

# One Health Zoonotic Disease Prioritization Exercise

Inspired by the U.S. Center for Disease Control and Prevention's (CDC) One Health Zoonotic Disease Prioritization (OHZDP) Process



*Hippos grazing on the Great Ruaha River, Tanzania. Anthrax is a prioritized zoonotic disease in Tanzania; anthrax outbreaks along the Great Ruaha River and other areas of Tanzania have affected hippos, other wildlife, livestock and humans. (photo credit Jennie Lane)*

## Facilitator's Guide

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# One Health Zoonotic Disease Prioritization Exercise

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## *Summary:*

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This activity adapts the CDC'S One Health Zoonotic Disease Prioritization<sup>1</sup> (OHZDP) process to facilitate an activity where participants work through developing a list of prioritized zoonotic diseases for a chosen country through simulating a multi-ministry level decision making process. Participants are encouraged to consider the pros and cons of developing prioritized lists of diseases, and how this approach may need to be modified in the wake of the COVID-19 pandemic and the collective increased recognition of the risk of future pandemic threats from unknown diseases.

**One Health Competency Domains:** Principles of Public Health; Infectious Disease Management; Ecosystem Health; Risk Assessment & Mitigation; Policy; Communication

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## *Learning Objectives:*

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- 1) **Identify** possible stakeholders in One Health at the national, regional, and global levels.
- 2) **Discuss** zoonotic disease transmission dynamics.
- 3) **Discuss** challenges to zoonotic disease surveillance across sectors
- 4) **Develop** review criteria to analyze risk of zoonotic diseases.
- 5) **Practice** using a multisectoral One Health approach to prioritize zoonotic diseases of greatest concern.
- 6) **Recognize** competing priorities and interests of different stakeholder groups
- 7) **Discuss** the opportunities, challenges and risks associated with nations prioritizing certain diseases over others, and how this may leave vulnerabilities or gaps in surveillance capacities for both known and novel disease threats.

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<sup>1</sup> <https://www.cdc.gov/onehealth/what-we-do/zoonotic-disease-prioritization/index.html>



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## *Time for Completion:*

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Variable. A minimum of ~ 2 hours is necessary, but could take much longer depending on time available, group knowledge level, enthusiasm, integration with other learning concepts, etc.

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## *Audience:*

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This activity requires that participants have a basic knowledge of zoonotic disease epidemiology and context of the chosen country (i.e. government structure, demographics, geography, agroecology features, wildlife and livestock populations, export trends, agricultural GDP, etc.).

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## *Supplies Needed:*

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- 1) List of zoonotic diseases relevant for chosen country (i.e., use OIE list and modify as appropriate; see example list at end of this document).
- 2) Flip chart paper and markers
- 3) Relevant government ministries' mandates/priorities
- 4) CDC Zoonotic Disease Prioritization Fact Sheet<sup>2</sup> (this document helps the facilitator know the steps of the actual workshop which are then modified to fit the fictitious exercise in the period of time available).
- 5) Instructor might like to develop a basic presentation slide deck to help lead the group through each step.

*Facilitator Note:* The selected country for the workshop should be identified before the exercise, so that supporting materials can be prepared in advance.

*Facilitator Note:* The information included in this facilitator's guide is not intended for distribution to participants. This is for your use in preparing and facilitating the exercise only. Distributing or verbally disseminating this information directly will take away from the intended experience for the participants.

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<sup>2</sup> <https://www.cdc.gov/onehealth/pdfs/prioritization-fact-sheet-H.pdf>

# Instructional Sequence

1) **Introduce the exercise.** Prepare participants for what they will be participating in, prompting them to identify and discuss the value of the OHZDP process and the context and objectives for nations conducting OHZDP workshops. Ask participants what the benefits of a OHZDP workshop are and why such workshops are held.

2) **Prompt participants to identify which government ministries and potentially other stakeholders** should be present at such a workshop. Ask participants to write these down on a list.

