



# National Bridging Workshop on the International Health Regulations (IHR) and the OIE Performance of Veterinary Services (PVS) Pathway

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20-22 November 2019

Belize City, Belize



## **Acknowledgments**

*Organizers and participants would like to acknowledge the WMD Threat Reduction Program Division (IGA), Non-Proliferation and Security Threat Reduction Bureau of Global Affairs Canada for funding this workshop.*

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## ABBREVIATIONS & ACRONYMS

|        |   |
|--------|---|
| AI     | Avian Influenza   |
| BAHA   | Belize Agricultural Health Authority                                      |
| BHIS   | Belize Health Information System  |
| BMA    | Belize Medical Associates   |
| CEO    | Chief Executive Officer   |
| CVO    | Chief Veterinary Officer  |
| DoE    | Department of the Environment   |
| EEE    | Eastern Equine Encephalitis   |
| FAO    | Food and Agriculture Organization of the United Nations                   |
| FETP   | Field Epidemiology Training Program                                       |
| FP     | Focal Point   |
| HECOPA | Health Education and Community Participation Bureau                       |
| HQ     | Headquarters  |
| HoD    | Head of Department  |
| IHR    | International Health Regulations (2005)                                   |
| IT     | Information technology  |
| JEE    | Joint External Evaluation   |
| KHMH   | Karl Heusner Memorial Hospital  |
| MEF    | Monitoring and Evaluation Framework                                       |
| MoA    | Ministry of Agriculture, Fisheries, Forestry, and Sustainable Development |
| MoH    | Ministry of Health  |
| MoU    | Memorandum of Understanding   |
| NEMO   | National Emergency Management Organization                                |
| OIE    | World Organisation for Animal Health                                      |
| PAHO   | Pan American Health Organization, WHO Regional Office for the Americas    |
| PH     | Public Health   |
| PVS    | Performance of Veterinary Services  |
| SOP    | Standard Operating Procedures   |
| TOR    | Terms of Reference  |
| WHO    | World Health Organization   |

# INTRODUCTION

## BACKGROUND

The World Health Organization (WHO) and the World Organisation for Animal Health (OIE) are the two main international organizations responsible for proposing references and guidance for the public health and animal health sectors respectively. WHO and OIE have been active promoters and implementers of an intersectoral collaborative approach between institutions and systems to prevent, detect, and control diseases among animals and humans. They have developed various frameworks, tools and guidance materials to strengthen capacities at the national, regional and global levels.

- WHO Member States adopted a legally binding instrument, the International Health Regulations (IHR, 2005), for the prevention and control of events that may constitute a public health emergency of international concern. Through these regulations, countries are required to develop, strengthen and maintain minimum national core public health capacities to detect, assess, notify and respond to public health threats and as such, should implement plans of action to develop and ensure that the core capacities required by the IHR are present and functioning throughout their territories. Various assessment and monitoring tools have been developed by WHO such as the IHR Monitoring and Evaluation Framework (MEF), which includes *inter alia* the Annual Reporting Questionnaire for Monitoring Progress and the Joint External Evaluation (JEE) Tool.
- The OIE is the intergovernmental organization responsible for developing standards, guidelines and recommendations for animal health and zoonoses; these are laid down in the OIE Terrestrial and Aquatic Animal Codes and Manuals. In order to achieve the sustainable improvement of national Veterinary Services' compliance with these standards, in particular on the quality of Veterinary Services, the OIE has developed the Performance of Veterinary Services (PVS) Pathway, which is composed of a range of tools to assist countries to objectively assess and address the main weaknesses of their Veterinary Services.



These support tools shift away from externally driven, short-term, emergency response type 'vertical' approaches addressing only specific diseases, and contribute to a more sustainable, long term 'horizontal' strengthening of public and animal health systems. The WHO IHR MEF and the OIE PVS Pathway approaches enable countries to determine strengths and weaknesses in their respective functions and activities, and promote prioritization and pathways for improvement. Furthermore, they engage countries in a routine monitoring and follow up mechanism on their overall level of performance and help to determine their needs for compliance with internationally adopted references and standards.

