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REPORT OF THE MEETING OF THE OIE *AD HOC* GROUP ON BIOLOGICAL THREAT REDUCTION IN RELATION TO SPECIFIC METHODOLOGIES FOR VETERINARY SERVICES, PERTAINING TO THE INVESTIGATION OF SUPSPICIOUS BIOLOGICAL EVENTS[1]

Paris, 4 – 6 July 2017

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The first meeting of the *ad hoc* Group on Biological Threat Reduction in Relation to Specific Methodologies for Veterinary Services, Pertaining to the Investigation of Suspicious Biological Events (hereafter the Group) was held at the OIE Headquarters from 4 to 6 July 2017.

1. Opening

On behalf of Dr Monique Eloit, Director General of the OIE, Dr Matthew Stone, the OIE Deputy Director General for International Standards and Science, welcomed and thanked the Group for its commitment and the extensive support towards the OIE mandate. Dr Stone provided context on OIE biothreat reduction strategy and its place within OIE's sixth strategic plan (2016 – 2020), as well as his previous experience in addressing biological threats within the Government of New Zealand.

Dr. Jef Hammond could not attend in person but joined the group by phone for several hours each day.

2. Appointment of chairperson and rapporteur

Dr Gary Vroedingewey was appointed Chair and let the Group through a roundtable introduction. Dr Mariana Marrana acted as rapporteur.

The terms of reference, agenda and the list of participants are provided as Appendices I, II and III respectively.

3. Adoption of the agenda

The agenda was reviewed and adopted without modifications.

4. Terms of Reference (ToR)

The ToR were presented by the Chair. Dr Vroedingewey highlighted the challenges that the Group would face when issuing recommendations and it was commented that the response to a natural or intentional outbreak would only be the same in the initial phase of the investigation. Namely, the Guidelines would have to consider the diversity of capabilities and priorities of National Veterinary Services of all OIE Members. The Group would have to provide guidance on the minimum requirements but also include aspirational targets of good practices. The Guidelines will be aligned with the existing published frameworks, including the OIE Biothreat Reduction Strategy. It was agreed that the document would reference pertinent publications when necessary to keep it concise and succinct.

[1] Note: This ad hoc Group report reflects the views of its members and may not necessarily reflect the views of the OIE. This report should be read in conjunction with the September 2017 report of the Scientific Commission for Animal Diseases because this report provides its considerations and comments. It is available at: http://www.oie.int/en/international-standard-setting/specialists-commissions-groups/scientific-commission-reports/meetings-reports/

5. Discussion

5.1. Breakout groups

The Group was divided by the Chair into three working groups to address point 2 of the ToR. The first working group addressed 2a. *Criteria for the identification of suspicious biological events that warrant further investigation*, while the second group worked on 2b. *Defining technical differences or additional skills and capabilities required for investigating outbreaks that are proven or suspected to be of non-natural origin*. A third group discussed the legal aspects of identification and investigation of suspicious biological events.

5.2. Terms and definitions

Dr Christine Uhlenhaut led a discussion on terminology, stating that several terms which are used by different sectors have very distinct and differing meanings depending on the context (e.g. surveillance, case, agent). The FBI Criminal Epidemiological Investigation Glossary gives several examples which should also be considered in the Guidelines. Dr Uhlenhaut mentioned that the OIE *Terrestrial Code* Glossary has several of the necessary definitions for the purpose of the Guidelines. Further relevant definitions can be found in the OIE Manual Glossary. However, other definitions could be added if needed. It was pointed out that different organisations use distinct definitions for the same word, such as *threat* under OIE and WHO definitions. *Hazard* will be defined as per the OIE Glossary.

There was extensive discussion on the definition of *threat* in the context of these Guidelines, to whether it would include intentional actions or any potential and hypothetic events with a negative impact. It was mentioned that *chain of custody* would have to be defined in the document and that the definition of *biosecurity* in the OIE *Terrestrial Code* Glossary would have to be broadened. The definition of *biothreat* presented in the OIE Biological Threat Reduction Strategy[2] was criticised for not including potential events that are still a hypothesis.

5.3. Criteria for distinction

Point 2c. of the ToR, Defining criteria to positively distinguish between naturally occurring, accidentally or intentionally caused outbreaks, including identifying potential limitations, was discussed by the group. After issuing considerations about what would characterise a suspicious event (abnormal happening compared to usual pattern) and what a deliberate even implies (link to human factors and intent to cause harm), the Group agreed that without admission from or attribution to a known source, there is no possible "positive distinction" that can be done prior to an investigation and that would dictate its course differently.

