What Just Happened?

A guide to conducting after-action reviews of significant public health events without stress or blame

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This guide grew out of the need to elaborate upon and share subsequent learnings since the publication of *A structured framework for improving outbreak investigation audits* in BMC Public Health in 2009 https://bmcpublichealth.biomedcentral.com/articles/10.1186/1471-2458-9-472 It includes guidelines and suggestions for facilitators of after-action reviews.

Please comment upon it and send suggestions to craig.dalton@newcastle.edu.au

Edition 1

NOTE: This guide has been compiled since 2010, before the WHO *Guidance for After-Action Review*, published in 2019, https://www.who.int/ihr/publications/WHO-WHE-CPI-2019.4/en/ **. The WHO document will revolutionise learning in public health practice. While there is some overlap between these documents, their genesis and focus is quite different. This guide perhaps gives greater guidance on the soft skills for facilitation of outbreak after-action reviews.**

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PREFACE

Why this guide?

This guide seeks to convey both a useful framework and the author's learnings from debriefing or reviewing outbreak responses over the last 20 years. The framework and learnings are applicable to any major public health incident. The guide was inspired by the observation that public health agencies are subject to the same challenges again and again and yet institutionalised processes for learning from their achievements or errors are rare. While the word "error" is introduced here – it is not intended to imply "blame". The guide takes a systems perspective in which outcomes are assumed to be the logical outcome of the system.

Who is this guide for?

The guide is designed for public health practitioners of any discipline, epidemiologists, nurses, doctors, program managers or anyone working to improve public health responses to acute events. It may provide a guide for consultants, managers, or internal evaluators who have an ongoing role in evaluation of public health responses. While the guide is focused on evaluation of acute public health responses and particularly outbreaks, the underlying principles of organising, facilitating and reporting on public health AARs apply to any evaluation. An AAR is typically limited to 3 to 4 hours so as not to be too burdensome and remain sustainable as a routine public health practice. Reviewing a large, prolonged response, such as a pandemic could days to weeks depending on the scope of the review.

How to use the guide

The guide begins with a basic approach to public health AARs outlining supportive principles and processes. Later chapters provide more detailed guidance to those who desire to develop their skills as facilitators of AARs. There are templates that may assist in conducting AARs including a scoping document template to define the focus and limits of a AAR, a survey for identifying stakeholders priorities for review in the AAR and templates for capturing actions.

Theoretical approach of this guide

The guide is informed by **alternative dispute resolution practices** which can help resolve conflict that arose during stressful public health responses, heal relationships between agencies or colleagues and create a space that can prevent disputes or ill feeling arising during the AAR process. Alternative dispute resolution processes exploit "interest-based negotiation" practices to identify the common interests of agencies and staff that, due to differing priorities, often find themselves in temporary (or repeated) conflict.

Additionally, the guide takes a **systems approach** – denying that there is anyone to "blame" for sub optimal performance and by attempting to identify the system changes that will lead to the greatest enhancement in future public health responses due to their leverage on the wider system.

INTRODUCTION

The structured AAR is based upon alternative dispute resolution principles that seeks to minimise conflict and bring the common interests of the group to the fore, and promote a systems response in which there is no "blame". The process delays the inevitable temptation to jump from problem identification to solution.

The interdependencies within the system are discussed and revealed before attempting to find solutions. AARs are usually limited to 3 to 4 hours to ensure that the motivation and energy of the participants is maintained and because AARs lasting longer than half a day are unlikely to supported as a routine practice. Ironically, one of the most common critiques of the process is that it is "too short", while its time efficiency is a commonly cited positive attribute.

SATISFACTION WITH THE PROCESS

Attendees were surveyed after each AAR. In each survey greater than 80% of respondents reported that the structured approach enhanced rather than hindered the AAR process. Many respondents reported that 4 hours was "too short". However, many acknowledged that much was achieved within the time frame. Confidence that the recommendations from the AAR would be implemented was also high. However, the recurrently identified themes suggest that learnings were not always implemented.

COMMON THEMES FOR IMPROVEMENT IN OUTBREAK RESPONSE

Box. Common themes identified for improvement in outbreak response

- Information management
- Communication
- Clarification of roles
- Coordination – incident command
- Decision making

LEARNING FROM A DISASTROUS AAR – A CASE STUDY

In the spirit of learning from past performance, I begin by sharing the most disastrous AAR I have ever facilitated. It was not one of the early AARs I facilitated. If you are primed to avoid the mistakes in this case study (yes I will call them mistakes) read on.

A disastrous AAR

Four weeks before the scheduled date for an AAR of a high profile outbreak it was unclear how many agencies and personnel would be attending. The host agency were under pressure to allow increasing number of "observers" to attend. Two weeks before the AAR there were over 40 attendees on the invitation list of whom only about 12 to 15 were to be active participants. While I had circulated the agreed scope of the AAR - defining what was up for discussion - it appeared that some observer groups wanted the scope expanded. It is

customary to circulate a report with the "facts of the outbreak" with a basic timeline of responses about a week before the AAR so that time is not wasted going over the facts during the AAR.

One week before the AAR an outbreak summary was still not available for distribution among the stakeholders. It became apparent the lead investigation agency were reluctant to share a sensitive report among such a large group. It was at this point that I had a strong feeling that the AAR was not ready to go ahead. I put this suggestion to the host agency but they felt that politically it could not be cancelled or rescheduled. At this point a smart facilitators would refuse to proceed. My early training as a mediator stressed the importance of cancelling a mediation that was not ready to proceed. Against my better judgement I proceeded.

On the day of the AAR I was accosted, literally at the door, by several groups who wanted to modify the scope of the AAR. Some stakeholders wanted the scope to remain restricted to the host agencies issues whereas others felt that there was benefit in expanding the scope to encompass multiple agency and territorial jurisdictional issues – essentially a national level AAR addressing all of the issues that could be brought into the room. Changing the scope of a AAR on the fly is dangerous as we usually spend weeks collating issues, assessing sensitivities and reframing the issues into a productive interest-based scope before the meeting.

As the AAR progressed it was clear that the host agency was uncomfortable with sharing crucial but internally sensitive information - their "dirty laundry" – in such a big group. There were frank discussions that needed to occur among the host agency staff that could only have happened within their own stakeholder group. As soon as the sensitive issues arose the host group "shut down" and a silence fell upon the room. The silence was then filled by forthright members of the observer group.

The problems identified thus far were due to poor pre-planning, however, I then compounded the problem by abandoning process and addressing issues raised from the floor to "fill the silence".

