Workforce Development for Effective Management of Zoonotic Diseases

Operational tool of the Tripartite Zoonoses Guide

Compendium of materials

Updated 17 October 2024

Contents

Introduction

This compendium of materials is a supplement to the Workforce Development Operation Tool (WFD OT) and should be used in the context of the main publication. The compendium gives an overview of the available materials to support the use of the WFD OT for both in-person and online formats.

Links to downloadable files are available online. Details on how and when the materials should be used are summarized in the *WFD steps and materials list (M08).*

It is recommended that a member of the technical team or lead facilitator be responsible for downloading the repository of materials, coordinating the adaption of materials to fit the context of the country as needed (i.e., adapting of templates), and making the adapted materials available for other technical team members, facilitators, and users such as through SharePoint or printing of hard copies.

M01 WFD OT Factsheet

Please contact HAI@who.int for more information

M02 "Introduction to WFD OT", PowerPoint presentation

Please contact HAI@who.int for more information

M03 Template workshop concept note and agenda

Module 1 Step 1

M03 TEMPLATE Concept Note and Workshop Agenda

Workforce Development Operational Tool

Dates
Venue Name
City, Country

Background and justification

Most countries recognize the benefits of taking a multisectoral, One Health approach to effectively manage zoonotic diseases and other health challenges at the human-animal-environment interface. Despite an enthusiasm for One Health, many countries still face difficulties in operationalizing multisectoral coordination, communication, and collaboration, and have limited human resources available or accessible to do so.

The Tripartite Zoonoses Guide's (TZG) Workforce Development Operational Tool (WFD OT) supports national and sub-national authorities and other relevant stakeholders to use an evidence-based approach to plan and strengthen a multisectoral, One Health workforce for effective zoonotic disease management. Through a stepwise approach organized in a series of modules and exercises, the WFD OT enables government authorities to identify gaps in functions, occupations, and competencies in the official workforce and in its enabling environment at the institutional level. Key steps include a situation analysis and identification of the priority workforce functions, occupations, and competencies needed for effective zoonotic disease management. Associated challenges and needs for workforce development are identified in parallel.

Options are proposed to address these challenges as part of the final workforce planning phase, including competency-based training resources and tools. A resulting report supports the sectors that contribute to a One Health approach to coordinate next steps for workforce planning and strengthening. The report and outputs can be integrated into existing workforce strategies and plans for these to be prioritized, financed, coordinated, and implemented.

Objective of the 3-day WFD OT workshop:

The WFD OT will be useful to [enter country name] in establishing an evidence-based approach for strengthening their multisectoral workforce based on needs for zoonotic disease management.

Objectives

The objectives of the WFD OT are to:

- Identify the existing and needed multisectoral, One Health functions, occupations and competencies for effective zoonotic disease management in the country;
- Assess functions and associated competencies at institutional level;
- Plan for further human resource/staffing needs and competency-based education and training strategies as appropriate; and
- Identify challenges in the enabling environment and associated resources to address them.

Output

A workshop report/ plan detailing workforce functions, occupations, competencies and relevant training resources and tools to effectively manage zoonotic diseases in the country

Participants

The 3-day WFD OT workshop will benefit from the full participation of those reflecting relevant occupations for zoonotic disease management, as well as those oriented toward health workforce management and development. Participants should be those personnel who are familiar with the competencies of the workforce at different administrative levels. Guidance for participant selection is attached with this concept note.

Template agenda

The WFD OT workshop will be conducted over 3 days.

Day 0		
Time	**Session**	**Responsible person(s)**
10:00	Facilitator training (see separate agenda)	WHO HQ
Day 1		
Time	**Session**	**Responsible person(s)**
09:00	Registration	

09:30	Welcome	Representatives of the ministries of the country One speaker on behalf of FAO, WHO, and WOAH
09:45	Introduction of participants Group Photo	All participants
10:00	Introduction to the Quadripartite, to One Health, and to the role of the environment and wildlife professionals in One Health	
10:30	Introduction to timeline, materials, SharePoint/ Google Drive etc.	
10:40	Coffee / Tea	
11:00	Introduction to the WFD OT **Module 1: Setting up** Q&A	WHO
11:15	**Country context:** Review of results of the situation analysis Q&A	Ministry representatives
11:45	**Module 2 Workforce Analysis:** • Introduction to **workforce functions** for zoonotic disease management • Distribution of glossary • Introduction to exercise 1	WHO
12:00	**Exercise 1 part 1:** • Conceptualize functions	Group work Mixed sectors
12:30	Lunch	
14:00	**Exercise 1 part 2**: • Review 36 functions, add any missing ones • Select 10 priority functions and revise them according to the country context	Group work Mixed sectors
15:30	Coffee/Tea	
15:45	Plenary sharing and discussion: Reach a consensus across sectors on 10 priority functions according to the country context	Plenary
16:30	Evaluation of Day 1	All participants

16:45	Wrap up Day 1	WHO Regional office

Day 2		
Time	**Session**	**Responsible person(s)**
09:00	Welcome and Day 1 recap	
09:10	**Module 2 Workforce Analysis:** Introduction to **occupations** to address zoonotic diseases and to the exercise	WHO
09:20	**Exercise 2 part 1** • **Review occupations** according to the country context • Select up to 15 occupations for the exercise	Group work (by sector)
10:15	Coffee / Tea	
10:30	Introduction to exercise 2 part 2: Match and rate occupations and functions	
10:45	**Exercise 2 part 2:** • **Match and rate functions by occupations**	Group work (by sector)
11:30	Plenary sharing and discussion	Plenary
12:30	Lunch	
14:00	Sector discussions: **identify challenges and critical gaps**	Group work (by sector)
14:20	**Module 2 Workforce Analysis:** • Introduction to **competencies and competency packages** associated with functions • Introduction to Exercise 3	WHO
14:45	**Exercise 3:** Review and rate competency packages by function	Group work (by sector)
15:45	Coffee / Tea	
16:00	Plenary sharing and discussion	Plenary
16:30	Evaluation of Day 2	All participants

Time	Session	Responsible person(s)
16:45	Wrap up Day 2	WHO Regional office

Day 3		
Time	**Session**	**Responsible person(s)**
09:00	Welcome and Day 2 recap	
09:20	**Module 3 Sustainable workforce development planning:** • Overview of education and training resources and options to strengthen identified competencies • Introduction to Exercise 4	WHO
10:15	Coffee / Tea	
10:30	**Exercise 4:** Identify resources and match to competency packages	Group work
12:30	Lunch	
14:00	**Module 3 Sustainable workforce development planning:** • Introduction to workforce planning and monitoring and evaluation (M&E) • Introduction to exercise on Step 9	WHO
14:15	**Exercise 5:** Step 9 template for workforce planning	Group work
15:30	Coffee / Tea	
15:45	Plenary discussion, recommendations, and next steps	Plenary
16:30	Evaluation of Day 3	All participants
16:45	Closing ceremony	WHO Regional office

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M04 Template webinar concept note and agenda

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Module 1 Step 1

M04 TEMPLATE Concept Note and Agenda

Webinar to generate buy-in for the

Workforce Development Operational Tool

Date
Country
Virtual

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Background and justification

Most countries recognize the benefits of taking a multisectoral, One Health approach to effectively manage zoonotic diseases and other health challenges at the human-animal-environment interface. Despite an enthusiasm for One Health, many countries still face difficulties in operationalizing multisectoral coordination, communication, and collaboration, and have limited human resources available or accessible to do so.

The Tripartite Zoonoses Guide's (TZG) Workforce Development Operational Tool (WFD OT) supports national and sub-national authorities and other relevant stakeholders to use an evidence-based approach to plan and strengthen a multisectoral, One Health workforce for effective zoonotic disease management. Through a stepwise approach organized in a series of modules and exercises, the WFD OT enables government authorities to identify gaps in functions, occupations, and competencies in the official workforce and in its enabling environment at the institutional level. Key steps include a situation analysis and identification of the priority workforce functions, occupations, and competencies needed for effective zoonotic disease management. Associated challenges and needs for workforce development are identified in parallel.

Options are proposed to address these challenges as part of the final workforce planning phase, including competency-based training resources and tools. A resulting report supports the sectors that contribute to a One Health approach to coordinate next steps for workforce planning and strengthening. The report and outputs can be integrated into existing workforce strategies and plans for these to be prioritized, financed, coordinated, and implemented.

High-level decision makers have the option to participate in a webinar as one of the first steps of WFD OT engagement. This webinar should be scheduled about three months in advance of any planned in-person workshop or online tool engagement for the target audience of the tool. While

self-paced, engagement with the WFD OT takes about 4 to 5 months in total, with a monitoring and evaluation period to follow.

Objectives of the webinar:

The objectives of the 90-minute webinar are to

1. Orient national-level decision makers from the relevant sectors to the WFD OT
2. Generate buy-in of high-level decision makers for the engagement with the WFD OT
3. Discuss the needs of the country for engaging with the WFD OT

Participants

The webinar benefits from the full participation of high-level decision makers from the relevant ministries for animal health, human health, environment, and wildlife as well as representatives from FAO, WHO, and WOAH at country, regional, and/ or global level.

Template agenda

Webinar (90 minutes)		
Time	**Session**	**Responsible person(s)**
10 minutes	Welcome Introduction of participants	Regional office
10 minutes	Introduction to One Health and the role of environment and wildlife professionals in One Health	WHO HQ
15 minutes	Introduction to the WFD OT	WHO HQ
15 minutes	Overview of Tripartite Workforce Development Initiatives	One tripartite org on behalf of the tripartite

15 minutes	WFD OT Module 1: Setting up	WHO HQ
15 minutes	Q&A	Chair: FAO, WHO, WOAH
10 minutes	Discussion on needs of the country for the WFD OT	Chair:
5 minutes	Next steps • Agreement to use the WFD OT • Additional resources as needed • Identification of funding streams and sustainability mechanisms • Identification of MCM or steering committee members	WHO HQ
2 minutes	Closing	Tripartite organizations (FAO, WHO, WOAH)

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M05 Introduction to One Health, PowerPoint presentation

Please contact HAI@who.int for more information

M06 Role of environment and wildlife professionals in One Health

Module 1 Step 1

M06 Role of the Environment and Wildlife Professionals in One Health

Workforce Development Operational Tool

I. One Health

One Health is an integrated, unifying approach that aims to sustainably balance and optimize the health of people, animals, and ecosystems *(1)*. It recognizes the health of humans, domestic and wild animals, plants, and the wider environment (including ecosystems) are closely linked and interdependent.

The approach mobilizes multiple sectors, disciplines, and communities at varying levels of society to work together to foster well-being and tackle threats to health and ecosystems, while addressing the collective need for healthy food, water, energy, and air, taking action on climate change and contributing to sustainable development.

II. Role of the Environment and Wildlife Professionals in Zoonotic Disease Management

Perspectives and contributions from environment and wildlife professionals are needed to address global health and ecosystem threats in a One Health approach. The earth's natural resources are being used at a faster rate than can be replenished due to unsustainable and destructive practices and with insufficient consideration for biodiversity or the health of surrounding ecosystems upon which our lives and wellbeing depend *(2)*.

Environment and wildlife professionals include but are not limited to wildlife specialists, environmentalists, biologists, ecologists, ecosystem health specialists, forestry and park managers, protected area managers, conservationists, natural resource managers, and scientists.

Land-use change, unsustainable agricultural production and intensification, largescale deforestation, land degradation and biodiversity loss, among other drivers, are threatening ecosystem integrity and functions and **posing increased health risks at the human-animal-environment interface** such as zoonotic disease spillover from livestock or wildlife into humans. In **animal-mediated diseases**, the environment plays a threefold role, acting as a reservoir where substances are accumulated and transported; as a focal point for ecological and chemical processes; and as a health mediator where disease agents from the environment are transferred to and affect animals and humans *(3)*. The environment thus plays a substantial role in **human physical and mental well-being**.

The effects of environmental degradation and the corresponding erosion of ecosystem services influence the relationships between **health, food production and natural systems**. There is a

high degree of certainty that the world will continue to face **new disease threats,** driven by factors such as continued population expansion, urbanization, increased transport, land-use change, climate change, intensification of food systems and habitat loss.

There is, therefore, an urgent need for the engagement of the environment sector in initiatives at the human-animal-environment interface to promote and ensure **global health and well-being**.

Environment and wildlife professionals in both the public and private sectors play a critical role in all phases of zoonotic disease management, i.e., prevention, preparedness, detection, response, and recovery. Examples for the role these professionals play in zoonotic disease response include:

- Routine diagnostic surveillance for COVID-19 has been augmented with environmental surveillance in wastewater *(4,5)* and in aerosols *(6)* in many locations. Environmental surveillance could complement other types of surveillance and support decision making during a pandemic.
- One Health Federal Interagency COVID-19 Coordination (OH-FICC) Group was activated and coordinated by CDC during COVID-19 pandemic *(7)*. One of the sub-groups is environmental health. Each sub-group identified gaps in knowledge, guidance, etc. in their area during the pandemic and worked on those, such as development of guidelines and research agendas.

III.   Role of the Environment and Wildlife Professionals in the WFD OT

Environment and wildlife professionals will play a critical role in engagement with the Workforce Development Operational Tool (WFD OT), whether online or in in-person workshops or both. Functions and the associated occupations and competencies for the coordination of zoonotic disease management will be discussed and revised to identify and address gaps in the national workforce. The perspective from environment and wildlife professionals in these discussions will be critical to strengthen national workforces for One Health.

IV.   References

(1) One Health High-Level Expert Panel (OHHLEP), Adisasmito WB, Almuhairi S, Behravesh CB, Bilivogui P, Bukachi SA, et al. (2022) One Health: A new definition for a sustainable and healthy future. *PLoS Pathog* 18(6): e1010537.
(2) FAO, UNEP, WHO, and WOAH. 2022. One Health Joint Plan of Action (2022-2026). Working together for the health of humans, animals, plants and the environment. Rome.
(3) A health perspective on the role of the environment in One Health. Copenhagen: WHO Regional Office for Europe; 2022. Licence: CC BY-NC-SA 3.0 IGO.
(4) WHO. (2022). Environmental surveillance for SARS-COV-2 to complement public health surveillance: Interim Guidance.
(5) National Institute for Communicable Disease. (n.d.). SARS-CoV-2 wastewater levels in South Africa.
(6) Puthussery, J.V., Ghumra, D.P., McBrearty, K.R. et al. Real-time environmental surveillance of SARS-CoV-2 aerosols. *Nat Commun* 14, 3692 (2023).
(7) Gage, L. (2021). USDA APHIS Animal Care Big Cat and Marine Mammal Specialist. One Health Federal Interagency COVID-19 Coordination (OH-FICC) Group.

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M07 Technical team terms of reference

Module 1 Step 2

M07 Technical Team Terms of Reference

Workforce Development Operational Tool

1. **Roles and Responsibilities**

The Workforce Development (WFD) Technical Team has the following roles and responsibilities:

- Manage the timeline for completion of the WFD OT;
- Identify and select the WFD OT participants of workshop/ online tool users, ensuring appropriate multisectoral participation;
- Conduct advocacy and outreach with relevant stakeholders including environment and wildlife professionals to secure their engagement;
- Direct and undertake the situation analysis and setting the scope;
  - Analyze existing job descriptions in participating sectors to identify functions (optional)
- Facilitate the WFD OT workshop/ tool use;
- Receive direction and report back to the Steering Committee (i.e., high-level decision makers);
- Validate the final report;
- Support incorporation of WFD OT report into existing workforce plans and identify other optimal uses of outputs;
- Support monitoring and evaluation (optional).

2. **Expertise and Composition**

The WFD Technical Team consists of members who:

- Have expertise and experience in zoonotic disease management;
- Have experience on workforce development or human resource management at different administrative levels in their relevant sector, where possible;

Sectors, disciplines, and genders should be equitably reflected among technical team members.

3. **Frequency of meetings and reports**

- The WFD Technical Team convenes a meeting as soon as the group is established to allow time for preparatory work before the use of the tool.
- At least 3 meetings are organized to discuss and follow up on preparatory work including the situation analysis and setting the scope.
- Technical team members are expected to be on-site to facilitate the in-person workshops.
- Once the workshop/ use of the tool has been completed, members meet to discuss the report and provide comments until the report is finalized.
- The Technical Team organizes a meeting to brief the Steering Committee (i.e., high-level decision makers) on the outputs (optional).

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M08 WFD OT steps and materials list

M08 WFD OT steps and materials list

Workforce Development Operational Tool

WFD OT modules & steps

Steps

Introduction — Introduction to WFD OT

Module 1
Setting up
1. Generate buy-in and secure agreements to use the WFD OT
2. Identify a steering committee, technical team, and users
3. Conduct a situation analysis and set the scope

Module 2
Workforce analysis
4. Select and revise priority functions of the workforce
5. Match and rate occupations to priority functions
6. Identify workforce needs and challenges
7. Rate the competency packages required for priority functions

Module 3
Sustainable workforce development planning
8. Identify resources for strengthening competency packages
9. Link critical needs, competencies, and resources and initiate the workplan
10. Develop or adapt an M&E framework and include it in plan(s)

- 3 months	Buy-in	Webinar for high-level decision makers	Webinar or environment sector participants	Establish steering committee and technical team	Begin situation analysis	Begin analysis of ToRs for functions (Optional)
- 2 months	Translation of materials (as needed)	Finalize participant and facilitator lists	Distribute participant and facilitator manuals	Star regular planning calls with technical team	Recommended that 2 national counterparts are dedicated to the workshop process.	
- 1 month	Review technical materials with facilitators and participants					
Workshop	1 day training-of-trainers	3-day workshop				
+2 weeks	Workshop report	Integration into workforce planning				

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Before the workshop

Step	Material	Audience/users	Translation	Print out
1. Generate buy-in for WFD OT	M01 WFD OT factsheet	WHO country office (CO) or organizer	Optional	Optional
	M02 "Introduction to WFD OT", PowerPoint presentation			
	M03 Template workshop concept note and agenda			
	M04 Template webinar concept note and agenda			
	M05 "Introduction to One Health", PowerPoint presentation			
	M06 Role of environment and wildlife professionals in One Health			
	A health perspective on the role of the environment in One Health (WHO EURO)			

Step	Resources and tool	Audience/users	Translation	Print out
2. Identify WFD steering committee and technical team	M07 Technical team terms of reference	WHO CO or organizer	Optional	Optional
	M09a Facilitators' manual for in-person workshops M09b Facilitators' manual for virtual exercises		**Yes**	Optional
	M10 Guidance for user representation		Optional	Optional
	M11 Glossary of terms		**Yes**	**Yes, one copy per user**
	M12 Preparatory checklist for users of the tool		Optional	No
	M13 List of workshop supplies		No	No
	M14 Day 1 PowerPoint presentation		**Yes**	No
	M15 Day 2 PowerPoint presentation		**Yes**	No
	M16 Day 3 PowerPoint presentation		**Yes**	No
3. Conduct situation analysis and set the scope	M17 Guidance for a situation analysis	WFD OT Technical team	**Yes**	No
	M18 Guiding questions for setting the scope		**Yes**	No
	M19 Template for countries' presentations		**Yes**	No
	M20 VDO Tutorial on situation analysis and setting the scope. Access upon request. M20 Tutorial on situation analysis and setting the scope.mp4		Optional	No

Day 1 of the workshop

Step	Material	Audience/users	Translation	Print out
4. Select and revise priority functions of the workforce	M21 exercise 1 part 1 disease scenarios. Only one scenario is selected.	Participants	**Yes**	**1 copy per user, selected summary scenario only**
	M22 Workforce function list_cards for exercise		**Yes**	**1 set per group**
	M23 exercise 1 part 1 posters		**Yes**	**1 of each poster, A3 or larger**
	M24 WFD OT functions		**Yes**	**1 copy per user**
	M25 exercise 1 part 2 template	Notetaker	**Yes**	No
	M26 WFD OT sub-functions (for reference during group work)	Participants	Optional	**2-3 hard copies per group**

Day 2 of the workshop

Step	Material	Audience/users	Translation	Print out
5. Match and rate occupations to priority functions	M27 WFD OT occupations	Participants	**Yes**	**1 copy per user**
	M28 exercise 2 part 1 template	Notetaker	**Yes**	No
	M29 example tasks by occupation (for reference during group work)	Participants	Optional	**2-3 copies per group**
	M30 Matrix for mapping occupations and functions by sector (to use as posters or digitally if flip charts are not being used)	Facilitators and participants	Optional	Print as poster only if flip charts are not being used.

