



**ONE HEALTH**  
Prevention and  
Preparedness

**REPORT of the Workshop:**  
**“Building the One Health Workforce  
in the European Region”**

**29<sup>th</sup> of February- 1<sup>st</sup> of March 2024**

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## Glossary of definitions for the scope of this report

**Competencies:** The abilities of a person to integrate knowledge, skills and attitudes in their performance of tasks in a given context. Competencies are durable, trainable and, through the expression of behaviors, measurable.<sup>1</sup>

**Competency framework:** An organized and structured representation of a set of interrelated and purposeful competencies.<sup>2</sup>

**European Region:** WHO/WOAH/FAO European Region, which comprises 53 countries, covering a vast geographical region from the Atlantic to the Pacific oceans.

**OH Operationalization:** The process of making One Health an integral part of the national governance of public, animal and environmental health and its technical requirements, including all the relevant aspects of legislation and procedures.

**Prevention:** Shifting the control paradigm of threats to health from reactive to proactive. Prevention includes addressing the drivers of threat emergence, namely ecological, meteorological and anthropogenic factors and activities, in order to reduce the risk of human and animal infection.<sup>3</sup>

**Preparedness:** activities that aim at preventing, mitigating, and preparing for emergencies.<sup>4</sup>

**OH system:** The wide range of roles and responsibilities and interactions among diverse actors seen in systems that deal with multi-sectoral challenges.<sup>5</sup>

**OH workforce:** Actors needed to operationalize OH and support the development of OH systems.

<sup>1</sup> WHO. (2022). Global competency framework for universal health coverage . Retrieved from <https://www.who.int/publications-detail-redirect/9789240034686>

<sup>2</sup> Frenk, J., Chen, L., Bhutta, Z. A., Cohen, J., Crisp, N., Evans, T., Fineberg, H., Garcia, P., Ke, Y., Kelley, P., Kistnasamy, B., Meleis, A., Naylor, D., Pablos-Mendez, A., Reddy, S., Scrimshaw, S., Sepulveda, J., Serwadda, D., & Zurayk, H. (2010). Health professionals for a new century: transforming education to strengthen health systems in an interdependent world. *Lancet (London, England)*, 376(9756), 1923–1958. [https://doi.org/10.1016/S0140-6736\(10\)61854-5](https://doi.org/10.1016/S0140-6736(10)61854-5)

<sup>3</sup> Authored by the members of the One Health High-Level Expert Panel (OHHLEP), Markotter, W., Mettenleiter, T. C., Adisasmito, W. B., Almuhairi, S., Barton Behravesh, C., Bilivogui, P., Bukachi, S. A., Casas, N., Cediell Becerra, N., Charron, D. F., Chaudhary, A., Ciacci Zanella, J. R., Cunningham, A. A., Dar, O., Debnath, N., Dungu, B., Farag, E., Gao, G. F., Hayman, D. T. S., ... Zhou, L. (2023). Prevention of zoonotic spillover: From relying on response to reducing the risk at source. *PLoS pathogens*, 19(10), e1011504. <https://doi.org/10.1371/journal.ppat.1011504>

<sup>4</sup> Global Assessment of National Health Sector Emergency Preparedness and Response. Geneva: World Health Organization., 2008.

<sup>5</sup> Vesterinen, H. M., Dutcher, T. V., Errecaborde, K. M., Mahero, M. W., Macy, K. W., Prasarnphanich, O. O., Kassenborg, H., Yulizar, E., Fauzi, R. P., Budayanti, N. S., Suwandono, A., Artama, W. T., Valeri, L., & Pelican, K. M. (2019). Strengthening multi-sectoral collaboration on critical health issues: One Health Systems Mapping and Analysis Resource Toolkit (OH-SMART) for operationalizing One Health. *PLoS one*, 14(7), e0219197. <https://doi.org/10.1371/journal.pone.0219197>

## 1. Background

One Health (OH) is a multisectoral approach that could enhance prevention and preparedness to threats that emerge at the human-animal-environment interface and finally health security.<sup>6</sup> OH operationalization would need to strengthen a synergic prevention-preparedness cycle, shifting the focus to operational OH upstream prevention that informs preparedness actions.<sup>7,8</sup> This would require to describe and build a OH workforce able to work in a coordinated way across sectors and countries, by overcoming the limited standardization around OH curricula and competency-based frameworks.<sup>9</sup>

The Italian National Institute of Health (Istituto Superiore di Sanità – ISS) is implementing an operational research project to contribute to the development of a harmonized training curriculum across the Pan-European Region<sup>10</sup> for in-service professionals who need to integrate OH approaches in prevention and preparedness plans and strategies, to finally foster OH operationalization and health security. Gaps and competencies for OH operationalization for prevention and preparedness have been identified with a literature review, as part of the current research project. These gaps were arranged in a preliminary framework, together with the competencies needed to fill them, which was used as the starting point for reflection to elaborate recommendations for the development of a harmonized curriculum to adopt OH in prevention and preparedness strategies.

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<sup>6</sup> One Health High-Level Expert Panel (OHHLEP), Adisasmito, W. B., Almuhairei, S., Behraves, C. B., Bilivogui, P., Bukachi, S. A., Casas, N., Cediell Becerra, N., Charron, D. F., Chaudhary, A., Ciacci Zanella, J. R., Cunningham, A. A., Dar, O., Debnath, N., Dungu, B., Farag, E., Gao, G. F., Hayman, D. T. S., Khaitsa, M., Koopmans, M. P. G., ... Zhou, L. (2022). One Health: A new definition for a sustainable and healthy future. *PLoS pathogens*, *18*(6), e1010537. <https://doi.org/10.1371/journal.ppat.1010537>

<sup>7</sup> G7 Health Ministers' Statement on the Importance and Urgency of Improving Global Health Architecture and Pandemic Prevention, Preparedness and Response. (2024). Retrieved from: [https://ec.europa.eu/commission/presscorner/detail/en/statement\\_24\\_1241](https://ec.europa.eu/commission/presscorner/detail/en/statement_24_1241)

<sup>8</sup> Dente, M. G., Riccardo, F., Declich, S., Milano, A., Robbiati, C., Agrimi, U., Mantovani, A., Morabito, S., Scavia, G., Cubadda, F., Villa, L., Monaco, M., Mancini, L., Carere, M., Marcheggiani, S., Lavazza, A., Farina, M., Dar, O., Villa, M., Testori Coggi, P., ... Brusaferrero, S. (2022). Strengthening preparedness against global health threats: A paradigm shift based on One Health approaches. *One health (Amsterdam, Netherlands)*, *14*, 100396. <https://doi.org/10.1016/j.onehlt.2022.100396>

<sup>9</sup> FAO, UNEP, WHO, and WOA. 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>

<sup>10</sup> WHO European region list of countries: <https://who-sandbox.squid.cloud/en/countries>

In this context, ISS decided to run a consultative workshop (including a preliminary online survey with participants) on the 29<sup>th</sup> of February and 1<sup>st</sup> of March 2024 with the main aim of gathering inputs and perspectives from the participants about the needed competencies for OH prevention and preparedness and about the concept of OH workforce across the Pan-European Region.

## 2. Aim of the Workshop

The aim of the consultative workshop was:

1. To contribute to outline competencies needed to integrate the OH approach in prevention and preparedness strategies.
2. To contribute to conceptualize and characterize the OH workforce for integrated prevention and preparedness across the Pan-European Region.

## 3. Methodology

### 3.1. Preliminary Framework

A preliminary competency-based framework for integrating the OH approach in prevention and preparedness strategies has been developed (Annex 1) with inputs from the literature<sup>11,12</sup> and

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<sup>11</sup> Frankson, R., Hueston, W., Christian, K., Olson, D., Lee, M., Valeri, L., Hyatt, R., Anelli, J., & Rubin, C. (2016). One Health Core Competency Domains. *Frontiers in public health*, 4, 192. <https://doi.org/10.3389/fpubh.2016.00192>

<sup>12</sup> Laing, G., Duffy, E., Anderson, N., Antoine-Moussiaux, N., Aragranda, M., Luiz Beber, C., Berezowski, J., Boriani, E., Canali, M., Pedro Carmo, L., Chantziaras, I., Cousquer, G., Meneghi, D., Gloria Rodrigues Sanches da Fonseca, A., Garnier, J., Hitziger, M., Jaenisch, T., Keune, H., Lajaunie, C., ... Häslér, B. (2023). Advancing One Health: Updated core competencies. *CABI One Health*. <https://doi.org/10.1079/cabionehealth.2023.0002>

previous research done by ISS.<sup>13,14,15,16,17</sup> The framework was developed with the following main aims:

- To provide a synopsis of the information collected with review of the literature and to be integrated and commented by the participants during the online survey;
- To facilitate the discussion between different expertise and disciplines during the workshop.

### 3.2. Online Survey

A concept note introducing the workshop and including the preliminary competency-based framework was sent some 10 days in advance to the participants asking them to reply to a short survey.

### 3.3. Workshop: Plenaries & Group works

The two-day workshop was organized with plenary sessions and working group sessions (Annex 2). The working groups sessions allowed to co-develop insights to contribute to the aims of the workshop in a participatory way. During the working groups sessions, the online participants followed lectures by international experts (Annex 3 & 4).