The use of the WHO IHR monitoring tools and OIE PVS Pathway results in a detailed assessment of existing weaknesses and gaps, with the better alignment of a capacity building approach and strategies at country level between the human and animal health sectors. The two organizations have developed a workshop format (the IHR-PVS National Bridging Workshops) that enables countries to further explore possible overlapping areas addressed in their PVS and IHR capacity frameworks and develop, where relevant, appropriate bridges to facilitate coordination. A structured approach using user-friendly materials enables the identification of synergies, reviews gaps and defines the operational strategies to be used by policy makers for concerted corrective measures and strategic investments in national action plans for improved health security.

In Belize,

- a PVS Evaluation was conducted in 2009;
- a PVS Gap Analysis was conducted in 2010;
- a PVS Evaluation Follow-up was conducted in 2014;
- a PVS Evaluation in Aquatic animals was conducted in 2014;
- a PVS Veterinary Legislation Support Program (including Biological Threat Reduction Pilot Assessment) was conducted in 2016;
- a Joint External Evaluation (JEE) was conducted in 2016.

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## OBJECTIVES OF THE WORKSHOP AND EXPECTED OUTCOMES

The main objective of the IHR-PVS Pathway National Bridging Workshop (IHR-PVS NBW) is to provide an opportunity to the human and animal health services of Belize to build on the reviews of performance, gaps and discussions for improvement conducted in their respective sectors, and to explore options for improved coordination between the sectors, to jointly strengthen their preparedness for, and control of, the spread of zoonotic diseases.

The IHR-PVS NBWs focus on the following strategic objectives:

- **Brainstorming:** discuss the outcomes of IHR and PVS Pathway country assessments and identify ways to use the outputs;
- **Advancing One Health:** improve dialogue, coordination and collaboration between animal and human health sectors to strategically plan areas for joint actions and a synergistic approach;
- **Building Sustainable Networks:** contribute to strengthening the inter-sectoral collaboration through improved understanding of respective roles and mandates;
- **Strategic planning:** inform planning and investments (incl. the National Action Plan for Health Security) based on the structured and agreed identification of needs and options for improvement.

Expected **outcomes** of the workshop include:

1. Increased awareness and understanding on the IHR (2005) and the role of WHO, the mandate of the OIE, the IHRMEF and the OIE PVS Pathway, their differences and connections.
2. Understanding of the contribution of the veterinary services in the implementation of the IHR (2005) and how the results of the PVS Pathway and IHRMEF can be used to explore strategic planning and capacity building needs.
3. A diagnosis of current strengths and weaknesses of the collaboration between the animal health and public health services.
4. Identification of practical next steps and activities for the development and implementation of joint national roadmap to strengthen collaboration and coordination.

The agenda of the Workshop is available at [Annex 1](#). It was attended by 45 participants, mainly from MoH and BAHA but also from other sectors such as National Emergency Management Organization (NEMO), Karl Heusner Memorial Hospital (KMH), Belize Medical Associates (BMA), Belize Police Department, Belize Customs & Excise, University of Belize, and Health Education and Community Participation Bureau (HECOPAB), with representatives from the national, sub-national and district level attending the three-day discussions. In addition, facilitators from OIE, WHO Headquarters (HQ), and Pan American Health Organization, WHO Regional Office for the Americas (PAHO/WHO) and the PAHO/WHO Belize Country Office were present.

## REPORT ON THE SESSIONS

The workshop used an interactive methodology and a structured approach with user-friendly material, case studies, videos and facilitation tools. All participants received a *Participant Handbook* which comprised of all necessary information such as the objectives of the workshop, instructions for working groups, expected outcomes of each session etc. Sessions were structured in a step-by-step process as follows:

### OPENING SESSION

The workshop was officially opened by Dr. Job Joseph (Technical Adviser from PAHO/ WHO Representation in Belize), Dr. Catya Martínez (OIE Sub-regional Representation for Central America), and Dr. Manzanero (Director of Epidemiology Unit, Ministry of Health, Belize).