Step	Material	Audience/users	Translation	Print out
6. Identify needs and challenges	M31 List of needs and challenges	Facilitators/ notetakers	**Yes**	**2-3 copies per group**
7. Rate competency packages required for priority functions	M32 Framework of competency packages and competencies	Participants	**Yes**	**2-3 copies per group**
	M33a For print_exercise 3 template_assessment of competency packages by function. Assess priority functions only.	Participants	**Yes**	**1 page per priority function; one set of priority functions per group**
	M33b Digital version_exercise 3 template_ digital use_assessment of competency packages by function. Assess priority functions only.	Facilitators/ notetakers	**Yes**	To use digitally if printing is not available and to prepare final output

Day 3 of the workshop

Step	Material	Audience/users	Translation	Print out
8. Identify resources for strengthening competency packages	M34a Database of global and regional trainings and tools (Excel) M34b Database of global and regional trainings and tools (Airtable)	Participants, facilitators, and notetakers	Column titles only	No
	M35 Airtable instructional guide	Facilitators/ notetakers	**Yes**	No
	M36 Exercise template for identifying trainings	Facilitators/ notetakers	**Yes**	No
9. Link critical needs, competencies, and resources and initiate the workplan	M37 Template for workforce planning	Facilitators/ notetakers	**Yes**	**10-12 copies for all users in plenary**
	M38 Enabling environment guidance document	Participants	**Yes**	**10-12 copies for all users in plenary**
	M39a Database of tools and resources for areas of the enabling environment (Excel) M39b Database of tools and resources for areas of the enabling environment (Airtable)	Facilitators/ notetakers	Column titles only	No
10. Develop or adapt an M&E framework and include in plan(s)	See M&E OT for supporting materials	Participants	No	No

Post-Workshop/ Tool use

Step	Material	Audience/users	Translation	Print out
Workshop evaluation	M40a Evaluation form for print	Participants	**Yes**	**If using print version, 1 copy per user and facilitator**
	M40b Instructions for digital evaluation forms	Participants	**Yes**	No
Template certificate of participation	M41 Template certificate of participation	Participants	**Yes**	**1 copy per user**
Workshop report template	M42 Template report	Technical team and steering committee	**Yes**	No

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M09a Facilitators' manual for in-person workshops

Please contact HAI@who.int for more information

M09b Facilitators' manual for virtual exercises

Please contact HAI@who.int for more information

M10 Guidance for user representation

Workforce Development Operational Tool

I.   General guidance
- 30-35 participants, excluding observers, international organizations, and facilitators familiar with the competencies of the workforce at different administrative levels
- From administrative levels depending on the scope as set by the country (Module 1)
  - Local
  - Sub-national
  - National
- From at least four sectors
  - Animal health
  - Environment
  - Human health
  - Wildlife
- Sectors, disciplines, and genders should be equitably reflected among participants

II.   Specific guidance
Note that the below list only serves as a guide for selection of participants from diverse groups. It is up to the technical team to adjust the list to suit the country context.

Number	Sector	Representation	Role
1		Chair of the multisectoral coordination mechanism	Active participant
2	Animal health	Representative of the Ministry of Agriculture	Opening and closing remarks
3	Animal health	Chief veterinary officer or equivalent director of veterinary services	Active participant
4	Animal health	Veterinary officer (gov)	Active participant
5	Animal health	Epidemiologist	Active participant
6	Animal health	Laboratory technician or officer (gov)	Active participant
7	Animal health	Community animal health worker, veterinary paraprofessional, extension worker, veterinary technician	Active participant
8	Environment	Representative of the Ministry of Environment	Opening and closing remarks
9	Environment	Chief/ Director of Environment Department	Active participant
10	Environment	Environment expert or officer (gov)	Active participant
11	Environment	Fisheries expert or officer (gov)	Active participant
12	Environment	Forestry expert or officer (gov)	Active participant
13	Environment	Water, Sanitation and Hygiene (WASH) officer (gov)	Active participant
14	Human health	Representative of the Ministry of Health	Opening and closing remarks
15	Human health	Chief medical officer or equivalent director of human health services	Active participant

16	Human health	Chief of department of community health	Active participant
17	Human health	Public health expert/ specialist or officer (gov)	Active participant
18	Human health	Medical/ Human health officer (gov)	Active participant
19	Human health	Primary/ Community health care worker or extension worker	Active participant
20	Human health	Epidemiologist	Active participant
21	Human health	Laboratory technician or officer (gov)	Active participant
22	Relevant sector in the country	Head of department for wildlife	Active participant
24	Relevant sector in the country	Wildlife expert or officer (gov)	Active participant
25	Other	Communication officer (gov)	Active participant
26	Other	Risk communication specialist	Active participant
27	Other	Emergency response officer	Active participant
28	Other	Outbreak response coordinator	Active participant
29	Other	Private sector	Active participant
30	Other	Universities/ Academia	Active participant
31	Management	Finance officer (gov)	Active participant
32	Management	Human resource manager	Active participant
33	Management	Supply/ Inventory/ Logistic officer (gov)	Active participant
34	Optional	Anthropologist/ Social scientist	Active participant
35	Optional	Biostatistician	Active participant
36	Optional	Entomologist	Active participant
37	Optional	Microbiologist	Active participant
38	Optional	Psychologist/ Behavior scientist	Active participant
39	Optional	Scientist/ Researcher	Active participant
40	Optional	Vector control expert	Active participant
41	Optional	AMR focal point	Observer
42	Quadripartite	Food and Agriculture Organization of the United Nations (FAO)	Facilitator/ Observer
43	Quadripartite	United Nations Environment Programme (UNEP)	Facilitator/ Observer
44	Quadripartite	World Health Organization (WHO)	Facilitator/ Observer
45	Quadripartite	World Organisation for Animal Health (WOAH)	Facilitator/ Observer
46	Other	Other partner international organizations	Observer
47	Other	Potential in-country facilitators for future WFD OT engagement	Facilitator/ Observer

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M11 Glossary of terms

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Module 1 Step 2

M11 Glossary

Workforce Development Operational Tool

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Administrative level: Refers to the levels within the country, e.g. central/national/ federal, sub-national (regional, governorate, state), local/ community/ district *(1)*.

Competency: The ability of a person to integrate knowledge, skills and attitudes in their performance of tasks in a given context. Competencies are durable, trainable and, by the expression of behaviour, measurable *(2)*.

Competency package: A group of related competencies.

Non-technical competency package: Those competency packages that contain competencies relevant for *all* personnel working across sectors and disciplines for zoonotic disease management regardless of the institutional mandate or the functions and occupations within the institution.

Technical competency package: Those competency packages that contain competencies that may be relevant for personnel working across sectors and disciplines *depending* on the institutional mandate or on the functions and occupations within the institution.

Environment: The complex of physical, chemical, and biotic factors (e.g. climate, soil, living things) that act upon an organism or an ecological community and ultimately determine its form and survival; here, refers to the physical location and context in which people and animals live and interact *(1)*.

Function: Sector-specific and multisectoral duty and responsibility to ensure coordinated zoonotic disease management. Functions are performed by the workforce on behalf of the institution *(adapted from 3)*.

Monitoring and evaluation: A process that helps measure, track, improve performance, and assess the results of an ongoing or completed activity, programme, or policy by providing indications of the extent of progress and achievement of objectives, and progress in the use of allocated funds, for the purposes of improving performance, ensuring accountability, or demonstrating value. Includes *Monitoring*: the continuing and systematic collection of information on specified indicators related to the project or process and *Evaluation*: the systematic and objective assessment of the relevance, efficiency, effectiveness or impact of a project or process based on the set of information collected on the indicators during monitoring *(1)*.

Multisectoral, One Health coordination mechanism (MCM) for zoonotic diseases: Any formalized, standing, group that acts to strengthen or develop collaboration, communication, and coordination across the sectors responsible for addressing zoonotic diseases and other health concerns at the human-animal-environment interface. An MCM has routine, ongoing functions and is responsible for coordination,

leadership, and governance of efforts among the relevant sectors to achieve jointly determined and agreed common goals *(1)*.

Occupation: The kind of work performed in a job. Defined as a "set of jobs whose main tasks and duties are characterized by a high degree of similarity." A person may be associated with an occupation according to the main job currently held, a second job, a future job or a job previously held *(4)*.

One Health: One Health is an integrated, unifying approach that aims to sustainably balance and optimize the health of people, animals, and ecosystems. It recognizes the health of humans, domestic and wild animals, plants, and the wider environment (including ecosystems) are closely linked and interdependent.

The approach mobilizes multiple sectors, disciplines, and communities at varying levels of society to work together to foster well-being and tackle threats to health and ecosystems, while addressing the collective need for healthy food, water, energy, and air, taking action on climate change and contributing to sustainable development *(5)*.

Operational research: Research that optimizes the use of data to inform improvements in health. Research into strategies, interventions, tools or knowledge that can enhance the quality, coverage, effectiveness or performance of the health system or programme in which the research is being conducted *(6, 7)*.

Quadripartite: The partnership between the Food and Agriculture Organization of the United Nations (FAO), The World Organisation for Animal Health (WOAH), the World Health Organization (WHO), The United Nations Environment Programme (UNEP), since 2022 *(8)*.

Resource: Informs activities, plans, and strategies, with no discrete duration i.e., no start and finish.

Systems thinking: An approach to problem-solving that views problems as part of a wider dynamic system. It requires the understanding of linkages, relationships, interactions and interdependencies among the components of a system. The application of systems thinking in health facilitates understanding of what works, for whom, and under what circumstances *(9)*.

Surveillance: The continuous, systematic collection, analysis and interpretation of data needed for planning, implementation, and evaluation related to zoonotic diseases *(1)*.

Tool: Requires active participation, usually with discrete steps and duration to completion.

Tripartite: Term used to describe the three agencies responsible for human and for animal health internationally: the Food and Agriculture Organization of the United Nations (FAO), the World Health Organization (WHO), and the World Organisation for Animal Health (WOAH), in their work together since 2010 *(1, 10)*.

Wildlife: Animals considered to be wild or feral or otherwise not adapted to domestic situations; may be mammals, birds, fishes, reptiles, amphibians, etc *(1)*.

Workforce development: The continual process of developing education and training programmes to enable individuals to acquire knowledge, skills and abilities that provide individuals with the capacity to meet national and international workforce needs *(1)*.

Zoonotic disease management: Activities or measures that address any of the five stages of the disease management cycle: prepare, prevent, detect, respond, and recover *(adapted from 11)*.

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2. Global competency and outcomes framework towards the delivery of the essential public health functions. Geneva: World Health Organization; 2024 (https://iris.who.int/handle/10665/376577).
3. National workforce capacity to implement the essential public health functions including a focus on emergency preparedness and response: roadmap for aligning WHO and partner contributions. Geneva: World Health Organization; 2022 (https://iris.who.int/handle/10665/354384).
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8. Quadripartite Memorandum of Understanding (MoU). FAO, UNEP, WHO, WOAH; 2022 (https://www.fao.org/3/cb9403en/cb9403en.pdf).
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11. Emergency Management Centre for Animal Health - Strategic action plan 2018-2022. p. 4. FAO; 2018. (https://openknowledge.fao.org/items/b4768b87-a1c8-4d63-a4aa-8788be477829).

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M12 Preparatory checklist for users of the tool

Module 1 Step 2

M12 Preparatory Checklist for Users

Workforce Development Operational Tool

Introduction: Within one month of any planned engagement with the Workforce Development Operational Tool (WFD OT), users are encouraged to review and become familiar with workshop materials and background information outlined here:

I.   **Key WFD OT materials**

WFD OT Resource checklist
☐ Workforce development operational tool publication
☐ M01 Workforce development operational tool factsheet
☐ M03 Template workshop concept note and agenda

☐ Online introductory courses in One Health as needed
   • OpenWHO "Response Preparedness for Zoonotic Disease Outbreaks Using a One-Health Approach": https://openwho.org/courses/reprep-zoonotic-outbreaks
   • WHO Health Security Learning Platform "ONE HEALTH: Basics of multisectoral collaboration at the Human – Animal – Environment interface": https://extranet.who.int/hslp/training/course/view.php?id=310

☐ M06 Role of the environment and wildlife professionals in One Health
☐ M11 Glossary of terms
☐ M24 WFD OT functions
☐ M27 WFD OT occupations
☐ M32 Framework of competency packages and competencies
☐ M34 Database for global and regional-level trainings and tools (Excel or Airtable)
☐ M38 Enabling environment guidance document

II.   Reading list for background information on workforce development

1. FAO, UNEP, WHO, and WOAH. 2022. One Health Joint Plan of Action (2022-2026). Working together for the health of humans, animals, plants and the environment. Rome. https://doi.org/10.4060/cc2289en
2. World Health Organization. (2024) Essential public health functions: a guide to map and measure national workforce capacity. World Health Organization. Licence: CC BY-NC-SA 3.0 IGO. https://iris.who.int/handle/10665/376578
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10. World Health Organization, Food and Agriculture Organization of the United Nations, World Organisation for Animal Health (2019). Taking a multisectoral, one health approach: a tripartite guide to addressing zoonotic diseases in countries. Geneva, World Health Organization. https://iris.who.int/handle/10665/325620
    a. In particular, chapter 5.6 on Workforce Development
11. World Health Organization. (2018). WHO Emergencies Programme (WHE) Learning Strategy: A learning strategy to create a ready, willing and able workforce – a workforce of excellence – for health emergency work. https://www.who.int/publications/m/item/whe-learning-strategy

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M13 List of workshop supplies

Module 1 Step 2

M13 List of Workshop Supplies and Needs
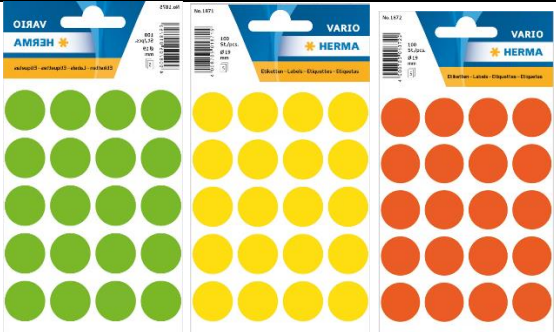
Workforce Development Operational Tool

Introduction: For in-person workshops, certain supplies will be needed. In the ideal scenario, the workshop venue has a stable internet connection and at least three breakout rooms with one projector per breakout room to project workshop exercises as shared documents:

Item number	Item	Quantity
1	Flip chart	3
2	Markers flip chart Mixed colors (black, red, blue, green) 	Black 6 Red 6 Blue 6 Green 6
3	Projector	3 (one per breakout room)
4	Breakout rooms	3
5	Interpreters (if needed)	3 (one per breakout room)

If the workshop venue does not have a stable internet connection or at least three projectors, then the following supplies are recommended:

Item number	Item	Quantity

1	Flip chart	3
2	Markers flip chart Mixed colors (black, red, blue, green)	Black 6 Red 6 Blue 6 Green 6
3	Post-it blocks (3 colors)	1 of each color
4	Tack for mounting up to six posters at one time	
5	Sticker Dots – 19 mm (3 colors – green, yellow/orange, red)	Green 3 sheets Yellow 3 sheets Red 3 sheets

6	Rolls of masking tape (back up for mounting posters)	3
7	Breakout rooms	3
8	Interpreters (if needed)	3 (one per breakout room)

-END-

M14 Day 1 PowerPoint presentation

Please contact HAI@who.int for more information

M15 Day 2 PowerPoint presentation

Please contact HAI@who.int for more information

M16 Day 3 PowerPoint presentation

Please contact HAI@who.int for more information

M17 Step 3 Guidance for a situation analysis

Please contact HAI@who.int for more information

M18 Step 3 Guiding questions

Module 1 Step 3: Situation analysis and setting the scope

M18 Guiding Questions

Workforce Development Operational Tool

I. Introduction

The following instructions serve as guidance for the Workforce Development Operational Tool (WFD OT) technical team to conduct a situation analysis which provides baseline information to inform the use and results of the WFD OT. Guiding questions facilitate framing of the scope for the use of the WFD OT.

Target audience: "WFD OT technical team" of technical staff that includes human health, animal health, wildlife, and environment experts responsible for guiding the WFD OT process.

Instructions:

1. Consult *WFD OT's guidance for a situation analysis* PowerPoint presentation *(M17)*
2. Answer guiding questions below
3. Complete the *template for countries' presentations (M19)* for presentation at the workshop/ sharing with users of the online tool

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II. Guiding Questions

Question 1: Does your country have a health workforce plan or strategy for zoonotic disease management? Zoonotic disease management includes all phases of the disease management cycle i.e., prevention, preparedness, detection, response, and recovery.

If yes,

- Outline national and sub-national workforce strategies and frameworks that guide zoonotic disease management within the country.
    o Does the plan/ strategy facilitate multisectoral collaboration and coordination and make best use of workforce capacity?
- Outline strategic goals of the workforce development strategies and frameworks.
- Describe the sectors, institutions, and agencies involved in the existing strategies and frameworks and who should further be engaged.

If not, does your country have plans for workforce development for One Health areas other than zoonotic disease management? Other One Health areas include non-zoonotic diseases of animals and people, food safety, AMR, climate change, biodiversity loss etc.

- If yes, outline national and sub-national workforce strategies and frameworks that guide One Health implementation in the country.
    o Does the plan/ strategy facilitate multisectoral collaboration and coordination?
- Outline strategic goals of the workforce development strategies and frameworks.
- Describe the sectors, institutions, and agencies involved in the existing strategies and frameworks and who should further be engaged.

Question 2: Describe the roles and involvement of wildlife and environment sectors in the management of zoonotic diseases in your country.

- Describe responsible authorities for wildlife and environment in the country.
- Describe their roles and engagement in zoonotic disease management.
- Describe the challenges to engaging with wildlife and environment professionals for zoonotic disease management.

Question 3: Describe the current capacity of the national workforce to coordinate sectors and disciplines to manage zoonotic diseases. Refer to areas of the enabling environment (available in supporting materials) as relevant.

- Describe capacity of collective workforce to manage zoonotic diseases.
- Describe capacity of sector-specific workforce to coordinate across sectors.
    o Human health
    o Animal health
    o Environment
    o Wildlife
- Provide justifications.

Question 4: Describe the workforce competencies that should be further strengthened according to the review of the workforce assessments and strategies for a One Health approach to zoonotic disease management.

- Outline technical and non-technical (or functional) competencies of the workforce to be strengthened in the country. Examples of technical competencies include those needed for coordinating a joint surveillance system and joint risk assessments, while non-technical competencies include those needed for communication, leadership, and conflict management.
- Focus on competencies to facilitate different sectors to work together effectively to address zoonotic diseases or other One Health challenges
- *Keep the descriptions here to high-level as details will be discussed using the WFD OT*

III.   **Setting the scope**

Describe the scope (i.e., administrative level) when using the WFD OT to develop a multisectoral workforce to effectively manage zoonotic diseases. Administrative levels can be central/ national level OR central/national level + sub-national level
Note: The coordination among the national level, sub-national level and local level should be discussed, independent of the «chosen» level.

M19 Step 3 Template for countries' presentations

Please contact HAI@who.int for more information

M20 Video Tutorial on situation analysis and scope setting

[M20 Tutorial on situation analysis and setting the scope.mp4](#)

Access can be requested through the link.

M21 Exercise 1 part 1 disease scenarios

Workforce Development Operational Tool (WFD OT)

The technical team or facilitators select a scenario of a disease outbreak in the country from the options below:

1. Zoonotic influenza (i.e. avian influenza)
2. Cysticercosis
3. Rabies

Scenario 1: Avian influenza outbreak

Summary

Two patients have been admitted to a remote hospital with very severe respiratory illness. Both patients have visited a live bird market, called "Murg Market". The Murg Market has been identified as a central distribution center for poultry and could be the source for the spread of avian influenza. There are rumors that there are additional sick persons in a village nearby. The central animal laboratory tested several specimens from the market with positive results for avian influenza A(H5N<mark>X</mark>) virus

Prompt questions:

1. What should be done as next steps to address this potential outbreak of zoonotic influenza?
2. What areas should MOH, MOA and Ministry responsible for environment collaborate on to manage the potential zoonotic disease outbreak?

Avian influenza outbreak case scenario

(Adapted from a case scenario available on the Association of Public Health Laboratories ([APHL](#)) website)

It is now the morning of July 15, and a call was received from a recently trained staff doctor at a remote hospital who notified the District Health Office that they have admitted two persons with "very severe" respiratory illness. The doctor is concerned that his patients may have "severe pneumonia, MERS CoV, or possibly an avian flu infection."

Apparently, the two patients are related – a 65 year-old grandmother and her ten-year old grandson. The grandmother resides in the same house as her husband, and both live in a house near the grandson's house in a small mountain village in the province. This village is almost 60 km away from the hospital.

