



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

11-13 September 2019

Skopje, Republic of North Macedonia



Organized by Ministry of Health, the Institute of Public Health, the Food and Veterinary Agency, WHO and OIE

Acknowledgments

The organizers of the meeting would like to express their gratitude to the authorities of the Republic of North Macedonia for their support in the preparation and conduction of the event,

Organizers and participants would like to acknowledge the Federal Republic of Germany for funding this workshop.

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ABBREVIATIONS & ACRONYMS

ANSA	National Agency for Food Safety
ANSP	National Agency for Public Health
BS&S	Biological Safety and Biological Security
CPH	Centers for Public Health
DG	Directorate General
FAO	Food and Agriculture Organization of the United Nations
FELTP	Field Epidemiology and Laboratory Training Program
FP	Focal Point
FSX	Full-scale Exercise
FVA	Food and Veterinary Agency
HQ	Headquarters
IHR	International Health Regulations (2005)
IPH	Institute of Public Health
IT	Information technology
JEE	Joint External Evaluation
MEF	Monitoring and Evaluation Framework
MoH	Ministry of Health
MoU	Memorandum of Understanding
ANSPS	National Action Plan for Health Security
OIE	World Organisation for Animal Health
PH	Public Health
PVS	Performance of Veterinary Services
SOP	Standard Operating Procedures
TOR	Terms of Reference
TTX	Table-top exercise
WHE	WHO Health Emergencies Program
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 Republic of North Macedonia,

- A PVS Evaluation was conducted in June 2015;
- A Joint External Evaluation (JEE) was conducted in March 2019.

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 hosting countries 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 IHR MEF 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 IHR MEF 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 a joint national roadmap to strengthen collaboration and coordination.

The agenda of the Workshop is available in [Annex 1](#). It was attended by 26 participants from the Ministry of Health, Institute for Public Health, Food and Veterinary Agency, Public Health Centers, State Sanitary Health Inspectorate, University Clinic for communicable diseases and febrile conditions, Agriculture Extension Agency and Veterinary Faculty, with representatives from the Central, Regional and District levels attending the three-day discussions. Representatives of development partners (Robert Koch Institute, the Red Cross) were also present.

REPORT ON THE SESSIONS

From 11th to 13th September 2019, the National Bridging Workshop (NBW) on the International Health Regulations (IHR) and the OIE Performance of Veterinary Services (PVS) Pathway for the Republic of North Macedonia was held in Skopje. The Workshop was hosted at the kind invitation of the Government of North Macedonia, with organizational support from the WHO Country Office in North Macedonia. The Workshop was attended by 26 participants from Ministry of Health (MoH), Institute for Public Health (IPH), and Food and Veterinary Agency (FVA), as well as representatives of World Health Organization (WHO) and World Organisation for Animal Health (OIE). Observers from the Robert Koch Institute and the Red Cross also attended the workshop.

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

Greetings to the participants were given by Dr. Ljubica Tasheva, IHR National Focal Point of the MoH, in the name of the WHO National Counterpart in North Macedonia, Dr. Blazo Janevski in the name of the Director of the FVA, Dr. Abestayehu Mengistu, (WHO Health Emergencies Program Coordinator of the Balkan Hub), Dr Djahne Montabard (OIE Regional Representation in Moscow), Dr Stanislav Ralchev (Regional OIE PVS Expert) and Dr Sloboden Chokrevski (North Macedonia OIE PVS Expert). They highlighted the importance of the One Health approach in preventing, detecting and controlling diseases and emphasized on the need for further improvement and strengthening of the fruitful collaboration between Public and Animal Health sectors, by implementing the roadmap which will be developed during the National Bridging Workshop (NBW), organized by WHO and OIE. They stressed importance of using of the two tools developed by WHO and OIE (IHR and PVS) and their comparative advantages resulting, at country level, in a better alignment of capacity building approach and strategical cooperation between human and animal health sectors. Strengthening of the interaction between professionals and policy makers from both sectors, improved collaboration and coordination to inform operational strategies to be used by policy makers for concerted corrective measures and strategic investment in the national roadmap were mentioned among the objectives of the workshop. They stressed the good opportunity to widen and intensify the collaboration and to build the sustainable bridge between the two sectors with a joint workplan. Being as operational as possible, this plan will develop a vision of a future of the intersectoral cooperation, recognized for North Macedonia as a way to be better prepared to face the possible outbreaks of zoonotic diseases and other emergencies.

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.

Dr Vladimir Mikik, IHR National Focal Point, Epidemiologist at the IPH, presented the structure, the services, and the priority goals of the human health sector, cooperation between the two sectors in North Macedonia and called for strengthening collaboration. He provided numerous examples of existing multisectoral collaboration, such as a memorandum for good cooperation established between FVA, State Sanitary Health Inspectorate, Ministry of Health and IPH. Among other examples were recent workshop jointly organized with the FVA for prioritization of zoonotic diseases, the food-borne outbreak investigation teams, a crisis management centre, a new multisectoral committee for the implementation of the IHR. The annual programme for brucellosis is another good example of the existing cooperation. These examples should be multiplied and become more visible, and, particularly, experts from both sectors should be jointly involved in the surveillance of zoonoses. There are needs for more simulation exercises to test the procedures and check the preparedness of the country to respond to possible threats.