<sup>13</sup> Dente, M. G., Riccardo, F., Nacca, G., Ranghiasi, A., Escadafal, C., Gaayeb, L., Jiménez-Clavero, M. A., Manuguerra, J. C., Picard, M., Fernández-Pinero, J., Pérez-Ramírez, E., Robert, V., Victoir, K., & Declich, S. (2018). Strengthening Preparedness for Arbovirus Infections in Mediterranean and Black Sea Countries: A Conceptual Framework to Assess Integrated Surveillance in the Context of the One Health Strategy. *International journal of environmental research and public health*, 15(3), 489. <https://doi.org/10.3390/ijerph15030489>

<sup>14</sup> Dente, M. G., Riccardo, F., Bolici, F., Colella, N. A., Jovanovic, V., Drakulovic, M., Vasic, M., Mamlouk, H., Maazaoui, L., Bejaoui, M., Zakhshvili, K., Kalandadze, I., Imnadze, P., Declich, S., & MeSA Working Group (2019). Implementation of the One Health approach to fight arbovirus infections in the Mediterranean and Black Sea Region: Assessing integrated surveillance in Serbia, Tunisia and Georgia. *Zoonoses and public health*, 66(3), 276–287. <https://doi.org/10.1111/zph.12562>

<sup>15</sup> Robbiati, C., Milano, A., Declich, S., Di Domenico, K., Mancini, L., Pizzarelli, S., D'Angelo, F., Riccardo, F., Scavia, G., & Dente, M. G. (2023). One health adoption within prevention, preparedness and response to health threats: Highlights from a scoping review. *One health (Amsterdam, Netherlands)*, 17, 100613. <https://doi.org/10.1016/j.onehlt.2023.100613>

<sup>16</sup> Milano, A. & Robbiati, C., Declich, S., Calistri, P., Pediconi, O., Amato, L., Paronyan, L., Avetisyan, L., Manucharyan, A., Avetisyan, G., Yesayan, T., Gevorgyan, A., Markosyan, T., & Dente, M. G. (2024). Assessing the Adoption of One Health Approaches in National Plans to Combat Health Threats: The Pilot of a One Health Conceptual Framework in Armenia. *Tropical medicine and infectious disease*, 9(1), 22. <https://doi.org/10.3390/tropicalmed9010022>

<sup>17</sup> Robbiati, C., Milano, A., Habib, M., Declich, S., Dente, M. G., & On behalf of the study working group. (2024). MediLabSecure One Health Situation Analysis (OHMeSA) in Montenegro. MediLabSecure Project. <https://doi.org/10.5281/zenodo.10631734>



The plenary sessions allowed to share evidence and outcomes of the working group sessions and facilitated discussion among the participants.

## 4. Outcomes

A total of 38 participants from several countries from the Pan-European Region (Figure 1) and representing national institutions, academia and international organizations (Figure 2), took part in presence in the workshop together with the organizers and facilitators belonging to the different departments of ISS. A total of 162 participants registered to follow the workshop remotely.



Figure 1: Geographical origin of the workshop's participants.

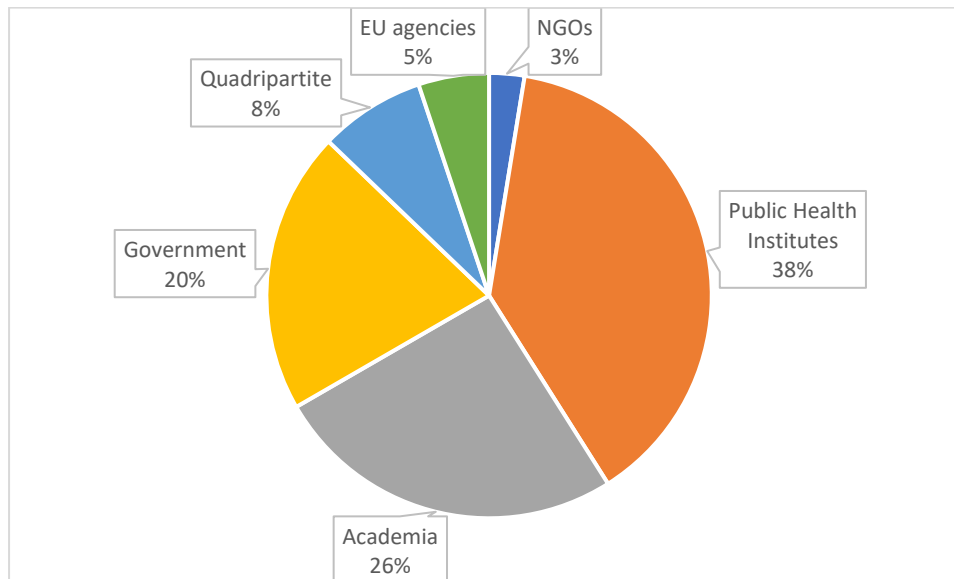


Figure 2: Affiliation of the workshop's participants.

## 4.1. Online Survey

22/38 (58%) participants filled in the survey and provided comments to the framework.

We report here the main and most relevant emerging aspects from the survey.

- **Need of discussing some essential terms.** One Health system; prevention; preparedness; OH threat etc. For example, the term "OH threat" could be used to indicate health threats that need to be addressed with a OH approach. However, it was suggested that the term could be understood as if OH represent a threat. Furthermore, the term seems to limit the benefits of the OH approach only to threats to health, without taking into consideration, for example, preventive strategies for environmental and ecosystem protection, health promotion strategies, etc.
- **OH Competencies.** In general, in the OH competency-based frameworks available in the literature, there is a lack of declination in functions and actions: a framework should

consider comprehensively the needed OH competencies (core competencies) but it should also provide the possibility of identifying additional/advanced OH competencies which are related with the **functions/activities of a specific workforce**.

The identified competencies and skills should find correspondence in practical examples of activities. The needed competencies could also be derived from relevant case studies.

Finally, a OH competencies-based framework should be conceived and developed with a OH approach including in the process all the relevant stakeholders

➤ **What is the OH Workforce?**

Three different kinds of OH workforce were identified:

- **Staff from Institutions/Organizations** with specific mandates and roles (Quadripartite Organizations, Ministries, EU agencies etc.);
- **Professionals of relevant disciplines** (Vets, healthcare workers, entomologists, economist etc.);
- **Staff/professionals who are in charge for specific “functions”**: these functions guide the acquisition of related competencies in OH (for instance: being able to conduct integrated socio-economic impact studies; to study multifactorial drivers at community level which increase inequalities and fragility; to develop administrative and legal procedures and contracts which address multi-stakeholders etc.).

- The OH workforce concept is **predominantly connected with the control of infectious diseases in humans and animals**,<sup>18,19,20,21</sup> while prevention and health promotion are still less considered as the comprehensive domain of action. This is not reflecting the recent OHHP's definition of OH.<sup>22</sup>
- Regarding the challenges which could hamper the **OH workforce development in the Pan-European Region** the following points were recurrently reported:
  - The concern on the **lack of harmonization** of curricula and assessment methods, with the lack of harmonized legal frameworks, profession-specific job descriptions, clear definition of competencies needed, and differences in learning certifications;
    - The need to define OH institutional and workforce capacities and identify **learning needs** accordingly under a harmonized guidance;
    - The presence of **unbalanced powers and relationships** between disciplines and sectors;
    - **Finding a common ground** among OH stakeholders with different, and sometimes even competing interests.

<sup>18</sup> Sullivan, A., Ogunseitan, O., Epstein, J., Kuruchittham, V., Nangami, M., Kabasa, D., Bazeyo, W., Naigaga, I., Kochkina, O., Bikaako, W., Ahmad, N., Yawe, A., Muhumuza, C., Nuraini, R., Wahyuni, I., Adli, R., Moonsom, S., Huong, L., Pham, P., Kelly, T., ... One Health Workforce-Next Generation Consortium (2023). International stakeholder perspectives on One Health training and empowerment: a needs assessment for a One Health Workforce Academy. *One health outlook*, 5(1), 8. <https://doi.org/10.1186/s42522-023-00083-4>

<sup>19</sup>Togami, E., Behravesh, C. B., Dutcher, T. V., Hansen, G. R., King, L. J., Pelican, K. M., & Mazet, J. A. K. (2023). Characterizing the One Health workforce to promote interdisciplinary, multisectoral approaches in global health problem-solving. *PLoS one*, 18(5), e0285705. <https://doi.org/10.1371/journal.pone.0285705>

<sup>20</sup> Ferrinho, P., & Fronteira, I. (2023). Developing One Health Systems: A Central Role for the One Health Workforce. *International journal of environmental research and public health*, 20(6), 4704. <https://doi.org/10.3390/ijerph20064704>

<sup>21</sup> O'Brien, M. K., Wuebbolt Macy, K., Pelican, K., Perez, A. M., & Errecaborde, K. M. (2019). Transforming the One Health workforce: lessons learned from initiatives in Africa, Asia and Latin America. *Revue scientifique et technique (International Office of Epizootics)*, 38(1), 239–250. <https://doi.org/10.20506/rst.38.1.2956>

<sup>22</sup> One Health High-Level Expert Panel (OHHLEP), Adisasmito, W. B., Almuhairi, S., Behravesh, C. B., Bilivogui, P., Bukachi, S. A., Casas, N., Cediel Becerra, N., Charron, D. F., Chaudhary, A., Ciacci Zanella, J. R., Cunningham, A. A., Dar, O., Debnath, N., Dungu, B., Farag, E., Gao, G. F., Hayman, D. T. S., Khaita, M., Koopmans, M. P. G., ... Zhou, L. (2022). One Health: A new definition for a sustainable and healthy future. *PLoS pathogens*, 18(6), e1010537. <https://doi.org/10.1371/journal.ppat.1010537>

## 4.2. Working groups session 1

The aim of the first participatory session was to contribute to outline competencies that the workforce working in prevention and preparedness need to possess to integrate the OH approach in their activities (Annex 5).

A preliminary competency-based framework (Annex 1) was developed before the workshop with concepts emerging from the literature and relevant inputs from the online survey.

This preliminary framework was used during the workshop session to support reflection and discussion of participants.