The child's father was away in a nearby city during the week of illness onset and the grandmother, who is chronically in ill-health, became a caretaker of the child on July 11th along with the mother who lives with the child. The grandfather also helped despite his elderly status and chronic heart illness. The child was brought to the hospital by his family two days ago and presented with fever, cough, diarrhea and shortness of breath.

The only pertinent history you are able to obtain regarding potential exposures is that the child visited a live bird market (called the "Murg Market") with his mother and uncle in Happy province (where his friends and relatives live) on July 8th.

The Ministry of Health (MOH), following communication with the Ministry of Agriculture (MOA) has determined that the Murg market was a central distribution node for poultry and determined to be at some risk for the spread of avian influenza. Poultry specimens were collected by MOA as part of the newly enhanced risk-based surveillance system about 20 days earlier and sent to the central agricultural laboratory for testing.

You obtain the history that the boy played with chickens and a small dog, helped pour water into a chicken defeathering machine, and played with chickens at the live-animal market with a friend.

Shortly after hospital admission yesterday, the child's condition rapidly declined because of worsening respiratory distress. He was started on ceftriaxone for treatment of suspected bacterial pneumonia. The mother is asymptomatic. The grandfather also denies any symptoms. The grandmother reports that her ongoing respiratory condition suddenly worsened on about July 9th. There are rumors that there are additional sick persons in a village in the adjacent nearby province.

On July 15th, after a call made by the MOH to the central animal laboratory, you learn that several specimens from the Murg market had already tested positive for avian influenza A(H5NX) virus. However, there has been no confirmatory testing done so far.

Scenario 2: Human cysticercosis

Summary

A 20-year-old man has a visual impairment for several months and later had the first episode of convulsions. He has a grandmother who has suffered from convulsions for almost 4 years. The situation as of now is the following.

- The 20-year-old male patient is taking anti-epileptic medicines, still has visual impairment but never had a second episode of convulsions
- The grandmother is taking anti-epileptic medicines
- A schoolboy in the same village had seizures after mass drug administration with praziquantel and was given anti-epileptic medicines

The local health center would like to look into what might be behind these incidences and suspect there is an underlying cause.

Prompt questions:

1. What are some actions that should be taken to find the cause of illness and prevent future cases in the village?
2. Who should the local health center reach out to find more information and collaborate on?

Human cysticercosis case scenario

(This case scenario is provided by the Department of Control of Neglected Tropical Diseases, WHO HQ.)

In February 2023, a man in his 20s, a shop owner living and working in a poor, isolated, rural area, went to a local health center because he had been experiencing impaired visual acuity for several months. The doctor visited him but didn't find any anomalies. He then suggested a thorough examination by an eye specialist. As the impairment didn't worsen, the patient never went to see the eye specialist.

In February 2024, a lady in her 70s, the grandmother of the previous patient, experienced increasingly frequent episodes of convulsions. She had been suffering from this for almost four years, but never discussed this with a doctor. She always tried to keep this condition hidden, because of the stigma associated with convulsions in her community. People who suffer from convulsions are often isolated by the rest of the family and the village and, especially women, are usually accused of witchcraft.

In the same month, February 2024, the male patient experienced his first episode of convulsions, which led him to go back to the local health center and bring along his grandmother, to have her examined as well. The doctor administered anti-epileptic medicines to both. Since the

grandmother had experienced convulsions for a longer period of time, the doctor performed serology. Following the results, the doctor prescribed anthelmintics. A follow-up visit after 4 months was suggested.

In March 2024, the male patient called a hospital in the regional capital city to get a second opinion. The hospital recommended imaging, but the patient couldn't afford its cost and continued to rely on the local health center.

Free-roaming pigs and people defecating in the open are commonly seen in the village the patients live in. Pigs can be easily sold to provide cash. The cost for husbandry is rather cheap because they are left free to find their own food.

In August 2024, in the same village, all children at the school were given praziquantel as part of the Ministry of Health campaign to control schistosomiasis. One evening, a 10-year-old boy who received the medication started complaining about strong headache, which continued after taking paracetamol, and later in the night he had seizures. He was taken to the health center and was given anti-epileptic medicines.

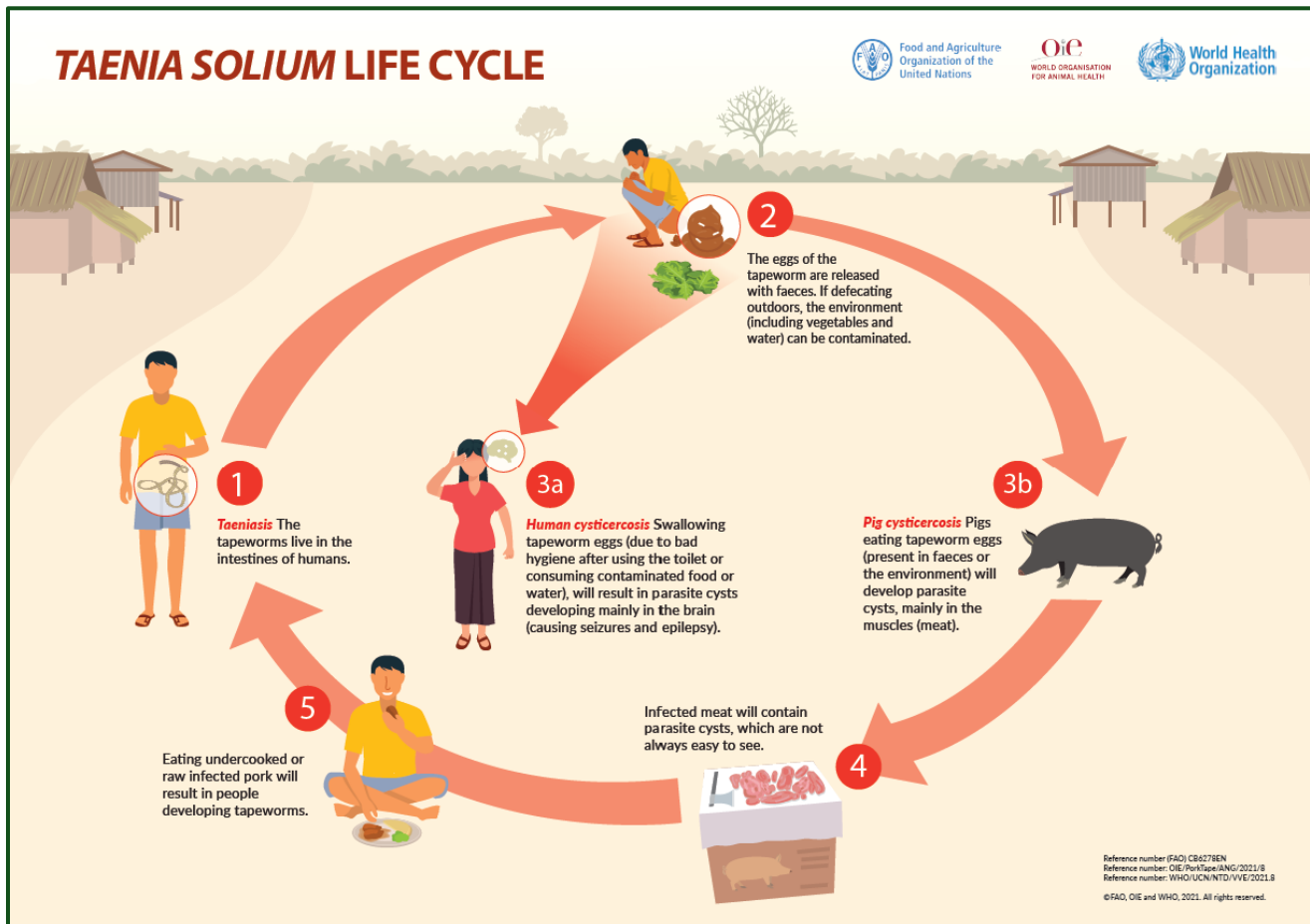The situation as of 12th of September 2024 is the following:

- The 20-year-old male patient is taking anti-epileptic medicines, still has visual impairment but never had a second episode of convulsions
- The 70-year-old female patient is taking anti-epileptic medicines
- Both patients wonder whether there is an underlying cause
- A school boy in the same village had seizures after mass drug administration with praziquantel and was given anti-epileptic medicines

The local health center would like to look into what might be behind these incidences.

IMPORTANT NOTES FOR THE TRAINER:

1. These cases are typical of neurocysticercosis, which is acquired by eating *Taenia solium* eggs via the fecal-oral route, or by consuming contaminated food (for example, a person with a tapeworm didn't wash their hands properly after defecating, and then prepared a meal, contaminating it with the tapeworm eggs; or a family ate vegetables that were soiled by human faeces and were not washed properly). NOTE that neurocysticercosis in people is not acquired by eating pork. See Figure below and https://www.who.int/publications/i/item/WHO-UCN-NTD-VVE-2021.8.
2. A patient suspected to have neurocysticercosis should NEVER receive anthelminthics without imaging diagnostics. This is a dangerous practice as when the cysts die, the subsequent inflammation can worsen the symptoms and induce cranial hypertension. However, many doctors in rural, remote healthcare facilities are not aware of this contraindication and might prescribe anthelminthics with positive serology without imaging. For further information: https://www.who.int/publications/i/item/9789240068155

3. Adverse events during mass drug administration with praziquantel in *Taenia solium* endemic areas are VERY rare, but they can be very serious, so actions need to be taken to prevent them from occurring and, if they occur, patients need to be treated swiftly and properly. For further information: https://www.who.int/publications/i/item/9789240068117 and https://www.who.int/publications/i/item/9789240068131

Scenario 3: Human and animal rabies

Summary

A 45-year-old man who was bitten by a dog (Dog 1) two months earlier presented at a Primary Healthcare Center with agitation and unable to walk or speak normally. A 12-year-old boy went to the same Primary Healthcare Center and received the post-exposure prophylaxis (PEP) and the first rabies vaccination because his dog (Dog 2) at home had bitten him two days before. Dog 2 has 2 puppies and bit a cow.

The situation is now the following:

- One clinically-probable human rabies death following a bite from Dog 1 (the 45-year-old man)
- One suspected rabid dog, now caged (Dog 2)
- One suspected rabid dog, now killed (Dog 1 or Dog 3?)
- One exposed patient undergoing PEP following a bite from Dog 2 (the 12-year-old boy)
- One lady bitten in the nearby village by Dog 1 (or Dog 3?)
- One dog bitten in the nearby village by Dog 1 (or Dog 3?), now alive
- One dog bitten in the nearby village by Dog 1 (or Dog 3?), now dead, showing symptoms compatible with rabies
- Two puppies fed and licked by Dog 2
- One cow bitten by Dog 2, now headed to the market for sale

Prompt questions:

1. Who should be collaborating to address the ongoing situation of rabies in animals and humans?
2. What actions, with collaboration and coordination from people identified in #1, should be taken to understand the situation of rabies in animals and humans?
3. What actions, with collaboration and coordination from people identified in #1, should be taken to address the current rabies situation and prevent potential spread?

Rabies case scenario

(This case scenario is provided by the Department of Control of Neglected Tropical Diseases, WHO HQ.)

On December 1st, the doctor in charge of a Primary Healthcare Center situated in a very remote area suggested a patient go to the District Hospital to receive a second opinion about their symptoms. The patient was a 45-year-old male farmer who had been agitated and unable to walk and speak normally for two days. The doctor offered him a glass of water, which the patient refused, and this strongly supported the clinical diagnosis of rabies.

The doctor asked his accompanying person (his wife) whether he was bitten by any animal recently. She said that two months before he was bitten by an unknown dog (Dog 1) in the field, but the bite was very superficial and hardly broke the skin. The dog was trying to attack the farmer's goat and had run away in the direction of a nearby village (5 km away).

On December 4th, a 12-year-old boy went to the same Primary Healthcare Center because his dog (Dog 2) at home had bitten him two days before. Since the wound didn't seem to require stitches, his parents disinfected and covered it but didn't consult a doctor. They come in now because they heard that the 45-year-old man, who was clinically diagnosed with rabies, just died at home. The Primary Healthcare Center doctor immediately started post-exposure prophylaxis (PEP) on the young patient by giving the first dose of rabies vaccination. Rabies immunoglobulin is never available in this remote locality and only sometimes available in the capital.

The doctor asked whether the dog (Dog 2) had bitten somebody else. The dog apparently just bit one of their cows, which her husband is now bringing to the market (15 kilometers away) for sale the following morning. They had managed to restrain and cage the biting dog, but were not sure about what to do with her two 5-week-old puppies. The doctor recommended keeping the dog caged for 10 days, with no human contact. He didn't know what to recommend about the puppies as it is possible they might already have been exposed to the rabies virus during feeding and licking.

The doctor had been posted to this Primary Healthcare Center only a few months before. He only knew the owner of a store in the village where the dog (Dog 1) who had bitten the man was headed. So he called him in his personal capacity to inform and ask about dog bite cases in the last two months. He said that one lady and two dogs had been bitten by an unknown and very aggressive dog (Dog 1 or Dog 3?), which was immediately killed by the villagers. The doctor was not able to understand whether this dog was the same one that had bitten his 45-year-old patient in the field. Two other dogs in the village were also bitten by this unknown, aggressive dog before being killed. One, which was lethargic and groggy without being aggressive or salivating, later died.

The situation is now the following:

- One clinically-probable human rabies death following a bite from Dog 1 (the 45-year-old man)
- One suspected rabid dog, now caged (Dog 2)
- One suspected rabid dog, now killed (Dog 1 or Dog 3?)
- One exposed patient undergoing PEP following a bite from Dog 2 (the 12-year-old boy)
- One lady bitten in the nearby village by Dog 1 (or Dog 3?)
- One dog bitten in the nearby village by Dog 1 (or Dog 3?), now alive
- One dog bitten in the nearby village by Dog 1 (or Dog 3?), now dead, showing symptoms compatible with rabies
- Two puppies fed and licked by Dog 2
- One cow bitten by Dog 2, now headed to the market for sale

-END-

M22 Workforce function list_cards for exercise

Please contact HAI@who.int for more information

M23 Exercise 1 part 1 posters

Please contact HAI@who.int for more information

M24 WFD OT functions

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Module 1 Step 4

M24 Workforce Functions

Workforce Development Operational Tool

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Scope: The workforce functions highlighted here are needed to work across sectors and disciplines.

Definitions:

- **Functions** are sector-specific and multisectoral duties and responsibilities to ensure coordinated zoonotic disease management. They are performed by the workforce on behalf of an institution.
- A **multisectoral, One Health coordination mechanism (MCM)** for zoonotic diseases refers to any formalized, standing, group that acts to strengthen or develop collaboration, communication, and coordination across the sectors responsible for addressing zoonotic diseases and other health concerns at the human-animal-environment interface. An MCM has routine, ongoing functions and is responsible for coordination, leadership, and governance of efforts among the relevant sectors to achieve jointly determined and agreed common goals.
- **Operational research** optimizes the use of data to inform improvements in health
- **Zoonotic disease management** refers to activities with respect to all five stages of the disease management cycle: prepare, prevent, detect, respond, and recover.

Category	Function number	Function
Strategic planning and emergency preparedness	1	Coordinate zoonotic disease management using a defined framework and/ or multisectoral coordination mechanism
	2	Supervise / oversee the coordination of activities conducted at the interface among sectors for the management of zoonotic diseases
	3	Jointly identify stakeholders and involve them in zoonotic disease management
	4	Lead the development and organisation of joint simulation exercises
	5	Lead the development and organisation of joint after-action reviews
	6	Represent your agency when engaging with partners and representatives from other agencies and sectors
	7	Disseminate information and provide updates within the multisectoral coordination mechanism or to relevant partners on coordinated activities
	8	Jointly review and adjust, as needed, legislation and regulations
	9	Coordinate assessments of needs, current plans, programmes and resources
	10	Jointly mobilize and allocate resources

Surveillance and information sharing	11	Jointly develop or align strategy, plans, and legislation for coordinated surveillance, leveraging all relevant sectors
	12	Design, develop, and evaluate systems for coordinated surveillance across sectors
	13	Facilitate coordination and sharing between laboratories, develop protocols, and evaluate laboratory capacities
	14	Coordinate joint early warning based on zoonotic disease signals and the multisectoral development of surveillance reports
	15	Coordinate joint risk assessment and early warning based on analysis of drivers associated with zoonotic disease event, including during emergencies
	16	Define objectives and perform data analysis, leveraging surveillance data across sectors
	17	Jointly strengthen the harmonization of laboratory protocols and reporting across sectors, including specimen collection, sample submission forms, packaging, transport, test algorithms and protocols, results reporting and shared data analysis
Coordinated investigation and response	18	Participate in and/or implement joint outbreak investigation and response activities, including participation in incident management systems and biosafety and biosecurity measures
	19	Lead outbreak investigation and response activities during zoonotic disease outbreaks, including biosafety and biosecurity measures, with animal welfare considerations
	20	Ensure personal safety of the team during outbreak investigation and response activities
	21	Ensure animal welfare is taken into account during outbreak investigation and response
	22	Monitor environmental impact of outbreak investigation and response to zoonotic disease outbreaks, including waste, contamination, non-targeted species etc.
Joint risk assessment	23	Conduct routine and as-needed joint risk assessments for (prioritized) zoonotic disease threats and develop relevant recommendations for risk management
Risk reduction, risk communication, and community engagement	24	Coordinate and/ or participate in joint development of harmonized risk communication and community engagement messages and materials
	25	Conduct joint risk communication and coordinate dissemination of tailored messages for risk reduction, of situation updates, and of recommendations to interested parties and the public
	26	Engage communities and consider cultural and socio-economic dimensions in decision making regarding zoonotic disease management
	27	Empower communities to adopt measures for risk management

	28	Empower communities to take part in zoonotic disease management
	29	Assess behavior change in the target population
Research	30	Conduct, promote, and share research on target populations for behavior change, involving stakeholders in the process
	31	Conduct, promote, and share operational research and results for zoonotic disease management at the human-animal-environment interface, involving stakeholders in the process
Workforce development	32	Conduct joint needs and readiness assessments to tailor training and capacity development programmes accordingly
	33	Develop capacity development programmes for training and continuing education for relevant staff focusing on the One Health approach
	34	Contribute to the development of **multisectoral** capacity development programmes and continuing education for relevant staff
Monitoring and Evaluation	35	Monitor and evaluate coordination between sectors in peacetime, alert, emergency, and reconstruction phases
	36	Monitor and evaluate the effectiveness of zoonotic disease management activities

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M25 Exercise 1 part 2 template

Workforce Development Operational Tool (WFD OT)

Category	Function number	Function	Revised function according to country context if relevant	Institution/ department within institution where present. Otherwise indicate "missing" or "N/A"
Strategic planning and emergency preparedness	1	Coordinate zoonotic disease management using a defined framework and/ or multisectoral coordination mechanism		
	2	Supervise / oversee the coordination of activities conducted at the interface among sectors for the management of zoonotic diseases		
	3	Jointly identify stakeholders and involve them in zoonotic disease management		
	4	Lead the development and organisation of joint simulation exercises		
	5	Lead the development and organisation of joint after-action reviews		
	6	Represent your agency when engaging with partners and representatives from other agencies and sectors		
	7	Disseminate information and provide updates within the multisectoral coordination mechanism or to relevant partners on coordinated activities		
	8	Jointly review and adjust, as needed, legislation and regulations		
	9	Coordinate assessments of needs, current plans, programmes and resources		
	10	Jointly mobilize and allocate resources		

Surveillance and information sharing	11	Jointly develop or align strategy, plans, and legislation for coordinated surveillance, leveraging all relevant sectors		
	12	Design, develop, and evaluate systems for coordinated surveillance across sectors		
	13	Facilitate coordination and sharing between laboratories, develop protocols, and evaluate laboratory capacities		
	14	Coordinate joint early warning based on zoonotic disease signals and the multisectoral development of surveillance reports		
	15	Coordinate joint risk assessment and early warning based on analysis of drivers associated with zoonotic disease event, including during emergencies		
	16	Define objectives and perform data analysis, leveraging surveillance data across sectors		
	17	Jointly strengthen the harmonization of laboratory protocols and reporting across sectors, including specimen collection, sample submission forms, packaging, transport, test algorithms and protocols, results reporting and shared data analysis		
Coordinated investigation and response	18	Participate in and/or implement joint outbreak investigation and response activities, including participation in incident management systems and biosafety and biosecurity measures		
	19	Lead outbreak investigation and response activities during zoonotic disease outbreaks, including biosafety and biosecurity measures, with animal welfare considerations		
	20	Ensure personal safety of the team during outbreak investigation and response activities		
	21	Ensure animal welfare is taken into account during outbreak investigation and response		
	22	Monitor environmental impact of outbreak investigation and response to zoonotic disease		

		outbreaks, including waste, contamination, non-targeted species etc.		
Joint risk assessment	23	Conduct routine and as-needed joint risk assessments for (prioritized) zoonotic disease threats and develop relevant recommendations for risk management		
Risk reduction, risk communication, and community engagement	24	Coordinate and/ or participate in joint development of harmonized risk communication and community engagement messages and materials		
	25	Conduct joint risk communication and coordinate dissemination of tailored messages for risk reduction, of situation updates, and of recommendations to interested parties and the public		
	26	Engage communities and consider cultural and socio-economic dimensions in decision making regarding zoonotic disease management		
	27	Empower communities to adopt measures for risk management		
	28	Empower communities to take part in zoonotic disease management		
	29	Assess behavior change in the target population		
Research	30	Conduct, promote, and share research on target populations for behavior change, involving stakeholders in the process		
	31	Conduct, promote, and share operational research and results for zoonotic disease management at the human-animal-environment interface, involving stakeholders in the process		
Workforce development	32	Conduct joint needs and readiness assessments to tailor training and capacity development programmes accordingly		
	33	Develop capacity development programmes for training and continuing education for		

		relevant staff focusing on the One Health approach		
	34	Contribute to the development of **multisectoral** capacity development programmes and continuing education for relevant staff		
Monitoring and Evaluation	35	Monitor and evaluate coordination between sectors in peacetime, alert, emergency, and reconstruction phases		
	36	Monitor and evaluate the effectiveness of zoonotic disease management activities		

-END-

M26 WFD OT sub-functions

Module 2 Step 4

M26 Functions and Subfunctions

Workforce Development Operational Tool

Objective: Sub-functions were developed primarily from the Tripartite Zoonoses Guide to help users of the Workforce Development Operational Tool better understand the functions and to maintain a consistent granularity of the functions.