### SESSION 1: THE ONE HEALTH CONCEPT AND NATIONAL PERSPECTIVES

A documentary video introduced the One Health Concept, its history, rationale and purpose and how it became an international paradigm. The video also introduced the workshop in the global and national context by providing high level background information on the collaboration between WHO, OIE, and FAO.

The workshop approach and methodology were explained, and the participant handbook was presented.

Dr. Miguel Depaz, Director of Animal Health (BAHA), and Delegate to the OIE of Belize, made a presentation on the structure of the Veterinary Service in which he highlighted the technical areas of Epidemiological Surveillance, Disease Control, Traceability and Animal Welfare. He also highlighted the work that has been done in the area of laboratory diagnostics, where they are working on the ISO 170257/2017 certification, have properly trained personnel and have also performed proficiency tests. He also emphasized that the sustainability of surveillance systems and disease control programs, and the application of national regulations on the distribution, sale and responsible use of veterinary drugs are their greatest challenges. In his plans for the future, he mentioned that the reactivation of the Zoonosis Committee will be important to strengthen cooperation and coordination between BAHA and the Ministry of Health.

For the MoH, a joint presentation by Mrs. Lorna Pérez, Surveillance Officer and Mr. John Bodden, Public Health Inspector, was given. They explained the operation of the Belize Health Information System (BHIS), which is a data collection system from the various sectors of the MoH and acts as a central repository for critical information that flows in and out of the MoH. The MoH has identified the MoA- BAHA as one of its main partners for certain technical areas that should be addressed under the “One Health” approach, such as food safety, and surveillance and response in zoonotic diseases, such as Avian Influenza, Rabies and Bovine tuberculosis. However, it was recognized that interinstitutional communication and coordination is limited and informal. On the other hand, in the area of Antimicrobial Resistance, significant progress has been made, particularly with the development of a National Antimicrobial Resistance Plan between MoH and BAHA.

A second documentary video provided participants with concrete worldwide examples of intersectoral collaboration in addressing health issues at the human-animal interface.



### Outcomes of Session 1:

At the end of the session, the audience agreed that:

- Intersectoral collaboration between animal and human health sectors happens, but mainly during outbreaks; with a better preparedness, much more could be done at the human-animal interface.
- The two sectors have common concerns and challenges and conduct similar activities. Competencies exist and can be pooled. This needs to be organized through a collaborative approach.
- WHO, OIE, and FAO are active promoters of One Health and can provide technical assistance to countries to help enhance inter-sectoral collaboration at the central, local and technical levels.

## SESSION 2: NAVIGATING THE ROAD TO ONE HEALTH – COLLABORATION GAPS

Participants were divided into four working groups of mixed participants from both sectors and from different levels (Central, Provincial, District). Groups were provided with a fictitious scenario (Table 1) of an accidental, voluntary or natural release of pathogens relevant to the local context.