Highlights from the groups restitution:

- ✚ Need to define which challenges/threats the prevention and preparedness strategies are addressing and identify criteria for assessing the need and feasibility of adopting a OH approach.
- ✚ New competencies for the OH workforce added:
  - Prioritizes health threats in the light of an “Ecosystem Health” (Domain of the framework: prevention and preparedness plans and strategies);
  - Applies approaches to assess One Health systems (Domain: OH assessment);
  - Produces awareness tools for marginalized groups/ groups difficult to reach (Domain: OH assessment);
  - Monitors and evaluates the impact of capacity building initiatives on the operationalization of OH prevention and preparedness systems (Domain: capacity building);
  - Applies OH standards & definitions (Domain: International harmonization);
  - Harmonizes education curricula to reach a common understanding of the broad scale of OH (Domain: International harmonization);
  - Manages national compliance to the international guidelines (Domain: International Harmonization);

- Handles possible conflicts between international guidelines and national context (Domain: International Harmonization);
  - Communicates in a convergent way and with peers (OH practice);
  - Promotes and facilitates the inclusion of all the relevant actors (consider gender balance) and parity between disciplines (Domain: OH practice);
  - Evaluates socio-economic impact, sustainability, adaptability in a participatory way adopting a mixed-method approach (Domain: consolidation and evaluation).
- + Refine the OH practice domain (rename as OH mindset, or OH principles, or OH soft skills, or OH transferable skills) including ethics principles to be transversal to each domain or identify transferable skills for each domain.
  - + Identify core and additional competencies, some core competencies should be acquired by all the actors making up the OH workforce, while additional competencies should target only specific actors, also considering the level of proficiency at work and expertise level.
  - + Identify knowledge and skills needed for each domain.
  - + Competencies should target different levels (local, national, regional).
  - + National harmonization should consider the different contexts and identify core competencies across all the levels (same for regional harmonization), and find a balance between harmonization and contextualization. Possible conflicts between international guidelines and national context needs to be considered.
  - + Grouping domains into pillars such as how the individual interacts with other people, competencies around navigating institutions and organizations, technical knowledge/expertise and principles of practice could be considered.
  - + Identify competences for citizens and other actors e.g. school teachers.
  - + Integrate the OH approach in the specific curricula of professionals or develop an harmonized cross-cutting curriculum are two options to evaluate.

### 4.3. Working groups session 2

The aim of this session was to contribute to conceptualize and characterize the OH workforce for integrated prevention and preparedness across the Pan-European Region. The session included questions for the groups (Annex 5).

Highlights from group restitutions:

**1) To whom the competencies defined in the framework should apply?**

**Elaborate a definition/description of the concept OH workforce**

- ✚ A capable modern workforce should be able to adopt a multidisciplinary approach to take profit from health opportunities and tackle complex health challenges, risks, and threats in a one health, holistic, approach from problem identification towards solution implementation. This includes experts and general society.
  - this cooperation should be encouraged (or forced?)
  - need for common tools and common language
  
- ✚ Core workforce and dynamic workforce mobilized around some specific objectives and shared goals.
  
- ✚ “Bridging professionals” with expertise in coordination and convergent communication between different sectors and stakeholders and able to deal with complexity of OH, synthesis, knowledge integration and translation, competencies around navigating institutions and organizations.
  
- ✚ Actors of the OH workforce (depending on the challenge):
  - Government and research institutions (including social scientists, architects, information and communication technology, social marketing, veterinarians, healthcare providers, epidemiologists, data managers, wildlife biologists, ecologists, environmental scientists,

public health officials, agronomists/zootechnicians, laboratory technicians, community (human and animal) health workers, communication experts, anthropologists, modelers/risk analysts, legal, security and police officers, economists ...)

- Private sector representatives of relevant industries
- NGOs and civil society (farmers associations, consumers associations...)
- An equitable inclusion of disciplines and stakeholders must be ensured, including the engagement of communities and marginalized groups (indigenous people etc.)

✚ OH literacy needs to be improved for all the actors, including citizens, considering the different roles.

✚ Identify core disciplines/actors to be involved in all the countries and the different levels of the workforce (national, regional, local) in each country.

## 2) What strengths should we leverage on to develop a harmonized workforce in the European Region?

- Shared risks and threats (Avian Influenza, West Nile Virus, AMR, climate change, biodiversity loss etc.)
- Lobbying for funds
- Common standards and accreditation systems
- European umbrella organizations (EU, Quadripartite) and legislation (food safety, IHR, etc.)
- Existing OH networks and platforms in participating countries
- Stakeholders engaged about the need to adopt a OH approach
- Broad academic body of knowledge and practical experiences (also beyond OH e.g. sustainable development, climate change)
- Evidence-based decisions respecting epistemic diversity, and respect of individuals and economic freedom



## What challenges we might face and what solutions?

### **Challenges -> Solutions**

- Complexity – uncertainty -> Accept, assess and manage
- Policy development and adoption -> Link to an illustration of OH benefits
- Harmonization organizational development -> Regional umbrella governance that brings all countries to a similar level of OH implementation
- Need enough resources (financial, human) -> Avoid duplication through a common agenda
- Make the OH added value visible -> Increase OH literacy also with the general population, cost/benefit analysis, tangible solutions
- Long-term ownership and commitment -> Increase investments and produce evidence about OH added value
- Data sharing and quality of data -> Legislative framework (e.g. General Data Protection Regulation, and FAIR -findable, accessible, interoperable, reusable- data systems)
- Act only after the problem is evident -> Training and awareness on complex eco-social systems
- Organizational silos -> Interdisciplinary regulation, rewarding systems for collaboration
- Personal level difficulties in collaboration -> Training and awareness of OH added value
- Conflict between economic and political interests and evidence-based public health > more transparency, communication, dissemination, and awareness of benefits of evidence-based approach
- Misinformation from the web and media -> Make clearer institutional communication, improve health literacy of population and citizen science
- Geopolitical context -> Ensure OH action even in critical and emerging contexts
- Balance between harmonization and appropriate contextualization -> Develop guidance
- Fragmentation across sectors (data, objectives) -> Resolve with time with training, education, advocacy
- Lack of OH literacy -> Advocacy and definition of OH literacy content

## 5. Preliminary Conclusions

Although the limited time available during the workshop, the participants seemed to converge on some aspects:

- The outline of the competencies necessary for the OH workforce working in prevention and preparedness is an ongoing process, also because it is strongly connected with the identification of the OH workforce, a topic still under debate at national and international level, including the definition of the OH workforce in charge for adopting OH approaches in prevention and preparedness strategies;

- A competency-based framework is complex to outline given these premises. This complexity could be addressed with a modular framework which outlines core competencies for the general OH workforce, and then identifies advanced competences for domains (e.g. AMR, zoonoses, determinants of inequalities during pandemics, eco-action to prevent spillover; environmental degradation; OH literacy; etc.) and specific competencies for functions (e.g. research, resource allocation, legislation and requirements; etc.), thus addressing specific categories of OH workforce;

- Multiple profiles characterize the OH workforce and different layers are needed when defining the competencies not only in relation to the target audience but also to the functions to be performed. This will affect any curricular plans, making necessary several levels or tiers, with core transversal competencies for all the OH workforce and specialized ones for specific groups of professionals.

- When considering the development of curricular guidelines, focusing on the workforce involved in prevention and preparedness plans and strategies, it could be a good solution to target mainly those professionals already involved in the design of prevention and preparedness plans, and

possibly in their implementation. In this case, competencies for effective response to health emergencies would be relevant (for example, intersectoral risk assessment or multidisciplinary approaches to outbreak investigation);

- A consensus on a competency-based framework for the adoption of integrated prevention and preparedness strategies could help in the development of a harmonized curriculum in the Pan-European Region for the OH workforce working in these areas, considering also the recently developed OH competency-based frameworks.<sup>23</sup>

## 6. Way forward

- Consolidate a competency-based framework for the adoption of integrated prevention and preparedness strategies in the Pan-European Region, considering the feedback included in this report, in order to produce practical recommendations to develop a harmonized curriculum for in-service professionals working in prevention and preparedness strategies.
- Explore strengths, weaknesses, opportunities, and threats to develop a harmonized OH curriculum across the Pan-European region and identify the OH workforce working in prevention and preparedness in each country.

---

<sup>23</sup>World Health Organization, Food and Agriculture Organization of the United Nations & World Organisation for Animal Health. (2023). Competencies for one health field epidemiology (COHFE) framework. World Health Organization. <https://doi.org/10.20506/cohfe.3432>.

## 7. Workshop evaluation

35 out of 38 (92%) participants filled in the evaluation survey at the end of the workshop.

The sum of the percentages of those who agree or strongly agree with each of the sentences of the survey are reported below:

---

1. The contents were appropriate for my level of knowledge: **88,6%**

---

2. The objectives were clearly defined: **71,5%**

---

3. The working method was effective: **77,1%**

---

4. The event increased my knowledge: **74,3%**

---

5. Time dedicated to discussion/exercises was fair: **74,3%**

---

6. The materials were clear and accurate **68,6%**

---

7. The number of speakers was appropriate **85,7**

---

8. The speakers were competent and prepared **88,5**

---

9. The event was well-organized **94,3%**

---

### Participants feedback

#### *Main strengths*

“The levels of experts participating in the Working Groups and their Rapporteurs were excellent”

“You created momentum and strong interest from many relevant actors in OH education””

“A good mix of disciplines was present in the room”

“The discussion in groups was very effective and interesting and the experts invited were very competent. Positive climate enabling transparent discussion, willingness to exchange and collaboration”

“Lots of motivated people, diverse and informed audience, nice atmosphere, the format was very engaging and interactive - it was a great way to exchange ideas and also to get to know people”

“The event was very effective, either in the contents and in the operating organization”

“The representation of the concepts underlying the object of the event were efficacious”

### *Main limitations*

“Time allocated to working groups was too short and working group facilitation could have been better organized”

“Use of English language in the documents needs improvement and taking account of work done by others”

“To define in a clear as possible way the points to be discussed and the objectives to be achieved through the discussion to avoid misinterpretation and exploit better the discussion time”

“Preparation could be based on previous (published) work”

“I miss a bit the context and general aims, as well as the purpose of this workshop”

“I suggest a more specific division of the OH topic, rather than a general discussion about its definition”

“Better prepare and build on existing work. Competences necessary for integrated approaches to health (and other subjects) have been described in many places. Searching for One Health is insufficient”

“To send the material before or reduce the work to be done”

“The room of the working groups was very noisy”

“Clearly state duties of participant before the events”

“Representations of practical examples and realized handling of situations according to the concepts that were the basis of the event”.