Category	Function number	Function	Sub-function #	Sub-function
Strategic planning and emergency preparedness	1	Coordinate zoonotic disease management using a defined framework and/ or multisectoral coordination mechanism	1.1	Jointly develop, adjust and consolidate a zoonotic disease framework, strategy, protocol and/or action plan
			1.2	Align existing national zoonotic disease frameworks, strategies, protocols and/or action plans and maintain continuous communication and coordination of the various activities as needed
			1.3	Jointly establish the purpose, goals, objectives, activities, and indicators of the zoonotic disease framework, strategy, protocol and/or action plan
			1.4	Develop an operational zoonotic disease framework, strategy and/ or action plan through the MCM
			1.5	Support coordination, collaboration, communication among sectors at the leadership level
			1.6	Advocate for a multisectoral, and One Health approach to policy making, strategic planning, and resource allocation
	2	Supervise / oversee the coordination of activities conducted at the interface among sectors for the management of zoonotic diseases	2.1	Supervise/ oversee the coordination of technical activities to ensure that a multisectoral, One Health approach is taken
			2.2	Supervise/ oversee the coordination of technical activities to ensure that there is alignment across existing governmental structures and across the technical activities addressing zoonotic diseases
	3	Jointly identify stakeholders and involve them in zoonotic disease management	3.1	In a consultative process, joint identify and include relevant interested parties as early as possible in planning One Health activities
			3.2	Assign appropriate roles and responsibilities to each interested party for zoonotic disease management

4	Lead the development and organisation of joint simulation exercises	4.1	Develop a joint programme for regular exercises for response to zoonotic disease events that includes all the sectors contributing to the contingency plans
		4.2	Use joint simulation exercises to test and validate plans, to train personnel in their roles and responsibilities, and foster interaction and communication among staff from different sectors
5	Lead the development and organisation of joint after-action reviews	5.1	Conduct joint after-action reviews immediately after a health event or emergency to review and qualitatively assess the actions taken, and to identify and document best practices and challenges encountered during the event response
6	Represent your agency when engaging with partners and representatives from other agencies and sectors	6.1	Designate an official representative who is best suited to communicate the key messages
7	Disseminate information and provide updates within the multisectoral coordination mechanism or to relevant partners on coordinated activities	7.1	Communicate within the MCM and with key stakeholders to increase awareness of roles and responsibilities and engagement of activities
		7.2	Prepare a structured communication plan
		7.3	Identify and prioritize activities and assign roles and responsibilities to the taskforce members
8	Jointly review and adjust, as needed, evidence-based legislation and regulations	8.1	Review and propose adjustments in legislation, regulations, and the framework for emergency management of zoonotic disease risks and events
		8.2	Review and adjust legislation to empower decision making and action in preparedness planning
		8.3	Review and adjust legislation to facilitate the collaboration between multiple sectors
9	Coordinate assessments of needs, current plans, programmes and resources	9.1	Ensure technical, human, and financial resources are effectively used and equitably shared
		9.2	Determine the activities to achieve each objective; For each activity, there should be a timeline, a list of responsibilities, a list of resources needed, and measurable indicators for monitoring progress.
10	Jointly mobilize and allocate resources	10.1	Ensure that all sectors involved in the management of zoonotic disease contribute equitably to addressing it, even if the activity required is the responsibility of another sector
		10.2	Identify designated financing for a specific disease to fund activities
		10.3	Monitoring and evaluation and continual cost-benefit to verify cost savings and allow funding reallocation as needed
Surveillance and information sharing	11	Jointly develop or align strategy, plans, and legislation for coordinated surveillance, leveraging all relevant sectors	11.1	Establish networks and partnerships for coordinating surveillance
		11.2	Jointly agree on how the relevant stakeholders are to be linked
		11.3	Identify resources and equitable financing across all relevant sectors for effective implementation of the surveillance system
	12	Design, develop, and evaluate systems for coordinated surveillance across sectors	12.1	Identify objectives for a coordinated surveillance system
		12.2	Identify what the coordinated surveillance system will do and how it functions
	13	Facilitate coordination and sharing between laboratories, develop	13.1	Routinely share of all surveillance information – including laboratory information – in a timely manner across all relevant sectors

		13.2	Establish or identify informal and formal mechanisms and agreements to share agreed information among the relevant sectors and with the MCM
		13.3	Establish or identify mechanisms for regular information sharing with other partners (e.g. regional partners, neighboring countries and non-governmental stakeholders depending on the disease event)
	protocols, and evaluate laboratory capacities	13.4	Establish or identify regional networks for sharing surveillance information using a multisectoral, One Health approach
	14 Coordinate joint early warning based on zoonotic disease signals and the multisectoral development of surveillance reports	14.1	Jointly identify and monitor the risk factors for zoonotic disease events
		14.2	Jointly identify criteria that will be used to trigger an alert and mount a coordinated investigation
	15 Coordinate joint risk assessment and early warning based on analysis of drivers associated with zoonotic disease event, including during emergencies	15.1	Establish or adjust policies and procedures for joint routine analysis and interpretation of surveillance data for zoonotic diseases
		15.2	Standardize data collection, sharing, and analysis
	16 Define objectives and perform data analysis, leveraging surveillance data across sectors	16.1	Identify objectives for a coordinated surveillance system
	17 Jointly strengthen the harmonization of laboratory protocols and reporting across sectors, including specimen collection, sample submission forms, packaging, transport, test algorithms and protocols, results reporting and shared data analysis	17.1	Communicate regularly and promote collaboration within the network
		17.2	Ensure that appropriate national laboratory capacity exists across all relevant sectors, including identifying qualified laboratories and external laboratories
		17.3	Standardize diagnostic techniques and align local procedures with internationally recognized standards
		17.4	Develop and use laboratory algorithms for zoonotic diseases, including harmonizing laboratory algorithms between animal and human health laboratories
		17.5	Establish common standards for sample submission, and for sharing information about tests and results
		17.6	Participate in joint training for animal and human health laboratory staff and other relevant partners
		17.7	Exchange technology and share protocols between animal health and human health laboratories
		17.8	Jointly procure reagents and laboratory consumables
Coordinated investigation and response	18 Participate in and/or implement joint outbreak investigation and response activities, including participation in incident management systems and biosafety and biosecurity measures	18.3	Implement coordinated investigation & response protocols
		18.4	Communicate along communication lines throughout the investigation
		18.5	Act as focal point for each sector in the response to zoonotic disease events
	19 Lead outbreak investigation and response activities during zoonotic disease outbreaks, including biosafety and biosecurity measures, with animal welfare considerations	19.1	Define roles & responsibilities of relevant sectors
		19.2	Determine if a coordinated investigation is required

	20	Ensure personal safety of the team during outbreak investigation and response activities	20.1	Provide material and operational support to field operations and secure safety, health, welfare, and security of response teams
	21	Ensure animal welfare is taken into account during outbreak investigation and response	21.1	
	22	Monitor environmental impact of outbreak investigation and response to zoonotic disease outbreaks, including waste, contamination, non-targeted species etc.	22.1	Identify and assess the risks of environmental impacts of response activities for zoonotic disease outbreaks
			22.2	Prepare a joint plan for monitoring and mitigating the environmental impacts of response activities for zoonotic disease outbreaks
Joint risk assessment	23	Conduct routine and as-needed joint risk assessments for (prioritized) zoonotic disease threats and develop relevant recommendations for risk management	23.1	Establish and guide a process for conducting a JRA
			23.2	Lead and manage JRA process
			23.3	Establish a standing joint risk assessment group with clear terms of reference
Risk reduction, risk communication, and community engagement	24	Coordinate and/ or participate in joint development of harmonized risk communication and community engagement messages and materials	24.1	Collaborate with relevant interested parties to develop consistent messages for communication about zoonotic diseases
			24.2	Jointly engage with community stakeholders in research, engagement and message testing to help with developing and tailoring messages and materials for specific affected population
			24.3	Jointly develop communication materials or ensure alignment across all relevant sectors to maintain awareness about zoonotic events, to enhance community reporting of zoonotic events, and to increase risk reduction behaviors among affected populations
			24.4	Jointly identify all relevant stakeholders and affected communities
	25	Conduct joint risk communication and coordinate dissemination of tailored messages for risk reduction, of situation updates, and of recommendations to interested parties and the public	25.1	Jointly plan and implement risk reduction and risk communication activities taking a multisectoral, One Health approach,
			25.2	Work alongside technical experts to share knowledge, advice and opinions to develop and implement risk reduction strategies, risk communication, and community engagement
			25.3	Jointly identify all relevant stakeholders and affected communities
			25.4	Distribute communication materials as a resource for interested parties
	26	Engage communities and consider socio-economic dimensions in decision making regarding zoonotic disease management	26.1	Interact with communities and community leaders
			26.2	Use available research on social determinants of health in the context
	27	Empower communities to adopt measures for risk management	27.1	Collaborate with community "influencers," social media, and other platforms to reach affected populations
	28	Empower communities to take part in zoonotic disease management		
	29	Assess behavior change in the target population		

Research	30	Conduct, promote, and share research on target populations for behavior change, involving stakeholders in the process	30.1	Establish partnerships and jointly engage with research institutes for sector-specific, One Health and regional/ international initiatives for operational research
			30.2	Establish partnerships and jointly engage with research institutes in the planning, implementation, and evaluation of operational research
			30.3	Work with internal and external partners to identify technical knowledge gaps, and to promote information gathering or operational research to fill them
	31	Conduct, promote, and share operational research and results for zoonotic disease management at the human-animal-environment interface, involving stakeholders in the process		
Workforce development	32	Conduct joint needs and readiness assessments to tailor training and capacity development programmes accordingly	32.1	Jointly assess One Health workforce capacity gaps and needs at different administrative levels
			32.2	Compile outcomes of formal or informal workforce analyses or development exercises
	33	Develop capacity development programmes for training and continuing education for relevant staff focusing on the One Health approach	33.1	Prioritize capacity development programmes for One Health
			33.2	Enhance and modify existing resources to meet current needs or build new training programmes and materials
			33.3	Incorporate One Health Core Competencies into health-related education and training programmes
			33.4	Identify and engage with non-traditional education and training providers and partners for the development and delivery of training programmes
	34	Contribute to the development of multisectoral capacity development programmes and continuing education for relevant staff	34.1	Jointly discuss and prioritize joint capacity development programmes based on the priority zoonotic diseases and on the results of the joint needs assessment
			34.2	Jointly enhance and modify existing resources to meet current needs or build new training programmes and materials
			34.3	Incorporate One Health Core Competencies into health-related education and training programmes
			34.4	Jointly identify and engage with non-traditional education and training providers and partners for the development and delivery of training programmes
			34.5	Jointly identify the target audience for the trainings, considering the entire labor force engages in addressing zoonotic diseases, non-traditional, and in-service staff
Monitoring and Evaluation	35	Monitor and evaluate coordination between sectors in peacetime, alert, emergency, and reconstruction phases		
	36	Monitor and evaluate the effectiveness of zoonotic disease management activities	36.1	Map ongoing monitoring and evaluation activities related to zoonotic diseases
			36.2	Identify goals and objectives for this M&E, define indicators, establish baseline, develop a data collection plan including roles and responsibilities, and develop a reporting plan

-END-

M27 WFD OT occupations

Module 2 Step 5

M27 Occupations by sector

Workforce Development Operational Tool

I.   Animal health sector

#	Occupation	Institution(s)
1	Chief veterinary officer or equivalent director of veterinary services (gov)	
2	Finance officer	
3	Human resource manager	
4	Supply/ Inventory/ Logistic officer (gov)	
5	Program/ Project manager	
6	Outbreak response coordinator (gov)	
7	Biostatistician	
8	Veterinary Epidemiologist	
9	Microbiologist	
10	Vector control expert	
11	Scientist/ Researcher	
12	Veterinary officer (gov)	
13	Veterinarian/ Veterinary practitioner	
14	Communication officer (gov)	
15	Risk communication specialist	
16	Public relations officer - spokesperson	
17	Liaison officer to interface with partners/ One Health focal point	
18	Information and Communications Technology Professional	
19	Laboratory officer (gov)	
20	Laboratory technician	
21	Community mobilizer/ leader	
22	Veterinary paraprofessional/ technician	
23	Extension worker/ Community animal health worker	
24	Emergency response officer (gov)	
25	Other_____	
26	Other_____	

II. Environment sector

#	Occupation	Institution(s)
1	Director of Environment Department (gov)	
2	Finance officer	
3	Human resource manager	
4	Supply/ Inventory/ Logistic officer (gov)	
5	Program/ Project manager	
6	Meteorologist	
7	Biostatistician	
8	Environment expert	
9	Vector control expert	
10	Scientist/ Researcher	
11	Fisheries officer (gov)	
12	Forestry officer (gov)	
13	Ecologist	
14	Environment officer (gov)	
15	WASH expert	
16	Communication officer (gov)	
17	Public relations officer - spokesperson	
18	Liaison officer to interface with partners/ One Health focal point	
19	Information and Communications Technology Professional	
18	Laboratory officer (gov)	
19	Laboratory technician	
20	Community mobilizer/ leader	
21	Extension worker	
22	Other_____	
23	Other_____	

III. Human health sector

#	Occupation	Institution(s)
1	Medical/ human health officer (gov)	
2	Medical doctor/ practitioner/ physician	
3	Primary health care worker	
4	Chief medical officer or equivalent director of human health services (gov)	
5	Head of department of community health	
6	Finance officer	
7	Human resource manager	
8	Supply/ Inventory/ Logistic officer (gov)	
9	Program/ Project manager	
10	Hospital administrator	
11	Outbreak response coordinator (gov)	
12	Biostatistician	
13	Human Health Epidemiologist	
14	Microbiologist	
15	Vector control expert	
16	Scientist/ Researcher	
17	Nurse	
18	Public health expert/ specialist	
19	WASH expert	
20	Health educator	
21	Communication officer (gov)	
22	Risk communication specialist	
23	Public relations officer – spokesperson	
24	Liaison officer to interface with partners/ One Health focal point	
25	Information and Communications Technology Professional	
26	Laboratory officer (gov)	
27	Laboratory technician	
28	Community mobilizer/ leader	
29	Extension worker/ Community health care worker	
30	Emergency response officer (gov)	
31	Health inspector	
32	Other_____	
33	Other_____	

IV.   Wildlife sector

#	Occupation	Institution(s)
1	Head of Department (gov)	
2	Finance office	
3	Human resource manager	
4	Supply/ Inventory/ Logistic officer (gov)	
5	Program/ Project manager	
6	Biostatistician	
7	Wildlife expert	
8	Wildlife officer (gov)	
9	Wildlife Epidemiologist	
10	Scientist/ Researcher	
11	Communication officer (gov)	
12	Risk communication specialist	
13	Public relations officer - spokesperson	
14	Liaison officer to interface with partners/ One Health focal point	
15	Information and Communications Technology Professional	
16	Laboratory officer (gov)	
17	Laboratory technician	
18	Community mobilizer/ leader	
19	Extension worker	
20	Other_____	
21	Other_____	

V.   Other sectors

#	Occupation	Institution(s)
1	Chair of the multisectoral coordination mechanism	
2	Biostatistician	
3	Entomologist	
4	Microbiologist	
5	Lawyer and policy consultant/ legal advisor	
6	Anthropologist/ Social Scientist	
7	Psychologist/ Behavior scientist	
8	Social worker	
9	Journalist	
10	Law enforcement officer (gov)	
11	Other_____	
12	Other_____	

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M28 Exercise 2 part 1 template

Module 2 Step 5

M28 exercise 2 part 1 template

Workforce Development Operational Tool

I.   Animal health sector

#	Occupation	Revised occupation title according to country context if relevant	Institution, department, and administrative level where present. Otherwise indicate "missing" or "not applicable."
	Example: Chief veterinary officer	*Director of veterinary services*	*Ministry of agriculture, department of veterinary services, national level*
1	Chief veterinary officer or equivalent director of veterinary services (gov)		
2	Finance officer		
3	Human resource manager		
4	Supply/ Inventory/ Logistic officer (gov)		
5	Program/ Project manager		
6	Outbreak response coordinator (gov)		
7	Biostatistician		
8	Veterinary epidemiologist		
9	Microbiologist		
10	Vector control expert		
11	Scientist/ Researcher		
12	Veterinary officer (gov)		
13	Veterinarian/ Veterinary practitioner		
14	Communication officer (gov)		
15	Risk communication specialist		
16	Public relations officer - spokesperson		
17	Liaison officer to interface with partners/ One Health focal point		
18	Information and communications technology professional		
19	Laboratory officer (gov)		

20	Laboratory technician		
21	Community mobilizer/ leader		
22	Veterinary paraprofessional/ technician		
23	Extension worker/ Community animal health worker		
24	Emergency response officer (gov)		
25	Other_____		
26	Other_____		

II. Environment sector

#	Occupation	Revised occupation title according to country context if relevant	Institution, department, and administrative level where present. Otherwise indicate "missing" or "not applicable."
1	Director of Environment Department (gov)		
2	Finance officer		
3	Human resource manager		
4	Supply/ Inventory/ Logistic officer (gov)		
5	Program/ Project manager		
6	Meteorologist		
7	Biostatistician		
8	Environment expert		
9	Vector control expert		
10	Scientist/ Researcher		
11	Fisheries officer (gov)		
12	Forestry officer (gov)		
13	Ecologist		
14	Environment officer (gov)		
15	WASH expert		
16	Communication officer (gov)		
17	Public relations officer - spokesperson		
18	Liaison officer to interface with partners/ One Health focal point		
19	Information and communications technology professional		
18	Laboratory officer (gov)		
19	Laboratory technician		
20	Community mobilizer/ leader		
21	Extension worker		
22	Other_____		
23	Other_____		

III. Human health sector

#	Occupation	Revised occupation title according to country context if relevant	Institution, department, and administrative level where present. Otherwise indicate "missing" or "not applicable."
1	Medical/ human health officer (gov)		
2	Medical doctor/ practitioner/ physician		
3	Primary health care worker		
4	Chief medical officer or equivalent director of human health services (gov)		
5	Head of department of community health		
6	Finance officer		
7	Human resource manager		
8	Supply/ Inventory/ Logistic officer (gov)		
9	Program/ Project manager		
10	Hospital administrator		
11	Outbreak response coordinator (gov)		
12	Biostatistician		
13	Human health epidemiologist		
14	Microbiologist		
15	Vector control expert		
16	Scientist/ Researcher		
17	Nurse		
18	Public health expert/ specialist		
19	WASH expert		
20	Health educator		
21	Communication officer (gov)		
22	Risk communication specialist		
23	Public relations officer – spokesperson		
24	Liaison officer to interface with partners/ One Health focal point		
25	Information and communications technology professional		
26	Laboratory officer (gov)		
27	Laboratory technician		

28	Community mobilizer/ leader		
29	Extension worker/ Community health care worker		
30	Emergency response officer (gov)		
31	Health inspector		
32	Other_____		
33	Other_____		

IV.   Wildlife sector

#	Occupation	Revised occupation title according to country context if relevant	Institution, department, and administrative level where present. Otherwise indicate "missing" or "not applicable."
1	Head of Department (gov)		
2	Finance officer		
3	Human resource manager		
4	Supply/ Inventory/ Logistic officer (gov)		
5	Program/ Project manager		
6	Biostatistician		
7	Wildlife expert		
8	Wildlife officer (gov)		
9	Wildlife epidemiologist		
10	Scientist/ Researcher		
11	Communication officer (gov)		
12	Risk communication specialist		
13	Public relations officer - spokesperson		
14	Liaison officer to interface with partners/ One Health focal point		
15	Information and communications technology professional		
16	Laboratory officer (gov)		
17	Laboratory technician		
18	Community mobilizer/ leader		
19	Extension worker		
20	Other_____		
21	Other_____		

V. Other sectors

#	Occupation	Revised occupation title according to country context if relevant	Institution, department, and administrative level where present. Otherwise indicate "missing" or "not applicable."
1	Chair of the multisectoral coordination mechanism		
2	Biostatistician		
3	Entomologist		
4	Microbiologist		
5	Lawyer and policy consultant/ legal advisor		
6	Anthropologist/ Social Scientist		
7	Psychologist/ Behavior scientist		
8	Social worker		
9	Journalist		
10	Law enforcement officer (gov)		
11	Other_____		
12	Other_____		

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International Standard Classification of Occupations. Geneva: International Labour Office; 2012 (https://www.ilo.org/global/publications/ilo-bookstore/order-online/books/WCMS_172572/lang--en/index.htm).