Dr Blajo Janevski, Head of the Food and Veterinary Agency, presented the structure of the FVA, an independent body subordinated to the Government which merged the Veterinary Directorate in the Ministry of Agriculture and the Food Directorate in the Ministry of Health. He focused the presentation on the programmes and activities related to animal-human health interface in an advanced stage of development. Two good examples show how the country is already supporting the concept of One Health and is aware of the need to implement this approach: **(i)** the recent development of an action plan on communicable diseases, adopted and ready to be implemented and **(ii)** a new strategy and the 2019-2023 action plan on the control of antimicrobial resistance (AMR), with a multisectoral committee on AMR control composed of members from both sectors.

Both presentations stressed that tools and regulations for collaboration between the two sectors are in place in North Macedonia; however further improvement is necessary. The two sectors work together on a pandemics plan and will develop a rapid response plan. The presenters underlined the lack of time or dedicated personal and the need to improve data sharing.

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

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 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 case study scenario (Table 1) based on diseases relevant to the local context (anthrax, brucellosis, salmonellosis, West Nile fever) developed in collaboration with national representatives.

Table 1: Scenarios used for the different case studies

<p>Anthrax (disclaimer: this incident is completely fictional)</p> <p>At least 30 people in Berovo ate meat from a slaughtered agonizing animal. Seven of these developed symptoms consistent with cutaneous and gastrointestinal anthrax infection and presented to primary healthcare center. The farmer was unaware and denied selling meat from the agonizing cattle. Veterinary services have started an investigation.</p>
<p>Brucellosis (disclaimer: this incident is completely fictional)</p> <p>In the last month, 1 of 3 ewes belonging to a small-holder sheep farmer near Gostivar aborted. The farmer did not report this abortion to the private veterinary practitioner (PVP). A second and third abortion occurred in the last week and the farmer immediately notified the PVP of the 3 abortions. The PVP quickly went to the farm and suspecting brucellosis, he took blood samples from the three animals and sent them to the Faculty of Veterinary Medicine Laboratory, where they were found be positive for Brucellosis.</p>
<p>Salmonellosis (disclaimer: this incident is completely fictional)</p> <p>90 people in Skopje sought medical attention when they suffered high fever, nausea, diarrhoea and severe abdominal pain, 12-36 hours after eating breakfast at a prominent hotel. Of these, 7 (5 children and 2 elderly) were hospitalised. All recovered within a week. The epidemiological investigation confirmed eggs as a source of infection. 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.</p>
<p>West Nile Fever (disclaimer: this incident is completely fictional)</p> <p>23 people were hospitalized last week at the local hospital of Dojran with symptoms of fever, severe headache and muscle tremor. All were found to be seropositive for WNF virus. After this was broadcasted at the national prime-time news, the general public became very concerned. Veterinary Services shared the recent seroprevalence data from a study on WNF in Nikolich. It was reported that 5 out 12 horses located near this city were found seropositive for WNF. Furthermore, epidemiological investigation suspected WNFV spillover from the resting places of wild migratory birds located near Dojran Lake.</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 veterinary and the public health services for 15 key technical areas: coordination, investigation, surveillance, communication, etc. 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 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.

It was noted that areas for improvement in coordination and cooperation between medical and veterinary services exist in many closely related technical capacities, reflecting the scores obtained in Session 2 (Output 1). In order to address as many gaps as possible, it was agreed to combine related technical capacities. It was agreed that the rest of the workshop would focus on the following capacities:

- Priority technical area 1: Human resources, communication, education and training
- Priority technical area 2: Surveillance and risk assessment
- Priority technical area 3: Response, field investigation and coordination

Finance came-up as one of the technical areas needing most improvement. However, participants agreed that the audience of this workshop would not be able to provide substantial improvements in that domain. It remains nonetheless one of the major gaps impairing the efficiency of the intersectoral 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 (Figure 3).

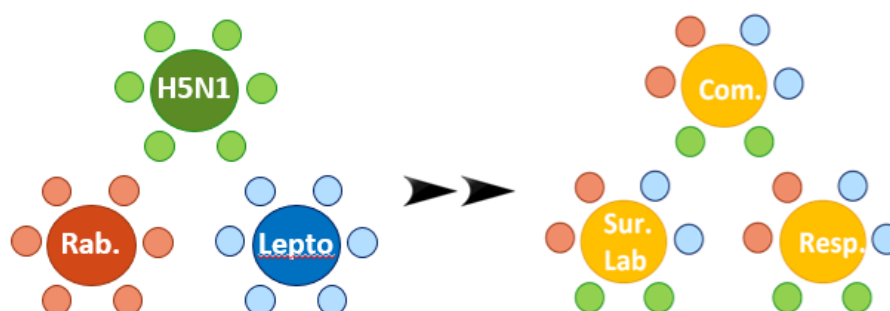


Figure 3: Generic graph describing the organization of working groups for Session 2-3 (left) and Session 4-5 (right).

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 Follow-up) and extracted the main findings and recommendations relevant to their technical area(s) (Figure 4).



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 identify, three to ten joint activities per group according to the group's technical area identified previously. Based on the results of the previous sessions (case study exercises, extraction from reports) and their own experience, participants brainstormed on the identification of joint activities and objectives to improve mutual collaboration between the two sectors. Participants discussed their ideas within their groups and drafted them using the flipcharts (Figure 5).



Figure 5: The participants are brainstorming on human resources, communication, education and training activities.

Outcomes of Session 5:

- Clear and achievable objectives and activities are identified to improve inter-sectoral collaboration between the two sectors for all technical areas selected.
- For each activity, a desired completion date, focal points, required support and measurable indicators have been identified.
- The impact and the difficulty of implementation of all proposed activities have been estimated.

