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Foot-and-mouth disease And Similar Transboundary animal diseases

Simulation exercises: evaluation aids

No.15

Contents

Example of an exercise evaluation plan

1. **Background**
    a) Exercise type, name, venue, date
    b) Exercise aim and objectives, scenario and scope
    c) Participants and observers

2. **Evaluation team:**
    a) Team members and reporting structure
    b) Any training necessary for team members

3. **Purpose of the evaluation**
    Evaluation of simulation exercises is part of the process of improving capabilities and plans for emergencies. Through the evaluation and feedback, lessons will be identified and changes made.

4. **Methodology for evaluation: e.g.**
    It is good practice to use multiple methods of evaluation. *Examples of collection methods*" are given in **Appendix 1a** of this template. The "*Evaluation plan – collection methods and tools*" in **Appendix 1b** of this template can be used to list the methods.

4. **Timings and locations:**
    For functional and full-scale exercises, the use of an "*Evaluation plan - observation checklist"* is suggested (see **Appendix 2** of this template). This is used to indicate where each evaluator should locate themselves and which players to observe, for each action/decision they are to evaluate.

5. **Data collection forms:**
    See EuFMD **Job Aid** "*Simulation exercises: evaluation forms*" for examples.

6. **Reference documents:**
    List of contingency plans, protocols or legislation against which the exercise will be evaluated

7. **Analysis:**
    The type of analysis that will be carried out. Strengths and areas for improvement will be identified. Each action/decision not completed as expected will be investigated e.g. by root cause analysis (the 5 whys), to identify the areas for improvement.

8. **Evaluation report:**
    The timeline for reporting and to whom the report will be submitted.

Appendices

- **Evaluation plan - collection methods and tools**
- **Evaluator observation checklist**

Appendix 1a Examples of collection methods

1. During the exercise:
    a) observations made by evaluators during activities;
    b) outcomes of each session (for a tabletop);
    c) hot wash (verbal debrief for players at the end of the exercise).

2. After the exercise:
    a) written debrief of participants (surveys or questionnaires);
    b) verbal debrief of participants (meetings, interviews, workshops);
    c) meeting of the evaluators (may include the facilitators and other planning team members if appropriate).

3. Collection of exercise outputs including:
    a) observations during outcome sessions;
    b) flip charts;
    c) documents produced, resources used;
    d) audio-visual recordings;
    e) electronic responses by email or in crisis simulation software.

Appendix 1b Evaluation plan – collection methods and tools

A form used to list the collection methods and forms to be used during the exercise being planned.

Exercise name:				
Location:				
Date/time:				
Evaluation Ref. No.	Activity/ objective	Collection method	Collection tool/form	Comments

Appendix 2 Evaluation plan – observation checklist for a functional exercise

A form used by each evaluator to indicate where they should locate themselves at different times during the exercise, in order to observe specific actions/decisions.

Exercise name and date:			**Evaluator name:**	
Objective	Action/decision to look for	Players to observe	Location	Expected time

Examples of an evaluation questions on behaviour, functions and processes

1. How did decision-makers initially perceive the situation (as a normal or an extraordinary event)?

2. How did decision-makers perceive pressure of time (no pressure of time, urgent, very urgent)?

3. Were the roles and responsibilities discussed?

    • Was it clear which authority "owned" the problem legally and symbolically?

    • Did the perception of roles change over time?

4. Were there formal plans or protocols for how the authority should take action in a crisis?

    • If there was a contingency plan, was it used?

5. Crisis management group

    • How was the group organised?

    • Were routines developed (e.g. chairman, documentation manager, external information etc.)?

    • What premises were chosen for crisis management work?

    • Was the necessary equipment available at the site?

6. Decision-making:

    • Where in the organisation are decisions made during the crisis cycle?

    • Were the decisions taken appropriate considering the circumstances?

    • Did the individual follow up on decisions taken (check that they were implemented)?

7. Information routines:

    • How was information collected and disseminated internally and externally?

    • Were there established routines for internal/external information dissemination?

    • Was the information verified (review of sources)?

    • Which channels/technical resources were used for information dissemination?

Example of evaluation questions on communication for a multi-country exercise

1. What was the time and mode of the contact between the Chief Veterinary Officer (CVO) of the affected country to the CVOs of the other participating countries, following the first disease notification?

2. Does a contact list for CVOs and other key personnel to be contacted in disease emergencies in each participating country exist?

3. If a contact list exists, was it used?

4. CVO conference call:

    a) Was a CVO conference call conducted?

    b) Was adequate notice of the conference call given, as set out in the contingency plan?

    c) Was there an agenda for the conference call?

    d) Was the conference call chaired by the person designated in the contingency plan?

    e) Did all of the invited countries participate in the conference call?

    f) Was anyone designated to take notes of the conference call?

    g) Was a report of the conference call distributed to the relevant stakeholders after the meeting?

    h) Was the report distributed in the time frame set out in the contingency plan?