**ONE HEALTH**  
Prevention and  
Preparedness

## 8. Annexes

Annex 1: Preliminary Framework

Annex 2: Program of the Workshop

Annex 3: Online Presentation: Giacomo Balduzzi, University of Eastern Piedmont (Italy)

Annex 4: Online Presentation: Gabrielle Laing Unlimit Health, UK

Annex 5: Workshop sessions materials

Annex 6: ISS introduction to the Workshop

## Annex 1.

### Preliminary competency-based framework to integrate the OH approach in prevention and preparedness strategies

Competencies domains (derived from needs of OH prevention and preparedness operationalization highlighted with previous studies)	OH Competencies to integrate the OH approach in prevention and preparedness strategies (other than subject matter expertise)
OH awareness, advocacy and leadership	<ul style="list-style-type: none"> <li>- Knows OH fundamentals and challenges, its added value and lessons learnt</li> <li>- Understands global, regional and national policies and multisectoral policy-making process</li> <li>- Advocates for policy changes and resource allocation to support One Health initiatives at local, national, and international levels.</li> <li>- Applies participatory and transdisciplinary leadership models</li> <li>- Establishes partnerships and alliances to leverage resources and expertise</li> <li>- Supports emerging leaders in the One Health field to foster continuity and growth</li> <li>- Conducts public awareness campaigns to educate communities about the importance of OH principles and practices</li> </ul>
OH system assessment	<ul style="list-style-type: none"> <li>- Knows available tools and approaches for assessing the national OH system</li> <li>- Masters national sectors organization, responsibilities and flow of information</li> <li>- Identifies and prioritizes transversal OH threats by engaging relevant disciplines and stakeholders (including communities)</li> <li>- Is aware of the available resources (human and financial) and how to mobilize them</li> <li>- Is able to define roles and responsibilities also with a gender based perspective</li> </ul>
Multisectoral governance and financing	<ul style="list-style-type: none"> <li>- Knows how to establish national multisectoral governance mechanisms and legislative frameworks that could adapt to different OH threats</li> <li>- Facilitates collaboration and coordination to align policies and resources across sectors and stakeholders</li> <li>- Masters principles of sustainable and multisectoral planning and financing</li> <li>- Knows how to promote and regulate systems interoperability (surveillance and early warning, risk assessment, labs, databases etc.)</li> </ul>

<p>Integrated action plans and strategies</p>	<ul style="list-style-type: none"> <li>- Knows how to develop multisectoral plans engaging all the relevant sectors and stakeholders, including civil society and communities</li> <li>- Promotes multisectoral analysis of drivers and impacts of OH threats, including socio-economic and gender/sex factors to address inequities and disparities</li> <li>- Considers evidence-based strategies across the different sectors and valid/legitimate feedback from different forms of knowledge</li> <li>- Knows the requirements for systems interoperability (surveillance and early warning, risk assessment, labs, databases, epidemic intelligence, satellite imagery, environmental monitoring data, socio-economic data, etc.)</li> </ul>
<p>Transversal capacity building</p>	<ul style="list-style-type: none"> <li>- Develops OH training curricula and interdisciplinary trainings for the OH workforce (including decision-makers)</li> <li>- Develops integrated simulation exercises and case studies</li> <li>- Promotes peer-learning and knowledge exchange initiatives</li> <li>- Establishes mentorship programs involving different expertise</li> <li>- Collaborates with academic institutions to integrate OH principles into formal curricula and training programs</li> </ul>
<p>International harmonization</p>	<ul style="list-style-type: none"> <li>- Knows OH global governance and frameworks</li> <li>- Adapts international guidance to the national context</li> <li>- Supports international collaboration and networking learning communities</li> </ul>
<p>Consolidation, evaluation and operational research</p>	<ul style="list-style-type: none"> <li>- Develops standardized transversal overarching OH goals and indicators</li> <li>- Designs and executes multisectoral evaluation of OH plans and strategies and highlights OH benefits by incorporating stakeholder feedback</li> <li>- Promotes multisectoral policy translation through synthesis of knowledge coming from different sources, disciplines, and sectors-</li> <li>- Promotes multisectoral implementation research including the definition of common methodological standards</li> <li>- Is able to liaise with research teams from different sectors</li> </ul>
<p>OH practice</p>	<ul style="list-style-type: none"> <li>- Promotes systems thinking and a pluralism of knowledge and methods</li> <li>- Is prone to a collaborative attitude supporting dialogue and trust building processes</li> <li>- Is able to communicate and coordinate with different sectors, stakeholders, also in a multilevel and multilayer dimension, and owns negotiation skills</li> <li>- Foster diversity, equity and inclusion</li> <li>- Emphasizes the importance of empathy and compassion in understanding the interconnectedness of human, animal, and environmental health.</li> <li>- Masters OH complexity and harnesses uncertainty, paradox and limited knowledge</li> </ul>



## Annex 2.

### Program of the Workshop

#### Thursday 29th of February

13:00 Light lunch and registration

13:45 **Welcome** by ISS President: Prof. Rocco Bellantone

14:00 **Introduction** to the Workshop (Maria Grazia Dente, Silvia Declich – National Center for Global Health, ISS)

14:20 **Round Table** “One Health workforce and its competencies”: chaired by Maria Grazia Dente and Silvia Declich

- Osman Dar – OHHLEP; (on line)
- Simona Seravesi, Division of Communicable Diseases, Environment and Health WHO/Europe;
- Barbara Alessandrini, Capacity Building Department-WOAH;
- Gunel Ismayilova -FAO

15:00 In situ: **Session I** Working Groups: One Health Competencies (Introduction by Claudia Robbiati, National Center for Global Health, ISS)

In remote: Giacomo Balduzzi, University of Eastern Piedmont (Italy) - : Why shall we also consider social science in building the One Health Workforce in the European Region?

17:00 **End of first day**

#### Friday 1st of March

09:00 **Round table** Session I: outcomes from the Working Groups” chaired by Walter Cristiano, Environment and Health Dept., ISS

- • Rapporteurs of the Working Groups

10:00 In situ: **Session II** Working Groups: One Health Workforce (Introduction by Claudia Robbiati, National Center for Global Health, ISS)

In remote: Gabrielle Laing Unlimit Health, UK - One Health workforce capacity, competency and development

11:00 **Coffee break**

11:15 **Session II** Working Groups: One Health Workforce (cont.)

12:00 **Round table** “Session II: outcomes from the Working Groups” chaired by Gaia Scavia, Food Safety, Nutrition and Veterinary Public Health Dept., ISS

- • Rapporteurs of the Working Groups

13:00 **Round Table** “Wrap-up and way forward” chaired by Flavia Riccardo, Infectious Diseases Dept. and Alessia Milano, National Center for Global Health

- • Stephan Bronzwaer -EFSA;
- • Alberto Mantovani- Former member, OH Technical Advisory Group - WHO/Europe;
- • Francesco Maraglino- Italian Ministry of Health;
- • Carmen Varela Santos -ECDC

14:00 **End of workshop and light lunch**



**ONE HEALTH**  
Prevention and  
Preparedness

“Building the One Health Workforce in the European Region”  
29th of February – 1st of March 2024

# Why shall we also consider social science in building the One Health Workforce in the European Region?

Giacomo Balduzzi

**Centro Studi su Ambiente  
e Società dell'Appennino**





# One Health: traditional view or radical novelty?

Since ancient times, societies were aware of diseases that selectively affected those who worked in close contact with animals: *Titus Livius, History of Rome, Book IV, Chapter 30.*

‘There is no scientific barrier, nor should there be, between veterinary medicine and human medicine; the experience of one must be utilized for the development of the other’ *Rudolf Virchow, Schivelbein 1821 - Berlin 1902.*

‘A broader understanding of health and disease demands a unity of approach achievable only through a consilience of human, domestic animal and wildlife health - One Health’ *Conference ‘One World, One Health: Building Interdisciplinary Bridges to Health in a Globalized World’, held in 2004 at the Rockefeller University in New York.*



# One Health as a social field

Fields are arenas where actors struggle to accumulate, exchange, and monopolise different kinds of power resources (**capitals**).

Actors' relations stem from their various positions in the field and dispositions (**habitus**).

Social fields are contexts of actors and practices that are both **structuring** and **structured**.

Power, hierarchical structures definitions established and contended, and the different forms of valuable capital and stakes become the **objects** and **stakes** of the struggles among actors in the field.



# From interdisciplinarity to transdisciplinarity

Differently from the interdisciplinary approach, which synthesises and harmonizes links between disciplines into a coordinated and coherent whole, the transdisciplinary approach transcends traditional boundaries by focusing on interactions between, across and beyond disciplines with a shared conceptual framework.

A transdisciplinary idea of OH:

- 1) cannot be understood and addressed without engagement between scientists and non-academic actors in society and government
- 2) integrates academic research with empirical experience and practical knowledge of local stakeholders, administrators, and community members.



## Ulrich Beck's risk society

For Ulrich Beck the new types of dangers of contemporary 'risk society' from the past.

New risks are **global, invisible dangers, undesirable abundance, manufactured uncertainties.**

The risk society framework encompasses the reconstructions of One Health background into a comprehensive understanding. Risks project a ***not-yet-occurred event*** that would entail irreversible destruction if it were to happen.

**One Health** appears as a ***utopia of science*** structured as a field of research and intervention held together by a common project of the future. Besides, One Health is a ***science of utopia*** aimed at avoiding the disaster with the same tools that scientists use to foresee the possibility of it happening in the future.



**Thank you for your attention**



# One Health workforce capacity, competency and development



**Unlimit  
Health.**  
ENDING PARASITIC DISEASE

**Dr Gabrielle Laing**  
One Health – Senior Policy Adviser

# Network for Ecohealth and One Health (NEOH)



## NEOH outputs 1: Open access handbook & evaluation framework

- Developed a framework for evaluating One Health and other integrated approaches in health
- Intended for practitioners, researchers, evaluators and funders



OPEN ACCESS

PDF

# EUROPEAN ECOHEALTH INTERNATIONAL CHAPTER



# NEOH outputs 2: Frontiers special edition



- Case studies applied the NEOH framework for evaluation of integrated health interventions.

The screenshot shows the Frontiers Veterinary Science website interface. At the top, the 'frontiers' logo is on the left, and 'Veterinary Science' is in the center. Navigation links for 'Sections', 'Articles', and 'Research Topics' are on the right, along with a 'Submit' button. Below the navigation is a breadcrumb trail: 'Home > Frontiers in Veterinary Science > Veterinary Epidemiology and Ec... > Research Topics > Concepts and experiences in fra...'. The main title of the special edition is 'Concepts and experiences in framing, integration and evaluation of One Health and EcoHealth'. Below the title, it indicates '0.3m Views' and provides links to 'Download PDF' and 'Download EPUB'. The page lists '17 articles' and includes a 'Sort by' dropdown menu with options for 'Views', 'Type', and 'Date'. Four article cards are visible, each with a category, title, authors, and citation information.