*Table 1: Scenarios used for the different case studies*

|  |
|--|
| <p><b>Disease 1 – Eastern Equine Encephalitis</b></p> <p><i>Due to a biosecurity breach in a vector-laboratory, mosquitoes that were infected by Equine Encephalitis for the purpose of a study were accidentally released. A few weeks later, a cluster of 4 cases of neurological symptoms in horses is reported by local veterinarians of Orange Walk to the Veterinary Service. There is no evidence or reports of mortality in wild birds, but no surveillance system is in place. Two weeks later, human cases are detected and it is confirmed that they are positive to Eastern equine encephalitis (EEE).</i></p> |
| <p><b>Disease 2 – Salmonellosis</b></p> <p><i>90 people in Belize City sought medical attention when they suffered high fever, nausea, diarrhea and severe abdominal pain, 12-36 hours after eating breakfast at a prominent hotel. Of these, 7 (5 children and 2 elderly) were hospitalized. All recovered within a week. The Managing Director of the hotel said that it sourced its eggs from a reputable supplier, and that the hotel stored its eggs according to food safety standards.</i></p>  |
| <p><b>Disease 3 – H5N1 Highly Pathogenic Avian Influenza</b></p> <p><i>Two persons were admitted at the Western Regional Hospital, with pneumonia. Laboratory testing by RT-PCR resulted positive for H5N1 subtype of avian influenza. One of the patients is a commercial producer who sells his birds three times a week at the local live bird market. The other patient reported having visited the same market 7 days prior to disease onset and having bought four turkeys.</i></p>  |
| <p><b>Disease 4 – Rabies</b></p> <p><i>A stray dog which was known to have bitten two cows and was behaving aggressively towards people was reported to have bitten some children in the same neighborhood. It was shot dead by Police in the outskirts of Indian Creek two days ago. The carcass of the dog was destroyed before the Veterinary authorities were able to take the head of the dog for confirmation of diagnosis.</i></p>  |

Using experience from previous outbreaks of zoonotic diseases, the groups discussed how they would have realistically managed these events, and evaluated the level of collaboration between the sectors for 15 key technical areas: coordination, investigation, surveillance, communication, etc.<sup>1</sup> These activities/areas of collaboration were represented by color-coded *technical area cards*: green for “good collaboration”, yellow for “some collaboration”, and red for “collaboration needing improvement” (Figure 1).



*Figure 1: Participants working on a case study scenario and evaluating the level of collaboration between the sectors*

<sup>1</sup> Technical Areas: Coordination at central level; Coordination at local level; Coordination at technical level; Legislation and regulations; Finance; Communication with media; Communication with stakeholders; Field investigation; Risk assessment; Joint surveillance; Laboratory; Response; Education and training; Emergency funding; Human resources.

*for 15 key technical areas.*

During an ensuing plenary session, each group presented and justified the results of their work. Output 1 summarizes the results from the five disease groups.

**Outcomes of Session 2:**

- Areas of collaboration are identified, and joint activities discussed.
- Level of collaboration between the two sectors for 15 key technical areas is assessed (Output 1).
- The main gaps in the collaboration are identified.

## SESSION 3: BRIDGES ALONG THE ROAD TO ONE HEALTH

Documentary videos introduced the international legal frameworks followed by human health (IHR 2005) and animal health (OIE standards) as well as the tools available to assess the country's capacities: the annual reporting and JEE tools for public health services and OIE PVS Pathway for veterinary services. The differences and connections between these tools were explained. A large matrix (IHR-PVS matrix), cross-connecting the indicators of the IHR MEF (in rows) and the indicators of the PVS Evaluation (in columns) was set-up and introduced to the participants (Figure 2).

Through an interactive approach, working groups were invited to plot their *technical area cards* onto the matrix by matching them to their corresponding indicators. A plenary analysis of the outcome showed clear gap clusters and illustrated that most gaps were not disease-specific but systemic.



*Figure 2: Mapping of the gaps by positioning the selected technical area cards on the IHR-PVS matrix.*

The main gaps (clusters) identified were discussed and it was agreed that the rest of the workshop would focus on the following capacities:

- Coordination (at all levels)
- Surveillance and Risk Analysis
- Response and Outbreak Investigation

'Human Resources' and 'Education and training' being cross-cutting topics, it was decided they would be addressed in each group as well.

'Finance' and 'Legislation' both came-up as the technical areas where most improvement would be required. However, participants agreed that the audience of this workshop would not be able to address these issues due to the fact that higher authorities have the mandate to do so. However, the group committed to advocate for allocation of funds to improve intersectoral collaboration as this remains, along with legislation, one of the major gaps impacting collaboration.

### Outcomes of Session 3:

- Understanding that tools are available to explore operational capacities in each of the sectors.
- Understanding of the contribution of the veterinary sector to the IHR.
- Understanding of the bridges between the IHR MEF and the PVS Pathway. Reviewing together the results of capacities assessment may help in identifying synergies and optimize collaboration.
- Understanding that most gaps identified are not disease-specific but systemic.