SESSION 6: FINE-TUNING THE ROAD-MAP

Using the same groups as in the previous session, participants were asked to provide additional details on the activities by filling an *Activity card* for each one. The required information included the expected date of achievement, an assignment of responsibility and a detailed process of implementation. The difficulty of implementation and the expected impact of each activity were also evaluated using red and blue stickers and a semi-quantitative scale (1 to 3). Activities that were linked were then regrouped under specific objectives (Figure 6).



Figure 6: The group working on “Response, field investigation and coordination” identified 3 objectives and 6 activities to improve the collaboration between the two sectors in this domain.

A World Café exercise was then organized to enable participants to contribute to the action points of all technical areas. Each group nominated a rapporteur whose duty was to summarize the results of their work to the other groups. 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 objectives and activities of other groups when they felt that an amendment or a clarification was necessary.

At the end of the cycle, each group returned to their original board and the rapporteur summarized the feedback received. Groups were given 20 minutes to address changes or additions suggested by the other participants. Objectives and activities were fine-tuned accordingly, and a final plenary session was conducted to discuss the outstanding points.

Overall, the three groups identified a total of nine key objectives and 23 activities. The detailed results are presented in NBW Roadmap in [Output 2](#).

Prioritization of Objectives

To prioritize the objectives identified by the technical working groups, participants were invited to vote for the activities they considered as the highest priority. 26 participants participated in the vote. Each participant had seven votes and voted using color stickers (Figure 7). This prioritization showed that all topics selected in the course of the workshop were crucial to strengthen intersectoral collaboration; the following domains however were predominant: “joint surveillance, risk assessment, laboratories, coordination on the technical

level". Among others, 3 activities were selected as of the highest priority for the country (rank in the list reflects the voting results):

1. Develop operational IT system for sharing of information (surveillance data and One Health activities) between sectors at all levels (59%).
2. Conduct joint simulation exercises to test outbreaks response plan (59%);
3. Establish multisectoral working (sub)group for joint surveillance and risk assessment (44%);

Full results of the vote can be found in [Output 3](#).

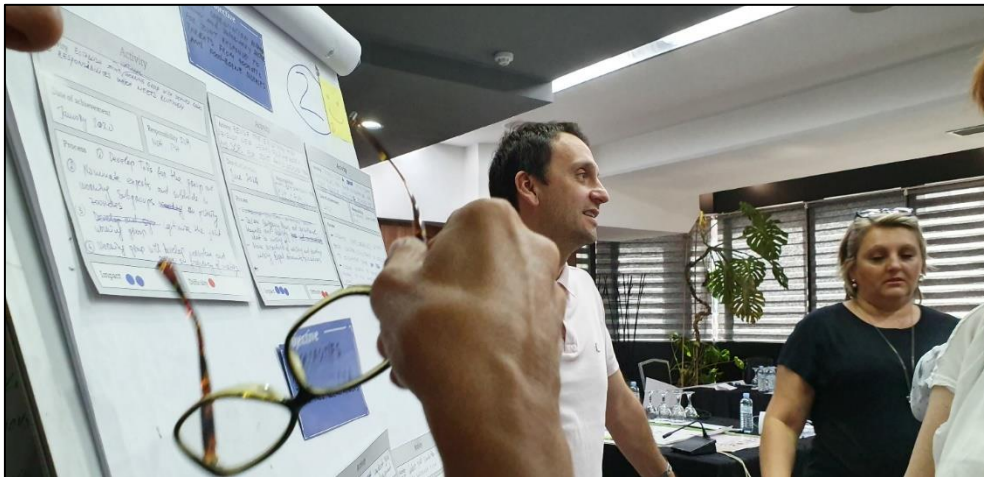


Figure 7: Rapporteur of the group "Surveillance and risk assessment" summarize the results of the group during the World Café exercise

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.

SESSION 7: WAY FORWARD

Results of the prioritization vote were presented and discussed. This session gave the two sectors the opportunity to express their point of view regarding the implementation of the outcomes of the workshop.

Participants actively participated in the discussion of Session 7. They agreed on the important work done during the 3-days workshop and consider it as a fundamental and distinct chapter in the development of the strategic plan to be implemented in North Macedonia within the One Health concept. The prioritized technical areas are vital critical points to foster collaboration between both sectors. Representatives of both sectors highlighted that collaboration between the sectors of Human and Animal Health is of vital importance to achieve sustainable results in improving both the public and veterinary health situation and development of the health system in North Macedonia. The discussions in the groups as well as in plenary were fruitful and helped to achieve the best compromise acceptable to both sides. Participants have received broad knowledge on the concept of One Health and developed a number of activities. This should be seen as a pathway to follow with clear objectives and robust understanding of how to convert the gaps identified in collaboration between the two sectors into strengths to be better prepare for future health emergencies. Although many participants had extensive experience working in their field for decades, the workshop helped obtaining a broader view of the system and working on different fields. It also helped participants to look at the system with the eyes of their counterpart colleagues. Regardless of the sector an individual participant works for, eventually, all are part of a bigger team, the One Health team.

The two sectors can now see the picture of collaboration, including local level, vet practitioners, epidemiologists, who had the opportunity to participate in developing this plan for collaboration. The participants recognize their expectations from the workshop have been met, having tangible outcomes with a concrete action plan. They expressed their vision on the implementation of the prioritized objectives, willing to start working on those not highly funding demanding. The vision after the workshop would be to have one joint programme to monitor zoonoses and vector-transmitted diseases, to improve the efficiency of surveillance. Establishment of working groups and committees to define priorities and to operationalize the actions is seen as a first step, that can be done without changing the existing legislation, taking advantage of the advanced collaboration procedures (MoU signed). Participants noticed that the majority of these activities do not require great interventions or new programmes but they can be embedded into the existing ones. However, although the dynamic is recognized, the shortage in human resources remains a major concern, as the actual weaknesses in terms of very little inter-consultation between sectors when developing some programmes.