5.4. Modified agents

The group discussed how to adapt an investigation to address modified agents as per item 2d. of the ToR. To address this subject it is important to consider whether the heads of the investigation had or not previous knowledge of the agent's properties. Then, with regards to the investigation procedures, there were two approaches– on the one hand, a progressive sequence of risk assessments was suggested. This type of assessment takes into consideration the findings of the previous ones to adapt control and mitigation measures. On the other hand, it was mentioned that, depending on the situation, it might be advisable to assume the highest level of risk and decreasing protection measures after the risk assessment indicates it would be safe to do so. However, not all countries would be able to initiate a response by deploying all the required materials and expertise that a "high risk" investigation would require.

[2] the accidental or deliberate release of a pathogen or toxin into a susceptible population

5.5. Competencies of Veterinary Services (VS) when preparing and responding to suspicious biological events

a) Training and education

The Group deemed that a liaison should be named either within the VS or another relevant body to be responsible for managing the preparation, response and recovery from a suspicious biological event. In addition, education and training needs were discussed. It was pointed out that this type of competency should be included in the veterinary curriculum in general and that further training should be provided to specific personnel working in the NSV and in relevant laboratories. These trainings should encompass the steps to take in an investigation, collection of samples and Personal Protective Equipment (PPE). It was also mentioned that simulation exercises, whether on the field or as table top exercises would be important to maintain capabilities. Furthermore, the OIE National Focal Points should benefit from this type of training in the context of OIE Laboratory National Focal Point seminars, as well as the heads of VS in other opportunities –awareness and training at the leadership levels is crucial for a successful outcome.

b) Communications

The Group discussed the importance of communication skills in a crisis situation. It should be clear for all the parties involved who is allowed to report what information, when it happens and through which channels. OIE *Terrestrial Code* chapter 3.3. and OIE Communications Handbook were identified as reference material to develop this section of the Guidelines.

The challenges in the field of communications were pointed out. In case of a suspicious event, a joint communication strategy, between VS, Public Health Agencies and Law Enforcement Agencies, needs to be quickly established. Pre-fabricated text blocks that could be used for timely information of the general public were discussed. These template messages can be adapted to many situations and disseminated via social media as an effective way to have media conveying the right message to the public.

c) Financial considerations

The Group discussed the financial considerations that should be in place when drafting a preparedness plan to investigate a suspicious event. Deployment of human resources, logistics, overtime expenses, surge in number of samples, rise in security measures, storage, etc. were some of the points mentioned. It was deemed that VS should have enough funds allocated to deal with surge events or consider ways to raise these funds quickly in case of an emergency.

d) Partnerships and stakeholders

It was pointed out that pre-engagement with partner agencies, organisations or countries should be done before the event; also, such partnerships should have roles, responsibilities and short and long term goals clearly defined through Memorandums of Understanding and Standard Operating Procedures.

A list of relevant stakeholders in the context of biological threat reduction was compiled. It included a broad range of individuals, from farmers, livestock producers, retail and food chain suppliers, trade organisations, transporters, laboratories, veterinarians and veterinary paraprofessionals as well as national, regional and international agencies and organisations, namely law enforcement agencies. It was mentioned that the countries' INTERPOL National Central Bureau should be immediately contacted upon a suspicious event.

5.6. Operational Considerations

There was an engaged discussion about sample collection and other field investigation procedures. The Group recommended that a sample analysis plan has to be developed in advance and tailored to the event. It was deemed that the Guidelines should include general recommendations in terms of sampling, while remaining concise and referring to other reference publications when necessary. Also, considerations pertaining to chain of custody and cold chain management should be included. Recommendations towards the inclusion of environmental samples, material negative control samples and samples from non-affected species, as well as documentation (interviews, videos, maps), should also be issued.

The importance of pre-event planning was highlighted. The VS should conduct a risk assessment, draft a plan and use it in trainings to respond to a suspicious event. All the reporting should be done though pre-defined formal chains of authority and shared with appropriate entities in the pre-established timeframes. The lessons learned from exercises and from real events should be compiled in a report and made available to relevant stakeholders.

The Group expressed concern with regards to surge capacity in national laboratories and veterinary services. It was pointed out that planning for continued operations should be done in advance, including recommendations on how to deal with multilayer events (animal health, public health, cyber-attack, etc.) and how to address logistics of personnel and material when relocating the investigation to remote locations.

5.7. Future Challenges

The Group discussed emerging technologies and their use for detecting suspicious events and to perform general and targeted surveillance, the 'dual use' aspect, the use of technology or material to do harm, was also mentioned. The pros and cons of using drones for targeted surveillance and transport of materials were mentioned. Also, some considerations about biosensors were made, with respect to different types of sensors – motion detection, temperature assessment, food intake, etc.

6. Table of Contents

The Group established a tentative Table of Contents for the Guidelines. Each section was reviewed in a roundtable discussion and inputs were done for each point. The inputs were reviewed by Dr Uhlenhaut against the ToR and further revised by the Chair. The Group will provide additional contributions electronically before the next meeting.