- Identification of the technical areas to focus on during the next sessions.

#### SESSION 4: CROSSROADS – PVS PATHWAY AND IHR MEF REPORTS

New working groups with representation from all previous groups were organized for each of the three priority technical areas: coordination (at all levels), surveillance and risk analysis, and response and outbreak investigation.

The matrix was used to link the identified gaps to their relevant indicators in the IHR MEF and in the PVS Pathway. Each working group then opened the assessment reports (JEE, PVS Evaluation) and extracted the main findings and recommendations relevant to their technical area (Figure 3).



*Figure 3: Participants extracting results from the PVS and JEE reports.*

#### Outcomes of Session 4:

- Good understanding of the assessment reports for both sectors, their purpose and their structure.
- Main gaps relevant to each technical area have been extracted.
- Main recommendations from existing reports have been extracted.
- A common understanding of the effort needed starts to emerge.

## SESSION 5: ROAD PLANNING

Using the same working groups as for the previous session, participants were asked to brainstorm and identify, based on the results of the previous sessions, the key activities that the sectors needed to implement together to improve their collaboration for each respective technical area.



*Figure 4: The group working on “Coordination” identified six key activities to improve the collaboration between the two sectors in this domain.*

### Outcomes of Session 5:

- Clear and achievable activities are identified to improve inter-sectoral collaboration between the two sectors for all technical areas selected.

## SESSION 6: FINE-TUNING THE ROAD-MAP

Participants filled in an Activity card for each activity, which includes the identification of a desired date of achievement, who will be responsible for its implementation, and a detailed explanation of the process that will be followed. The difficulty of implementation and the expected impact of each activity were also evaluated using red and blue stickers respectively and a semi-quantitative scale (1 to 3).

A World Café exercise was then organized to enable participants to contribute to the action points of all technical areas (Figure 6). Each group rotated between the different boards to contribute and provide feedback on all technical areas. Rotating groups had the possibility of leaving post-it notes on the activities of other groups when they felt that an amendment or a clarification was necessary. Overall, the three groups identified a total of **18 activities**.

At the end of the cycle, each group returned to their original board and was given 20 minutes to address changes or additions suggested by the other participants.



*Figure 6: World café exercise: the group on “Surveillance and Risk Analysis” is providing feedback to the group on “Response and Field Investigation”.*

The detailed results of the refined 18 activities are presented in [Output 2](#).

### Prioritization of Objectives

To prioritize the objectives identified by the technical working groups, each participant was asked to put a small white sticker on the five activities he/she would consider of highest priority.

The scale used to evaluate the level of priority of each activity was: Very low (0 vote), Low (1-5 votes), Medium (6-10 votes), High (11-20 votes), Critical (>20 votes). The detailed results are presented in [Output 2](#).

### Outcomes of Session 6:

- Harmonized, concrete and achievable road-map to improve the collaboration between the animal health and human health sectors in the prevention, detection and response to zoonotic disease outbreaks.
- Buy-in and ownership of all participants who contributed to all areas of the road-map.
- Prioritization of the activities.

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## **SESSION 7: WAY FORWARD**

Results of the prioritization vote were presented and discussed.

A final plenary session was held to discuss on how this roadmap will be implemented in Belize and what the follow-ups will be. The discussion was co-facilitated by Dr. Manzanero (Director of Epidemiology Unit, MoH) and Dr. Depaz (Chief Veterinary Officer, BAHA).

|                               |
|-------------------------------|
| <b>Outcomes of Session 7:</b> |
|-------------------------------|

- |  |
|--|
| <ul style="list-style-type: none"><li>• Understanding of how the outputs of the workshop can feed into other existing plans.</li><li>• Way forward is presented and discussed.</li><li>• Ownership of the workshop results by the country.</li></ul> |
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## **CLOSING SESSION**

All the material used during the workshop, including movies, presentations, documents of references, results from the working groups and pictures were uploaded on a server and shared with all participants.