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-END-

M29 Example tasks by occupation

M26 Example tasks by occupation

Workforce Development Operational Tool

I.   **Animal health sector**

#	Occupation	Example adapted task/duty
1	Chief veterinary officer or equivalent director of veterinary services (gov)	Oversees and coordinates veterinary service personnel at national and sub-national levels
		Monitors and evaluates available data and information on animal health to inform regulations and legislation for animal health governance, functions, and services
		Coordinates effective and timely animal health emergency management activities, particularly of veterinary services, while supporting the continuity of essential functions and services
		Conducts animal health system planning and coordination, including alignment of national strategies, policies, and plans, and engages with relevant stakeholders to promote integrated cross-sectoral coordination for animal health
2	Finance officer (gov)	Mobilizes and manages government funds
		Plans and allocates funds for national health systems to ensure financial resilience during health emergencies
3	Human resource manager	Recruits, distributes, and manages animal health professionals and provides direction for operational and administrative procedures
		Oversees the selection, training, and performance of animal health professionals for an agency or organization to plan and deliver animal health services
4	Supply/ Inventory/ Logistic officer (gov)	Implements and monitors purchasing, storage and distribution strategies, policies and plans of supplies, consumables, and equipment for zoonotic disease management
		Consults with other zoonotic disease management actors about requirements for outward goods and associated forwarding transportation

#	Occupation	Example adapted task/duty
5	Program/ Project manager	Designs and oversees workplans, timelines, priorities, indicators, benchmarks, milestones, deliverables, and reports for initiatives on zoonotic disease management
		Manages human, infrastructural, and financial resources for zoonotic disease management
		Develops, implements, and monitors procedures, policies, and performance standards for staff
		Monitors and evaluates project activities for timeliness and effectiveness
6	Outbreak response coordinator (gov)	Supervises response activities in accordance with national response strategies and plans using available resources
		Maps and engages with relevant stakeholders and partners, including communities and private sector, for a comprehensive and coordinated multisectoral emergency response approach
7	Biostatistician	Conducts and promotes statistics on health parameters to enhance the knowledge base to inform the development of relevant legislation, regulations, strategies, and services
		Develops recommendations based on statistical data analysis and results
8	Veterinary Epidemiologist	Participates in outbreak investigations and conducts epidemiological studies in collaboration with relevant stakeholders, including health officials
		Designs and maintains animal health surveillance systems
		Manages and interprets surveillance data to assess the potential consequences for animal health and to identify potential control strategies
9	Microbiologist	Obtains specimens and cultivates, isolates, and identifies microorganisms for analysis of their origin, development, structure, composition, and life and reproductive processes
		Collects and analyses microbiological data to monitor, prevent, mitigate, and control health hazards caused by pathogenic microorganisms
10	Vector control expert	Develops and implements vector control programmes based on local entomological and epidemiological data to monitor, prevent, and mitigate the presence and burden of vector-borne diseases

#	Occupation	Example adapted task/duty
		Supports the development and monitoring of legislation and policies aimed at reducing exposure to disease vectors and promotes evidence-based vector control measures
11	Scientist/ Researcher	Develops research agendas and priorities for animal health
		Conducts and promotes research to enhance the evidence base to inform policy, planning, legislation, financing, and service delivery for animal health at all levels
		Supports the use of animal health research for evidence-based decision-making and practices for zoonotic disease management
12	Veterinary officer (gov)	*Potentially similar to those of Veterinarian/ Veterinary practitioner, but the following tasks could be distinct:*
		Performs regulatory work on behalf of the government to implement, enforce, or advocate for animal health and welfare
		Performs and/or supervises ante-mortem and post-mortem inspections of food animals and inspections of animal products for public health safety
		Inspects and certifies animals and products of animal origin for exportation
		Participates in programmes designed to manage zoonotic diseases
13	Veterinarian/ Veterinary practitioner	*Potentially similar to those of Veterinary officer (gov), but the following could be distinct:*
		Recognizes clinical signs of zoonotic disease, collects appropriate samples, and orders appropriate laboratory tests, and reports relevant results to the veterinary authorities
		Participates in the implementation of official contingency plans to manage zoonotic diseases
		Responds to animal owner requests for examination, diagnosis, and treatment of animals, administering and prescribing medications, analgesics, and anaesthetics as indicated
		Advises animal owners on health, nutrition, feeding, hygiene, breeding and care of animals
14	Communication officer (gov)	*Potentially similar to those of Risk communication specialist and/or Public relations officer - spokesperson, but the following may be distinct:*

#	Occupation	Example adapted task/duty
		Identifies, establishes, and maintains trusted and functional communication channels within national disease surveillance systems and between key stakeholders for zoonotic disease management and advocacy
		Designs accessible and relevant communication materials tailored to the needs of the target audience during peacetime and emergencies
15	Risk communication specialist	*Potentially similar to those of Communication officer (gov) and/or Public relations officer - spokesperson, but the following may be distinct:*
		Designs and implements communication strategies to provide real-time updates and recommendations to various target audiences
		Develops and delivers communication materials to provide real-time updates and recommendations between stakeholders
16	Public relations officer - spokesperson	*Potentially similar to those of Communication officer (gov) and/or Risk communication specialist, but the following may be distinct:*
		Designs and implements publicity campaigns, awareness-raising campaigns, and communication strategies
		Prepares and shares news on public platforms, such as press conferences, to advocate for One Health policy, guidance, and recommendations, in peacetime and during emergencies, on behalf of the organization
		Organizes and/or participates in events and functions on behalf of their organization or institution to promote One Health initiatives and transparent communication among stakeholders
		Selects, appraises, and revises material submitted by technical staff, journalists, photographers, graphic designers, and others to develop organizational or institutional advocacy material
17	Liaison officer to interface with partners/ One Health focal point	Acts as contact person for an animal health organization or agency to promote rapid information sharing, partnership, and collaboration to strengthen capacity to manage zoonotic health events
		Maps and engages with relevant stakeholders and partners to coordinate One Health activities
18	Information and Communications Technology Professional	Manages the use and alignment of new technologies and of databases for animal health services and across sectors

#	Occupation	Example adapted task/duty
		Provides technical supervision of the manufacture, utilization, maintenance, and repair of digital technologies to ensure satisfactory performance
		Monitors the performance of computer systems and networks and coordinates computer network access and use
19	Laboratory officer (gov)	*Potentially similar to those of Laboratory technician, but the following may be distinct:*
		Develops standards, protocols, and recommendations for safe and quality sample collection, packaging, transport, and testing on behalf of the government
		Performs sample testing on behalf of the government to support disease management activities
		Assesses the safety and efficacy of veterinary medicines and other medical products and health technologies for use in veterinary clinical and animal health practices
20	Laboratory technician	*Potentially similar to those of Laboratory officer (gov), but the following may be distinct:*
		Analyses samples to diagnose or to determine exposure to zoonotic diseases
		Manages record-keeping systems and shares results with animal health professionals and other relevant stakeholders
		Manages safety and quality assurance of laboratory practices and protocols
21	Community mobilizer/ leader	Promotes participatory decision-making for health and promotes societal change that enhances and protects animal, human, and/or environmental health and well-being
		Mobilizes, promotes, and empowers communities to adopt protective measures
		Supports community capacities for participating in health planning, interventions, services, and emergency management
22	Veterinary paraprofessional/ technician	*Potentially similar to those of Veterinary technician and Community Animal Health Worker, but the following could be distinct:*
		Identifies infectious diseases in domestic animals and advises on appropriate prevention, control, and treatment measures, under the responsibility or direction of a veterinarian

#	Occupation	Example adapted task/duty
		Collects appropriate samples, utilizing appropriate protocols and equipment, and interprets basic field test results
		Selects and utilizes proper packaging and shipping supplies and procedures to ensure the safety and quality of samples during transit to testing sites
23	Extension worker/ Community Animal Health Worker	Assesses and proposes recommendations to address challenges to livestock farming in the field, including basic animal husbandry practices
		Promotes and supports the implementation of evidence-based animal health interventions among communities according to government recommendations
		Delivers a range of hands-on animal health services, such as vaccination and deworming, usually in remote or underserved areas where there are limited veterinarians
24	Emergency response officer (gov)	Monitors and evaluates available animal health data and information on potential and priority disease risks
		Contributes to the development of emergency preparedness and response plans
		Implements effective and timely public health emergency response activities typically in the field

II.   Environment sector

#	Occupation	Example adapted task/duty
25	Director of Environment Department (gov)	Oversees and coordinates environment service personnel at national and sub-national levels
		Monitors and evaluates available data and information on environment risks to inform relevant regulations and legislation for governance, functions, and services
		Conducts environment system planning and coordination, including alignment of national strategies, policies, and plans, and engages with relevant stakeholders to promote integrated cross-sectoral coordination for environment health

#	Occupation	Example adapted task/duty
26	Finance officer (gov)	Mobilizes and manages government funds
		Plans and allocates funds for national health systems to ensure financial resilience during health emergencies
27	Human resource manager	Recruits, distributes, and manages environment health professionals and provides direction for operational and administrative procedures
		Oversees the selection, training, and performance of environment health professionals for an agency or organization to plan and deliver animal health services
28	Supply/ Inventory/ Logistic officer (gov)	Implements and monitors purchasing, storage and distribution strategies, policies and plans of supplies, consumables, and equipment for zoonotic disease management
		Consults with other zoonotic disease management actors about requirements for outward goods and associated forwarding transportation
29	Program/ Project manager	Designs and oversees workplans, timelines, priorities, indicators, benchmarks, milestones, deliverables, and reports for initiatives on zoonotic disease management
		Manages human, infrastructural, and financial resources for zoonotic disease management
		Develops, implements, and monitors procedures, policies, and performance standards for staff
		Monitors and evaluates project activities for timeliness and effectiveness
30	Meteorologist	Studies data collected from meteorological stations, radar, satellite imagery, and computer model output to identify periodic or acute weather conditions that could drive zoonotic disease outbreaks
		Incorporates environmental factors into epidemiological models and climate-informed early warning and response systems
		Investigates direction and speed of air movements, pressures, temperatures, humidity, physical and chemical transformation of pollutants and other climate phenomena
		Conducts research on and improves or develops concepts, theories and operational methods related to the composition, structure and dynamics of the atmosphere and prepares scientific papers and reports on the outcomes of this research
31	Biostatistician	Conducts and promotes statistics on health parameters to enhance the evidence base to inform the development of relevant legislation, regulations, strategies, and services
		Develops recommendations based on statistical data analysis and results
32	Environment officer (gov)	*Potentially similar to those of Environment expert, but the following could be distinct:*

#	Occupation	Example adapted task/duty
		Performs regulatory work on behalf of the government to implement, enforce, or advocate for environment health and protection
		Assesses the impact or potential impact of proposed and ongoing activities, projects, and developments on the environment and makes associated recommendations
		Assesses compliance with official environment regulations and guidelines, identifying violations and determining appropriate remedial environmental action
		Coordinates effective and timely emergency management activities, particularly of the national environment agency and environment professionals, while supporting the continuity of essential functions and services
33	Environment expert	*Potentially similar to those of Environment officer (gov), but the following could be distinct:*
		Gathers data and information on the environment and conducts research to inform processes and approaches to environment use and conservation
		Designs and carries out environmental impact assessments to identify changes caused by natural or anthropogenic factors, particularly by private corporations
		Advises organizations and businesses in areas such as conservation, management of natural resources, prevention, and mitigation of the effects of climate change and pollution
34	Vector control expert	Develops and implements vector control programmes based on local entomological and epidemiological data to monitor, prevent, and mitigate the presence and burden of vector-borne diseases
		Supports the development and monitoring of legislation and policies aimed at reducing exposure to disease vectors and promotes evidence-based vector control measures
35	Scientist/ Researcher	Develops research agendas and priorities in environment health
		Conducts and promotes research to enhance the evidence base to inform policy, planning, legislation, financing, and service delivery for environment health at all levels
		Supports the translation of environment health research into evidence-based decision-making and practices for zoonotic disease management
36	Fisheries officer (gov)	Performs regulatory work on behalf of the government to implement, enforce, or advocate for the health and protection of aquatic resources
		Collects and analyses data and samples related to factors affecting fishery production, such as feed and water quality, and advises on techniques and practices for improving the health and production of fish

#	Occupation	Example adapted task/duty
		Studies fish behaviours and life cycles and develops methods for collecting, fertilizing, incubating and hatching fish eggs
		Manages fishery resources to maximize long-term commercial, recreational and environmental benefits
		Prepares scientific reports, advice, information sessions and lectures for stakeholders including fishing communities
37	Forestry officer (gov)	Performs regulatory work on behalf of the government to implement, enforce, or advocate for the health and protection of forest resources
		Collects and analyses data and samples related to factors affecting farm and forest production and conservation, such as soil and water quality
		Studies characteristics, use, capability, and productivity of soils, and applies findings to improve agricultural, horticultural and forestry practices and methods to improve the growth of stock
		Investigates, plans and implements management procedures to cope with the effects of fires, floods, droughts, soil erosion, pests and diseases
		Prepares scientific reports, advice, information sessions and lectures for stakeholders including farming and forestry communities
38	Ecologist	Develops and coordinates the implementation of environmental management systems to enable organizations to identify, monitor and control the impact of their activities, products, and services on the environment
		Provides technical advice and support services to organizations or agencies on how to address challenges in the environment, to minimize damage to the environment and to minimize financial loss
		Conducts audits to evaluate environmental impact of activities, processes, wastes, noises and other substances
39	WASH expert	Collects and Analyses data on the quality of source waters and drinking-water to identify potential drinking-water contamination and waterborne illness events and to evaluate the effectiveness of existing control measures
		Performs risk analysis of hazards and their sources associated with each step in the drinking-water system that could result in contamination or interruption of supply
		Develops and implements risk management regulations and practices for sanitation and health, for safe use of wastewater and for safe recreational water environments
40	Communication officer (gov)	*Potentially similar to those of Risk communication specialist and/or Public relations officer - spokesperson, but the following may be distinct:*

#	Occupation	Example adapted task/duty
		Identifies, establishes, and maintains trusted and functional communication channels within national disease surveillance systems and between key stakeholders for zoonotic disease management and advocacy
		Designs accessible and relevant communication materials tailored to the needs of the target audience during peacetime and emergencies
41	Public relations officer - spokesperson	*Potentially similar to those of Communication officer (gov) and/or Risk communication specialist, but the following may be distinct:*
		Designs and implements publicity campaigns, awareness-raising campaigns, and communication strategies
		Prepares and shares news on public platforms, such as press conferences, to advocate for One Health policy, guidance, and recommendations, in peacetime and during emergencies, on behalf of the organization
		Organizes and/or participates in events and functions on behalf of their organization or institution to promote One Health initiatives and transparent communication among stakeholders
		Selects, appraises, and revises material submitted by technical staff, journalists, photographers, graphic designers, and others to develop organizational or institutional advocacy material
42	Liaison officer to interface with partners/ One Health focal point	Acts as contact person for an environment health organization or agency to promote rapid information sharing, partnership, and collaboration to strengthen capacity to manage zoonotic health events
		Maps and engages with relevant stakeholders and partners to coordinate One Health activities
43	Information and Communications Technology Professional	Manages the use and alignment of new technologies and of databases for environment health services and across sectors
		Provides technical supervision of the manufacture, utilization, maintenance, and repair of digital technologies to ensure satisfactory performance
		Monitors the performance of computer systems and networks and coordinates computer network access and use
44	Laboratory officer (gov)	*Potentially similar to those of Laboratory technician, but the following may be distinct:*
		Develops standards, protocols, and recommendations for safe and quality sample collection, packaging, transport, and testing on behalf of the government
		Establishes and monitors national laboratory programmes to develop, standardize, evaluate, and modify laboratory procedures, techniques, and tests used to analyse environment samples
		Performs sample testing on behalf of the government to support disease management activities
45	Laboratory technician	*Potentially similar to those of Laboratory officer (gov), but the following may be distinct:*

#	Occupation	Example adapted task/duty
		Analyses samples to diagnose or to determine exposure to zoonotic diseases
		Manages record-keeping systems and shares results with environment health professionals and other relevant stakeholders
		Manages safety and quality assurance of laboratory practices and protocols
46	Community mobilizer/ leader	Promotes participatory decision-making for health and promotes societal change that enhances and protects animal, human, and/or environmental health and well-being
		Mobilizes, promotes, and empowers communities to adopt protective measures
		Supports community capacities for participating in health planning, interventions, services, and emergency management
47	Extension worker	Conducts awareness raising campaigns on environment protection and conservation programs on behalf of the government
		Assesses and proposes recommendations to address community needs and challenges at the interface with the environment, such as for agriculture and hunting
		Communicates evidence-based recommendations for appropriate land use, such as for agricultural processes and hunting

III.   Human health sector

#	Occupation	Example adapted task/duty
48	Chief medical officer or equivalent director of human health services	Oversees and coordinates human health personnel at national and sub-national levels
		Monitors and evaluates available public health information on potential and priority zoonotic public health risks to develop health regulations and legislation for human health governance, functions, and services
		Coordinates effective and timely public health emergency management, particularly of the national human health agency, while supporting the continuity of essential functions and services
		Conducts health system planning and coordination, including alignment of national strategies, policies, and plans, and engages with relevant stakeholders, to promote integrated cross-sectoral coordination for human health

#	Occupation	Example adapted task/duty
49	Head of department of community health	*Potentially similar to those of Chief medical officer or equivalent director of human health services, but the following may be distinct:*
		Oversees and coordinates community health personnel at national and sub-national levels
		Monitors and evaluates available community health information on public health risks to develop regulations and legislation for community health governance, functions, and services
		Coordinates effective and timely community health emergency management, while supporting the continuity of essential functions and services
		Conducts community health system planning and coordination, including alignment of national strategies, policies, and plans, and engages with relevant stakeholders, to promote integrated cross-sectoral coordination for community health
50	Finance officer (gov)	Mobilizes and manages government funds
		Plans and allocates funds for national health systems to ensure financial resilience during health emergencies
51	Human resource manager	Recruits, distributes, and manages human health professionals and provides direction for operational and administrative procedures
		Oversees the selection, training, and performance of human health professionals for an agency or organization to plan and deliver animal health services
52	Supply/ Inventory/ Logistic officer (gov)	Implements and monitors purchasing, storage and distribution strategies, policies and plans of supplies, consumables, and equipment for zoonotic disease management
		Consults with other zoonotic disease management actors about requirements for outward goods and associated forwarding transportation
53	Program/ Project manager	Designs and oversees workplans, timelines, priorities, indicators, benchmarks, milestones, deliverables, and reports for initiatives on zoonotic disease management
		Manages human, infrastructural, and financial resources for zoonotic disease management
		Develops, implements, and monitors procedures, policies, and performance standards for staff