Category	Title	Authors	Views	Citations
REVIEW	The One Health Concept: 10 Years Old and a Long Road Ahead	Delphine Destoumieux-Garzon · Patrick Mavingui · Gilles Boetsch · Jérôme Boissier · Frédéric Darriet · Priscilla Duboz · Clémentine Fritsch · Patrick Giraudoux · Frédérique Le Roux · Serge Morand · Christine Paillard · Dominique Pontier · Cédric Sueur · Yann Voituron	78,587	210
METHODS	A Systems Approach to Evaluate One Health Initiatives	Simon R. Rüegg · Liza Rosenbaum Nielsen · Sandra C. Buttigieg · Mjálche Santa · Maurizio Aragrande · Massimo Canali · Timothy Ehlinger · Ilias Chantziras · Elena Boriani · Miroslav Radeski · Mieghan Bruce · Kevin Queenan · Barbara Häslar	34,373	51
PERSPECTIVE	A Comparison of Three Holistic Approaches to Health: One Health, EcoHealth, and Planetary Health	Henrik Lerner · Charlotte Berg	27,596	80
ORIGINAL RESEARCH	Urban Livestock Keeping in the City of Nairobi: Diversity of Production Systems, Supply Chains, and Their Disease Management and Risks	Pablo Alarcon · Eric M. Fèvre · Patrick Muinde · Maurice K. Murungi · Stella Kiambi · James Akoko · Jonathan Rushton	12,682	25



# NEOH outputs 3: One Health Competences



- One Health competences to be layered on top of those discipline specific competencies already held

Laing et al.  
CABI One Health (2023)  
<https://doi.org/10.1079/cabionehealth.2023.0002>

CABI One Health

REVIEW OPEN ACCESS

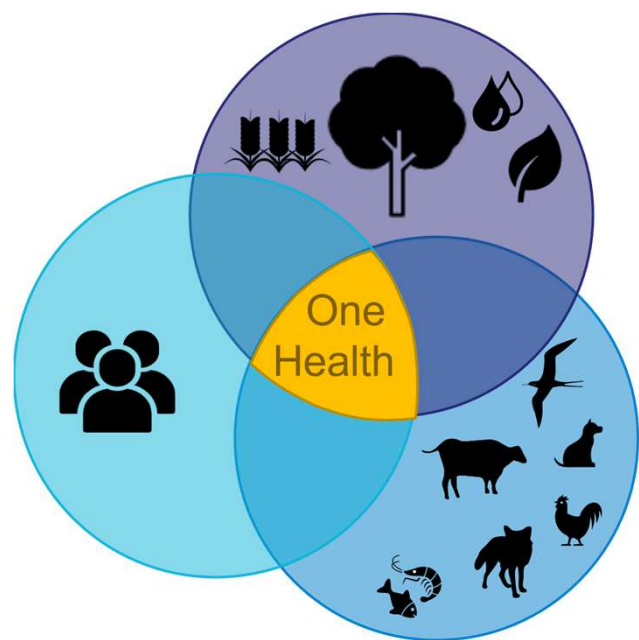
## Advancing One Health: Updated core competencies

Gabrielle Laing<sup>1,2</sup>, Eleanor Duffy<sup>2</sup>, Neil Anderson<sup>2,3</sup>, Nicolas Antoine-Moussiaux<sup>2,4</sup>, Maurizio Aragrande<sup>2,5</sup>, Caetano Luiz Beber<sup>2,6</sup>, John Berezowski<sup>2,7</sup>, Elena Boriani<sup>2,8</sup>, Massimo Canali<sup>2,5</sup>, Luis Pedro Carmo<sup>2,9,10</sup>, Ilias Chantziaras<sup>2,11</sup>, Glen Cousquer<sup>2,3</sup>, Daniele De Meneghi<sup>2,12</sup>, Ana Gloria Rodrigues Sanches da Fonseca<sup>2,13,14</sup>, Julie Garnier<sup>2,15</sup>, Martin Hitziger<sup>2,16</sup>, Thomas Jaenisch<sup>2,17,18</sup>, Hans Keune<sup>2,19</sup>, Claire Lajaunie<sup>2,20,21</sup>, Lorena Franco Martinez<sup>2,22</sup>, Rebecca Maudling<sup>2,23</sup>, Marie K. McIntyre<sup>2,24</sup>, Barry J. McMahon<sup>2,25</sup>, Alberto Munoz Prieto<sup>2,26</sup>, Liza Rosenbaum Nielsen<sup>2,27</sup>, Ranya Özçelik<sup>2,28</sup>, John W.A. Rossen<sup>2,29</sup>, Simon R. Rüegg<sup>2,15</sup>, Sara Savić<sup>2,30</sup>, Margarida Pires Simoes<sup>2,31,32</sup>, Deborah J. Thomson<sup>2,33</sup>, Laura Tomassone<sup>2,25</sup>, Asta Tvarijonavičute<sup>2,21</sup>, Manuela Vilhena<sup>2,34</sup>, Barbara Vogler<sup>2,35</sup>, and Barbara Häslér<sup>2,36</sup>



OPEN ACCESS PDF

## 2 streams of One Health thinking:



(i) One Health focusing on human-animal–plant–environment interfaces

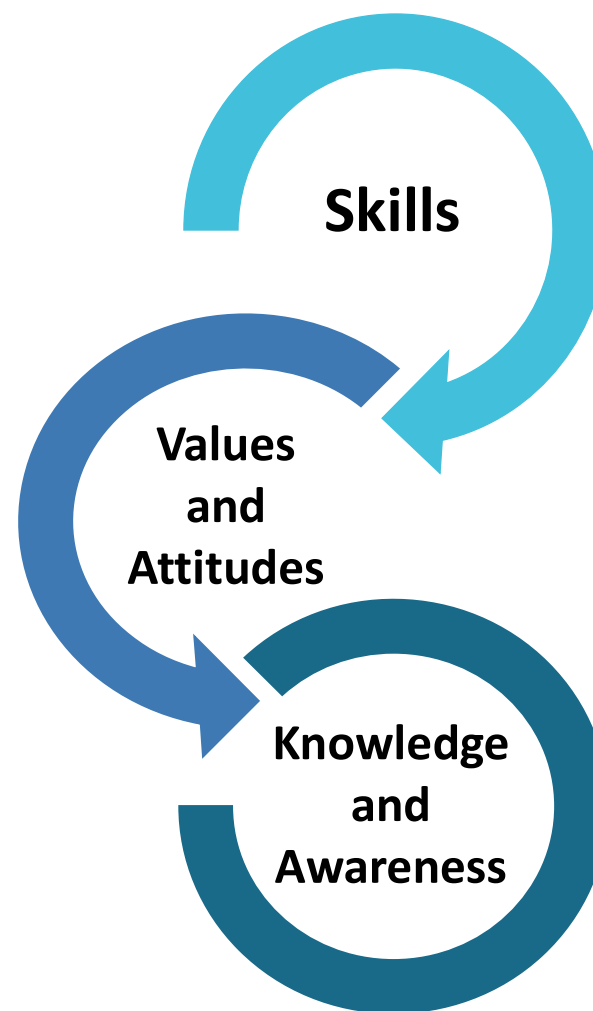


(ii) One Health focusing on the whole system encompassing humans, animals, plants and the environment.



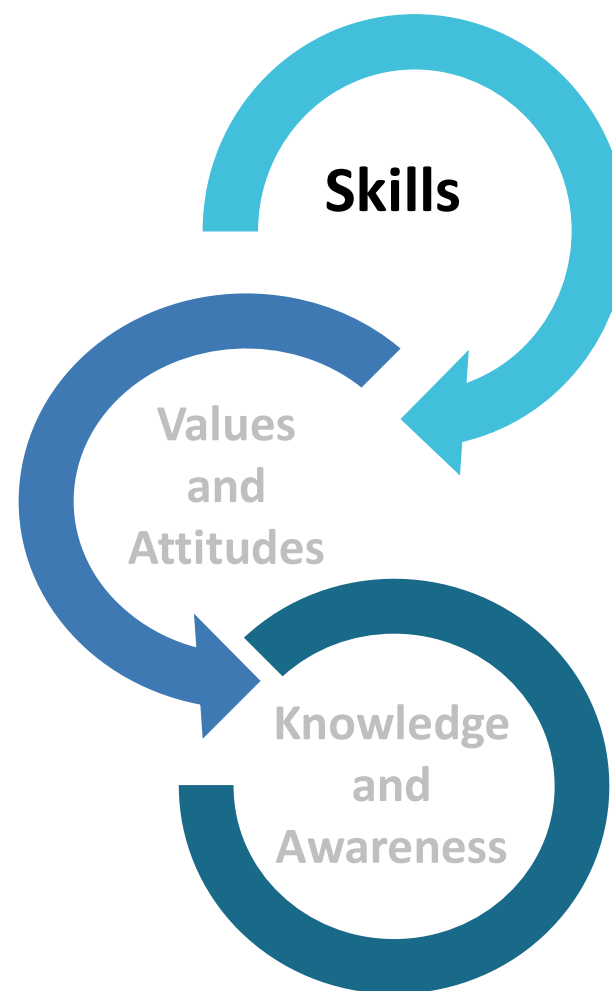
## NEOH's One Health Competences

- One Health competences to be layered on top of those discipline specific competencies already held