# WORKSHOP OUTPUTS

## OUTPUT 1: ASSESSMENT OF LEVELS OF COLLABORATION FOR 15 KEY TECHNICAL AREAS

| Technical area (cards)                 | Eastern Equine Encephalitis | Salmonellosis | Rabies | Avian Influenza | Score |
|--|-----------------------------|---------------|--------|-----------------|-------|
| Finance                                | Yellow                      | Red           | Red    | Red             | 7     |
| Emergency funding                      | Red                         | Red           | Yellow | Red             | 7     |
| <b>Coordination at high Level</b>      | Yellow                      | Red           | Yellow | Red             | 6     |
| <b>Coordination at local Level</b>     | Red                         | Yellow        | Red    | Yellow          | 6     |
| Legislation / Regulation               | Yellow                      | Red           | Red    | Yellow          | 6     |
| <b>Risk assessment</b>                 | Yellow                      | Red           | Red    | Yellow          | 6     |
| <b>Response</b>                        | Yellow                      | Red           | Red    | Yellow          | 6     |
| <b>Human resources</b>                 | Yellow                      | Yellow        | Red    | Red             | 6     |
| <b>Coordination at technical Level</b> | Red                         | Yellow        | Yellow | Yellow          | 5     |
| <b>Field investigation</b>             | Yellow                      | Yellow        | Red    | Yellow          | 5     |
| <b>Joint surveillance</b>              | Red                         | Yellow        | Red    | Green           | 5     |
| <b>Education and training</b>          | Red                         | Yellow        | Yellow | Yellow          | 5     |
| Communication w/ media                 | Yellow                      | Yellow        | Yellow | Green           | 3     |
| Laboratory                             | Red                         | Green         | Yellow | Green           | 3     |
| Communication w/ stakeholders          | Green                       | Yellow        | Yellow | Green           | 2     |

For each disease, the performance of the collaboration between the human health and the animal health sectors is color-coded: green for “good collaboration”, yellow for “some collaboration”, and red for “collaboration needing improvement”. The score uses a semi-quantitative scale (2 points for a red card, 1 for a yellow card and 0 for a green card). Technical areas marked in bold were selected and addressed in-depth throughout the rest of the workshop.