If I could turn time back I would have: 1).Limited the number of observers. 2) Confirmed and enforced the scope, 3) Contracted with the host agency to abide by 1) and 2) above or abandon the AAR, 4) When it was clear that the AAR had gone awry I should have "surfaced" the underlying issues and dynamics in the room. I could have done this in the larger group or called a "time-out" consultation with the host agency.

I could have said: " I need share what I am observing happening in this room. There are sensitive issues that the host group need a safe space to discuss. Because of the large number of observers we have here I am not sure we have that safe space. So I would like to spend a little time discussing how we progress from here and I would like to invite observations and options from the host agency."

Instead, I unilaterally, and covertly, made the decision to modify the scope by avoiding the sensitive issues in the room without seeking the approval of the key stakeholder group. I then allowed the AAR to go off track. This confused and frustrated most people in the room and it was the least productive AAR I have ever facilitated.

CONDUCTING AN AAR

CONDUCTING THE MEETING

AARs begin with an exploration of issues (Figure 1), during which summary information on the outbreak is shared with the group, along with feedback from the AAR Trigger Questions review (Appendix 1).

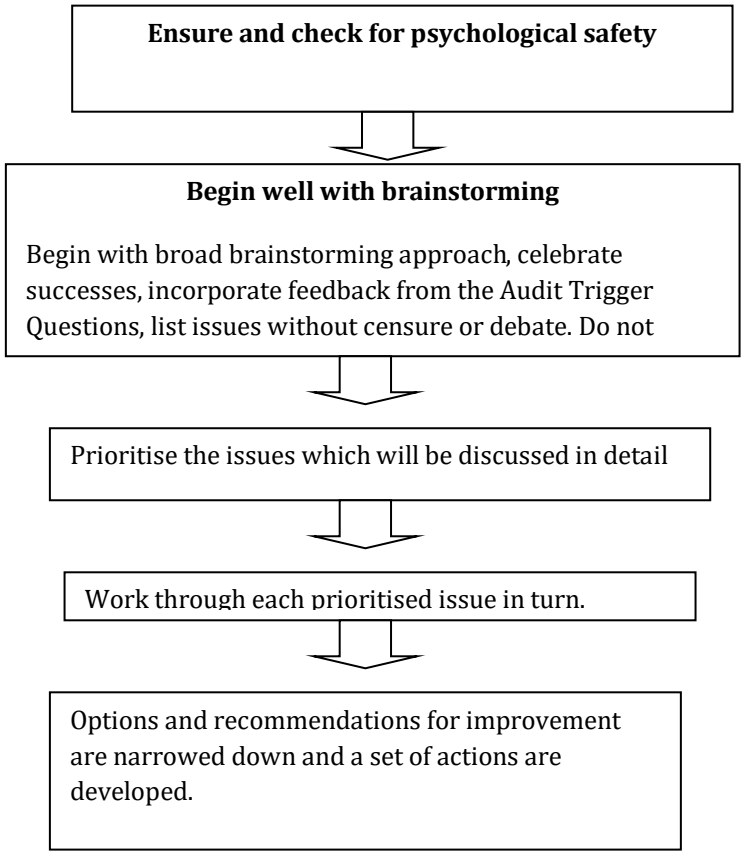

Figure 1. Conduct of the AAR meeting.

CHECK PSYCHOLOGICAL SAFETY

An AAR cannot be successfully conducted unless participants feel psychologically safe. This should be explored during the preparatory phase when you ask key informants questions such as:

- Who became stressed or upset during this outbreak?
- Who might/would you feel unable to share their honest feelings or views on this outbreak?
- Are there any group dynamics that could impact on openness or transparency that the facilitators should be aware of?
- At the beginning of the meeting – are there any processes that we need to consider to ensure that all participants feel safe in this process?

CHECK CULTURAL SAFETY

The focus in this section is on cultural safety for Aboriginal and Torres Strait Islander people (respectfully hereafter First Nations) but it could equally apply to other cultural groups.

If First Nation's people are stakeholders or participants in the public health incident they should be:

- Empowered to actively participate in the debrief. This might include ensuring a critical mass of First Nation's people are present at each step of the process.
- AAR meeting should be co-facilitated with a First Nations person who has ideally been a part of incident.
- AAR process should supported by a culturally appropriate governance structure where First Nations people have a say in the debrief questions and input into the overall AAR process. Consider whether there are existing First Nations governance structures associate with the stakeholders that can guide the appropriate timing, participant involvement and preparation for, and follow up from, the review.
- Consider engaging local Elder to support First Nations participants. An Elder could support participants prior to, during, and after the meeting.
- Ensure there are multiple mechanisms for First Nations participants to ask questions:
    - For the process of asking questions to be impartial, there could be opportunity for participants to provide input or ask questions via a co-facilitator (e.g. could SMS the co-facilitator or private message on Zoom).
    - An Elder could also field questions from First Nations participants
- Appropriate time to be informed about the situation, process and what the outcomes may look like. Timing of AAR should allow appropriate time for First Nations participants to pre-debrief, review and comment on documentation, as well as appropriate time to debrief the debrief as well as appropriate time to review and comment meeting outcomes, and recommendations.
- Does the AAR support decolonisation or continue it?
    - Principles of decolonisation:
        - Self-determination and empowerment
        - Strengths-based approaches
        - Culturally appropriate process (time, opportunity to develop relationships and trust)
    - Methods of decolonisation:
        - Embedding a mechanism that will factor in social and cultural factors of the participants, as people that do not only have to factor in their work role, but factor in additional responsibilities and challenges. For example, a First Nations participant may be balancing multiple work and community roles and values, and they may sit at different levels in the hierarchy of these structures. This leads to complexity in considering what they will speak about and who they speak to and on whom they speak on behalf of. Understanding relationships might influence a person's willingness to participate, or level of participation might be influenced by their relationships around them.

- Ensuring First Nations people have the space to freely and openly speak and actively participate. Silence might indicate a lack of cultural safety rather than participants not having something to say.
- Yarning circles with First Nations participants before and after the debrief to understand feelings and experiences
- Recognising that First Nations participant may need time to meet before and after the main review meeting, allow the appropriate amount of time for this to occur.
- Cultural safety should be included in the evaluation of the review.

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Figure 1Principles of cultural safety and decolonisation

See the resources section for more guidance

Acknowledgement: I would like to acknowledge Kristy Crooks a Euahlayi woman, Aboriginal Program Manager, HNE Health, for contributing the content for this section on Cultural Safety.