<https://www.cabidigitallibrary.org/doi/epdf/10.1079/cabionehealth.2023.0002>

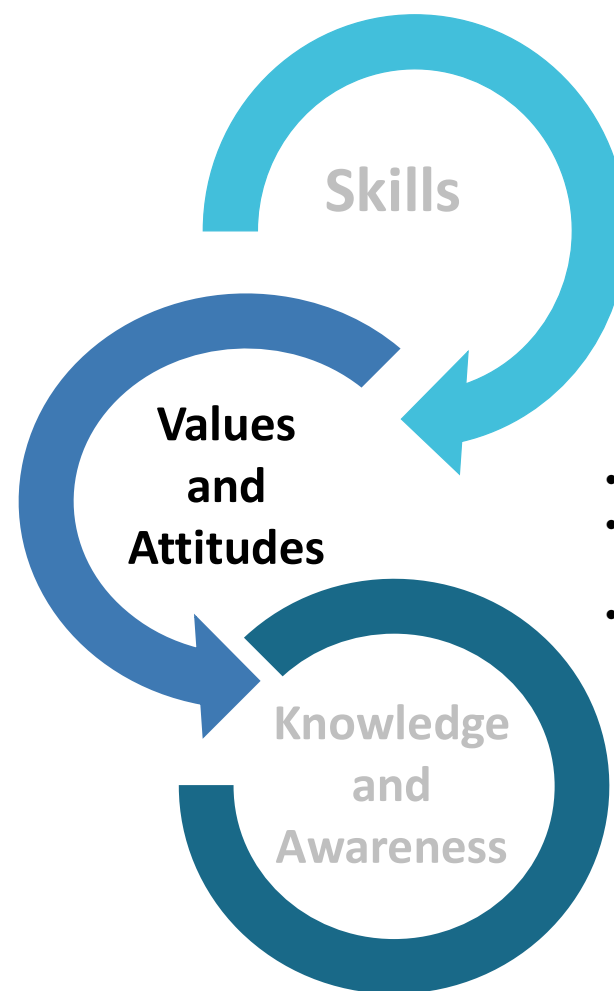
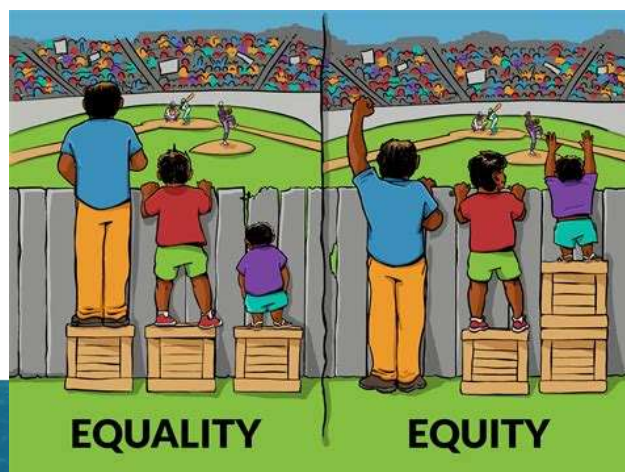
## NEOH outputs 3: One Health Competences



- Effective communication
- Collaborative and resilient working
- Systems understanding



## NEOH outputs 3: One Health Competences



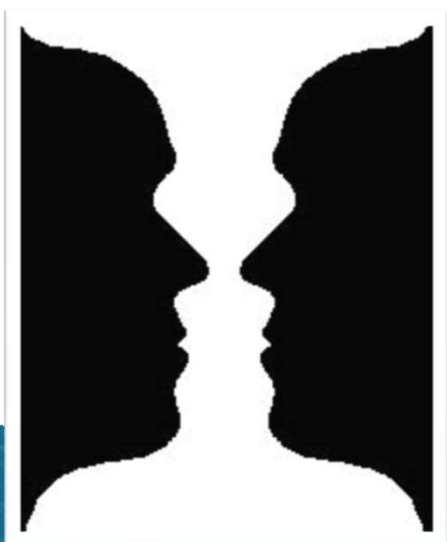
- Effective communication
- Collaborative and resilient working
- Systems understanding

- Transdisciplinarity
- Social, cultural and gender equity and inclusiveness
- Collective learning and reflective practice

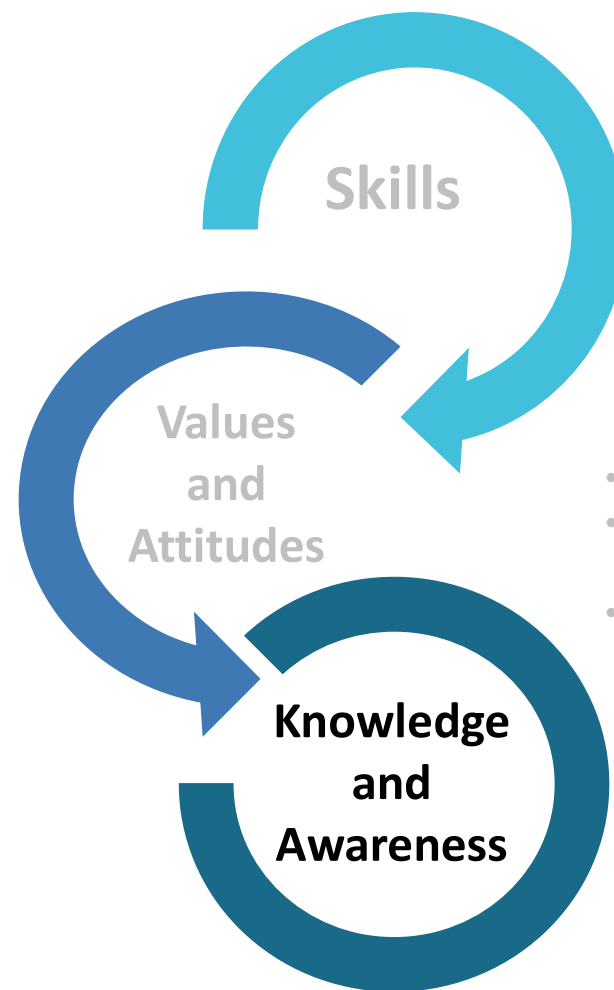




## NEOH outputs 3: One Health Competences



*Different ways of seeing:  
faces or a vase?*



- Effective communication
- Collaborative and resilient working
- Systems understanding

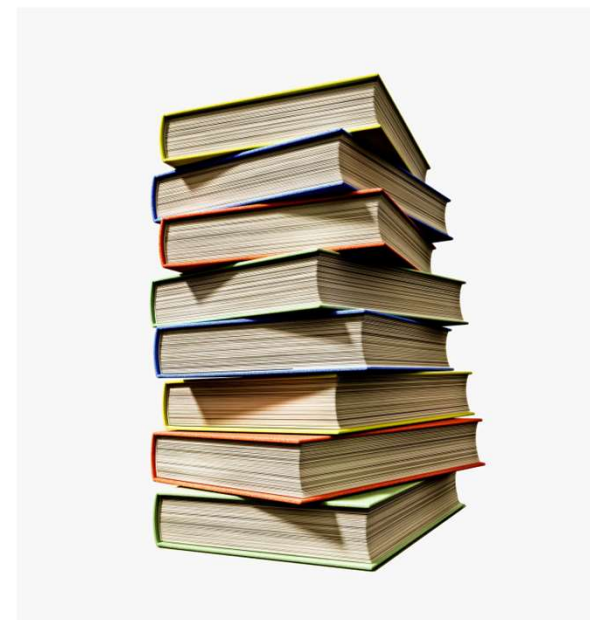
- Transdisciplinarity
- Social, cultural and gender equity and inclusiveness
- Collective learning and reflective practice

- One Health concepts
- Theoretical and methodological pluralism
- Harnessing uncertainty, paradox and limited knowledge



# NEOH outputs forthcoming: Introductory level textbook

- OPEN ACCESS with CABI
- Building on the NEOH OH competencies
- For students or experts, teachers and trainers
- Suitable for those from different disciplines new to OH
- Due mid-2024





Join us!

- Regional chapters
- Biennial Ecohealth Conference (hybrid) – next one (tbc) Canada, early 2024
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Early Careers

*Any questions? email me directly or through [neoh.org@gmail.com](mailto:neoh.org@gmail.com)*

# WORKFORCE DEVELOPMENT

at the Human-Animal-Environment Interface



Introduction to Workforce Development Operational Tool  
(WFD OT)



Food and Agriculture  
Organization of the  
United Nations



World Health  
Organization



World Organisation  
for Animal Health  
Founded as OIE



# Tripartite Zoonoses Guide (TZG)

To be used in countries to address zoonoses and other One Health threats (Published Feb 2019)

The TZG provides guidance and operational tools to build national capacities in 7 key technical areas



Taking a Multisectoral, One Health Approach:  
**A Tripartite Guide to Addressing Zoonotic Diseases in Countries**



# Overall Approach



**ASSESS** the current multisectoral collaboration, identify strengths and weaknesses, and areas where improvements in this collaboration are necessary.

**PLAN** and develop a consensual and actionable roadmap that the sectors pledge to implement during National Bridging Workshops (NBW) for strengthening the collaboration.

**IMPLEMENT** the NBW Roadmap, following the principles of the Tripartite Zoonosis Guide (TZG).

**OPTIMIZE** multisectoral coordination with tailored technical support making use of TZG Operational Tools.

The implementation of this pathway contributes to the Quadripartite One Health Joint Plan of Action.