## OUTPUT 2: FINAL ROADMAP

| Action  | Timeline      | Difficulty (1-3 scale) | Impact (1-3 scale) | Priority | Responsibility   | Process  |
|---|---------------|------------------------|--------------------|----------|--|--|
| <b>COORDINATION</b>   |               |                        |                    |          |  |  |
| <b>1. Restructure and rename the existing National Surveillance Committee as the National One Health Surveillance Committee to include multi-sectoral partners – MoH, MoA, BAHA, MOEnv, KMHM and the Private Sector</b> | June 2020     | ++                     | +++                | Critical | Epi Unit (MOH)<br>Surveillance and<br>Pubic Health BAHA          | <ol style="list-style-type: none"> <li>1) Revise the existing TOR for the Surveillance Committee</li> <li>2) Restructure the participants</li> <li>3) Approval by DHS Office</li> <li>4) Approval from HoDs of partners</li> <li>5) Create an MoU</li> <li>6) Arrange / Organize meetings (Plan)</li> <li>7) Consultation at National Level</li> </ol> |
| <b>2. Reactivate and restructure zoonotic committee under the one health approach to a Technical Working Group (TWG)</b>  | March 2020    | ++                     | +++                | Critical | One Health National<br>Focal Points                              | <ol style="list-style-type: none"> <li>1) Draft proposal to CEO Health and CEO agriculture to implement activity</li> <li>2) Submit proposal</li> <li>3) Obtain approval</li> <li>4) Meet with relevant stakeholders</li> </ol> <p>1) Identify and appoint representatives based on TORs</p>   |
| <b>3. Identify focal points (FPs) for coordination and collaboration of One Health Interventions for all sectors</b>  | June 2020     | +                      | +++                | Medium   | Heads of<br>Departments<br>(Directors or CEOs)                   | <ol style="list-style-type: none"> <li>2) Send letter to the heads of departments requesting focal points from each department Epi and public health contact</li> </ol>  |
| <b>4. Develop TORs and SOPs for information sharing between focal points in all sectors</b>   | June 2020     | +                      | +++                | Medium   | Focal Points   | <ol style="list-style-type: none"> <li>1) Meeting to draft TORs and SOPs</li> <li>2) TORs to be shared and improved by FPs</li> </ol>  |
| <b>5. Training of trainers on One Health Approach and roles and responsibilities of the zoonotic committee</b>  | December 2020 | ++                     | +++                | High     | Zoonotic Committee   | <ol style="list-style-type: none"> <li>1) Identify sectors to be involved</li> <li>2) Invite sectors to be involved</li> <li>3) Train trainers nationally (at least 1 cohort)</li> <li>4) Trainers conduct local trainings (at least 2 cohorts)</li> </ol>   |
| <b>6. Draft cabinet paper to sensitize government of Belize on the national One Health Initiative and request approval for legislative review and financial support</b>   | June 2020     | +++                    | +++                | Critical | Chair of One Health<br>Committee<br>(National<br>Epidemiologist) | <ol style="list-style-type: none"> <li>1) Presentation to Ministers and CEOs regarding objectives of One Health</li> <li>2) Draft cabinet paper</li> <li>3) Submit to respective CEOs</li> <li>4) CEO to present to cabinet secretary for approval</li> </ol>  |
| <b>SURVEILLANCE &amp; RISK ASSESSMENT</b>   |               |                        |                    |          |  |  |
| <b>7. Include priority zoonotic diseases in list of notifiable diseases</b>   | June 2020     | +                      | ++                 | Medium   | MOH epidemiology<br>Unit director                                | <ol style="list-style-type: none"> <li>1) Review current list of notifiable diseases</li> <li>2) Revise to include zoonotic diseases</li> <li>3) Disseminate new list to relevant users</li> </ol>   |
| <b>8. Develop agreements for the sharing of surveillance data and relevant partner through One Health approach</b>  | June 2020     | +++                    | +++                | High     | Zoonotic Committee   | <ol style="list-style-type: none"> <li>1) Identify type of data, users and uses</li> <li>2) Draft agreement/MoU</li> <li>3) Approval of MoU by relevant sectors</li> </ol>   |