[1] Cultural Safety Framework – National Aboriginal and Torres Strait Islander Health Workers Association

[2] Cultural Responsiveness in Action: an IAHA Framework

BRAINSTORMING

Begin with a broad exploration of issues to ensure all views are heard; brainstorming without censure in the middle, and narrowing down to practical actions in the end.

There are many different understandings of the term "Brainstorming". In this context we begin with an open session in which participants offer brief observations, uncensored and unevaluated by self or others, on the conduct of the outbreak without further discussion of the observations - except for questions of clarification. All observations are recorded and only after an agreed period, 5 to 10 minutes perhaps, are they evaluated and prioritised for more interactive discussion. The emphasis is on openness and creativity. While interactive – the interactions should be facilitated to build upon each other rather than limit or cut off a line of enquiry. Clarification of participants' statements is encouraged but critique is discouraged.

After the issues in the prioritised list are discussed in full, the parties then return to the first prioritised issue and take turns at proposing solutions. The facilitator assists by reframing negative statements into neutral or positive language that reflects the parties interests rather than their positions (Box 1) It is important to resist the temptation to rush to proposing solutions until all the issues have been articulated by the stakeholders. All suggestions should be recorded, with particular emphasis on practical solutions. When suggestions are exhausted, the group should prioritise the action items for discussion.

PRIORITISING DISCUSSION

Repeatedly revisit the priorities for discussion and check in with the group that you are focusing on their top priorities.

Sometimes AARs just follow a perfunctory path that documents good performance and areas for improvement. The most important issues will be the systemic ones that have multiplier effects through the entire public health response. It can be useful to ask: "If you could change one thing that would change everything – what would that be? Consider the potential insights from Most Significant Change technique as a guide to facilitating this line of enquiry. [3]

> The facilitator does not have to be a mind reader but it does help to be a "face reader".

DEVELOPING AND DOCUMENTING RECOMMENDATIONS

The facilitator does not have to be a mind reader but it does help if they are a "face reader". I can think of no more important time to actively read faces than during the development of recommendations. Do the attendees really believe in the recommendations, do they think they

3. The 'Most Significant Change' (MSC) Technique A Guide to Its Use by Rick Davies and Jess Dart https://www.mande.co.uk/wp-content/uploads/2005/MSCGuide.pdf

are practical or feasible. Are they just satisficing to finish the process and get to the bar? Look at their faces.

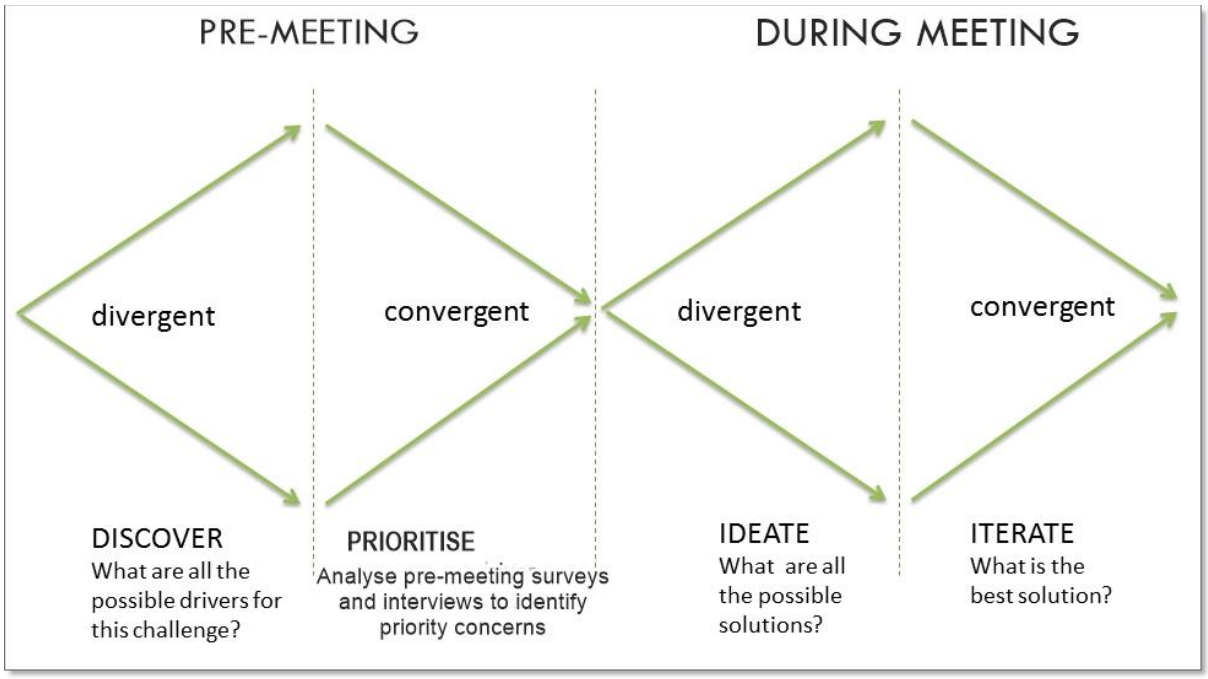
To check consensus and ensure transparency, it is useful to project the template for recommendations, actions, and responsibilities on to a screen so everyone present witnesses and endorses the final product.

"On the Day": Generic Process for an AAR Meeting

1. Summary of methodology*
    a. Confirm scope
    b. Confidentiality/dissemination agreement
    c. Interest-based discussion
    d. Delaying "solutions" to the end – evidence-based approach
2. Brainstorm issues
3. Clarify meaning and interests behind issues – don't jump to "solutions".
4. Produce list of issues
5. Participants take turns prioritising issues for exploration.
6. Priority list confirmed
7. Participants take turns at speaking to the issues selected
8. Review main themes of common interest
9. Brainstorm solutions/recommendations in turn – resist early evaluation
10. Agree solutions
11. Agree actions and timelines
12. Evaluate Process of AAR

*(Inst. Arbitrators & Mediators Aust. methodology)

BEFORE AND AFTER THE MEETING: DIVERGENT – CONVERGENT MODELS OF AAR PROCESS



This diagram perhaps simplifies the important concept of divergent and convergent thinking/issue exploration that should occur both pre-meeting and during the meeting.