#	Occupation	Example adapted task/duty
		Monitors and evaluates project activities for timeliness and effectiveness
54	Hospital administrator	Plans, directs, coordinates, and evaluates the provision of clinical and community health care services in clinics and hospitals
		Ensures effective use of physical and financial resources of the clinic or hospital, including assessing and addressing staffing needs and monitoring the use of diagnostic services, supplies, equipment, and facilities
		Liaises with other health and welfare service providers, boards, and funding bodies to coordinate the provision of services
55	Outbreak response coordinator (gov)	Supervises response activities in accordance with national response strategies and plans using available resources
		Maps and engages with relevant stakeholders and partners, including communities and private sector, for a comprehensive and coordinated multisectoral emergency response approach
56	Biostatistician	Conducts and promotes statistics on health parameters to enhance the evidence base to inform the development of relevant legislation, regulations, strategies, and services
		Develops recommendations based on statistical data analysis and results
57	Human Health Epidemiologist	Conducts outbreak investigations and epidemiological studies in collaboration with relevant stakeholders, including local health officials and healthcare providers, and critically appraises information on potential health threats
		Collects and interprets information on emerging health threats to assess the potential consequences for human health and to identify potential management strategies
		Designs and maintains human health and disease surveillance systems and manages and interprets surveillance data
58	Microbiologist	Obtains specimens and cultivates, isolates, and identifies microorganisms for analysis of their origin, development, structure, composition, and life and reproductive processes
		Collects and analyses microbiological data to monitor, prevent, mitigate, and control health hazards caused by pathogenic microorganisms

#	Occupation	Example adapted task/duty
59	Vector control expert	Develops and implements vector control programmes based on local entomological and epidemiological data to monitor, prevent, and mitigate the presence and burden of vector-borne diseases.
		Supports the development and monitoring of legislation and policies aimed at reducing exposure to disease vectors and promotes evidence-based vector control measures
60	Scientist/ Researcher	Develops research agenda and priorities in human health
		Conducts and promotes research to enhance the evidence base to inform policy, planning, legislation, financing, and service delivery for human health at all levels
		Supports the translation of human health research into evidence-based decision-making and practices for zoonotic disease management
61	Medical/ human health officer (gov)	*Potentially similar to those of Medical doctor / practitioner / physician, but the following could be distinct:*
		Performs regulatory work on behalf of the government to implement, enforce, or advocate for human health and well-being
		Advocates for and implements policies, regulations, and interventions that promote comprehensive evidence-based medical care and that protect human health and well-being
		Monitoring the national burden of foodborne diseases and advocating for the integration of food safety into national policies and programmes
		Plans interventions and develops infrastructure to meet population health needs, including effective and timely public health emergency management activities
62	Medical doctor/ practitioner/ physician	*Potentially similar to those of Medical / Human health officer (gov) and Primary Health Care Worker, but the following could be distinct:*
		Conducts physical examinations, interviews, and diagnostics of patients to determine their health status including exposure to zoonotic diseases
		Performs or orders diagnostic tests and Analyses results, prescribing and administering appropriate treatments and preventive measures

#	Occupation	Example adapted task/duty
		Reports notifiable diseases to government authorities according to legal and professional requirements
63	Primary health care worker	*Potentially similar to those as Medical/ Human Health officer (gov) and/or Medical doctor/ practitioner/ physician (private), but the following could be distinct:*
		Recognizes disease signs and symptoms and refers cases to the relevant medical facility for specialized care as needed
		Performs medical or surgical procedures and prescribes and administers treatments and preventive measures
		Implements and coordinates effective and timely public health emergency response activities while supporting the continuity of essential functions and services
		Reports notifiable diseases to government authorities to meet legal and professional reporting requirements
64	Nurse	Examines and interviews patients to identify health conditions and provides treatment, support, and care usually under the direction of a medical doctor
		Communicates recommendations regarding zoonotic disease management to patients, communities, and other health professionals
65	Public health expert/ specialist	Systematically collects, analyses, and interprets health-related data to monitor trends in population health, enhance public health knowledge, and inform policy making
		Supports and implements government initiatives for the management of public health threats including management of infectious diseases
		Develops capacities for public health emergency management as part of routine health system functioning by contributing to emergency management plans, intra/after action reviews and simulation exercises
		Designs, implements, monitors, and evaluates interventions, programmes, services, and platforms to improve population and community health
66	WASH expert	Collects and Analyses data on the quality of source waters and drinking-water to identify potential drinking-water contamination and waterborne illness events and to evaluate the effectiveness of existing control measures

#	Occupation	Example adapted task/duty
		Performs risk analysis of hazards and their sources associated with each step in the drinking-water system that could result in contamination or interruption of supply
		Develops and implements risk management regulations and practices for sanitation and health, for safe use of wastewater and for safe recreational water environments
67	Health educator	Designs and modifies curricula and prepares courses of study in accordance with requirements for health professionals
		Prepares and delivers lectures and conducts tutorials, seminars, and laboratory experiments to educate and build the capacities of health professionals
		Studies and develops concepts, theories, and operational methods for application to public health
68	Communication officer (gov)	*Potentially similar to those for Risk communication specialist and/or Public relations officer - spokesperson, but the following may be distinct:*
		Identifies, establishes, and maintains trusted and functional communication channels within national disease surveillance systems and between key stakeholders for zoonotic disease management and advocacy
		Designs accessible and relevant communication materials tailored to the needs of the target audience during peacetime and emergencies
69	Risk communication specialist	*Potentially similar to those of Communication officer (gov) and/or Public relations officer - spokesperson, but the following may be distinct:*
		Designs and implements communication strategies to provide real-time updates and recommendations to various target audiences
		Develops and delivers communication materials to provide real-time updates and recommendations between stakeholders
70	Public relations officer - spokesperson	*Potentially similar to those of Communication officer (gov) and/or Risk communication specialist, but the following may be distinct:*
		Designs and implements publicity campaigns, awareness-raising campaigns, and communication strategies

#	Occupation	Example adapted task/duty
		Prepares and shares news on public platforms, such as press conferences, to advocate for One Health policy, guidance, and recommendations, in peacetime and during emergencies, on behalf of the organization
		Organizes and/or participates in events and functions on behalf of their organization or institution to promote One Health initiatives and transparent communication among stakeholders
		Selects, appraises, and revises material submitted by technical staff, journalists, photographers, graphic designers, and others to develop organizational or institutional advocacy material
71	Liaison officer to interface with partners/ One Health focal point	Acts as contact person for a human health organization or agency to promote rapid information sharing, partnership, and collaboration to strengthen capacity to manage zoonotic health events
		Maps and engages with relevant stakeholders and partners to coordinate One Health activities
72	Information and Communications Technology Professional	Manages the use and alignment of new technologies and of databases for human health services and across sectors
		Provides technical supervision of the manufacture, utilization, maintenance, and repair of digital technologies to ensure satisfactory performance
		Monitors the performance of computer systems and networks and coordinates computer network access and use
73	Laboratory officer (gov)	*Potentially similar to those of Laboratory technician, but the following may be distinct:*
		Develops standards, protocols, and recommendations for safe and quality sample collection, packaging, transport, and testing on behalf of the government
		Performs sample testing on behalf of the government to support disease management activities
		Assesses the safety and efficacy of human medicines and other medical products and health technologies for use in clinical and human health practices
74	Laboratory technician	*Potentially similar to those of Laboratory officer (gov), but the following may be distinct:*
		Analyses samples to diagnose or to determine exposure to zoonotic diseases
		Manages record-keeping systems and shares results with human health professionals and other relevant stakeholders

#	Occupation	Example adapted task/duty
		Manages safety and quality assurance of laboratory practices and protocols
75	Community mobilizer/ leader	Promotes participatory decision-making for health and promotes societal change that enhances and protects animal, human, and/or environmental health and well-being
		Mobilizes, promotes, and empowers communities to adopt protective measures
		Supports community capacities for participating in health planning, interventions, services, and emergency management
76	Extension worker/ Community Health Care Worker	Promotes and supports the implementation of evidence-based human health interventions based on government recommendations to promote human health and community trust
		Monitors and interviews patients and records medical information, usually visiting patients in their own homes or local community areas
		Recognizes signs and symptoms of infectious diseases in community members and refers patients to medical doctors and hospitals as needed
		Delivers a range of health prevention, promotion, and treatment services in peacetime and during emergencies
77	Emergency response officer (gov)	Monitors and evaluates available human health data and information on potential and priority disease risks
		Identifies all intended levels and players involved in zoonotic disease management, and where each responsible organization fits into the response system
		Contributes to the development of emergency preparedness and response plans
		Implements effective and timely public health emergency response activities typically in the field
78	Health inspector	Performs investigative and administrative tasks to document adherence to quality control procedures and health and safety guidelines in relevant establishments and reports findings to the relevant authority
		Promotes preventive and corrective measures such as control of pathogens and harmful substances in the air, hygienic food handling, proper waste disposal and cleaning of public places

IV. Wildlife sector

#	Occupation	Example adapted task/duty
79	Head of Department (gov)	*Potentially similar to those of Wildlife officer (gov), but the following could be distinct:*
		Oversees and coordinates wildlife service personnel at national and sub-national levels
		Monitors and evaluates available data and information on wildlife health and health risks to develop regulations and legislation for wildlife health governance, functions, and services
		Aligns national strategies, policies, and plans and engages with relevant stakeholders to promote integrated cross-sectoral coordination for wildlife health
80	Finance officer (gov)	Mobilizes and manages government funds
		Plans and allocates funds for national health systems to ensure financial resilience during health emergencies
81	Human resource manager	Recruits, distributes, and manages wildlife health professionals and provides direction for operational and administrative procedures
		Oversees the selection, training, and performance of wildlife health professionals for an agency or organization to plan and deliver wildlife health services
82	Supply/ Inventory/ Logistic officer (gov)	Implements and monitors purchasing, storage and distribution strategies, policies and plans of supplies, consumables, and equipment for zoonotic disease management
		Consults with other zoonotic disease management actors about requirements for outward goods and associated forwarding transportation
83	Program/ Project manager	Designs and oversees workplans, timelines, priorities, indicators, benchmarks, milestones, deliverables, and reports for initiatives on zoonotic disease management
		Manages human, infrastructural, and financial resources for zoonotic disease management
		Develops, implements, and monitors procedures, policies, and performance standards for staff
		Monitors and evaluates project activities for timeliness and effectiveness

84	Biostatistician	Conducts and promotes statistics on health parameters to enhance the knowledge base to inform the development of relevant legislation, regulations, strategies, and services
		Develops recommendations based on statistical data analysis and results
85	Wildlife expert	*Potentially similar to those of Wildlife officer (gov), but the following could be distinct:*
		Gathers data on wildlife and conducts research relevant to wildlife health and conservation
		Analyses data to inform processes and techniques for wildlife health and conservation and for the inclusion of wildlife in zoonotic disease surveillance systems
86	Wildlife officer (gov)	*Potentially similar to those of Wildlife expert, but the following could be distinct:*
		Performs regulatory work on behalf of the government to implement, enforce, or advocate for wildlife health and protection
		Monitors and evaluates available data and information on wildlife health
		Provides advice to government agencies, organizations, and businesses in areas such as conservation, management of natural resources, and the mitigation of effects of climate change and pollution on wildlife
87	Wildlife Epidemiologist	Participates in outbreak investigations and conducts epidemiological studies in collaboration with relevant stakeholders, including local health officials, and critically appraises wildlife health information for potential zoonotic threats
		Collects and interprets information on emerging health threats in wildlife to assess the potential consequences for human, animal, and environment health and identifies potential control strategies
		Designs and maintains wildlife health and disease surveillance systems and manages and interprets surveillance data
88	Scientist/ Researcher	Develops research agendas and priorities for wildlife health
		Conducts and promotes research to enhance the evidence base to inform policy, planning, legislation, financing, and service delivery for wildlife health at all levels
		Supports the use of wildlife health research for evidence-based decision-making and practices for zoonotic disease management

89	Communication officer (gov)	*Potentially similar to those of Risk communication specialist and/or Public relations officer - spokesperson, but the following may be distinct:*
		Identifies, establishes, and maintains trusted and functional communication channels within national disease surveillance systems and between key stakeholders for zoonotic disease management and advocacy
		Designs accessible and relevant communication materials tailored to the needs of the target audience during peacetime and emergencies
90	Risk communication specialist	*Potentially similar to those of Communication officer (gov) and/or Public relations officer - spokesperson, but the following may be distinct:*
		Designs and implements communication strategies to provide real-time updates and recommendations to various target audiences
		Develops and delivers communication materials to provide real-time updates and recommendations between stakeholders
91	Public relations officer - spokesperson	*Potentially similar to those of Communication officer (gov) and/or Risk communication specialist, but the following may be distinct:*
		Designs and implements publicity campaigns, awareness-raising campaigns, and communication strategies
		Prepares and shares news on public platforms, such as press conferences, to advocate for One Health policy, guidance, and recommendations, in peacetime and during emergencies, on behalf of the organization
		Organizes and/or participates in events and functions on behalf of their organization or institution to promote One Health initiatives and transparent communication among stakeholders
		Selects, appraises, and revises material submitted by technical staff, journalists, photographers, graphic designers, and others to develop organizational or institutional advocacy material
92	Liaison officer to interface with partners/ One Health focal point	Acts as contact person for a wildlife health organization or agency to promote rapid information sharing, partnership, and collaboration to strengthen capacity to manage zoonotic health events
		Maps and engages with relevant stakeholders and partners to coordinate One Health activities
93	Information and Communications Technology Professional	Manages the use and alignment of new technologies and of databases for wildlife health services and across sectors

		Provides technical supervision of the manufacture, utilization, maintenance, and repair of digital technologies to ensure satisfactory performance
		Monitors the performance of computer systems and networks and coordinates computer network access and use
94	Laboratory officer (gov)	*Potentially similar to those of Laboratory technician, but the following may be distinct:*
		Develops standards, protocols, and recommendations for safe and quality sample collection, packaging, transport, and testing on behalf of the government
		Performs sample testing on behalf of the government to support disease management activities
95	Laboratory technician	*Potentially similar to those of Laboratory officer (gov), but the following may be distinct:*
		Analyses samples to diagnose or to determine exposure to zoonotic diseases
		Manages record-keeping systems and shares results with wildlife health professionals and other relevant stakeholders
96	Community mobilizer/ leader	Promotes participatory decision-making for health and promotes societal change that enhances and protects animal, human, and/or environmental health and well-being
		Mobilizes, promotes, and empowers communities to adopt protective measures
		Supports community capacities for participating in health planning, interventions, services, and emergency management
97	Extension worker	Conducts awareness raising campaigns on wildlife conservation programs on behalf of the government
		Promotes and supports the implementation of evidence-based wildlife health interventions among communities based on government recommendations

V.   Other sectors

#	Occupation	Example adapted task/duty
98	Chair of the multisectoral coordination mechanism	Coordinates administrative and technical activities that support efficient and effective collaboration for improved health security, preparedness, and response to zoonotic disease outbreaks and threats at the human-animal-environment interface
		Directs and coordinates the establishment of the strategic and operational objectives of the multisectoral coordination mechanism in accordance with national One Health policy
99	Biostatistician	Conducts and promotes statistics on health parameters to enhance the knowledge base to inform the development of relevant legislation, regulations, strategies, and services
		Develops recommendations based on statistical data analysis and results
100	Entomologist	Collects data on relevant specimens and samples and performs routine field and laboratory tests to monitor and assess the presence, distribution, and other characteristics of insect populations relevant to human, animal, and environment health
		Maintains relevant databases on insect populations relevant to human, animal, and environment health
101	Microbiologist	Obtains specimens and cultivates, isolates, and identifies microorganisms for analysis of their origin, development, structure, composition, and life and reproductive processes
		Collects and analyses microbiological data to monitor, prevent, mitigate, and control health hazards caused by pathogenic microorganisms
102	Lawyer and policy consultant/ legal advisor	Studies policies, legislation, and regulations related to zoonotic disease management and/or government-mandated outbreak control measures
		Prepares and advises on contracts for partners participating in zoonotic disease management efforts
103	Anthropologist/ Social Scientist	Investigates and characterizes the structure, origin and evolution of societies and the interconnectedness between humans, the environment, animals, and wildlife
		Studies economic, social, and cultural factors that may influence zoonotic disease management

#	Occupation	Example adapted task/duty
		Analyses social data to evaluate the social effects and outcomes of zoonotic disease management policy
104	Psychologist/ behaviour scientist	Analyses the effects of heredity, social, occupational, and other factors on individual thought and behaviour, and develops theories, models, and methods to interpret and describe human behaviour
		Studies the mental processes and behaviour of human beings as individuals or in groups and applies this knowledge to engage communities for health management
105	Social worker	Implements and coordinates effective and timely public health emergency management activities, such as referral to agencies that provide financial assistance, legal aid, housing, medical treatment, and other services
		Advocates for patient groups in the community and lobbies for solutions to health and social problems
		Designs, implements, and evaluates activities, interventions, or programmes to promote health, including changes in behaviours, lifestyle, practices, and environmental and social conditions that promote health
106	Journalist	Collects, reports and comments on news relevant to One Health, for publication in newspapers and periodicals, or for broadcasting by radio, television or by other media outlets
		Writes editorials and commentaries on topics related to One Health to stimulate public interest and awareness
107	Law enforcement officer (gov)	Maintains public order, responds to emergencies, and protects people and property
		Enforces laws and regulations, including outbreak control measures recommended by the government such as movement and quarantine restrictions
		Provides emergency assistance to victims of accidents, crimes and natural disasters

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M30 Matrix for mapping occupations and functions

Please contact HAI@who.int for more information

M31 List of needs and challenges for facilitators/ notetakers

Module 2 Step 6

M31 List of needs and challenges for facilitators/ notetakers

Workforce Development Operational Tool

Instruction: Please check this list for possible areas of needs and challenges for each priority function assessed by the participants. Note down the areas identified by the participants for discussion on the enabling environment.

I.   **Scope of needs and challenges addressed by the WFD OT**
- Institutional functions i.e., terms of reference
- Institutional occupations i.e., types of jobs titles
- Institutional competence
- Training activities
- Others

II.   **Workforce-related needs and challenges in the enabling environment**
- Health policy and system support for community health workers
- Educational and training quality
- Enforcement/ implementation of policy, legislation, or strategies
- Funding i.e., resource mobilization and allocation
- Governance/ institutional structure/ cross-sectoral structure
- Health workers migration
- Infrastructure
- Labour market
- Occupational safety and health
- Policy/ legislation/ strategies
- Political will
- Regulation of the professions
- Standard operating procedures (SOPs)
- Workforce retention
- Working conditions/ protections
- Others

-END-

M32 Framework of competency packages and competencies

Module 2 Step 7
M32 Framework of competency packages and competencies
Workforce Development Operational Tool

Summary
The framework of competency packages for the Workforce Development Operational Tool (WFD OT) has been prepared through consolidation of existing competency frameworks (see references at the end of this document) relevant to zoonotic disease management at the human-animal-environment interface and refined through expert consultation. The WFD OT framework complements existing frameworks by consolidating them for a more comprehensive and simplified framework with a broader scope. For example, WFD OT framework incorporates and simplifies both field epidemiology competencies such as from the Competencies for One Health Field Epidemiology (COHFE) framework and laboratory leadership competencies used in the Global Laboratory Leadership Programme (GLLP). Users of the WFD OT are encouraged to refer to the source frameworks for more information.

Users of the WFD OT assess competency packages by function and link the competency packages to trainings through exercises. Users have the option to "look inside" each competency package using this framework below for a more detailed understanding of the competencies. The competency packages can be adapted to the country context and needs. Countries have the option to further assess the workforce by frontline, intermediate, or advanced levels by referring to the COHFE framework where relevant. Countries have the option to further assess the workforce by proficiency level e.g., beginner/ developing, intermediate, or expert using scales such as those offered by the Global Universal Health Coverage, One Health Workforce Academies (OHWA), or the GLLP.

The framework is comprised of:
- 36 competency packages
  - 14 Non-technical competency packages
  - 22 Technical competency packages
- 133 Competencies

Scope: Competency packages are cross-sectoral for the management of zoonotic diseases. Competency packages are assessed by function and linked to trainings at the institutional level.

Definitions

- **Competency:** The ability of a person to integrate knowledge, skills and attitudes in their performance of tasks in a given context. Competencies are durable, trainable and, by the expression of behaviour, measurable.
- **Non-technical competency package:** Those competency packages that contain competencies relevant for *all* personnel working across sectors and disciplines for zoonotic disease management regardless of the institutional mandate or the functions and occupations within the institution.
- **Technical competency package:** Those competency packages that contain competencies that may be relevant for personnel working across sectors and disciplines *depending* on the institutional mandate or on the functions and occupations within the institution.
- **Zoonotic disease management:** Activities or measures that address any of the five stages of the disease management cycle: prepare, prevent, detect, respond, and recover.