*Facilitator Note:* Sectors represented can include human health/public health; agriculture and livestock; wildlife/fisheries; environment; finance; and any other relevant government ministry in the chosen country actively engaged in or relevant to zoonotic disease surveillance and zoonotic disease prevention and control efforts. The full list of recommended participants of an OHZDP are outlined on page 2 of the CDC Zoonotic Disease Prioritization Fact Sheet.

3) **Divide the group of participants into an appropriate number of different stakeholder groups** as “voting members” so that essential ministries or other entities are reflected. Depending on group size, having 3-5 participants per entity works well here. If your participant group reflects an array of disciplines, you may consider purposefully mixing groups so that groups of participants have a mixed representation of disciplines and knowledge levels, rather than having all of the participants with public health expertise be in the public health ministry group, etc.

4) **Learn about workshop stakeholder groups.** Depending on time available, either share pre-developed fact sheets about each Ministry (i.e. summary of their mandate) with each group, or have each group spend some time learning about their assigned ministry or other entity's priorities, mandates, interests, etc.

5) **Share the pre-developed list of zoonotic diseases** to be considered for prioritization with all groups. Depending on the time available, groups can spend time learning more about each possible disease. See example list on page 8; depending on the chosen country, this list may need modification.

*Facilitator Note:* Depending on the time available, you could ask the groups to develop their own zoonotic disease list.

*Facilitator note:* \*\* This is now where the workshop may diverge from the “real” OHZDP workshop process, and the instructor can choose a variety of ways on how to proceed, depending on time available, group knowledge, and enthusiasm level for the activity.

6) *Develop criteria to prioritize the list of zoonotic diseases.* Per the OHZDP process overview, the next step is to develop locally appropriate criteria and address the needs of each unique location for prioritization. Example criteria may include pandemic and epidemic potential of the zoonotic pathogen, severity of disease, disease incidence, potential impact on economics or livelihoods, potential for national security concerns, local capacity for diagnostics and surveillance of the pathogen, social or environmental impact of disease, etc.

*Facilitator note:* Depending on the time available, have each group (or the whole group collectively) decide on five criteria for how they will prioritize the list of zoonotic diseases.

*Facilitator note:* It can be fun to have each group come up with their own criteria, and then discuss among the other groups why they picked each criteria. This discussion can be done before or after the actual prioritization process; if done before, then the entire group would use the same criteria for evaluation. However, if each group uses their own criteria for the prioritization process, there can be more opportunity for discussion and debate, and might make the prioritization process more interesting, as different groups represent their assigned stakeholder's priorities and interests and defend their choices.

*Alternate Option:* Another twist on this process is to not formally discuss with the groups the criteria development process, but give them less instruction, have them prioritize diseases, and then ask them to discuss the process they used to prioritize certain diseases over others.

*Facilitator Note:* It is helpful to review previous zoonotic disease prioritization reports to see what actual criteria have been used in the past by countries going through this process.

*Facilitator note:* The next two steps are optional, and time dependent. Depending on the knowledge level of the group, step 7 can be challenging and time consuming, as it integrates several concepts. Instead, groups can prioritize diseases without developing categorical questions, using the criteria they developed.

## 7) Develop one categorical question to measure each of the criteria.

Example:

a) Does the disease occur in XXXX country or neighboring countries in humans and/or animals?

Yes: 1

No: 0

b) Does the disease have epidemic or pandemic potential?

Yes: 1

No: 0

8) **Rank Criteria.** Each group will rank the selected criteria in their preferred order, which allows each sector/stakeholder group flexibility to address their priorities, needs and interests.

*Facilitator note:* The value in this step is the dialogue that participants will have, more than the actual results of the process.

9) **Prioritize Zoonotic Diseases.** Each group reviews the list of diseases, applies chosen criteria (+/- using the optional categorical question scoring system) for each disease, and comes up with a list of prioritized zoonotic diseases, with a goal of choosing 5-7 diseases (instructor decides how many).