ENGAGEMENT AND PREPARATION OF STAKEHOLDERS

It is essential that the focus of the AAR is on improving future practice rather than on laying blame or identifying individual people or agencies for criticism. Participants may have endured a stressful experience during the outbreak period and extensive media scrutiny. In some outbreak investigations, legal and media scrutiny can lead to criticism of key personnel investigating outbreaks. Staff may be sensitive to an AAR of their work. It is important that all participants come to the AAR with the expectation of a positive outcome that will improve future practice, rather than fearing further criticism.

Participants should be drawn from the pool of stakeholders who can assist in the process of the AAR or those whose future practice will benefit from participation including both higher level managers and frontline staff. Including participants from external but collaborating agencies will bring more divergent viewpoints to the AAR and extend the range of issues explored and resolutions available. We have conducted AARs with up to 20 participants, however, the number of participants should be balanced with the scope of the AAR, the issues to be reviewed and the time available.

Generally, it is preferable to use a skilled facilitator. Using an external facilitator has the advantage of independence and bringing a fresh perspective. However, an external facilitator may not know the roles of key people and agencies involved in the outbreak response. A facilitator should have some experience of outbreak investigation but their key expertise should be in the process of facilitation. The facilitator should ensure constructive framing of discussion and reorient interpersonal conflict to address system issues if possible through interest-based negotiation that focuses on the underlying interest of the parties rather than their competing claims or positions.

The facilitator is responsible for:

1) conducting pre-meeting surveys and interviews with key informants
2) explaining the aims, ground rules, and principles of the AAR,
3) maintaining the structure of the AAR,
4) facilitating the process including seeking agreement on key themes and scope of the AAR, encouraging contributions broadly across participants, managing time, clarifying and summarising issues, clarifying assumptions,
5) maintaining an impartial perspective,
6) summarising the outcome of the AAR and assisting in writing a report, and
7) checking on progress of actions approximately six weeks after the AAR.

PREPARING FOR THE AAR

The lead agency in the investigation will usually call for an AAR of an investigation and define the expectations of the AAR outcome at the outset. The terms of reference, the scope of the AAR, attendees, duration and the expected product should be defined in consultation with participants and in advance so that participants are supportive and prepared for the meeting. The major objective of the AAR should be framed as a neutral system performance statement or question.

TIMELINE

Depending on the sensitivities and scale of the event it may require a four to six week lead time to scope the AAR, consult with stakeholders and develop a summary and scoping document to circulate to attendees before the meeting. It is not unusual for 80% of the work of the facilitator to occur outside the actual AAR.

The AAR Trigger Questions (Appendix) may be used to suggest specific areas for review. Since an outbreak is a public health emergency, the four categories of prevention/mitigation, preparedness, response, and recovery from emergency management theory were used to frame the AAR Trigger Questions to encourage the entire spectrum of response to be considered (Additional file 1). The categories used in the AAR Trigger Questions can also be used to prepare a post AAR action plan to document actions and responsibilities (Additional file 2). Reviewing the questions can be time consuming and is best conducted separately by participants to ensure a wide range of issues are considered. Each party forwards their priority issues to the facilitator who reviews the issues raised for concordance with the terms of reference and scope of the AAR and prepares a final list of issues for discussion and a brief summary of the outbreak to provide context.

For national outbreaks, state-based health agencies may conduct mini-AARs among local health agencies in their own jurisdiction and contribute their findings to a national AAR. A focus on the perceived "failings" of a single agency or unit should be avoided.

In summary, prior to the AAR meeting the following should be accomplished:

• The lead agency proposes the terms of reference and scope of the AAR

• The facilitator confirms and/or modifies terms of reference and scope of AAR in consultation with the participants. See example in the Appendix.

• All participants/organisations should submit issues for review based on the AAR Trigger Questions (Appendix).

• The facilitator reviews issues and compiles a list of discussion points

• The facilitator circulates the list of discussion points, statement of scope, and brief summary of outbreak to AAR attendees and other stakeholders.

TIPS FOR FACILITATORS AND PRACTICE POINTS

Facilitators find some principles of alternative dispute resolution more challenging than others. The concept of "interest-based" versus "position-based" dialogue was generally well accepted by participants, however, the requirement to delay jumping to solutions and to maintain a brainstorming approach (i.e. open offering ideas without critique) was counter-intuitive to many participants and required constant reinforcement.[1] The "structured' approach was abandoned during one AAR when a senior attendee could not abide by it.(in discussion – worthwhile suggesting that at this point the group should be formally advised that the structured AAR process should be either adhered to or explicitly abandoned)

INTEREST –BASED NEGOTIATION OR FRAMING –THE FOUNDATION OF PEACEFUL AND PRODUCTIVE AARS

As a facilitator, probably the most important lesson I have learned is the use of interest-based framing or negotiation. I have attended many courses in which this concept was taught, however, the story below about the two chefs and the orange – first related to me by Sir Laurence Street, the ex-high court judge and founder of alternative dispute resolution methods in NSW was probably the most effective exposition of the concept I have been exposed to. So often we attempt a "compromise" in which all parties give a little and lose a little, a middle ground is reached. Interest based approaches move beyond that to hopefully achieve the best outcome for all parties.

Two chefs, one orange: interests vs positions

There was once only one orange left in a kitchen and two prominent chefs were fighting over it.

"I need that orange !"

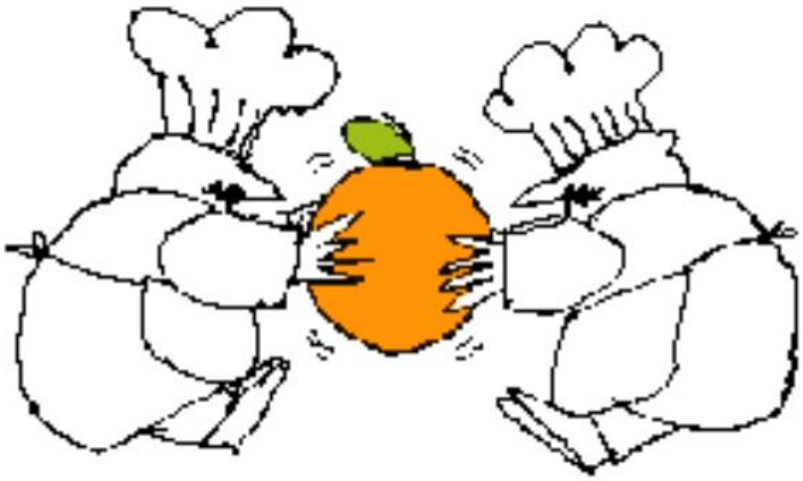
"Yes, but I need that orange as well !"