High-level summary of competency packages

	Non-technical competency packages		
	Competency package	**Summary**	**Competencies**
1.	**Communication and advocacy**	Ability to engage and communicate effectively with different stakeholders for zoonotic disease management purposes in a professional manner and using a variety of tools.	1 – 11
2.	**New technologies and tools**	Ability to identify and use new technologies and tools for communication	12
3.	**Personal behavior and accountability**	Ability to demonstrate subject matter expertise in a professional and ethical manner and recognize limitations to support continuous development and learning.	13 – 20
4.	**Interpersonal relationships**	Ability to recognize and respond to sexual exploitation, abuse, and harassment.	21 – 22
5.	**Cultural inclusion, diversity, and equity**	Ability to engage different groups of stakeholders recognizing local norms, wisdom, values, beliefs, and cultures and promote equitable distribution of resources.	23 – 25
6.	**Gender equity and inclusion**	Ability to promote and practice gender equity and inclusion.	26
7.	**One Health and Systems Thinking**	Ability to apply One Health in zoonotic disease management and demonstrate the added value of practicing One Health in countries.	27 – 29
8.	**Environment and wildlife**	Ability to identify environmental and socioeconomic drivers, including interactions with wildlife, of zoonotic diseases and negative impacts of zoonotic disease management, then promote mitigation options accordingly.	30 – 35
9.	**Collaboration**	Ability to collaborate with multiple stakeholders and teams to implement zoonotic disease management activities, including through a multisectoral coordination mechanism.	36 – 38
10.	**Partnerships**	Ability to create, manage, and lead partnerships with various stakeholders for the management of zoonotic diseases.	39 – 40
11.	**Teamwork**	Ability to inspire, organize, and mentor teams to work together towards One Health goals for zoonotic disease management.	41 – 42
12.	**Leadership**	Ability to plan strategically, make decisions critically, oversee operations, and lead multidisciplinary teams with principles of professional ethics and code of conduct.	43 – 48
13.	**Training**	Ability to conduct training needs assessment and design and engage in capacity building programs.	49 – 51

14. Management	Ability to participate in different stages of project/program management cycle, including designing, implementing, and monitoring and evaluation, both technically and financially.	52 – 57

Technical competency packages		
Competency package	Summary	Competencies
15. Policy	Ability to understand regulatory landscape, roles and responsibilities of stakeholders, and propose inclusion of One Health practices and tools for zoonotic disease management.	58 – 63
16. Preparedness planning	Ability to contribute to or design a multisectoral preparedness, response, or recovery plan, with a special focus on zoonotic diseases and organize trainings and exercises.	66 – 68
17. Health Monitoring/ Epidemiological Studies	Ability to design and conduct epidemiological studies, cost-benefit analyses, and situation analyses and exchange and analyze data across sectors.	69 – 77
18. Animal health and welfare	Ability to propose options for enhancing animal health and welfare for zoonotic diseases risk reduction and mitigation.	78
19. Food safety	Ability to support the implementation of principles of food safety and infectious disease risk reduction along the food chain.	79
20. Vaccinations	Ability to design and conduct immunization campaigns and post-vaccination monitoring.	80 – 81
21. Risk assessment	Ability to conduct joint risk assessments during peacetime and emergencies.	82 – 83
22. Risk management	Ability to propose and implement risk management and mitigation options based on the results of joint risk assessments.	84
23. Risk communication	Ability to develop, disseminate, and evaluate the effectiveness of joint risk communication materials and strategy.	85 – 86
24. Surveillance	Ability to design and evaluate surveillance systems; conduct zoonotic disease surveillance, including indicator-based and event-based surveillance; and share information and coordinate reporting across sectors.	87 – 95
25. Laboratory leadership	Ability to lead laboratory functions.	96
26. Laboratory management	Ability to manage laboratory activities.	97
27. Laboratory preparedness	Ability to use appropriate diagnostic tools for zoonotic pathogens, including for scientific research, with biosecurity and biosafety measures and in line with professional ethics and code of conduct.	100 – 101
28. Laboratory response	Ability to follow standard operating procedures (SOPs) for surveillance and testing of zoonotic pathogens and analyze and interpret laboratory data.	102 – 104
29. Laboratory quality assurance	Ability to conduct laboratory quality assurance, including aspects of laboratory data and proficiency testing.	105 – 107
30. Response	Ability to implement zoonotic disease response plans with clear roles and responsibility and include community-based approaches and psychological interventions as needed.	108 – 110

31. **Applied epidemiology**	Ability to apply epidemiology principles in developing case definition, data analysis and management, risk analysis, and control measure recommendations during a zoonotic disease outbreak.	111 – 115
32. **Outbreak investigation**	Ability to supervise, lead/co-lead, or conduct an outbreak investigation with biosafety and biosecurity measures and using community-based approaches, then produce reports accordingly.	116 – 120
33. **Communication and coordination in Response**	Ability to provide situation awareness and participate/oversee interagency coordination with response partners during a zoonotic disease outbreak.	121 – 123
34. **Recovery**	Ability to implement a recovery plan, taking into consideration feedback from stakeholders engaged during the outbreak response, and implement changes in standard operating procedures and contingency plans as needed.	124 – 128
35. **Monitoring, evaluation, and learning**	Ability to evaluate the effectiveness of various components of zoonotic disease management, including multisectoral management and use of resources and guidelines.	129 – 131
36. **Operational research**	Ability to conduct and translate transdisciplinary operational research using a One Health approach.	132 – 133

WFD OT competencies by competency package

Non-technical competency packages and competencies

Competency Package	Competency
1. Communication and Advocacy	1. Ability to promote One Health approaches and tools
	2. Ability to engage with stakeholders across disciplines and sectors
	3. Ability to engage with communities on One Health investigations and interventions
	4. Ability to promote guidance on individual and community behavior change for enhanced One Health considerations
	5. Ability to communicate with the public through the media
	6. Ability to recognize and address the spread of disinformation/ misinformation
	7. Ability to develop communication strategies and materials tailored to the audience and context
	8. Ability to communicate in a professional, responsive, and responsible manner
	9. Ability to manage the flow of information and documentation from a range of sources
	10. Ability to coordinate sharing of information with relevant stakeholders
	11. Ability to evaluate the effectiveness of communication activities and to adjust the activities accordingly
2. New technologies and tools	12. Ability to use new technologies and tools for communication

Competency Package	Competency
3. Personal behavior and accountability	13. Ability to demonstrate mastery of one's own subject matter
	14. Ability to offer thoughtful and creative solutions
	15. Ability to recognize that the evidence base is incomplete and contains a high level of uncertainty
	16. Ability to recognize one's own values and competency limitations
	17. Ability to engage in continuous learning
	18. Ability to engage in a personal development plan
	19. Ability to adhere to ethical and professional standards
	20. Ability to promote ethical and professional standards
4. Interpersonal relationships	21. Awareness of sexual exploitation, abuse, and harassment and of ways to prevent them
	22. Ability to respond to suspected or confirmed cases of sexual exploitation, abuse, and harassment
5. Cultural inclusion, diversity, and equity	23. Ability to identify and align with local norms, wisdom, values, beliefs, and cultures
	24. Ability to include and engage with diverse stakeholder groups
	25. Ability to promote equitable distribution of resources

Competency Package		Competency
6.	Gender equity and inclusion	26. Ability to promote and practice gender equity and inclusion

Competency Package		Competency
7.	**One Health and Systems Thinking**	27. Ability to demonstrate the added value of One Health in both field and non-field activities
		28. Ability to cite concrete examples of One Health implementation in countries, especially for zoonotic diseases
		29. Ability to consider the systems thinking dimension in the management of zoonotic diseases
8.	**Environment and Wildlife**	30. Ability to identify and consider environmental and socioeconomic drivers of public health threats, with a focus on zoonotic diseases
		31. Ability to identify and promote mitigation options for environmental and socioeconomic drivers of public health threats, with a focus on zoonotic diseases
		32. Ability to identify and assess infectious risks associated with interactions with wildlife
		33. Ability to identify and promote infectious risk-reduction options at the interface with wildlife
		34. Ability to identify negative impacts of zoonotic disease management on the environment
		35. Ability to identify and promote mitigation options to limit negative impacts of zoonotic disease management on the environment
9.	**Collaboration**	36. Ability to articulate the implementation of One Health collaboration through a multi-sectoral coordination mechanism
		37. Ability to implement collaborative activities across sectors and relevant stakeholder groups involved in the management of zoonotic diseases
		38. Ability to work in multidisciplinary teams in peacetime for improving preparedness to zoonotic disease events
10.	**Partnerships**	39. Ability to lead multisectoral collaboration among partners for the management of zoonotic diseases
		40. Ability to create and manage operational partnerships across sectors and disciplines for the management of zoonotic diseases

Competency Package	Competency
11. Teamwork	41. Ability to promote and mentor teams on One Health goals including a shared mission, core values, and vision
	42. Ability to inspire, motivate, and organize teams to work together
12. Leadership	43. Ability to apply evidence in decision-making and implementation of activities
	44. Ability to oversee organizational operations and strategic planning
	45. Ability to oversee biosafety, biosecurity, and personal safety in the field
	46. Ability to lead multidisciplinary teams in peacetime for improving preparedness to zoonotic disease events
	47. Ability to promote and implement principles of professional ethics and code of conduct in leadership
	48. Ability to manage interpersonal conflicts

Competency Package	Competency
13. Training	49. Ability to conduct learning and training needs assessments
	50. Ability to contribute to the design and development of trainings
	51. Ability to design and engage in capacity building programs for the health workforce

Competency Package	Competency
14. Management	52. Ability to design, implement, and manage projects and programs
	53. Ability to anticipate and manage project risks
	54. Ability to monitor and evaluate projects and programs
	55. Ability to oversee management of resources including human resources
	56. Ability to manage budget and finances
	57. Ability to address decision makers at every level of government to advocate for resources in one health areas

Technical competency packages and competencies

Competency Package	Competency
15. Policy	58. Ability to use stakeholders mapping methods
	59. Ability to identify respective mandate roles and responsibilities of the relevant stakeholders involved in the management of zoonotic diseases
	60. Ability to consider the influence of relevant regulatory landscape, actors, governance, policies, and standards in multisectoral planning and coordination of zoonotic disease management
	61. Ability to evaluate compliance with legislation, regulation, and policies on zoonotic diseases
	62. Ability to propose and promote One Health practices and tools for multisectoral coordination
	63. Ability to adjust routine practices to include One Health practices

Competency Package	Competency
16. Preparedness Planning	64. Ability to assign roles and responsibilities for zoonotic disease outbreak response trainings and exercises
	65. Ability to organize outbreak response trainings, exercises, and drills in collaboration with partners in other sectors
	66. Ability to contribute to health preparedness planning for mass gathering events of humans or animals
	67. Ability to contribute to the development of a multisectoral preparedness, response, or recovery plan, with a focus on zoonotic diseases
	68. Ability to design a multisectoral preparedness, response, or recovery plan, with a focus on zoonotic diseases

Competency Package	Competency
17. Health Monitoring/ Epidemiological Studies	69. Ability to recognize clinical signs for zoonotic diseases in animals and/or in humans
	70. Ability to exchange data across sectors
	71. Ability to analyze data across sectors
	72. Ability to conduct public health situation analyses
	73. Ability to conduct epidemiological studies on infectious diseases, with a focus on zoonotic diseases
	74. Ability to conduct a cost-benefit analysis of infectious disease management
	75. Ability to use and promote the use of up-to-date digital tools for health monitoring and/or epidemiological studies
	76. Ability to design epidemiology studies on infectious diseases, with a focus on zoonotic diseases
	77. Ability to design a public health investment project with a multisectoral component
18. Animal Health and Welfare	78. Ability to propose options for enhancing animal health and welfare for zoonotic diseases risk reduction and mitigation

Competency Package	Competency
19. Food Safety	79. Ability to support the implementation of principles of food safety and infectious disease risk reduction along the food chain
20. Vaccinations	80. Ability to conduct immunization campaigns and post-vaccination monitoring
	81. Ability to design immunization campaigns, vaccination strategies, and post-vaccination monitoring

Competency Package	Competency
21. Risk assessment	82. Ability to conduct joint risk assessments in peacetime
	83. Ability to conduct rapid joint risk assessments during emergencies
22. Risk management	84. Ability to propose and implement risk management and mitigation options based on the results of joint risk assessments
23. Risk communication	85. Ability to develop and disseminate joint risk communication materials
	86. Ability to assess the effectiveness of an emergency risk communication strategy

Competency Package	Competency
24. Surveillance	87. Ability to conduct a needs assessment for joint or shared surveillance of zoonotic diseases
	88. Ability to manage surveillance data sharing across sectors for zoonotic diseases
	89. Ability to conduct event-base surveillance of zoonotic diseases and to analyze unusual signals to detect events
	90. Ability to analyze indicator-based surveillance data for zoonotic diseases
	91. Ability to detect thresholds in zoonotic disease surveillance data
	92. Ability to coordinate notifiable case reports of zoonotic diseases through the appropriate channels as required by national and international regulations
	93. Ability to jointly communicate about results of surveillance of zoonotic diseases
	94. Ability to monitor and evaluate joint zoonotic diseases surveillance system(s) for timeliness, completeness, and quality of data
	95. Ability to design a disease surveillance system

Competency Package	Competency	Available Levels
25. Laboratory Leadership	96. Ability to lead laboratory functions	
26. Laboratory Management	97. Ability to manage laboratory activities	
27. Laboratory preparedness	98. Ability to use appropriate diagnostic tools for relevant zoonotic pathogens	
	99. Ability to identify, assess, and establish mitigation options for biosecurity and biological hazards in the laboratory	
	100. Ability to engage in scientific research studies on zoonotic diseases	
	101. Ability to promote and implement principles of professional ethics and code of conduct in the laboratory	

28. Laboratory response	102. Ability to apply standard operating procedures for specimen collection, handling, labelling, storage, and transportation	Frontline/ Intermediate/ Advanced (Refer to COHFE Framework)
	103. Ability to coordinate with field teams for surveillance of zoonotic pathogens and sample testing	Frontline/ Intermediate/ Advanced (Refer to COHFE Framework)
	104. Ability to analyze and interpret laboratory and field data on zoonotic diseases	Frontline/ Intermediate/ Advanced (Refer to COHFE Framework)
29. Laboratory quality assurance	105. Ability to conduct quality assurance of laboratory data and to make recommendations to improve data protection, quality, timeliness, and completeness	
	106. Ability to assess capacities and proficiency for testing for zoonotic pathogens	
	107. Ability to strengthen capacities and proficiency for testing for zoonotic pathogens	

Competency Package	Competency	Available Levels
30. Response	108. Ability to participate in the implementation of a zoonotic disease response plan with a clear understanding of roles and responsibilities	Frontline/ Intermediate/ Advanced (Refer to COHFE Framework)
	109. Ability to promote, establish, and use community-based approaches for health interventions during a zoonotic disease outbreak	
	110. Ability to recognize and manage psychological trauma of affected individuals/ communities, such as of farmers whose herds have been stamped out	
31. Applied epidemiology	111. Ability to apply epidemiological methods to zoonotic disease management during an outbreak	Frontline/ Intermediate/ Advanced (Refer to COHFE Framework)
	112. Ability to create, review, and disseminate case definitions, with references to animals when appropriate	
	113. Ability to manage, analyze, and share data from various sectors during a zoonotic disease outbreak	
	114. Ability to identify and analyze risk factors for transmission, dissemination, amplification, maintenance, morbidity, or mortality during a zoonotic disease outbreak	
	115. Ability to recommend control measures according to the results of surveillance and epidemiological investigations of a zoonotic disease outbreak	
32. Outbreak Investigation	116. Ability to apply the steps of an outbreak investigation in the field, including on-site explorative interviews	Frontline/ Intermediate/ Advanced (Refer to COHFE Framework)
	117. Ability to implement adequate biosafety and biosecurity measures during field investigations	
	118. Ability to use community-based approaches during field investigations	
	119. Ability to supervise/ lead/ co-lead joint outbreak investigations	
	120. Ability to prepare integrated outbreak investigation reports	

Competency Package	Competency
33. Communication and coordination in Response	121. Ability to contribute to interagency coordination during an outbreak or crisis
	122. Ability to brief key stakeholders to create situational awareness
	123. Ability to oversee rapid and secure communications with emergency response partners and/or the public during emergencies and surge outbreaks

Competency Package	Competency
34. Recovery	124. Ability to apply the steps of a recovery plan following an outbreak
	125. Ability to record feedback from relevant stakeholders that were engaged in the outbreak response in a systematic manner
	126. Ability to analyze stakeholder feedback
	127. Ability to implement critical changes in standard operating procedures and plans as needed
	128. Ability to provide updates and guidance to staff on performance and on adjustments of standard operating procedures

Competency Package	Competency
35. Monitoring, Evaluation, & Learning	129. Ability to monitor management of personal protective equipment and of other infection prevention and control material, and the application of standard operating procedures and guidelines for zoonotic disease management
	130. Ability to evaluate the effectiveness of the various components of zoonotic diseases event management
	131. Ability to evaluate the effectiveness of multisectoral management of zoonotic diseases

Competency Package	Competency
36. Operational research	132. Ability to conduct transdisciplinary operational research using a One Health approach
	133. Ability to translate operational research findings to One Health practice

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-END-

M33a For print_Exercise template for assessment of competency packages by function

Please contact HAI@who.int for more information

M33b Digital version_Exercise template for assessment of competency packages by function

Please contact HAI@who.int for more information

M34a Database of global and regional trainings and tools, Excel

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M34b Database of global and regional trainings and tools, Airtable

Please contact HAI@who.int for more information

M35 Airtable instructional guide

Please contact HAI@who.int for more information

M36 Exercise 4 template for identifying trainings

Please contact HAI@who.int for more information

M37 Template for workforce planning

Module 3 Step 9

M37 Template for workforce planning

Workforce Development Operational Tool

Recommended actions	Timeframe	Next steps	Responsible agency	Focal person	Resources	Follow-up
Recommended actions can include: • *Training of existing personnel* • *Recruitment of additional personnel at different levels and in different locations* • *Refinement of national workforce plans* • *Address challenges in the enabling environment* • *Others*	*Indicate timeframe by when this action aims to be completed. This may be:* - ***Short-term** (e.g. the action aims to be implemented within 6 months)* - ***Medium-term** (e.g. the action aims to be implemented within 1-2 years)* - ***Longer-term** (e.g. the action, such as a action relating to enabling environment, aimed to be completed within 5 years)*	*Outline concrete steps to implement the recommended action*	*Identify an agency who will lead the implementation*	*Identify focal person within the lead and collaborating agencies*	*Identify resources needed to implement the action. Resources can include:* - ***Outcomes of Step 8 and Step 9*** - *Human resources* - *Financial resources* - *Physical resources*	*Indicate **how** this action should be **followed up/** monitored and identify **documents required for the activity to be completed** (means of verification)*
Example: Provide training on outbreak investigation	By June 2024 (short-term)	1. Engage potential trainers from MOH and MOA, MOE, University X	MOH as lead	Mr MOH	- OpenWHO course - Materials of courses from University X and MOA	Report to X committee every quarter until completed and training reports will be provided.

		2. Identify trainees in organizations 3. Review training resources and adjust as appropriate 4. Conduct and evaluate the training			- Funding from MOH (in-person training and materials) - Time and commitment of MOH and MOA trainers	(Training reports are the means of verification).

-END-

M38 Enabling environment guidance document

Module 3 Step 9

M38 Guidance for countries to identify and address challenges in the enabling environment

Workforce Development Operational Tool

There are many elements to the enabling environment that allow a workforce to fulfil its functions (Figure 1). Major health workforce challenges include availability, accessibility, acceptability, and quality of health workers among others *(1)*. While the Workforce Development Operational Tool (WFD OT) focuses on supporting countries to identify and address gaps in institutional functions and competencies, the FAO, WHO, and WOAH, among other organizations, offer *tailored* guidance and several tools to support countries to identify and address the other elements in the enabling environment.
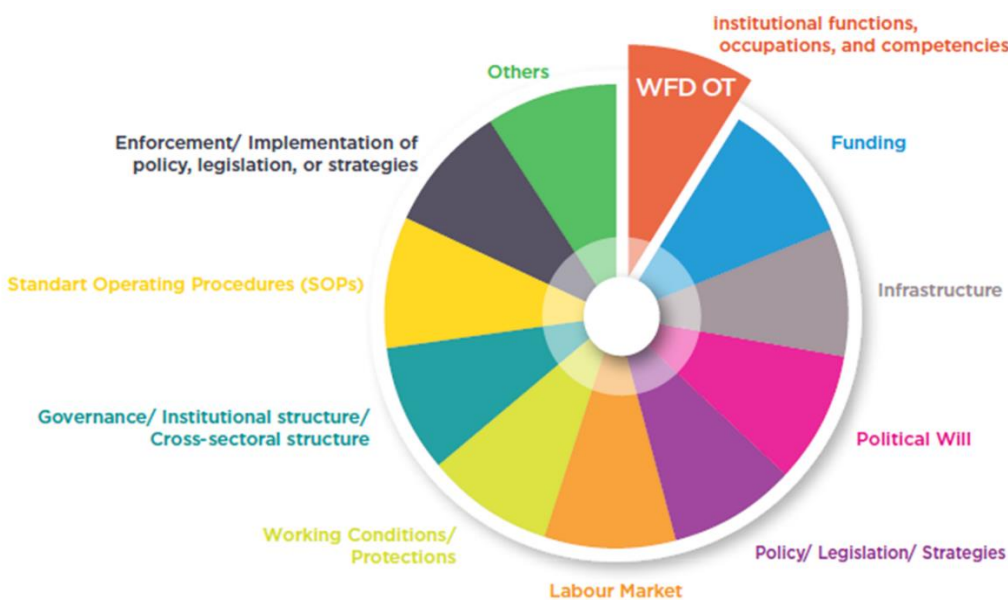
Figure 1. Elements of the enabling environment for workforce development *(2-5)*

FAO, WHO and WOAH offer countries the following *key* resources and tools to identify and address some elements of the enabling environment. The organizations encourage countries to contact their national, regional, or global focal points for *tailored* guidance to workforce development and planning using these resources and tools. Guidance can take several forms such as technical support, financial support, and capacity development. Countries may identify other relevant tools available in the country.