Examples of questions for a tabletop exercise to develop a plan for coordination with other authorities

1. What functions are necessary in a crisis group?
2. How should responsibilities be allocated and how can responsibility be delegated or withdrawn?
3. How should responsibilities be divided between authorities? Which authority is the lead authority during a crisis?
4. What expectations are there of the authority's ability?
5. What could be the consequences for the organisation's ability to function - in the short, medium and long term? What are the priorities for the organisation?
6. What measures need to be taken? Who makes these decisions?
7. What information is needed so that the authority may perform those tasks within its sphere of responsibility? Who possesses the necessary information? Who should the information go to in the authority? How should such information be communicated?
8. With whom does the authority need to collaborate and coordinate, both internally and externally? How should such collaboration be established and maintained?
9. What resources may be needed in order to maintain essential operations over time? How will these resources benefit the organisation? What are the constraints on resources?

Evaluator briefing points

1. Background on the exercise

- Aim, objectives and scope
- Participants and observers

2. Evaluation aim, objectives and scope

- A general statement outlining what is intended to be achieved by conducting the evaluation
- Key focus areas for the evaluation
- What is not included
- Specific objectives for the evaluation

3. Instructions for evaluator/s

- Responsibilities and reporting
- Where evaluator/s should be located
- Timing of activities, including briefings and debriefings
- Who evaluators should liaise with
- What evaluation forms to complete
- To whom and when to provide their evaluator summary
- Advice on appropriate conduct during the exercise/activity (*see next page*)
- Evaluator pitfalls and how these can be mitigated (*see next page*)
- Recording of issues experienced with the evaluation (using the issues log)

4. Reference documents

- Exercise reference documents (e.g. contingency plans, protocols, legislation)

Evaluation risks, evaluator conduct and pitfalls

Evaluation risks

The risks associated with evaluation are:

- Ineffective methodology
- Insufficient evaluators
- Ineffective evaluation tools
- Inadequate standards for objective and consistent evaluation
- Other considerations impacting on the evaluation e.g. fatigue management, inadequate briefings.

Evaluator conduct

- Be in position in good time before the start of the exercise
- Be as unobtrusive as possible and never interfere with exercise play
- Delay taking the first notes, to avoid putting the players off
- You may occasionally need to clarify what you have observed
- You may ask a minimal number of questions when it is convenient for the player to answer e.g. during a coffee-break or temporary lull in the tempo of the exercise
- The questions should be brief - allowing players to return to their task as soon as possible
- The use of evaluation jargon, leading questions or questions requiring reflective, reasoned responses should be avoided

Evaluator pitfalls

There are a number of pitfalls that evaluators can make. These can be mitigated by careful selection of team members, and briefing them well:

- *Observer Drift* – when an evaluator loses interest e.g. as a result of fatigue or a lack of motivation.
- *Errors of Leniency* – when an evaluator tends to grade all activities positively.
- *Errors of Central Tendency* – when an evaluator assesses all activities as average, to avoid making tough decisions.
- *Halo effect* – when an evaluator has a positive impression about a person/team at the beginning of an exercise that influences their observations.
- *Hypercritical Effect* – when an evaluator believes that their job is solely to discover mistakes.
- *Confirmation Bias* – when the evaluator's knowledge of how things went in an earlier exercise influences their expectations.
- *Evaluator Bias* – when an evaluator lacks impartiality.

Examples of questions for a hot wash (hot debrief)

1. What happened in the exercise?
2. What is/are the reason(s) for these results from the exercise?
3. What worked well and not so well during the exercise?
4. What would you improve?
5. What was your experience of the exercise (both in the positive and negative sense)?
6. Did you know about the emergency management organisation and staff functions?
7. What was your experience of collaborating with other bodies (worked well / did not work very well)?
8. Did you feel that the information flow worked? Did it break down anywhere? Did you receive enough information in order to perform your duties?
9. Was the available equipment sufficient for the purpose of carrying out the tasks?
10. How did the chosen exercise format impact your actions?
11. Other comments (scenario, structure, value for the future, additional exercise activities for the future).