Time was running out and they both needed an orange to finish their particular recipes for the President's dinner. They decided on a compromise: they grabbed one of the large kitchen knives that was lying around, split the orange in half, and each went to his corner to finish preparing his meal.

One chef squeezed the juice from the orange and poured it into the special sauce he was making. It wasn't quite enough, but it would have to do. The other grated the peel and stirred the scrapings into the batter for his famous cake. He too didn't have as much as he would have liked, but given the situation, what else could he have done ?

The better solution may seem obvious to you now: both chefs would have been better off if they had peeled the orange and had simply taken the part they needed.

Instead, the chefs had focused on each other's position (the what) and not on each other's interest (the why). In a negotiation, it is important to be able to distinguish between positions and interests - both yours and the parties' with whom you are negotiating. Depending on which one you decide to focus on will affect your negotiation style and influence the outcomes.



Box. Reframing statements and claims from position-based to interest-based

Here follows an actual example of dealing with conflict between two agencies associated with overlapping roles and conflicting advice being given to a facility during an outbreak. Agency A begins with a position-based statement that must be reframed to address underlying interests.

Agency A: "Agency B should not give advice to the facility, it is our role not theirs."

Facilitator: "Can you tell Agency B, more about your experience of them giving advice to the facility and it's impact?"

Agency A: "We gave the facility different advice to Agency B and it caused confusion for the facility manager."

Facilitator: "So would it be accurate to say that your main interest is to ensure that your agency and Agency B do not give conflicting advice to facilities during joint investigations?"

The facilitator then confirms with both parties that limiting conflicting advice is a common interest – upon which they agree. Discussion then focuses on the common interest and how it is best achieved.

INTERESTS BASED NEGOTIATION AND THE TRIANGLE OF SATISFACTION

In a stressful or controversial outbreak stakeholders may take on positions that appear at first unresolvable, however, attending to the deeper interests beneath the positions often reveals common ground between the parties as described above. The "Triangle of Satisfaction" is a useful model to address the multiple interests of stakeholders to optimise their satisfaction.

The Triangle of Satisfaction.

The Triangle of Satisfaction is a model used to highlight important perspectives to address across most situations of conflict.

It depicts the three types of basic needs or interests that need to be addressed in any negotiation:

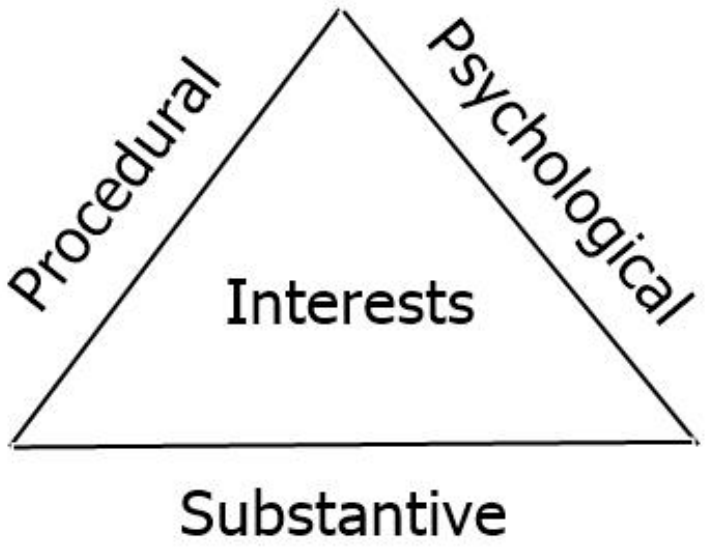
Procedural/process – Is the process fair, transparent, and easily navigated?

Psychological/emotional – Am I being treated with respect? Are my concerns being heard and validated.

Substantive - The actual measurable outcomes or result

Participants in any process need to have all three needs addressed to fully participate and be satisfied with the process.

The Triangle of Satisfaction



In extreme cases, stakeholders may reject an outcome that achieves their apparent substantive needs or desires because they feel insulted. In a AAR, all 3 aspects need to be addressed:

Procedural – is this AAR procedure clear and fair? Does the facilitator ensure conversation turn taking? Is the process free of blame?

Psychological – Do the attendees feel valued? Do they feel safe? Are the (sometimes) significant psychological stresses of the outbreak on staff recognised and acknowledged?

Substantive - Do we have concrete and feasible recommendations from the outbreak? Do we have confidence in the impact of the AAR learnings?

Practice Point: Pre-debrief Preparation – Framing for a Systems Perspective

80% of the work of a debrief is done before the "actual" 4 hour debrief meeting. Hence it is not really a 4 hour event. The facilitator explores the scope of the debrief with stakeholders and identifies their major issues and potential sensitivities. The issues raised by stakeholders are analysed for commonalities and where expressed as if there was "blame" it is reframed to address the common interest of all parties. Neutral reframing is a core principle of alternative dispute resolution. This preparatory phases examines the issues that stakeholders to be debriefed looking for perspectives that are "blaming' or adversarial and reframes them to a neutral systems perspective.

Practice Point: Look for leverage points that will shift the system

While participants generally support the short duration of structured debriefs (3 to 4 hours), they often express a frustration that not "all" the issues could be addressed in that time. Both in the pre-debrief preparation and during the actual debrief, it is important for the facilitator in partnership with the host group to search for and identify the systems issues that have the most leverage for making change in the future. For example, the wording of a template or a single press release might have caused considerable distress or confusion but system wide changes such as through a revised MOU between agencies, new collaborations or exploring paradigm shifts in the usual way of doing business that enhance communication, information management, clarify consensus or break down barriers in roles will more valuable in the long run.

Practice point: Delaying Solutions – Opening Possibilities

Practical public health practitioners will be solutions-focused and when asked to describe a problem or issue may lead with the solution or follow with a solution in the next sentence. Research into alternative dispute resolution methods has shown that "solutions" close down the field of enquiry and sometimes the problems themselves become redefined within the terms of a potential solution. In the debrief methodology the facilitator needs to warn participants that they should delay all discussion of solutions until all the prioritised issues are on the table – this will be frustrating for many participants. Likewise, when it comes to brainstorming the solutions, it is important to emphasise that brainstorming means that all suggestions are put on the table, without critique but only the necessary clarification, and nothing is to be dismissed.