Outcomes of Session 7:

- Understanding of how the outputs of the workshop can feed into other existing plans.
- Way forward is presented and discussed.
- Ownership of the workshop results by the country.

CLOSING SESSION

The closing session was led by the representatives of the Ministry of Health and of the FVA of the Republic of North Macedonia. Summarizing the workshop, they thanked the WHO and the OIE for the opportunity of

a constructive work to improve the communication and coordination between the Human and Animal Health sectors. They acknowledged many ideas and solutions developed during the 3-day course of the workshop. They recognized that such a workshop is an excellent platform for the experts from two sectors to come together and openly discuss many specific problems together. Topics of already good collaboration were recalled (zoonoses, antimicrobial resistance and vector transmitted diseases, where both sectors develop capacities to improve the control). Defined activities are recognized as key instruments to gain synergy in the work of medical and veterinary services for the benefit of public and animal health, it was noted One Health could be implemented not only at the institutional level but also practiced routinely at the individual professional level, which will enhance the overall system performance. The WHO insisted on the need to ensure effectiveness and link the prioritized activities with the national health security plan.

All the material used during the workshop, including movies, presentations, documents of references, results from the working groups and pictures were copied on a memory stick distributed to all participants.

A three-minute movie of the workshop was projected and is available at the following link: www.bit.ly/NBWNMacedonia.

WORKSHOP OUTPUTS

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

Technical area (cards)	Anthrax	Brucellosis	Salmonellosis	West Nile Fever	Score
Finance	Red	Red	Red	Red	8
Risk assessment	Red	Yellow	Red	Red	7
Human resources	Red	Red	Yellow	Yellow	6
Education and training	Yellow	Yellow	Yellow	Red	5
Joint surveillance	Red	Yellow	Yellow	Yellow	5
Communication w/ media	Yellow	Yellow	Red	Yellow	5
Field investigation	Red	Yellow	Yellow	Yellow	5
Coordination at technical Level	Red	Green	Yellow	Yellow	4
Emergency funding	Green	Yellow	Yellow	Red	4
Response	Green	Green	Yellow	Red	3
Coordination at local Level	Yellow	Yellow	Green	Yellow	3
Laboratory	Red	Green	Yellow	Green	3
Coordination at high Level	Green	Yellow	Green	Yellow	2
Legislation / Regulation	Yellow	Green	Green	Yellow	2
Communication w/ stakeholders	Yellow	Green	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: OBJECTIVES AND ACTIONS IDENTIFIED PER TECHNICAL AREAS

Action	Timeline	Difficulty (1-3 scale)	Impact (1-3 scale)	Responsibility	Process
JOINT SURVEILLANCE, RISK ASSESSMENT & COORDINATION					
Objective 1: Improve coordination and linkages between human and animal health sectors					
1.1 Nominate national coordinators for zoonoses	December 2019	+	+++	MoH, FVA	1) Develop ToR of national coordinators for zoonoses 2) Identify responsible persons 3) Both MoH and FVA to prepare joint nomination letter and nominate coordinators
1.2 Establish multisectoral working (sub)group for joint surveillance and risk assessment (refer/align to/with activity 4.1)	April 2020	+	+++	National coordinators, MoH, FVA	1) Develop ToR for the (sub)WG 2) Define the experts and nominate members of the (sub)WG 3) Define objectives, deliverables, budget 4) Define frequency and modality of the WG meetings
Objective 2: Enhance capacity for implementation of joint surveillance and risk assessment					
2.1 Conduct laboratory inventory in both sectors (technical, human resources, methodologies, equipment)	May 2020	+++	++	National coordinators	1) Develop standardized form (check list) 2) Map existing laboratories (private and public) in both sectors 3) Collect information on human resources, implemented methodologies, available equipment, etc.
2.2 Conduct joint analysis of surveillance data	31 December 2021	++	+++	National coordinators, Multisectoral WG for joint surveillance and risk assessment, technical focal points for specific diseases (3.3), epidemiologists from IPH and FVA	1) Focal points for each zoonotic disease (activity 3.3) will be responsible for surveillance data collection and analysis 2) IPH and FVA continuously collect and analyze surveillance data 3) IPH and FVA will meet to conduct interpretation of data and provide recommendations
2.3 Define training needs on joint risk assessment and joint surveillance	September 2020	++	+++	National coordinators, Multisectoral WG for joint	- Develop questionnaire for training needs assessment