Observation-Analysis-Judgement-Recommendations method of evaluation

OBSERVATION • Look and listen attentively with the intention of drawing conclusions. • Minimise judgement bias and improve the accuracy of observation with planning, proforma recording, and use of technology.	*I saw or heard:*
ANALYSIS • Consider the behaviour exhibited, and the process, outcome and impact of what you observed? • Use cause and effect analysis (e.g. "fishbone analysis" or the "five whys") to determine the possible factors and causes.	*Due to that/as a consequence:*
JUDGEMENT • Use your own judgement and experience to provide interpretation. • Objectively examine the facts observed. • What do they mean?	*In my opinion:*
RECOMMENDATIONS • Provide clear unambiguous detail that assists in implementing change and improvement to the area being evaluated	*In a similar situation I would suggest:*
COMMENTS	*Any other notable comments e.g. from your own experience, other observations or noteworthy actions.*

Analysis techniques

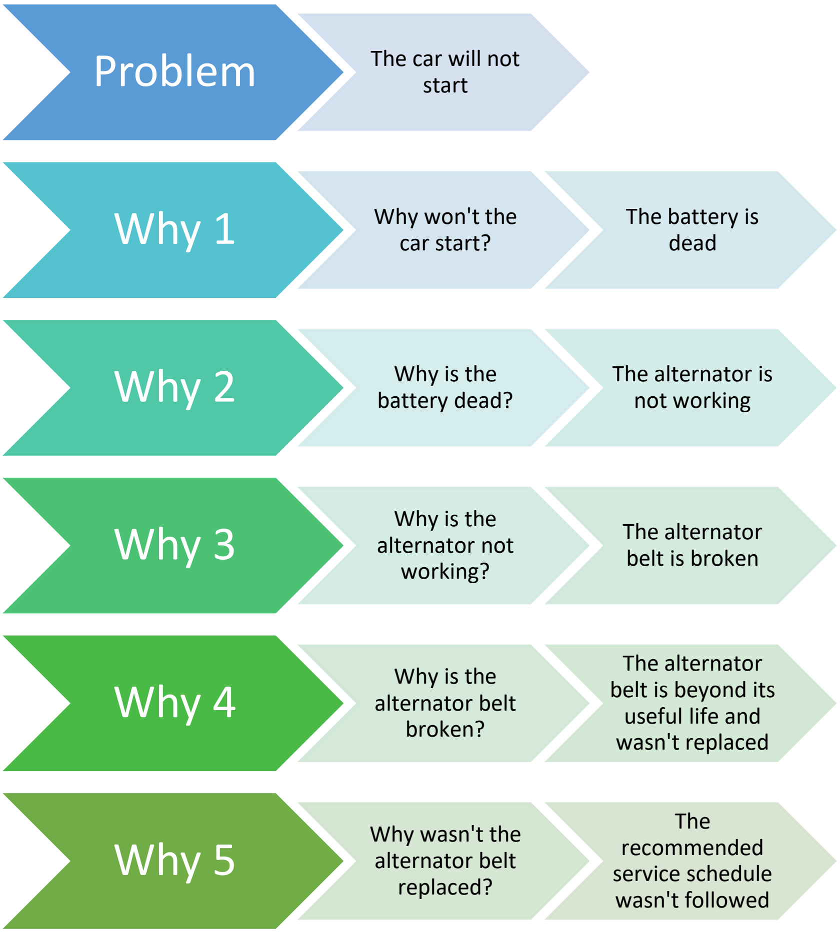
Five whys

One approach to the analysis is to use the “five whys” technique. This is an iterative interrogative technique used to explore the cause-and-effect relationships underlying a particular problem. The primary goal of the technique is to determine the root cause of a problem by repeating the question "Why?". Each answer forms the basis of the next question. The "five" in the name derives from an anecdotal observation on the number of iterations needed to resolve the problem.

Not all problems have a single root cause. To uncover multiple root causes, the method must be repeated, asking a different sequence of questions each time.

The method provides no hard and fast rules about what lines of questions to explore, or how long to continue the search for additional root causes. Even when the method is closely followed, the outcome still depends upon the knowledge and persistence of the people involved.

Figure 1:
Example of the “five whys” technique



Therefore the root cause for the vehicle not starting was not as appeared on first sight, that the battery was dead, but because the vehicle was not serviced according to the schedule.

The questioning can be taken further to a sixth, seventh, or higher level, but five iterations is generally sufficient to get to a root cause.