# Why we need WFD OT?

- Most workforce development plans and efforts are sector specific, which may not address interlinkages across sectors
- Effective zoonotic disease management requires a One Health approach



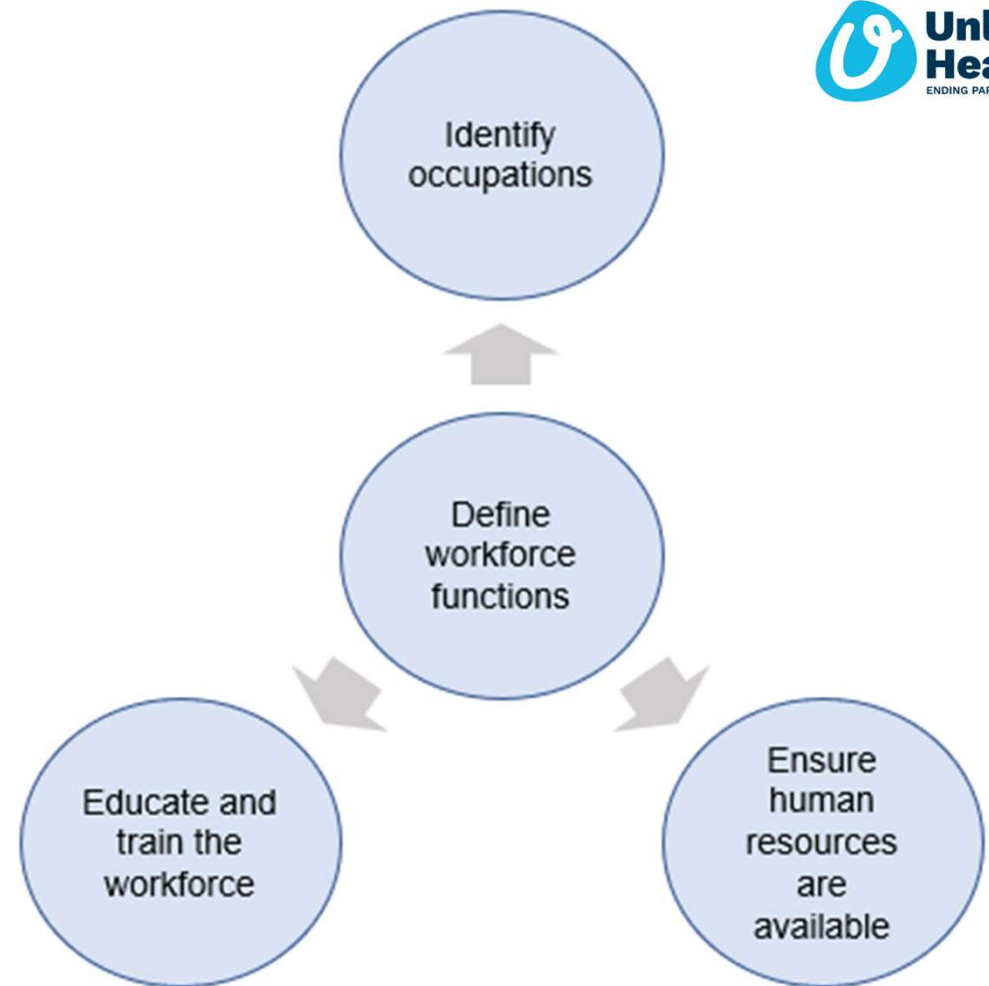
WFD OT focuses on strengthening **workforce competencies** to work **across sectors and disciplines** to effectively manage zoonoses and other One Health threats

# Objective of Workforce Development Tool (WFD OT)



To ensure the workforce is **competent, maintained, and mobilized** across **relevant sectors and disciplines** for effective **zoonotic disease management**.

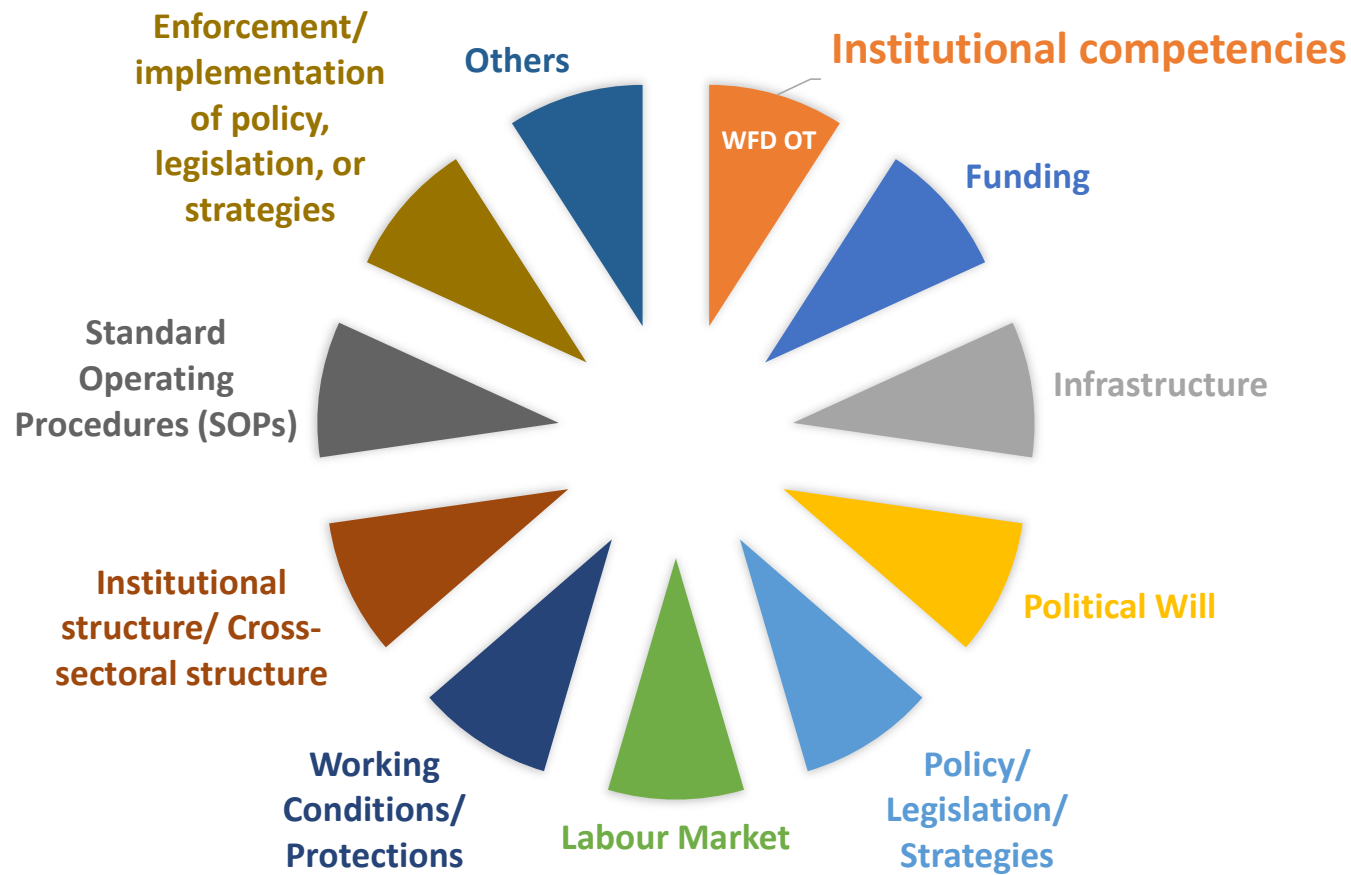
Outputs to be integrated into existing workforce plans for these to be **financed, coordinated and implemented**.



Approach adapted from the WHO's Public Health and Emergency Workforce Roadmap and its Action Plan (2022-2024)