				surveillance and risk assessment	<ul style="list-style-type: none"> - Analyze the results - Map and use international guidelines / tools - Define the end users - Develop training plan
2.4 Conduct workshop to train national experts on the tool (methodology) on joint risk assessment (developed by WHO/OIE/FAO)	November 2020	++	+++	National coordinators, Multisectoral WG for joint surveillance and risk assessment, MoH, FVA	<ul style="list-style-type: none"> - Request WHO - Nominate participants - Conduct workshop and develop recommendations
2.5 Conduct joint risk assessment	December 2020	++	+++	National coordinators, Focal Points of Multisectoral WG for joint surveillance and risk assessment	<ul style="list-style-type: none"> - Align with activity 2.2 to inform data for joint risk assessment - Organize joint risk assessment workshop for each priority zoonosis
Objective 3: Improve and harmonize exchange of information between human and animal health sectors					
3.1 Develop strategy for joint surveillance	September 2020	++	++	Multisectoral WG for joint surveillance and risk assessment, MoH, FVA	<ul style="list-style-type: none"> - Develop common frame for joint surveillance activities related to zoonoses based on the list of priority diseases - Adopt by MoH and FVA
3.2 Develop protocols and SOPs for data exchange between two sectors	March 2020	+++	+++	Multisectoral WG for joint surveillance and risk assessment	<ul style="list-style-type: none"> - Define types and format of data to be shared - Define the mode of data exchange - Define the specific diseases for data exchange
3.3 Designate technical focal points for data exchange for specific diseases in both sectors	March 2020	+	+	Multisectoral WG for joint surveillance and risk assessment	<ul style="list-style-type: none"> - Nominate focal points for all specific diseases based on the list of priority zoonoses responsible for data exchange - Develop and approve ToRs by both sectors - Train focal points on data exchange
3.4 Develop operational IT system for sharing of information (surveillance data and One Health activities) between sectors at all levels	2021	+++	+++	Department of e-Health of MoH, FVA	<ul style="list-style-type: none"> - Develop the architecture of information sharing IT system - Develop required databases - Align with Activity 3.2 - Test software - Legitimize and implement - Train relevant specialists
RESPONSE, FIELD INVESTIGATION, COORDINATION					
Objective 4: Improve coordination between human and veterinary sectors for joint response to zoonotic and food-borne emergencies					
4.1 Establish joint working group for One Health coordination at the national level	January 2020	+	++	FVA, MoH, Institute of Public Health (IPH)	<ol style="list-style-type: none"> 1) Develop ToR for the WG 2) Nominate experts

					<p>4) Subdivide in working subgroups according to the priority zoonoses and /or technical areas</p> <p>5) Legitimize the joint working group</p> <p>6) WG to develop working plan</p> <p>7) WG to agree on frequency and modality of meetings / joint work</p>
Objective 5: Strengthen regulatory framework to enhance response efficiency					
5.1 Enable operational joint rapid response teams (RRTs)	June 2021			Working group (4.1), MoH (Public Health Department), FVA (Animal Health Department)	<ul style="list-style-type: none"> - Map all existing contingency/control plans and operational manuals from all sectors for each priority zoonosis - Make revision of existing legislative framework - Develop or update existing contingency/control plans / operational procedures to enable operability of the joint RRTs (ToR for RRTs, SOPs)
Objective 6: Improve capacities for joint response					
6.1 Create joint rapid response teams (RRTs) at the national and local levels	2021			MoH (Public Health Department), FVA (Animal Health Department)	<ul style="list-style-type: none"> - Both sectors to nominate specialists who will work within RRTs at the national and local levels - Conduct gap analysis of the logistics needs of the joint RRTs - Joint RRTs to meet regularly
6.2 Create inventory of equipment and supplies for RRTs and field investigation teams	2020			MoH, FVA, Crisis Management Center	<ul style="list-style-type: none"> - Conduct inventory of existing stocks of equipment and supplies in both sectors - Create joint database
6.3 Conduct regular joint trainings (Functional Simulation Exercises) for RRTs on specific SOPs and use of equipment	2021			Working group (4.1), MoH (Public Health Department), FVA (Animal Health Department)	<ul style="list-style-type: none"> - Identify relevant experts-trainers - Create a training team - Develop training methodology - Develop training program - Nominate participants - Estimate training budget - Conduct trainings
6.4 Conduct regular joint simulation exercises to test Outbreak Response Plan	2021			FVA, MoH, IPH, Centers for Public Health (regional level)	<ul style="list-style-type: none"> - Create SimEx team - Develop concept notes including purpose, objectives, scope

					<ul style="list-style-type: none"> - Develop SimEx scenarios respecting the priority zoonosis list - Estimate budgets - Nominate participants - Identify stakeholders - Conduct the exercises - Evaluate the results and identify gaps - Prepare recommendations to make the system more effective
HUMAN RESOURCES, EDUCATION AND TRAINING, COMMUNICATION					
Objective 7: Define and ensure human resources to implement One Health approach					
7.1 Conduct a needs assessment analysis for HR resources in both sectors	March 2020	+	+++	HR Departments of MoH and FVA	<ol style="list-style-type: none"> 1) Create joint commission of 5-7 people 2) Develop ToR for the commission 3) Conduct functional analysis 4) Develop Strategic Plan for 3 years 5) Update the regular annual plan 6) Conduct job classification
7.2 Develop HR plan for next 5 years	August 2020	+++	+++	Ministry of Finance, Ministry of Administration and Informatic Society	<ol style="list-style-type: none"> 1) Align HR plans between two sectors 2) HR plan will allow new positions: <ol style="list-style-type: none"> a. Risk analysis experts b. Epidemiologists on central level c. Epidemiologists on local level d. Finance (budgeting) specialists 3) Approve the plan by joint decree
Objective 8: Develop and maintain adequate skills and competencies in both sectors to implement "One Health" approach					
8.1 Include epidemiology course module into post-graduate (continuous) education for veterinary and medical doctors	September 2020	++	+++	Veterinary Faculty, Medical Faculty	<ol style="list-style-type: none"> 1) Establish a joint commission which include professors from Medical and Veterinary Faculties 2) Develop or adapt the epidemiology course 3) Define professors who will lead the course 4) Create on-line course on epidemiology
8.2 Develop One Health module for undergraduate students (specialization) of veterinary and medical specialties	September 2022	++	+++	Ministry of Education and Science, MoH	<ol style="list-style-type: none"> 1) Develop / adapt joint One Health module 2) Include joint One Health module into curricula of Veterinary and Medical Faculties