*Facilitator note:* This step is a major divergence from the real workshop, which uses a weighted scoring system in the OHZDP tool. For this exercise, that is not necessary.

10) **Share lists.** Once each group has their list of prioritized zoonotic diseases, they share the developed list by group. It is helpful to have a flip chart or white board to write down each group's list in different columns, so all participants can see the lists by sector, and how they may diverge or be similar.

11) **Discuss and finalize list.** The instructor then facilitates a discussion to condense and finalize the list to a single list, letting each group defend their choices, debate with other groups on criteria chosen, and how they were applied to each disease. If the groups did not discuss or chose criteria at step 6, the instructor should also encourage groups to share the rationale and internal criteria by which the group prioritized diseases. This discussion presents an important learning opportunity for participants to recognize the potential to apply standardized criteria to

a list of diseases, introduces concepts of risk assessment, and offers opportunity for discussing the various interests and sometimes competing priorities among stakeholder groups.

**12) Discuss next steps.** As a way of wrapping up the session, the instructor could facilitate a discussion about next steps, action plans, and areas for One Health engagement in the chosen country. The instructor can also encourage participants to discuss the opportunities, challenges and risks associated with nations prioritizing certain diseases over others, and how this may leave vulnerabilities or gaps in surveillance capacities. If that country has already gone through a OHZDP process, the instructor could share their final list and details from the corresponding report. Participants could also then work in groups to identify any actions or activities the county is pursuing in response to their prioritized zoonotic disease list.

### Reflection & Assessment

Toward the end of the class provide participants with time for reflection. The reflection period will provide an opportunity for them to discuss the challenges and successes that they experienced both individually and as a member of the group. Facilitators may wish to provide a reflection sheet for participants to record their reflections.

Example reflection questions include:

1. Describe a challenge that may arise when conducting a One Health Zoonotic Disease Prioritization activity.
2. Identify what you learned during this activity.

During the reflection period, the facilitator should move between groups observing for indicators that groups are functioning well and asking open-ended questions to help assess participants' understanding of current topics and processes and ensure learning objectives have been achieved. It is also important to identify and address any misunderstandings participants might have.

### Go Further:

Participants may be interested in reading reports and examples of real-life zoonotic disease prioritization workshops. The CDC maintains a repository of reports and related documents from completed workshops. Facilitators may choose to provide thought questions for the participants to respond to in writing, on classroom discussion boards, or orally in class, such as comparing and contrasting the reports from various countries, or participants picking a report to read that includes a country of personal interest. <https://www.cdc.gov/onehealth/what-we-do/zoonotic-disease-prioritization/completed-workshops.html>

**Example List of Zoonotic Diseases Potentially Relevant to Malawi (WHO Blueprint Priority Diseases\*)**

Disease	Main reservoirs	Usual mode of transmission to humans
Anthrax	livestock, wild animals, environment	direct contact, ingestion
Bovine tuberculosis	cattle	milk
Brucellosis	cattle, goats, sheep, pigs	dairy products, milk
*Coronaviruses (SARS, SARS-CoV-2, MERS-CoV)	Presumably bats	direct contact, aerosol
Cryptosporidiosis	cattle, sheep, pets	water, direct contact
*Disease X	unknown	unknown
Influenza	livestock, wildlife, humans	may be reverse zoonosis
Leptospirosis	rodents, ruminants	infected urine, water
*Nipah – other henipaviral diseases	bats, horses (Hendra virus)	direct contact, date palm sap (Nipah)
Orf	sheep	direct contact
Pasteurellosis	dogs, cats, many mammals	bite/scratch, direct contact
Plague	rats and their fleas	flea bite
Q fever	cattle, sheep, goats, cats	aerosol, direct contact, milk, fomites
Rabies	dogs, foxes, bats, cats, others	bite
*Rift Valley fever	mosquito, cattle, goats, sheep	direct contact, mosquito bite
Salmonella	poultry, cattle, sheep, pigs	foodborne
Tularemia	rabbits, wild animals, ticks	direct contact, aerosol, ticks
*Ebola, Crimean-Congo HF, Lassa and Marburg viruses	rodents, ticks, livestock, primates, bats	direct contact, inoculation, ticks
West Nile fever	wild birds, mosquitoes	mosquito bite
*Zika virus	mosquitos	mosquito bite