"Outcome" or "results" oriented participants will be keen to identify a list of "actions" as evidence of a productive debrief. But the process, where it heals interagency tensions, is a result in itself and this process increases the probability of a more effective and sustainable set of solutions. Albert Einstein reportedly said, "If I were given one hour to save the planet, I would spend fifty-nine minutes defining the problem and one minute resolving it."

REVIEWING THE AAR

It is important to quickly debrief the AAR. There is an evaluation form in the appendix which should be used for larger AARs but it is also useful to quickly gather feedback at the end of a AAR – this can be useful for learning within the team for those who may conduct AARs in the future.

Some simple approaches to rapid AAR include:

- Ask all/a selection of attendees to name one thing that may have been missing from the AAR or could have improved it.
- Ask: did we talk about the right things for the right amount of time, did the right people get to speak?
- A very quick and simple satisfaction metric used in customer service contexts is the "Net Promoter Score". Respondents are asked to rank their satisfaction from 1 to 10 and then asked to cite the single most important reason for the rank they gave. Pay particular attention to the reasons provided by those giving the lowest rankings. Anything less than a 9 is considered a trigger for improvement (yes that is what you call a stretch target in community engagement!). There are a range of purpose built applications to conduct these quick effective surveys but most generic survey platforms can do it. Drop me a line and I can show you how to set it up.
- The method comes from customer satisfaction research that suggests this single score and rank focuses an organisation on identifying barriers to and achieving a score of 8 or above – indicating an enthusiastic and happy customer base.[4] The theory suggests that willingness to recommend to others is more indicative of a healthy and trusting relationship than mere satisfaction. This is what we should be striving for.

The NPS Calculation

If you have enough respondents, it can be worthwhile calculating an actual net promoter score to monitor over time, but we may need to modify the score to adjust to the current realities of community engagement.

Respondents are grouped as follows:

Promoters (score 9-10) love your work and speak highly of it to others.

Passives (score 7-8) are considered satisfied but unenthusiastic.

Detractors (score 0-6) are unhappy customers who can damage your reputation through negative word-of-mouth and have serious concerns with your work.

Subtracting the percentage of Detractors from the percentage of Promoters yields the Net Promoter Score, which can range from a low of -100 (if every customer is a Detractor) to a high of 100 (if every customer is a Promoter). Perhaps, a more realistic NPS for community engagement could be to group "passives" as 5 to 7. We need to test this.

4. Frederick F. Reichheld. The One Number You Need to Grow. Harvard Business Review, December 2003. https://hbr.org/2003/12/the-one-number-you-need-to-grow

Figure – Net Promoter Score screenshot (contact author for access to this software)

Prime the respondents that this question is based on not just the facilitators performance but structure, insights, and contributions from all attendees. (Participants can give you personal feedback on the evaluation form if they wish).

As a facilitator you should be continually surveying attendees faces – what proportion are engaged, excited, nervous, bored. Evaluate this every few minutes.

How to actually change the system

Reasons why AARs don't change the system

Reflection on the issues raised in outbreak reviews over 20 years, many themes are repeated. At times the same groups will comment "we raised that in the last review." Systems are really hard to change. If AARs are to be supported by agencies they need to show they can lead to change. Here are some reasons that recommendations may fail to be implemented:

- The recommendation is not really supported by stakeholders in the room but they want to "please" the facilitator
- Implementing the recommendation is outside the control of the stakeholders in the room.
- The root cause or the upstream antecedents of the problem have not really been identified.
- The stakeholders do not have sufficient organisational "slack" to embed learning or make change because of continuous operational pressures.

A National Database of AAR Insights

While AARs have identified important recommendations, the AAR in itself does not ensure recommendations are implemented. There is a need for a national repository of findings from AARs and lessons learned so that they are not lost and agencies can monitor progress against the recommendations. There are precedents established in critical incident reporting that support the adoption by public health agencies and in learning lessons from bush fire AARs.[5],[6] The repository could consider a taxonomy that includes/allows metadata tagging for:

Event Metadata

- Jurisdiction
- Threat type:
  - Infectious disease
  - Environmental
- Event type
  - Outbreak
  - Cluster
  - Incident
  - Exercise

Learning Metadata

- Learning areas
  - Communication
  - Information Management
  - Co-ordination
  - Legislation
  - Decision-making
  - Human resource

Measurement Metadata

- Quantitative performance measures
- Qualitative performance criteria

5. A Public Health Emergency Preparedness Critical Incident Registry Rachael Piltch-Loeb, John D. Kraemer, Christopher Nelson, and Michael A. Stoto.Biosecurity and Bioterrorism: Biodefense Strategy, Practice, and Science.May 2014.132-143 http://doi.org/10.1089/bsp.2014.0007

6. Lawson C, Eburn M, Dovers S, Gough M. Can major post-event inquiries and reviews contribute to lessons management?. Australian Journal of Emergency Management, The. 2018 Apr;33(2):34.

TRAINING IN FACILITATING OUTBREAK AARS

COURSES

The new WHO AAR Toolkit has a supporting online training package: https://www.who.int/ihr/procedures/AAR-E-Learning-Course/en/

The 5 day course in mediation conducted by the Resolution Institute (formerly the Institute of Arbitrators and Mediators) is an excellent introduction to facilitation and interest based negotiation. The training includes videorecorded group role play and one on one simulations that are extremely challenging. This is probably the most useful single training for building skills in facilitating sensitive meetings. Similar training is available through conflict management/resolution organisations in many countries.

CO-FACILITATION

Co-facilitating a AAR is an excellent way to learn. In fact a co-facilitation approach is probably the optimal model as it allows a greater range of skills to be harnessed (e.g. one facilitator may be more of a process facilitation expert whereas the other may be a content expert.) Co-facilitation allows one person to focus on the content of the meeting while the other focuses on the "soft skills" of the process (who is not talking? Who looks stressed or sceptical?), although both should be considering these issues.

RESOURCES

WHO Guidance for after action review https://www.who.int/ihr/publications/WHO-WHE-CPI-2019.4/en/

Best practice recommendations for conducting after-action reviews to enhance public health preparedness https://www.ecdc.europa.eu/sites/portal/files/documents/public-health-preparedness-best-practice-recommendations.pdf

Getting the most from after action reviews to improve global health security. Global Health. 2019;15(1):58. 2019 Oct 10.Stoto MA, Nelson C, Piltch-Loeb R, Mayigane LN, Copper F, Chungong S. https://pubmed.ncbi.nlm.nih.gov/31601233/

Fisher R, Patton B: *Getting to Yes: Negotiating an Agreement without Giving.* New York, Penguin; 1991.