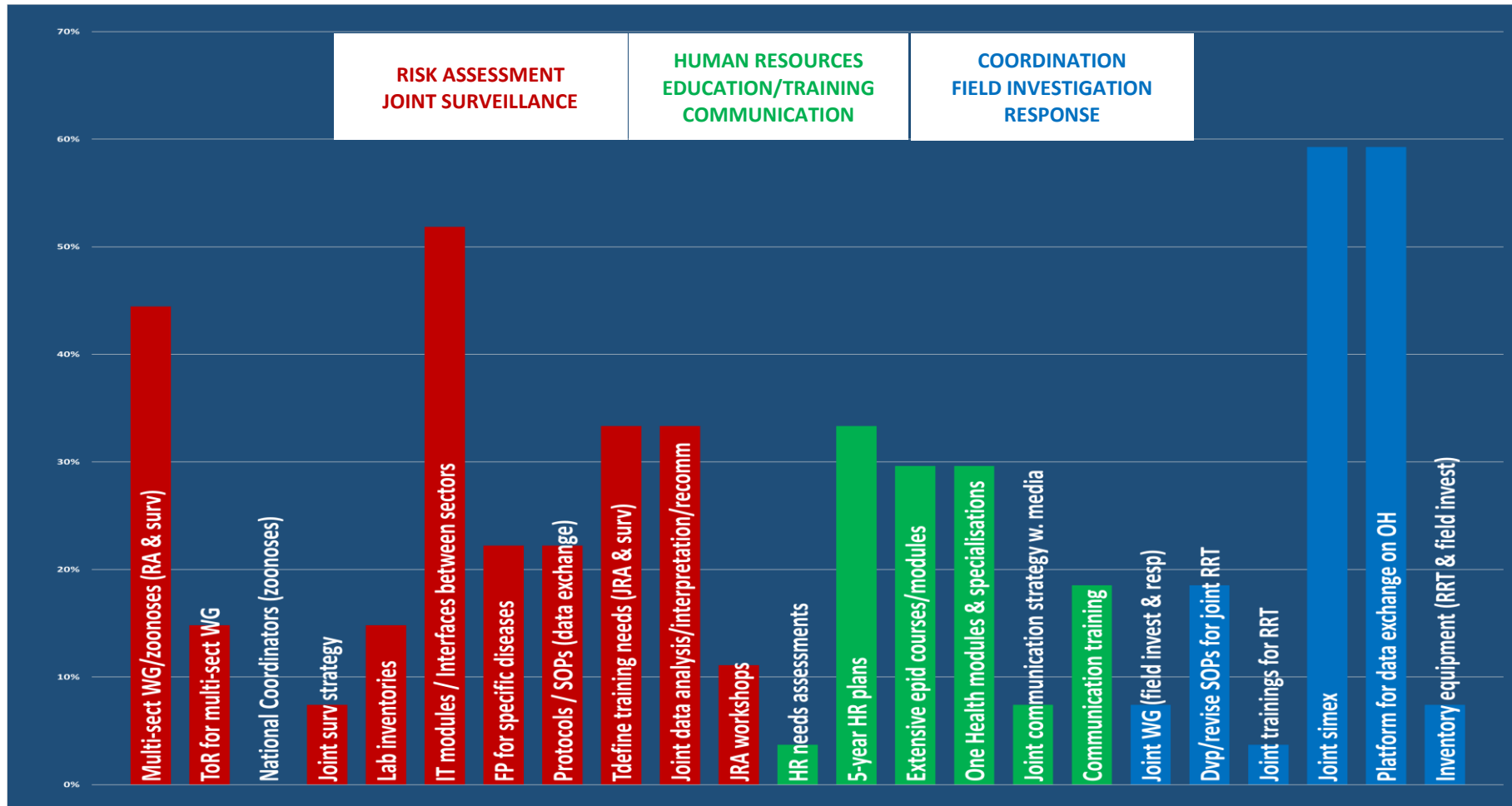
Objective 9: Ensure effective communication between human and animal health sectors and media					
9.1 Develop joint communication strategy with media and between two sectors	March 2020	+	+++	MoH, FVA	1) Establish a joint working group 2) Develop ToR for the group 3) Nominate 3 experts from each sector to work in the group 4) Develop joint communication strategy with media
9.2 Conduct joint training for communication staff to develop new competencies for strategic communications, press relations and interviews	September 2020	++	++	MoH, FVA, Association of Journalists, Institute of Journalists	1) Develop concept of the training 2) Develop the training (program, materials, etc.) 3) Nominate trainers 4) Identify trainees 5) Conduct as many trainings as needed

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

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

OUTPUT 3: PRIORITIZATION RESULTS

Participants were invited to vote for the activities they considered as the highest priority. Each participant had five votes and voted using color stickers. 27 participants participated in the vote. This prioritization showed that all topics selected in the course of the workshop were crucial to strengthen intersectoral collaboration. However, 3 were selected as of the highest priority for the country.



WORKSHOP EVALUATION

An evaluation questionnaire was completed by 26 participants (Figure 8) in order to collect feedback on the relevance and utility of the workshop. Overall, the participants valued the workshop as very good and worth for recommendation for other countries. All workshop components such as the content, format, facilitation, and organization gained very high scores.

