrective action	Lead organization and office	Focal point to lead corrective action	Recommended date for completion	Status and progress notes
Prepare / Prevent / Detect / Respond / Recover	1.	1.1				
		1.2				
	2.	2.1				
		2.2				
	3.	3.1				
		3.3				
	4.	4.1				
		4.4				
	5.	5.1				
		5.2				
	6.	6.1				
		6.2				

Appendix H

Key indicators (quantitative)

Examples of quantitative indicators (the GEMP manual p. 36)

	Outcome	Key indicator	Applied to	Comments about this indicator
1	Find infection fast	Ratio of positive to negative reports	Total response	This indicator can be recorded as a direct comparison between positive and negative results within a response and compared to other responses
2	Find infection fast	Surveillance methods that are detecting cases	Total response	This indicator can be used to compare the success of surveillance methods within a response and to compare results to other responses
3	Find infection fast	Days from onset of first signs until day of reporting	Each case	This indicator can be recorded for each case (or premise) and analysed for trends within the response and against other responses
4	Eliminate it quickly	Days from report received to end of culling	Each case	As above
5	Eliminate it quickly	Days from end of culling to end of disposal	Each case	As above
6	Eliminate it quickly	Days from end of disposal to end of cleaning/disinfection	Each case	As above
7	Stop it from spreading	Number of cases (per week)	Total response	Typical epidemiological modelling, which can be analysed for trends within the response and against other responses
8	Stop it from spreading	Routes of spread between infected sites	Total response	This indicator can be recorded for each case (or premise) and analysed for trends within the response and against other responses

Appendix I

Key indicators and measures (qualitative)

Examples of qualitative indicators, using a “maturity matrix” approach

Response – Key indicators	Level of Maturity			
	Improvised	Developed	Implemented	Optimized
Response arrangements – Legislation	<input type="checkbox"/> Legislation to support response activities does not exist	<input type="checkbox"/> Legislation to support response activities exists, but is not widely understood	<input type="checkbox"/> Legislation to support response activities exists, is understood by relevant staff, and is being used at a basic level	<input type="checkbox"/> Legislation to support response activities exists and is being used to achieve response objectives
Response arrangements – Documented	<input type="checkbox"/> Documented response arrangements (response plans) are not evident	<input type="checkbox"/> Documented response arrangements (response plans) are evident, but not disseminated or understood	<input type="checkbox"/> Documented response arrangements (response plans) are available, have been disseminated, are understood by response staff, and are being used at a basic level	<input type="checkbox"/> Documented response arrangements (response plans) are being followed (and adapted where necessary) and are contributing significantly towards the effective management of the response
Decision-making	<input type="checkbox"/> A formal decision-making process does not exist	<input type="checkbox"/> A formal decision-making process has been developed and agreed upon, but is not always followed	<input type="checkbox"/> A formal decision-making process is followed by senior staff	<input type="checkbox"/> A formal decision-making process is followed by all staff and is evident in operational outcomes
Response resources	<input type="checkbox"/> Physical resources to support the response are not identified	<input type="checkbox"/> Physical resources to support the response have been identified but not obtained	<input type="checkbox"/> Physical resources to support the response have been identified and obtained, and are being used at a basic level	<input type="checkbox"/> Physical resources to support the response have been identified and obtained, and are being used; this is being monitored and amended to suit the needs of the response

(cont.)

Response – Key indicators	Level of Maturity			
	Improvised	Developed	Implemented	Optimized
Information management	<input type="checkbox"/> Information management systems are not evident	<input type="checkbox"/> Information management systems have been established but not applied	<input type="checkbox"/> Information management systems are being used by some staff	<input type="checkbox"/> Information management systems are being used by all staff and are contributing significantly to the effective management of the response
Operational communication	<input type="checkbox"/> Operational communication between elements of the response structure is not evident	<input type="checkbox"/> Operational communication is undertaken but not in a coordinated manner	<input type="checkbox"/> Operational communication is effective; however, some aspects could be improved	<input type="checkbox"/> Operational communication is effective, with clear lines of two-way vertical and horizontal communication, contributing to the effective management of the response
Public information	<input type="checkbox"/> Public information needs have not been identified	<input type="checkbox"/> Public information needs have been partially identified and addressed	<input type="checkbox"/> A public information plan has been approved and is being implemented	<input type="checkbox"/> A public information plan has been approved and is being implemented; the plan is being monitored and amended to suit the needs of the response
Stakeholder engagement	<input type="checkbox"/> Key stakeholders have not been identified and engagement is not occurring or is ad hoc	<input type="checkbox"/> Key stakeholders are partially identified; engagement protocols are identified but not being fully implemented	<input type="checkbox"/> Key stakeholders are identified and engagement protocols agreed upon and being implemented	<input type="checkbox"/> Key stakeholders are identified and engagement protocols utilizing an established methodology are being implemented and regularly reviewed

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In today's world, the risk of spread of animal health diseases, within a country or across borders, is on the rise. Contributing factors include growing animal populations, increased movement of humans and animals, market intensification and global trade. Animal health services around the world play an essential role in curbing animal disease spread. They do so by increasing their capacity to manage animal health emergencies, preparing for such events during "peacetime" and reflecting on lessons learned during the "reconstruction phase". These actions look to enhance a country's state of operational readiness ahead of future events.

Carrying out an After Action Review (AAR) of a country's emergency response is an integral part of learning; it provides countries with the opportunity to highlight what they have done well and what gaps remain to be filled in terms of animal health emergency management.

This AAR manual outlines current practices for organizational learning and how they can be applied in the context of animal health emergencies. It details the steps to perform an animal health emergency AAR and leads readers through designing, preparing, conducting and reporting on an AAR. Veterinary services and competent authorities responsible for managing the response to animal health emergencies can apply the principles discussed in this manual to AARs at the country level – or in other settings such as producer organizations, multicountry regional commissions or international organizations.

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