For assessing institutional functions and competencies, the following workforce capacity assessments developed by FAO, WHO, and/ or WOAH may be useful:

Resources and tools for assessing institutional functions and competencies	Tool contact person/team/email address
Workforce Development Operational Tool (WFD OT)	Human-Animal Interface Team, WHO Headquarters hsphai@who.int
Virtual learning strategies for Veterinary Paraprofessionals	European Commission for the Control of Foot-and-Mouth Disease (EUFMD), eufmd@fao.org
FAO Virtual Learning Centers (VLC)	VLC-Global@fao.org
Environment sector mapping and needs assessment	FAO RAP
ISAVET programme: Needs and Readiness Assessment tool	FAO Headquarter Caryl.Lockhart@fao.org
Joint External Evaluation (JEE)	WHO Headquarters, ihrmonitoring@who.int
IHR State Party Self-Assessment Annual Report (SPAR)	WHO Headquarters, ihrmonitoring@who.int
National Bridging Workshops	Human-Animal Interface Team, WHO Headquarters hsphai@who.int
WHO National Health Workforce Accounts (NHWA)	WHO Headquarters, Health Workforce Department, workforce2030@who.int
WOAH Performance of Veterinary Services Pathway	WOAH Capacity Building Department capacity.building@woah.org
WOAH Tool for the Evaluation of Performance of Veterinary Services	WOAH Capacity Building Department capacity.building@woah.org
THE WOAH Platform for Training Veterinary Services worldwide	WOAH Capacity Building Department capacity.building@woah.org
WOAH Veterinary Workforce Development webpage	WOAH Capacity Building Department capacity.building@woah.org
The Project for the Prevention and Control of Transboundary Animal Diseases (PC-TAD)	Dr. Samuel Wakhusama (project supervisor) Nairobi, WOAH

A complete list of tools and resources that support institutional functions and competencies can be found in the *database of global and regional trainings and tools (M31)*. For all other areas of the enabling environment, resources are available in the accompanying excel database.

References

(1) Global strategy on human resources for health: workforce 2030. Geneva: World Health Organization; 2016 (https://iris.who.int/handle/10665/250368).
(2) Health labour market analysis guidebook. Geneva: World Health Organization; 2021 (https://iris.who.int/handle/10665/348069).
(3) National health workforce accounts: a handbook, 2nd ed. Geneva: World Health Organization; 2023 (https://iris.who.int/handle/10665/374320).
(4) National health workforce accounts: better data and evidence. Geneva: World Health Organization; 2019 (https://iris.who.int/handle/10665/311853).
(5) National health workforce accounts: implementation guide. Geneva: World Health Organization; 2018 (https://iris.who.int/handle/10665/275473).

-END-

M39a Database of tools and resources for areas of the enabling environment, Excel

Please contact HAI@who.int for more information

M39b Database of tools and resources for areas of the enabling environment, Airtable

Please contact HAI@who.int for more information

M40a Workshop evaluation form for print

This questionnaire aims to collect your feedback and suggestions on the WFD OT workshop. The objective is to improve the quality of the tool and future events.

(Optional) Last name / first name: ……………………………………………………

Your sector: Animal health ☐   Human health☐   Environment ☐   Wildlife ☐   Other ☐

Your level of work: National ☐   Regional ☐   Local/district ☐   Other ☐

Scale: 1 = Not satisfied at all   2 = Not really satisfied   3 = Satisfied   4 = Fully satisfied

	Satisfaction level				**Comment** If rated 1 or 2, please justify
Overall experience	1☐	2☐	3☐	4☐	
Content (Quality, relevance, technical level)	1☐	2☐	3☐	4☐	
Format (Method, material, activities)	1☐	2☐	3☐	4☐	
Facilitators (Communication skills, technical expertise)	1☐	2☐	3☐	4☐	
Organization (Logistics, venue, assistance)	1☐	2☐	3☐	4☐	

- **What did you like about this workshop?**

- **What could be improved for this workshop?**

- **Feel free to provide any further comments here on the workshop**

Scale: 1 = No impact at all   2 = Weak impact   3 = Moderate impact   4 = Significant impact

	Impact	Comment If rated 1 or 2, please justify
How would you rate the impact of this workshop on:		
Workforce development for zoonotic disease management for your sector in your country	1☐ 2☐ 3☐ 4☐	
Workforce development for all sectors in your country	1☐ 2☐ 3☐ 4☐	
Coordination between sectors for workforce development	1☐ 2☐ 3☐ 4☐	
Coordination between sectors for zoonotic disease management	1☐ 2☐ 3☐ 4☐	

Would you recommend this workshop to other countries?

Not at all ☐   Probably no ☐   Probably yes ☐   Absolutely ☐   I prefer not to answer ☐

Evaluation of the tool

1 = Not satisfied at all 2 = Not really satisfied 3 = Satisfied 4 = Fully satisfied		
Please rate only the modules and steps you have undertaken	**Content, format and usefulness of the session**	**Comment** Please help us improve by justifying any 1 or 2 rating
Module 1: Step 1. Generate buy-in and secure agreements to use the WFD OT	1☐ 2☐ 3☐ 4☐ N/A ☐	

Module 1: Step 2. Identify a steering committee, technical team, and users	1☐ 2☐ 3☐ 4☐ N/A ☐	
Module 1: Step 3. Conduct a situation analysis and set the scope	1☐ 2☐ 3☐ 4☐ N/A ☐	
Module 2: Step 4. Select and revise priority functions of the workforce	1☐ 2☐ 3☐ 4☐ N/A ☐	
Module 2: Step 5. Match and rate occupations to priority functions	1☐ 2☐ 3☐ 4☐ N/A ☐	
Module 2: Step 6. Identify workforce needs and challenges	1☐ 2☐ 3☐ 4☐ N/A ☐	
Module 2: Step 7. Rate the competency packages required for priority functions	1☐ 2☐ 3☐ 4☐ N/A ☐	
Module 3: Step 8. Identify resources for strengthening competency packages	1☐ 2☐ 3☐ 4☐ N/A ☐	
Module 3: Step 9. Link critical needs, competencies, and resources and initiate the workplan	1☐ 2☐ 3☐ 4☐ N/A ☐	
Module 3: Step 10. Develop or adapt an M&E framework and include it in plan(s)	1☐ 2☐ 3☐ 4☐ N/A ☐	
Other comments:		

- **In your view, what were the main strengths of this tool?**
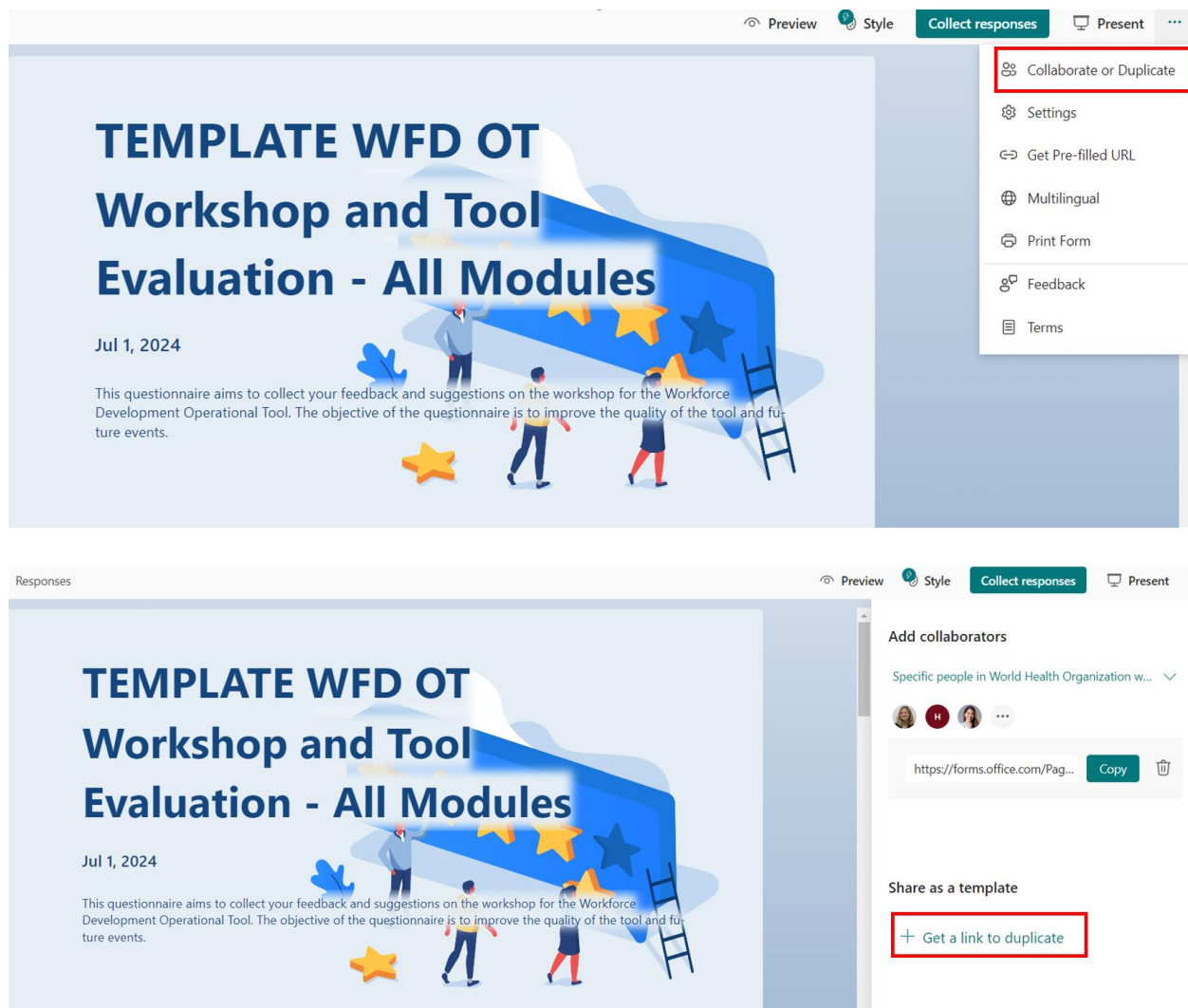
- **In your view, what were the main weaknesses of this tool?**

- **Feel free to provide any further comments here on the tool**

Thank you for taking the time to fill out this form. Please return it to one of the organisers

-END-

Digital evaluation forms

Instructions: Digital evaluation forms are set so that specific people in the WHO can edit and view the result. The blank *template* evaluation forms should be **DUPLICATED** for each workshop as needed. Duplicated versions can then be adjusted and shared with participants to collect responses.

For each duplicated evaluation form, a link and a QR code can be generated and inserted into a PowerPoint slide at the end of the workshop presentations or shared via e-mail with participants/ users.

I. **Link to *collaborate* on evaluation form for all modules:**

https://forms.office.com/Pages/DesignPageV2.aspx?subpage=design&FormId=t8AQ9iS9OUuBCz3CgK-1kGf8lRFpPG5Ao_ZAwoNnq6lURUtTSUo1VFhQRzNCQ09YVFQxSVhTUU82UC4u&Token=7c0af0e058e848b9a1d6df571200d21f

II. **Link to *collaborate* on evaluation form for Day 1 only:**

https://forms.office.com/Pages/DesignPageV2.aspx?subpage=design&FormId=t8AQ9iS9OUuBCz3CgK-1kGf8lRFpPG5Ao_ZAwoNnq6lUM0dNWEs5M1ZDN0pGQURaT1dLMDc2VldEUi4u

III. **Link to *collaborate* on evaluation form for Day 2 only:**

https://forms.office.com/Pages/DesignPageV2.aspx?subpage=design&FormId=t8AQ9iS9OUuBCz3CgK-1kGf8lRFpPG5Ao_ZAwoNnq6lURUxTMzNQRUtSMVIwQzdVTFlEWFJQTkIxNy4u

IV. **Link to *collaborate* on evaluation form for Day 3 only:**

https://forms.office.com/Pages/DesignPageV2.aspx?subpage=design&FormId=t8AQ9iS9OUuBCz3CgK-1kGf8lRFpPG5Ao_ZAwoNnq6lUMU0wQTM4Q1VSTzFCRU9RVjNYT0lVMlRXSi4u

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M40b Instructions for digital evaluation forms

Post tool use

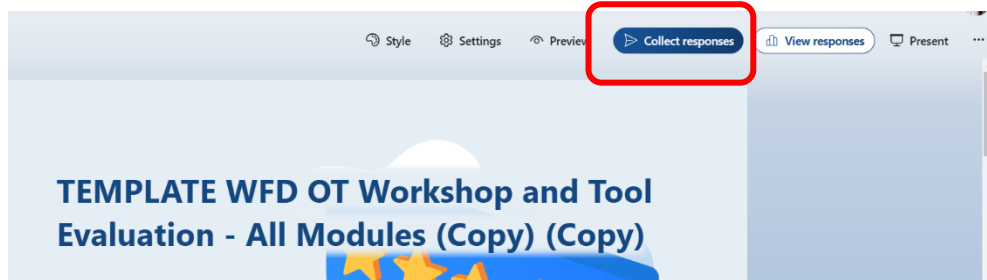### Workforce Development Operational Tool

Instructions: Digital evaluation form templates are set so that specific people in the WHO can edit and view the result.
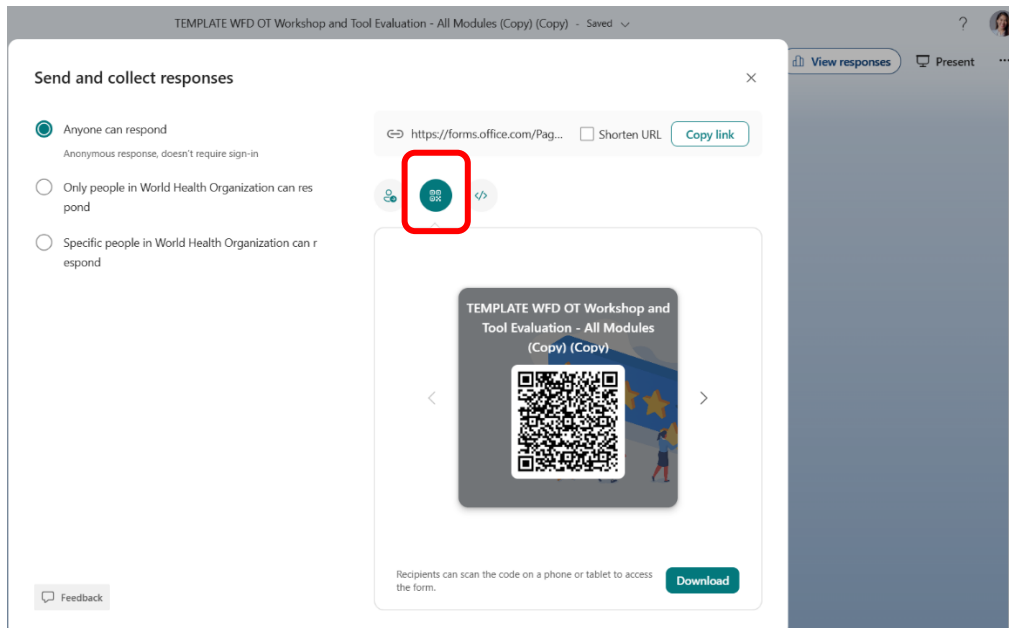
1. The *template* evaluation forms should be **duplicated** for each tool use as needed on the top link corner of the page. Duplicated versions can then be adjusted and shared with users to collect responses.
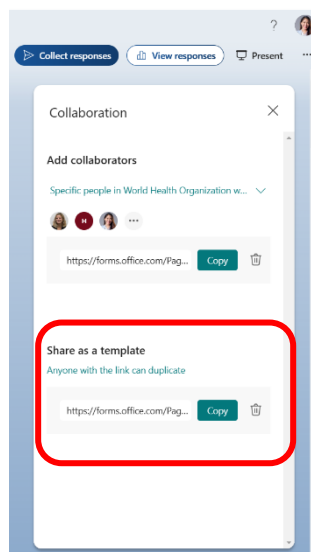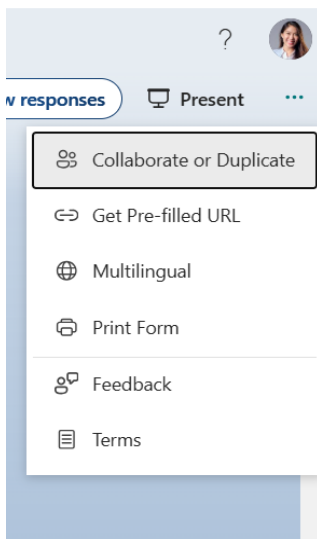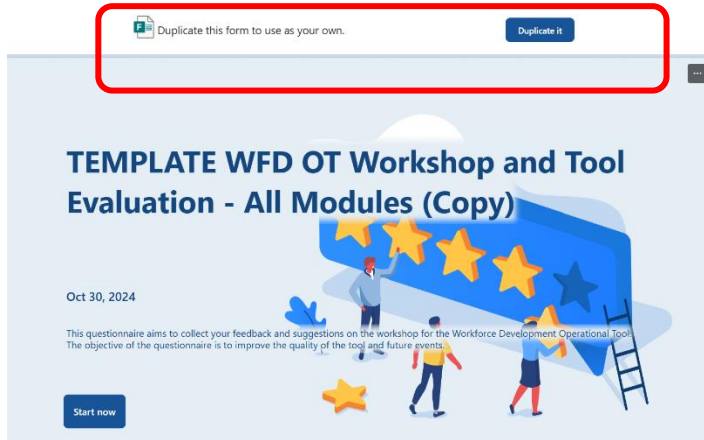
2. Open a new page with the link to duplicate.
3. For each duplicated evaluation form, a link and a QR code can be generated and inserted into a PowerPoint slide at the end of the workshop presentations or shared via e-mail with users.

I. **Link to *collaborate* on evaluation form for all modules:**

https://forms.office.com/Pages/DesignPageV2.aspx?subpage=design&FormId=t8AQ9iS9OUuB
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II. **Link to *collaborate* on evaluation form for Day 1 only:**

https://forms.office.com/Pages/DesignPageV2.aspx?subpage=design&FormId=t8AQ9iS9OUuB
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1kGf8lRFpPG5Ao_ZAwoNnq6lUM0dNWEs5M1ZDN0pGQURaT1dLMDc2VldEUi4u

III. **Link to *collaborate* on evaluation form for Day 2 only:**

https://forms.office.com/Pages/DesignPageV2.aspx?subpage=design&FormId=t8AQ9iS9OUuB
Cz3CgK-
1kGf8lRFpPG5Ao_ZAwoNnq6lURUxTMzNQRUtSMVIwQzdVTFlEWFJQTkIxNy4u

IV. **Link to *collaborate* on evaluation form for Day 3 only:**

https://forms.office.com/Pages/DesignPageV2.aspx?subpage=design&FormId=t8AQ9iS9OUuB
Cz3CgK-
1kGf8lRFpPG5Ao_ZAwoNnq6lUMU0wQTM4Q1VSTzFCRU9RVjNYT0lVMlRXSi4u

M41 Template certificate of participation

Please contact HAI@who.int for the template

-END-

M42 Workshop report template

Workforce Development Operational Tool (WFD OT) Workshop
Technical Report

Dates

Venue

City, Country

Group photo

TABLE OF CONTENTS

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