|   |                |     |     |          |  |  |
|---|----------------|-----|-----|----------|--|--|
| <b>9. Review existing IT platforms to link the data information system of sectors</b>   | June 2020      | +++ | +++ | High     | National Epidemiologist Director, IT, CITO | 1) Meet with IT staff from different partners (BHIS, HRMIS, Smart Stream, CITO, Agri Events)<br>2) List needs of each partner<br>3) Identify what aspects need to be shared<br>4) Develop Interface systems  |
| <b>10. Formulate agreement between One health team to facilitate collaborative quantitative and qualitative research</b>  | Dec 2020       | +   | ++  | Medium   | Zoonotic committee                         | 1) Draft agreement<br>2) Obtain approval of agreement  |
| <b>11. Formulate policy and protocols for implementation of joint risk assessment at national level for priority zoonotic diseases and food-borne illnesses</b> | June 2020      | ++  | +++ | Low      | Zoonotic committee                         | 1) Make inventory of current available protocols and policies<br>2) Draft protocols/policies to formalize current informal activities<br>3) Approve protocols and policies   |
| <b>RESPONSE &amp; OUTBREAK INVESTIGATION</b>  |                |     |     |          |  |  |
| <b>12. Establish joint investigation teams at the national level (1) and at the district level (6)</b>  | September 2020 | +   | +++ | Critical | CVO / Epi Unit                             | 1) Develop TORs & SOPs<br>2) Identify joint team members in alignment<br>3) Nominate team members by different HOD of sectors  |
| <b>13. Conduct FETP equivalent training with One Health module for frontline workers from relevant sectors</b>  | Ongoing        | +++ | +++ | Medium   | Epi Unit                                   | 1) Incorporate One Health module to curriculum<br>2) Sensitize FETP graduates on the One Health module<br>3) Select candidates based on defined criteria (front line workers)  |
| <b>14. Map and assess available resources (equipment, material, human resources, etc.)</b>  | March 2020     | +   | +++ | Medium   | IHR Focal Points                           | 1) Identify mapping team<br>2) Conduct planning with team to develop micro plan<br>3) Conduct field assessment<br>4) Submit assessment to One Health Committee   |
| <b>15. Develop a national zoonotic response plan</b>  | September 2020 | ++  | +++ | Medium   | CVO/ Epi Unit                              | 1) Identify key stakeholders (consultant)<br>2) Meet to conduct desk review of existing plans<br>3) Adapt plan to national needs (key targets, key indicators)<br>4) Conduct bi-monthly meeting to finalize plan<br>5) Develop TOR & SOPs associated to the plan |
| <b>16. Conduct a simulation exercises to test coordination mechanisms among the sectors when responding to a zoonotic disease outbreak</b>                      | March 2021     | ++  | +++ | Medium   | CVO/ Epi Unit                              | 1) Identify objective of simulation exercise with stakeholders<br>2) Plan simulation exercise<br>3) Execute exercise<br>4) Evaluate exercise and follow-up required  |
| <b>17. Establish and update directory of response team members every 6 months</b>   | September 2020 | +   | +++ | Low      | CVO/Epi Unit                               | 1) Identify team members for directory<br>2) Collect contact information<br>3) Disseminate information to relevant stakeholders<br>4) Update every 6 months  |
| <b>18. Establish hotline to report public health/zoonotic events</b>  | December 2020  | ++  | +++ | Low      | CEOs                                       | 1) Prepare proper justification<br>2) Implement hotline  |

**Difficulty of implementation:** Low +, Moderate ++, Very difficult +++

**Impact:** Low impact +, Moderate impact ++, High impact +++

**Priority:** Very low (0 vote), Low (1-5 votes), Medium (6-10 votes), High (11-20 votes), Critical (>20 votes)

## WORKSHOP EVALUATION

An evaluation questionnaire was completed by 37 participants to collect feedback on the relevance and utility of the workshop.

*Tables 1-4: Results of the evaluation of the event by participants (37 respondents)*

| Workshop evaluation                  | 'Satisfied' or 'Fully satisfied' | Average score (/4) |
|--------------------------------------|----------------------------------|--------------------|
| <b>Overall assessment</b>            | <b>100%</b>                      | <b>3.6</b>         |
| Content                              | 100%                             | 3.6                |
| Structure / Format                   | 100%                             | 3.6                |
| Facilitators                         | 100%                             | 3.8                |
| Organization (venue, logistics, ...) | 97%                              | 3.5                |

*Participants had to choose between 1=Highly unsatisfied – 2=Unsatisfied – 3=Satisfied – 4=Highly satisfied*

| Impact of the workshop on...              | 'Significant' or 'Major' | Average score (/4) |
|---|--------------------------|--------------------|
| Your technical skills / knowledge         | 97%                      | 3.3                |
| The work of your unit/department          | 100%                     | 3.5                |
| The intersectoral collaboration in Belize | 86%                      | 3.2                |

*Participants had to choose between 1=No impact at all – 2=Minor impact – 3=Significant impact – 4=Major impact*

| Average score for each session (/4) |           |           |           |           |           |           |
|-------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| Session 1                           | Session 2 | Session 3 | Session 4 | Session 5 | Session 6 | Session 7 |
| 3.7                                 | 3.5       | 3.6       | 3.6       | 3.6       | 3.6       | 3.6       |

| Would you recommend this workshop to other countries? |     |
|---|-----|
| Absolutely  | 90% |
| Probably  | 10% |
| Likely not  | 0%  |
| No  | 0%  |