Practical Facilitation. A toolkit of techniques. Christine Hogan.

National Coalition for Dialogue & Deliberation http://ncdd.org/

Consensus Building Institute http://cbuilding.org/

Mediate.com

Engaging First Peoples: A Review of Government Engagement Methods for Developing Health Policy. Thorpe, A., Arabena, K., Sullivan, P., Silburn, K. & Rowley, K. 2016, , The Lowitja Institute, Melbourne. https://www.lowitja.org.au/content/Document/Lowitja-Publishing/Engaging-First-Peoples.pdf

RECOMMENDATIONS FOR ENHANCING OUTBREAK RESPONSE

It may be dangerous to identify specific recommendations in a manual that is intended to guide the open exploration of outbreak response. However, there are some systemic interventions that are worth considering in any AAR and in most settings.

OUTBREAK EXERCISES

Exercises across agencies, including local, state, and national agencies (ICS)

Exercises at a frequency based on an evidence-base for achieving a prescribed performance standard in response.

Need to assess the range of performance at regional, state and federal levels

PERFORMANCE STANDARDS are required to assess performance of both outbreak practice and outbreak exercises.

Box . Performance indicators relevant to COVID-19

- Number of cases (and their contacts) able to be interviewed/contact traced per day/million population
- Proportion of unknown cases (24 hrs, weekly, monthly)
- Time to isolation of non-household contacts from 1) onset of cases illness, and 2) day of cases lab test (Korea 24 hours)
- Positivity of laboratory tests by age group, gender, ethnicity, SES of postcode (weekly time series)
- Testing rates by distance from testing sites stratified by SES
- Number of contact tracers per million population (to address heterogeneity in resources).

BEFORE ACTION REVIEWS (BAR)

Research conducted in 1989 by Deborah J. Mitchell, of the Wharton School and others, found that prospective hindsight—imagining that an event has already occurred—increases the ability to correctly identify reasons for future outcomes by 30%"[7]

That is, by imagining a failed outcome, a group can more effectively brainstorm reasons that might lead to the failure and thereby prevent the failure. This is known as a “pre-mortem”.

A BAR consists of a team addressing four items together:

1. What is our intent (situation, task, purpose, end state, guidance) and high-level plan?

7. Klein, Gary. "Performing a project premortem." Harvard Business Review 85.9 (2007): 18-19.

2. What specific challenges do we predict that we may face?
3. What lessons have we (or others) identified that we should apply in this situation?
4. What do we think will be our key to success THIS time? (This is to focus the team effort and articulate the key hypothesis behind the plan).

INTRA-ACTION REVIEWS (IAR)

In-action reviews should be encouraged during the response as a moment for reflection and reorientation. The IAR may reflect on the BAR items above and particularly check in on response staff welfare. WHO has published excellent guidance for intra-action review for COVID-19.[8]

8. Guidance for conducting a country COVID-19 intra-action review (IAR). World Health Organisation. July, 2020. WHO/2019-nCoV/Country_IAR//2020.1. Available at: https://www.who.int/publications/i/item/WHO-2019-nCoV-Country_IAR-2020.1 Accessed 12th October, 2020.

APPENDIX

EXAMPLE OF AAR SCOPING DOCUMENT

Scope for AAR of the 20XX [jurisdiction] [disease] Outbreak

This document defines the scope for the AAR of the public health response to the __

_____ outbreak on [date] to be held at [place] on [date]. Attendees include representatives from the [list all agencies].

Summary of Outbreak

- Time, person, place epidemiology of outbreak
- Responses by agencies
- Investigative findings
- Public or community reaction
- Motivations, inspiration for AAR

Proposed themes for AAR

The themes for the debrief have been collated from interviews with and surveys of stakeholders These themes are proposed for consideration during the [date] AAR. as they have implications for system wide enhancement in future responses:

(example from an AAR scope:)

1. **Surge response and capacity**
    - **i.** for contact tracking, case management, vaccination clinics, in addition to planning and logistics.
2. **Information management**
    - **i.** Sharing information on contacts and prophylaxis follow ups between agencies, Hospital infection control units, immunisation clinics and General Practitioners.
3. **Standardised protocols**
    - i. Development and communication of standardised protocols across the wide range of responders to the outbreak.

AAR EVALUATION FORM

Place Date:

Name: (optional) _____

1. Was the process/methodology clear?

   Circle one: Yes No DK

   Comment:

2. Did the structured methodology assist or inhibit the AAR?

   Circle one: Assist Inhibit DK

   Comment:

3. Do you have any suggestions for the facilitator to improve facilitation of AARs in the future?
   Comment:

4. What level of confidence do you have that this AAR will result in improved performance in the future? Circle one:

Very likely likely neutral unlikely very unlikely

Comment:

5. Any other general comments?

AAR TRIGGER QUESTIONS

The questions below are not intended to be addressed in their entirety during a structured AAR but should be used to prompt stakeholders to nominate a wide range of issues for consideration during the AAR.

Note: These trigger questions need to be modified to include issues of staff well-being, gender equity, and impact on First Nations people. Also, consider if these should link tos ome of the indicators in the AAR WHO guide themed around the IHR https://apps.who.int/iris/bitstream/handle/10665/276175/WHO-WHE-CPI-2018.48-eng.pdf?sequence=1

What are the top 3 issues you would like to discuss in the outbreak AAR?

1.

2.

3.

OR

What went well?

What could be improved?

Please tick other important issues below and feel free to come back and modify your top 3 issues as appropriate.