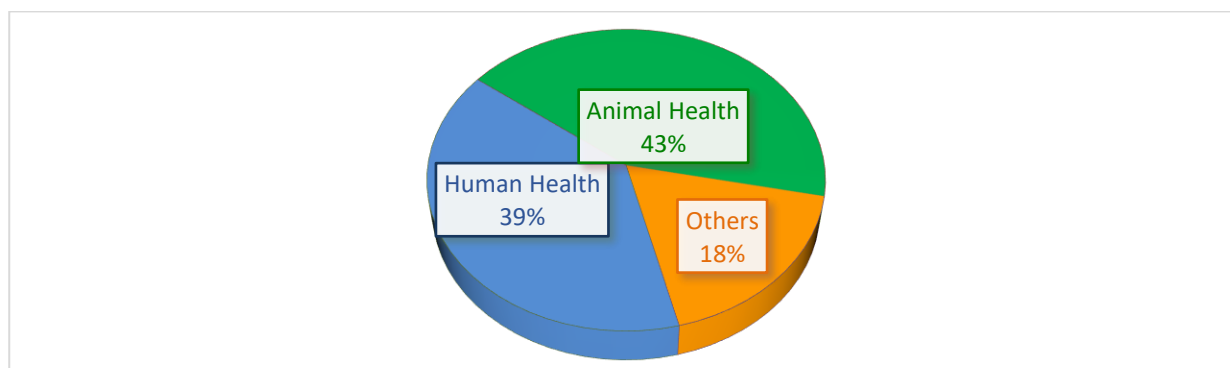


Figure 8: Answers to the question "which sector are you from?" (26 respondents)

Tables 2-5: Results of the evaluation of the event by participants (26 respondents)

Workshop evaluation	'Satisfied' or 'Fully satisfied'	Average score (/4)
Overall assessment	100%	3.7
Content	100%	3.8
Structure / Format	100%	3.8
Facilitators	100%	3.9
Organization (venue, logistics, ...)	100%	3.9

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	93%	3.4
The work of your unit/department	93%	3.3
The intersectoral collaboration in the country	71%	3.1

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	3.6	3.7	3.7	3.7	3.6	3.6

Would you recommend this workshop to other countries?	
Absolutely	70%
Probably	26%
Likely not	0%
No	4%

ANNEX 1: WORKSHOP AGENDA

26 June 2019, DAY 1

11 September 2019, DAY 1

08:30 - 09.00	Registration of participants
09.00 - 10.00	<p><u>Opening Ceremony</u></p> <ul style="list-style-type: none"> - Representative of the Ministry of Health, Dr. Bojan Boshkovski, WHO National Counterpart - Representative of Food and Veterinary Agency - Dr. Firuz Memed, Deputy Director of the FVA - Representative of WHO - Dr. Abebayehu Mengistu, Coordinator of the Balkan Hub - Representative of OIE - Dr. Djahne Montabord - Regional PVS expert - Dr. Stanislav Ralchev - North Macedonia PVS expert - Dr. Sloboden Chokrevski (30') <ul style="list-style-type: none"> • Introduction of participants (5') • Group Picture (10')
09.50-10.10	Coffee break (15')
10.00 - 12.00	<p><u>Session 1: Workshop Objectives and National Perspectives</u></p> <p>The first session sets the scene by providing background information on the One Health concept and the subsequent tripartite OIE-WHO-FAO collaboration. It is followed by comprehensive presentations from both human and animal health services (MOH and FVA). A second documentary provides concrete worldwide examples of fruitful intersectoral collaboration, showing how the two sectors share a lot in terms of approaches, references and strategic views.</p> <ul style="list-style-type: none"> • MOVIE 1: Tripartite One Health collaboration and vision - Movie (15') • Veterinary Services and One Health - ppt (20') • Public Health Services and One Health - ppt (20') • MOVIE 2: Driving successful interactions - Movie (25') • Workshop approach and methodology - ppt (10')
Lunch (12:00-13:00)	
13.30 - 17.00	<p><u>Session 2: Navigating the road to One Health</u></p> <p>Session 2 divides participants in 4 (5 from each sector) working groups and provides an opportunity to work on the presented concepts. (4 priority zoonotic diseases) Each group will have central and provincial representatives from both sectors and will focus on a fictitious emergency scenario.</p> <p>Using diagrammatic arrows to represent the progression of the situation, groups will identify joint activities and areas of collaboration and assess their current functionality using one of three color-coded cards (green, orange, red).</p>