7. Review of the draft guidelines

In the morning of the last day, the Chair presented the skeleton of the document comprising the inputs gathered from the group on the previous afternoon. The participants were once again divided into breakout groups to address designated sections of the document and further develop them.

8. Liaison

The Group agreed to reach out to other OIE *ad hoc* groups for cooperation on the scope of the creation of the Guidelines. Namely, *ad hoc* groups on Biobanking, Transport of Biological Materials and Veterinary Legislation were identified as potential targets for cooperation. If additional groups are identified by the OIE staff as potentially relevant for the purpose of creating the Guidelines, liaison is encouraged.

9. Adoption of the draft report and scheduling of the next meeting

The Group reviewed and amended the draft report provided by the rapporteur. The Group agreed that the report reflected the discussions.

The next meeting was tentatively scheduled to either 28-30 November 2017 or 9 – 11 January 2018.

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…/Appendices

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Terms of Reference

Background:

The OIE supports its Member Countries and helps them strengthen and improve the structure of their national animal health systems. The OIE also collects, analyses, and makes available the latest scientific information on prevention and control of animal diseases. This includes information on response to disease outbreaks.

The response to an outbreak will be the same, regardless of the origin, be it natural, accidental or deliberate. However, determining if the outbreak was of natural or deliberate origin requires a different mindset and additional skills. In the event of a deliberate release of a pathogen it would then also become important to attribute the release to someone or to a group, first and foremost to prevent further events but of course also to allow prosecution. Therefore, all parts of the investigation including analysis of evidence have to be done in a way that holds up in a court of law. To date there are no overarching recommendations for the identification and investigation of suspicious biological events related to animal health. In order to address this gap, also in line with recommendations from the first OIE Global Conference on Biological Threat Reduction in 2015, the OIE decided to convene an *ad hoc* Group in relation to Specific Methodologies for Veterinary Services, pertaining to the Investigation of Suspicious Biological Events.

I. Terms of Reference

The *ad hoc* Group will be asked to:

1. Review existing guidance documents which pertain to this topic, among these are the OIE Glossary, the EU CBRNE Glossary, Appendices III, IV, V, IV, V, VII, IX, and A of the United Nations General's Mechanism for the Investigation of Alleged Use of Chemical or Biological Weapons, the World Health Organization's (WHO) Laboratory biosafety manual, WHO Guidance Document on Responsible Life Science Research for Global Health Security, the Laboratory Biorisk Management Standard of the European Commission for Standardization, the International Criminal Police Commission (INTERPOL) INTERPOL bioterrorism incident pre-planning & response guide, the Emergencies ToolKit published by Infection Prevention and Control Canada, the Criminal Investigation Handbook published by the Food and Drug Administration and the United States Department for Agriculture, the Joint Criminal and Epidemiological Investigations Handbook published by the US Federal Bureau of Investigation and the Centers for Disease Control and Prevention, as well as Chapters 1.1.1 to 1.1.7 of the *OIE Manual of Diagnostic Tests and Vaccines for Terrestrial Animals*.

2. To develop a holistic and comprehensive methodology for Veterinary Services for the identification and investigation of suspicious biological events affecting terrestrial animals, which may include:

    a) Criteria for the identification of suspicious biological events that warrant further investigation.

    b) Defining technical differences or additional skills and capabilities required for investigating outbreaks that are proven or suspected to be of non-natural origin, including but not limited to: strategic consideration of leadership in such an investigation, responsibilities and liabilities; interview and observational skills.

c) Defining criteria to positively distinguish between naturally occurring, accidentally or intentionally caused outbreaks, including identifying potential limitations.

d) To develop recommendations for adapted risk assessment in order to account for potentially enhanced properties of weaponized or otherwise altered biological agents that could entail increased harm.

e) To identify further issues that require in-depth review and propose, to the DG, the composition and terms of reference for groups of experts convened specifically to study such issues, and if necessary, to participate in the work of these groups.

II. Ground Rules

- Open Source Material ONLY
- Chatham House Rule applies: Participants are free to use the information received, but neither the identity nor the affiliation of the speaker(s), nor that of any other participant, may be revealed.

Appendix II

MEETING OF THE OIE *AD HOC* GROUP
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Agenda

1. **Opening**

2. **Appointment of chairperson and rapporteur**

3. **Adoption of the agenda**

4. **Terms of Reference (ToR)**

5. **Discussion**

   5.1. Breakout groups
   5.2. Terms and definitions
   5.3. Criteria for distinction
   5.4. Modified agents
   5.5. Competencies of Veterinary Services (VS) when preparing and responding to suspicious biological events
   5.6. Operational Considerations
   5.7. Future Challenges

6. **Table of Contents**

7. **Review of the draft guidelines**

8. **Liaison**

9. **Adoption of the draft report and scheduling of the next meeting**

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Appendix III

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