Prevention/mitigation

	Issue	**Tick for inclusion in AAR**
1	Does public health legislation allow collection of appropriate surveillance data?	❑
2	How often is surveillance data audited by an epidemiologist?	❑
3	Is a log kept of the epidemiologist's interpretation of the data?	❑
4	Does regular analysis of surveillance data allow early detection of outbreaks?	❑
5	Are regional, national and international trends in communicable diseases monitored to allow prediction of emerging threats within the agencies' jurisdiction?	❑
6	Do adequate programs exist to prevent outbreaks of this disease?	❑

Preparedness

	Issue	Tick for inclusion in AAR
1	Do public health agencies have adequate numbers of trained staff to respond to outbreaks?	❑
2	Do staff have formal epidemiological qualifications/training?	❑
3	Do staff attend/run refresher courses?	❑
4	Are After Action Reviews of response to (appropriate) outbreaks conducted?	❑
5	Does the agency have guidelines or performance standards for outbreak response?	❑
6	Does the agency have access to additional personnel and laboratory resources for response to outbreaks?	❑
7	Does the agency have predefined financial resources to allocate to outbreak control and investigation?	❑
8	Was the response restrained by financial or other resources?	❑
9	Does the agency have pre-prepared sources of public information (brochures/web-based) for dissemination in the event of an outbreak?	❑
10	Are there clear organisational, coordination, and communication structures that define jurisdictions' responsibilities established at the local, state and national level?	❑
11	Can the agency establish and staff a telephone information hotline/recorded information line/website rapidly (<24 hours) following identification of an outbreak?	❑

Response

	Issue	Tick for inclusion in AAR
Epidemiologic Investigation		
1	Was the outbreak detected by any formal surveillance system?	❑
2	Were surveillance data from other states/regions/countries reviewed for increases?	❑
3	Were unreported cases sought?	❑
4	Was the outbreak recognised in time to investigate the cause?	❑
5	Was a standard case definition developed and disseminated to all stakeholders?	❑

	Issue	Tick for inclusion in AAR
6	How soon after recognition of the outbreak were hypothesis-generating interviews conducted?	❑
7	Could a case-control or cohort study have been conducted to identify the cause or source of infection?	❑
8	If the outbreak involved a number of states or regions, was a standard data collection instrument used both within and between states?	❑
9	Was the method of contacting exposed or potentially exposed people appropriate?	❑
10	Were general practitioners offered the opportunity to make initial contact with their patients ?	❑
11	How were people contacted by phone, letter or other (specify)?	❑
12	How long did it take to contact cases or contacts?	❑
13	Was simple, clearly written information made available at the time of first contact?	❑
14	Were arrangements made for laboratory testing at the time of initial contact?	❑
15	Was frequent contact maintained with infected people to ensure that they received appropriate support or counselling?	❑
Contact Management		
1	Was a definition of a "contact" established and communicated to all stakeholders?	❑
2	Were contacts given written information on their risks, early symptoms of disease, isolation or quarantine and triggers for contacting the health department?	❑
3	Were adequate prophylactic medications available with protocols for storage and distribution?	❑
Environmental Investigation		
1	If a contaminated vehicle or environment was suspected, how long did it take to obtain specimens from the suspected vehicle or environment?	❑
2	How long did it take to obtain product distribution/passenger/ patron lists?	❑
3	How long did it take to withdraw the contaminated product from circulation?	❑
4	How long before the production facility was inspected?	❑
5	How long before the appropriate regulatory body was notified?	❑
6	How was the success of product recall verified?	❑
7	Was staff safety ensured during the outbreak response?	❑

	Issue	Tick for inclusion in AAR
8	Was industry/private stakeholder assistance sought?	❑
Laboratory Investigation		
1	What proportion of people affected by the outbreak were asked for specimens?	❑
2	What proportion gave specimens?	❑
3	What specimens were collected?	❑
4	Were the samples adequately labelled, transported (consider personal delivery) and stored?	❑
5	Were appropriate laboratory tests available for rapid diagnosis?	❑
6	If not, were funds available for the rapid development of diagnostic tests?	❑
7	For readily available testing, were standard procedures used by all laboratories?	❑
8	How quickly was a laboratory found that could do all appropriate testing?	❑
9	How long did it take for all testing to be completed?	❑
10	How long did it take for subtyping of isolates?	❑
11	Were autopsies conducted on people who died as a result of the infection?	❑
Communication		
1	How quickly was the national agency notified of an outbreak of national significance?	❑
2	Were other relevant agencies contacted and if so, when?	❑
3	How long after recognition of the outbreak were informational materials identified or developed?	❑
4	Was a hotline set up to provide information to the community?	❑
5	Were hospitals, emergency departments, laboratories and medical practitioners provided with appropriate and timely information?	❑
6	Was there a coordinated response to the media - one person identified to coordinate response, regularly scheduled press conferences?	❑
7	Were public health preventive messages clearly defined?	❑
8	Was success of public relations activities evaluated?	❑

	Issue	Tick for inclusion in AAR
9	Were epidemiological, environmental, and laboratory findings obtained in different jurisdictions shared with other relevant health related agencies?	❑
10	Were records of all telephone calls, meeting minutes, and major decisions logged contemporaneously?	❑
11	Were meetings with a comprehensive agenda established on a daily or frequent basis within the investigation team and with external stakeholders?	❑
12	Were national or state incident protocols activated?	❑
13	Were regular updates provided to affected community, industry and other stakeholders and how was the dissemination of this information coordinated?	❑
14	Were non-government stakeholders provided with a written description of the roles of (perhaps multiple) agencies in outbreak response?	❑
15	Were managers of affected facilities provided with disease control advice in writing?	❑
Public Health Action		
1	Was the outbreak identified in a sufficiently timely fashion to prevent ongoing risk of disease?	❑
2	How long before recall of a product or cessation of a risk activity?	❑
3	Could this have happened more quickly and if so, what were the impediments?	❑
4	Was counselling provided to confirmed cases and families?	❑
Outbreak Management		
1	Were all role holders clear on their own roles and those of others in the team and other agencies?	❑
2	Was the mix of staff numbers and skill mix adequate?	❑
3	Was any further equipment required?	❑
4	Were ethical, legal, and privacy issues adequately considered and addressed?	❑
5	Were the facilities used appropriate for the task?	❑
6	Was distance or travel an impediment to the investigation?	❑

Recovery

	Issue	Tick for inclusion in AAR
1	Was there an AAR at the agency or agencies involved?	❑
2	Was counselling for cases, agency staff, or other stakeholders provided, as necessary?	❑
3	Were reasons for the outbreak and risk factors for infection identified and published?	❑
4	Was a report on the outbreak provided to the community, data providers, colleagues and wider public health community? How and when was the information communicated?	❑
5	Was the need for further studies identified (eg epidemiologic, laboratory or economic impact studies)?	❑
6	Was the adequacy of surveillance systems reviewed? Were weaknesses identified and rectified?	❑
7	Was there an evaluation of the impact of the public health intervention (eg number of secondary cases prevented)?	❑
8	Is there now a program in place that could prevent another outbreak?	❑
9	Were the outbreak control guidelines reviewed?	❑
10	Does the organisation provide protected time for staff to invest in outbreak investigation AARs?	❑
11	Is there a clear method for disseminating and implementing recommendations from AARs of outbreak investigations in the organisation?	❑