	<ul style="list-style-type: none"> • Presentation and organization of the working group exercise - ppt (15') • Case study - Working groups by disease (120') • Restitution (75')
15.00-15.20	Coffee break (15')
Expected outcomes of Sessions 1 and 2: <ul style="list-style-type: none"> • <i>Understanding of the concept of One Health, its history, its frameworks and its benefits.</i> • <i>Understanding that a lot of areas for discussion and possible improvements do exist and can be operational - not only conceptual.</i> • <i>Level of collaboration between the two sectors for 16 key technical areas is assessed.</i> • <i>Collaboration gaps identified for each disease.</i> 	
17.00 - 18.30	Facilitators and moderators only: Briefing Session 3-4-5 and compilation of results from Session 2
12 September 2019, DAY 2	
08:30 - 08:40	Feedback from day 1
08.40 -11.20	Session 3: Bridges along the road to One Health Session 3 presents the tools from both sectors (IHR MEF, JEE, PVS) and uses an interactive approach to map activities identified earlier onto a giant IHR-PVS matrix. This process will enable to visualize the main gaps, to distinguish disease-specific vs systemic gaps and to identify which technical areas the following sessions will focus on.
	<ul style="list-style-type: none"> • MOVIE 3: IHR Monitoring and Evaluation Framework (25') • MOVIE 4: PVS Pathway (25') • MOVIE 5: IHR-PVS Bridging (10') • Mapping gaps on the IHR/PVS matrix (50') + Coffee break (20') • Discussion - Plenary (30')
10.55-11.10	Coffee break (15')
Expected outcomes of Session 3: <ul style="list-style-type: none"> • <i>Understanding that tools are available to explore capacities in each of the sectors.</i> • <i>Understanding of the contribution of the veterinary sector to the IHR.</i> • <i>Understanding of the bridges between the IHR MEF and the PVS Pathway.</i> • <i>Identification of the technical areas to focus on during the next sessions.</i> 	
11:20 - 12:40	Session 4: Crossroads - IHR MEF, JEE and PVS Pathway reports Participants will be divided into working groups by technical topic (surveillance, communication, coordination, etc) and will explore the improvement plans already proposed in the respective assessments (IHR annual reporting, JEE, PVS Evaluation, etc.), extract relevant sections and identify what can be synergized or improved jointly.
	<ul style="list-style-type: none"> • Presentation and organization of the working group exercise (20') • Extract main gaps and recommendations from the PVS and IHR reports (including the JEE), in relation to gaps identified on the matrix (60')
Lunch (13:00-14:00)	
14:00 - 14:30	Session 4 (continued)
	<ul style="list-style-type: none"> • Extract main gaps and recommendations from the PVS and IHR reports (including the JEE), in relation to gaps identified on the matrix (continued, 30')
Expected outcomes of Session 4:	

<ul style="list-style-type: none"> • Good understanding of the assessment reports, their purpose and their structure. • Main gaps and recommendations from existing reports have been extracted. • A common understanding of the effort needed starts to emerge. 	
14:30 - 17:15	<p>Session 5: Road planning</p> <p>Participants will use the results obtained from the case studies and from the assessment reports to develop a realistic and achievable road-map to improve the collaboration between the sectors.</p> <ul style="list-style-type: none"> • Presentation and organization of the working group exercise (15') • Objectives and Activities (Working groups by technical topic) (150')
16.00-10.10	Coffee break (15')
<p>Expected outcomes of Session 5:</p> <ul style="list-style-type: none"> • Clear and achievable objectives and activities are identified to improve inter-sectoral collaboration between the two sectors for all technical areas selected. • Timeline, focal points, needed support and indicators have been identified for each activity. • The impact and the difficulty of implementation of proposed activities have been estimated. 	
17.15 - 19.00	Facilitators only: Compilation of results from Session 5 (drafting of the road-map) and preparation of Session 6
13 September 2019, DAY 3	
09:00 - 9:10	Feedback from day 2
9:10 - 12:15	<p>Session 6: Fine-tuning the roadmap</p> <p>The objective of Session 6 is to have all participants contribute to all technical areas and to consolidate the joint-road map by making sure it is harmonized, concrete and achievable.</p> <ul style="list-style-type: none"> • Fine-tuning of the road-map (90') • World Café (90') • Presentation of the prioritization vote (10') • Prioritization vote (during lunchtime)
09.50-10.10	Coffee break (15')
<p>Expected outcomes of Session 6:</p> <ul style="list-style-type: none"> • Harmonized, concrete and achievable road-map. • Buy-in and ownership of all participants who contributed to all areas of the road-map. • Prioritization of the activities. 	
Lunch (12:15-13:30)	
13:30 - 15:30	<p>Session 7: Way forward</p> <p>In the last session, representatives from the key Ministries take over the leadership and facilitation of the workshop to discuss with participant about the next steps and how the established roadmap will be implemented.</p> <p>Linkages with other mandated plans such as the National Action Plan for Health Security are discussed. This is also where any need from the country can be addressed. This will depend greatly on the current status of the country in terms of IHR-MEF and on the level of One Health capacity.</p> <ul style="list-style-type: none"> • Results of the prioritization vote (15') • Integrating the action points into the IHR-MEF process (30') • Next steps (75') (lead by Ministry representatives)

Expected outcomes of Session 7:	
<ul style="list-style-type: none"> • <i>Linkages with NAPHS.</i> • <i>Identification of immediate and practical next steps.</i> • <i>Identification of opportunities for other components of the IHR-MEF.</i> 	
15:30 - 16:30	Closing Session <ul style="list-style-type: none"> • Evaluation of the workshop (20') • Closing ceremony (40')
16.30 - 17.00	Facilitators: Video interview of some participants

APPENDIX

ANNEX 2: LIST OF PARTICIPANTS

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29.	Dr. Argent Osmani	Food and Veterinary Agency Department for veterinary public health	
30.	Dr. Olga Janevska	Food and Veterinary Agency Department for veterinary public health Unit for Feed Safety and Animal Nutrition	
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32.	Dr.Frosina Dudevska	Food and Veterinary Agency Department of state inspections	
33.	Dr.Zharko Stojmanoski	Food and Veterinary Agency Department of state inspections	
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36.	Ass. Prof d-r Igor Džadžovski	Faculty of veterinary medicine – Skopje Department of farm animals- internal medicine	
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38.	Dr. Katerina Jovanovska	Veterinary Chamber	
39.	Dr. Sasho Tanaskovski	Veterinary Practice Kumanovo	
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