Fishbone analysis

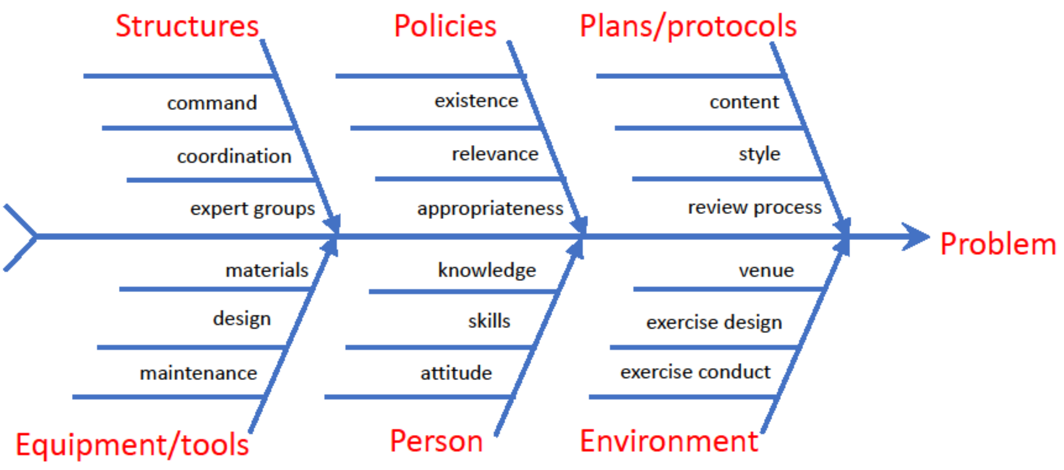
A second approach to the analysis is to use the "fishbone" cause-and-effect technique. This technique uses a diagram-based approach for thinking through all of the possible causes of a problem. It uses a combination of brainstorming and mind mapping techniques. This helps you to carry out a thorough analysis of the situation, and is particularly useful when there may be multiple causes.

There are four steps to using the tool:

1. Identify the problem.
2. Work out the major factors involved (**the spine** – factors indicated in red text).
3. Identify possible causes (**the bones** – causes indicated in black text).
4. Analyze your diagram, and further investigate the most likely causes.

An example of a fishbone analysis approach for evaluation of problems detected during simulation exercises is shown below.

Diagram 2:
Example of the "Fishbone analysis" technique



A diagram like this is the starting point, and is not intended to be definitive. It has been simplified for display purposes. Further analysis may lead to further factors being identified, and existing causes can be further broken down e.g. **expert groups** under "structures" could be broken down into membership, terms of reference, decision-making process, timing/frequency of meetings, meeting agenda, reporting and transparency.

Example of an outline for an evaluation report

1. Introduction

- Background of the exercise (based on the needs analysis in the multi-year exercise plan)
- Exercise aim and objectives
- Brief description of the exercise format, scenario, conduct, participants and observers.

2. Methodology

- The evaluation procedure
- Performance measures and evaluation questions
- Assessment criteria
- Evaluation organisation
- Method of data collection, analysis and quality assurance

3. Results

- Description of what happened (chronological description of the main events, activities and decisions)
- Assessment of how it went and why
- Results compiled and set in their context (any conditions, limitations or interpretation difficulties with the material)

4. Analysis and findings (by objectives and theme)

- Strengths
- Areas for improvement

5. Analysis and findings (on exercise design and conduct)

- Strengths
- Areas for improvement

6. References

Appendices

- Template protocols and questionnaires
- Further explanation of the evaluation procedures, if applicable
- Outcome documents, if applicable
- Detailed results and analyses, if applicable

Example of an outline for a final exercise report

1. **Introduction**
    - Background of the exercise (based on the needs analysis in the multi-year exercise plan)
    - Exercise aim, objectives and themes, scope
    - Exercise type, dates, venue, agenda
    - Governance (planning group)
    - Participants and observers
    - Communication and media
    - Resources
    - Activities relating to the planning and conduct of the exercise.

2. **Methodology**

    - The methodology of the exercise – including the scenario, Master Events List and injects
    - The methodology of the exercise debriefing
    - Identification of any exercise process constraints.

3. **Results**
    - Exercise outcomes
    - Feedback from participants and observers

4. **Conclusions and recommendations (by objectives and theme)**
    - Strengths
    - Weaknesses
    - Recommendations for improvements

5. **Conclusions and recommendations (on exercise design and conduct)**
    - Recommendations for future exercises

6. **Action plan**
    - Action plan with responsibilities and deadlines assigned

7. **Conclusions**
    - The value of the exercise
    - Degree to which objectives have been met

Appendices
- Agenda
- List of participants
- Scenario and Master Events List
- Participants feedback
- Action plan
- Glossary

References and further reading

1. Australian Department of Agriculture and Water Resources (2017) Biosecurity emergency management: Evaluation and lessons management guide

2. Federal Emergency Management Agency (2020) Evaluation templates

3. Irish Government Department of Housing, Planning and Local Government (2016) A framework for major emergency management - Guidance document 4: A guide to planning and staging exercises

4. Netherlands Institute for Physical Safety (2009) EU FloodEx field exercise evaluation report

5. Nordic-Baltic Veterinary Contingency Group (2017) Exercise Pegasus (African horse sickness)

6. Swedish Civil Contingencies Agency (2011) Handbook on evaluation of exercises

7. Swedish Civil Contingencies Agency (2017) Exercise guidance method booklet – Exercise evaluation

8. United Kingdom Animal and Plant Health Agency templates (personal communication)

9. World Health Organization (2009) Emergency exercise development (Unit 8)

10. World Health Organization (2017) Simulation exercise toolbox