List adapted from: <https://www.gov.uk/government/publications/list-of-zoonotic-diseases/list-of-zoonotic-diseases>; accessed 20 April 2018

# ONE HEALTH ZOONOTIC DISEASE PRIORITIZATION PROCESS



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*One Health recognizes the connection between human, animal, and environmental health.*

The One Health Zoonotic Disease Prioritization (OHZDP) process brings together representatives from human, animal, and environmental health sectors, as well as other relevant partners, to prioritize zoonotic diseases of greatest concern for multisectoral, One Health collaboration in a country, region, or other area. This process uses a transparent approach and incorporates equal input from all represented One Health sectors working at the human-animal-environment interface.

## Goals of the OHZDP Process

- ▶ To use a multisectoral, One Health approach to
  1. Prioritize zoonotic diseases of greatest concern
  2. Develop next steps and action plans to address the priority zoonotic diseases in collaboration with One Health partners



## Expected Outcomes of the OHZDP Process

- A list of priority zoonotic diseases of greatest concern agreed upon by all represented One Health sectors
- Recommendations for next steps and action plans for multisectoral, One Health engagement to address the priority zoonotic diseases
- Understanding of the roles and responsibilities of all represented One Health sectors
- The creation or strengthening of multisectoral, One Health coordination mechanisms and networks
- A report highlighting the outcomes of the workshop to help advocate for One Health priorities

## Benefits of the OHZDP Process

- Connects representatives from human, animal, and environmental health sectors and other relevant partners, building a foundation of trust that strengthens multisectoral, One Health collaboration, coordination, and communication
- Prioritizes zoonotic diseases using equal input from all represented One Health sectors through a transparent and collaborative process
- Supports the creation or strengthening of multisectoral, One Health coordination mechanisms
- Helps participants focus limited resources to build capacity and collaboratively address the priority zoonotic diseases
- Adaptable to local context, since participating voting members determine criteria relevant to their country, region, or other area
- Scalable for use at the subnational, national, and regional levels, and can be adapted to apply to other infectious diseases and One Health issues
- Informs assessments, planning efforts, or strategy development relevant to One Health (for example, World Health Organization's International Health Regulations [2005] and World Organisation for Animal Health Performance of Veterinary Services Pathway)
- Provides real-time outcomes such as the list of priority zoonotic diseases, next steps and action plans, and a formal workshop report



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Centers for Disease  
Control and Prevention

## Participants of the OHZDP Process

- ▶ **FACILITATORS:** Typically 3-6 facilitators
  - Representatives from human, animal, and environmental health sectors serve as neutral, trained facilitators for the workshop.
- ▶ **VOTING MEMBERS:** Up to 12 voting members
  - Equal representation of government staff from One Health sectors actively involved in zoonotic disease prevention and control.
  - Voting members could represent the following sectors:
    - Human health/public health
    - Agriculture/livestock
    - Wildlife (fisheries)
    - Environment (forestry, land management)
    - Other government sectors active in zoonotic disease work
- ▶ **ADVISORS:** Typically 10 -15 advisors
  - Key partners and stakeholders who provide advice and expertise to voting members and support post-workshop collaborative activities.
  - Advisors can represent the following organizations that are involved in zoonotic disease work:
    - Other government sectors not directly involved in zoonotic disease work (for example, finance, education, or tourism)
    - International organizations (for example, CDC, WHO, FAO, OIE, USAID)
    - Key academic partners or university networks
    - Non-governmental institutions

**NO ONE PERSON,  
ORGANIZATION,  
OR SECTOR CAN  
EFFECTIVELY ADDRESS  
HEALTH THREATS AT  
THE HUMAN-ANIMAL-  
ENVIRONMENT  
INTERFACE ALONE.**



## Preparing for the OHZDP Process

- CDC's One Health Office is available to train facilitators to design a workshop to meet specific needs of a country, region, or other area.
- A minimum of 3 months is needed to prepare for a single OHZDP Workshop. More preparation time is recommended for larger workshops, such as a regional workshop.
  - Preparation includes acquiring resources, identifying appropriate workshop participants, conducting a literature review for an initial list of zoonotic diseases for prioritization, and finalizing workshop logistics.
- At least three trained, neutral facilitators from different sectors are needed to assist the local team with workshop preparation and facilitation (for example, one facilitator each from Ministry of Health, Ministry of Agriculture, Ministry of Wildlife, and Ministry of Environment).

For more information, please visit: [www.cdc.gov/onehealth/global-activities/prioritization.html](http://www.cdc.gov/onehealth/global-activities/prioritization.html)

*Interested in planning a One Health Zoonotic Disease Prioritization Workshop  
or need to access the most current version of the One Health Zoonotic Disease Prioritization materials?*

Email the CDC One Health Office at [onehealth@cdc.gov](mailto:onehealth@cdc.gov)

# ONE HEALTH ZOOONOTIC DISEASE PRIORITIZATION PROCESS OVERVIEW



## Goals of the One Health Zoonotic Disease Prioritization Process

- ▶ To use a multisectoral, One Health approach to
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  2. Develop next steps and action plans to address the priority zoonotic diseases in collaboration with One Health partners

## OHZDP Workshop Process

### BEFORE THE WORKSHOP

#### Prepare and Plan for the Workshop

- Contact the CDC One Health Office at least 3 months before scheduling a workshop.
- Identify Core Planning Team and obtain financial resources to accommodate for workshop logistics, venue, materials, travel, and translation.
- Identify workshop participants (facilitators, voting members, advisors) from human, animal, and environmental health sectors and other related partners.
- Generate an initial list of zoonotic diseases to be considered for prioritization using reportable disease lists, literature, and input from all represented One Health sectors.
- Conduct a literature review on the initial list of zoonotic diseases by reviewing publications, reports, grey literature, etc.

### DURING THE WORKSHOP

#### Develop Criteria

- 5 criteria will be used to prioritize the list of zoonotic diseases; criteria are locally appropriate and address the needs of each unique location.

#### Develop Questions

- 1 categorical question will be developed to measure each criteria.

#### Rank Criteria

- Each voting member will rank criteria in their preferred order, allowing each sector to address their sector's priorities and needs. Individual rankings are combined to produce a combined ranked list of criteria.

#### Prioritize Zoonotic Diseases

- Score each zoonotic disease by answering the categorical questions for each weighted criterion and entering this data into the OHZDP Tool.
- The ranked zoonotic disease list from the OHZDP Tool is used to facilitate discussion among the participants to finalize the priority zoonotic disease list.

#### Discuss Next Steps and Action Plans for Multisectoral, One Health Engagement

- Discuss next steps and action plans for identifying areas for One Health engagement for prevention and control of the prioritized zoonotic diseases.

### AFTER THE WORKSHOP

- Stakeholders advocate and implement recommended next steps and action plans to implement a One Health approach for the priority zoonotic diseases.



## OHZDP Workshop Outcomes

- A list of priority zoonotic diseases of greatest concern agreed upon by all represented One Health sectors
- Recommendations for next steps and action plans for multisectoral, One Health engagement to address the priority zoonotic diseases
- Understanding of the roles and responsibilities of all represented One Health sectors
- The creation or strengthening of multisectoral, One Health coordination mechanisms and networks
- A report highlighting the outcomes of the workshop to help advocate for One Health priorities

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