# Guidance on the Enabling Environment



# WFD OT modules & steps

## Introduction



### Steps

Introduction to WFD OT

## Module 1 Setting up



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

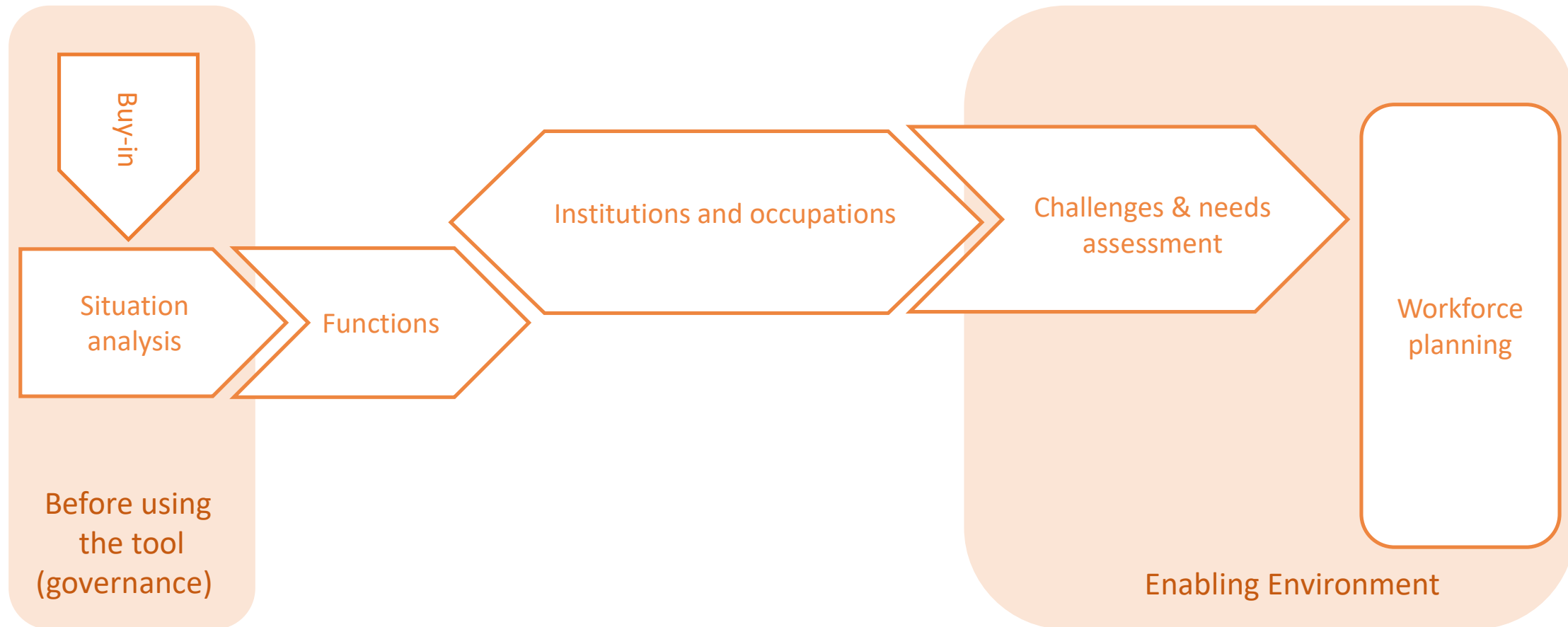
## Module 2 Workforce analysis



## Module 3 Planning workforce development



# Key approach of WFD OT



# WFD OT modules & steps

## Introduction



### Steps

Introduction to WFD OT

## Module 1 Setting up



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

## Module 2 Workforce analysis

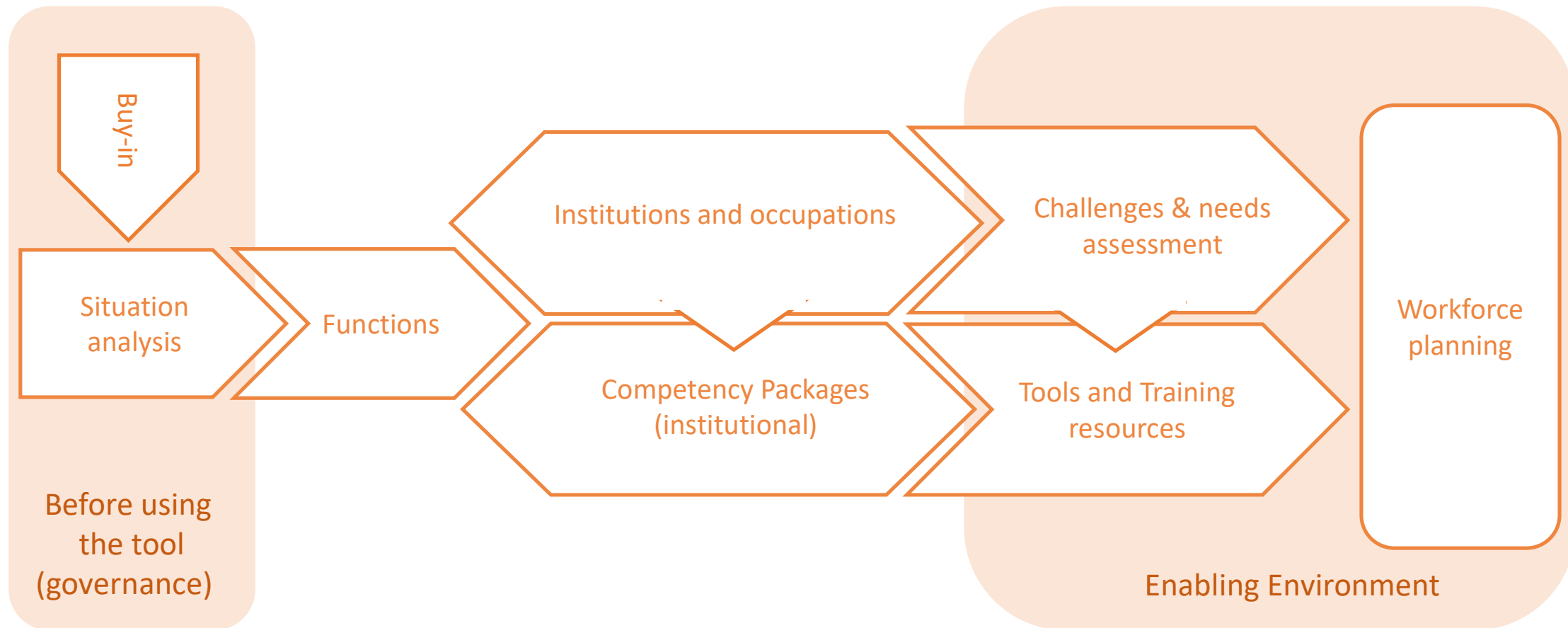


4. Select and revise priority functions of the workforce
5. Match and rate occupations to priority functions
6. Identify needs and challenges
7. Rate competency packages required for priority functions





## Module 3 Planning workforce development



# Key approach of WFD OT



# WFD OT modules & steps

		<b>Steps</b>
<b>Introduction</b>		Introduction to WFD OT
<b>Module 1</b> <b>Setting up</b>		<ol style="list-style-type: none"><li>1. Generate buy-in and secure agreements to use the WFD OT</li><li>2. Identify WFD OT steering committee and technical team</li><li>3. Conduct situation analysis and set the scope</li></ol>
<b>Module 2</b> <b>Workforce analysis</b>		<ol style="list-style-type: none"><li>4. Select and revise priority functions of the workforce</li><li>5. Match and rate occupations to priority functions</li><li>6. Identify needs and challenges</li><li>7. Rate competency packages required for priority functions</li></ol>
<b>Module 3</b> <b>Planning workforce development</b>		<ol style="list-style-type: none"><li>8. Identify resources for development of competency packages</li><li>9. Plan by linking critical needs, competencies, and resources</li><li>10. Adapt an M&amp;E framework and incorporate into existing plan(s)</li></ol>

# Competency Frameworks

No.	Title	Institution	Year version
1	Competency Guidelines for Public Health Laboratory Professionals	CDC	2015
2	Core competencies in applied infectious disease epidemiology in Europe	ECDC	2022
3	Public health emergency preparedness – Core competencies for EU Member States	ECDC	2017
4	Field Training Program for Wildlife, Ecosystem, Biodiversity, and Environment (FTP-WEBE)	FAO	2022
5	Development of core competencies for field veterinary epidemiology training programs	FETPV	2023
6	Beyond One Health: From Recognition to Results	Herrmann et al.	2018
7	Advancing One Health: Updated core competencies	NEOH	2023
8	One Health Workforce Competency Framework and Evaluation Toolkit	OHWA	2022
9	Core Competencies for Public Health: A Regional Framework for the Americas	PAHO	2013
10	Learner’s Guide Public Health Laboratory Core Competency Seminar	TEPHINET	2018
11	Competencies for One Health field epidemiology (COHFE) framework	Tripartite	2023
12	United Nations Competencies for the Future	United Nations	2017
13	One Health Field Attachment Evaluation Report	USAID	2019
14	One health core competency domains, subdomains, and competency examples	USAID	2013
15	Global Competency Framework for UHC	WHO	2022
16	Laboratory leadership competency framework	WHO	2019
17	Public health and emergencies workforce competency and outcomes framework towards the delivery of the Essential Public Health Functions	WHO	2023
18	Skills and Competencies Required to Conduct a Simulation Exercise or an Action Review	WHO	2023
19	WHE Learning Strategy	WHO	2018
20	OIE recommendations on the Competencies of graduating veterinarians (‘Day 1 graduates’) to assure National Veterinary Services of quality	WOAH	2012

# Training resources were drawn from ....

## Tripartite organizations

- FAO Virtual Learning Center and eLearning Academy
- In-Service Field Training Programmes i.e., FETP, FETPV, FELTP, FTP-WEBE, ISAVET
- OpenWHO, WHO Academy
- WHO Health Security Learning Platform in the context of the IHR
- WOAHA Platform for the Training of Veterinary Services
- WOAHA Training Portal

## Others

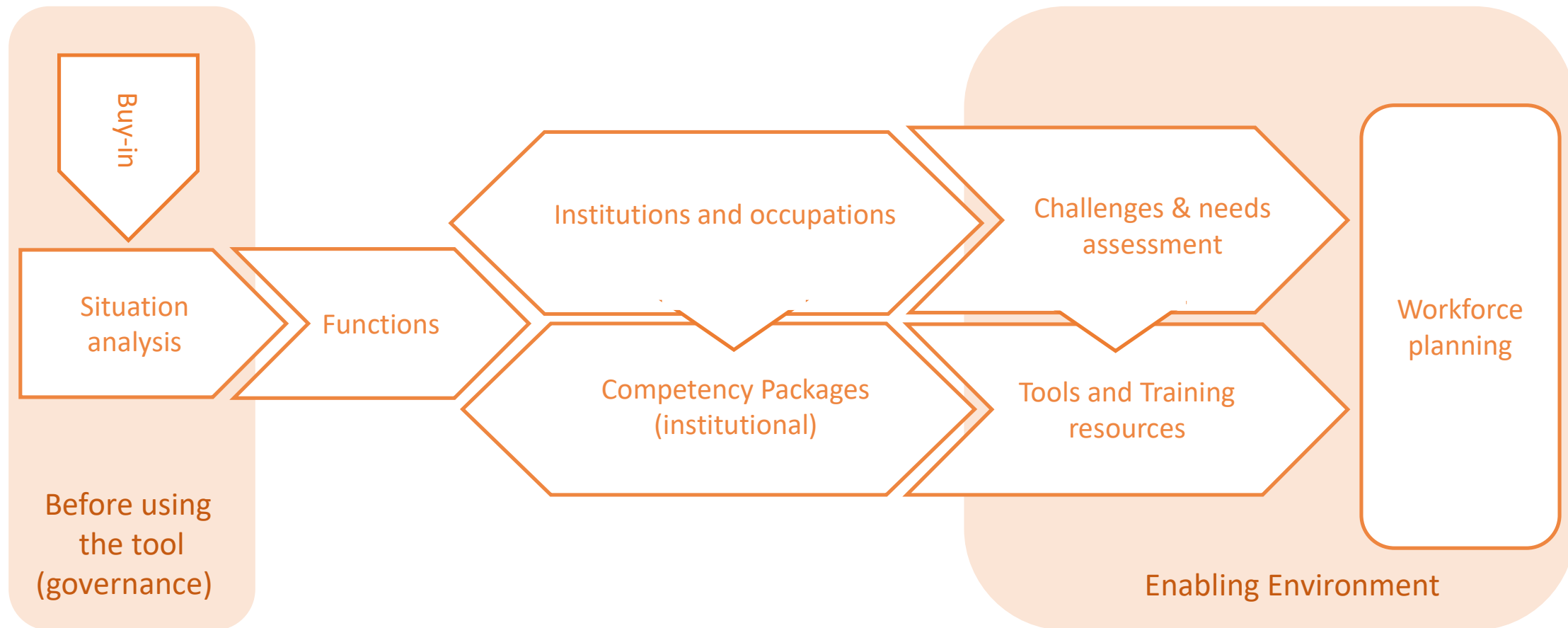
- CDC Epidemic Intelligence Service (EIS)
- CDC Learning Connection
- ECDC Training Programmes and Virtual Academy (EVA)
- ECDC Field Epidemiology Path (EPIET)
- ECDC Public Health Microbiology Path (EUPHEM)
- One Health Workforce Academies (OHWA)
- And more...



As of Nov 2023



# Key approach of WFD OT



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**One Health – Senior Policy Adviser**

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**Unlimit  
Health.**  
ENDING PARASITIC DISEASE



## Annex 5

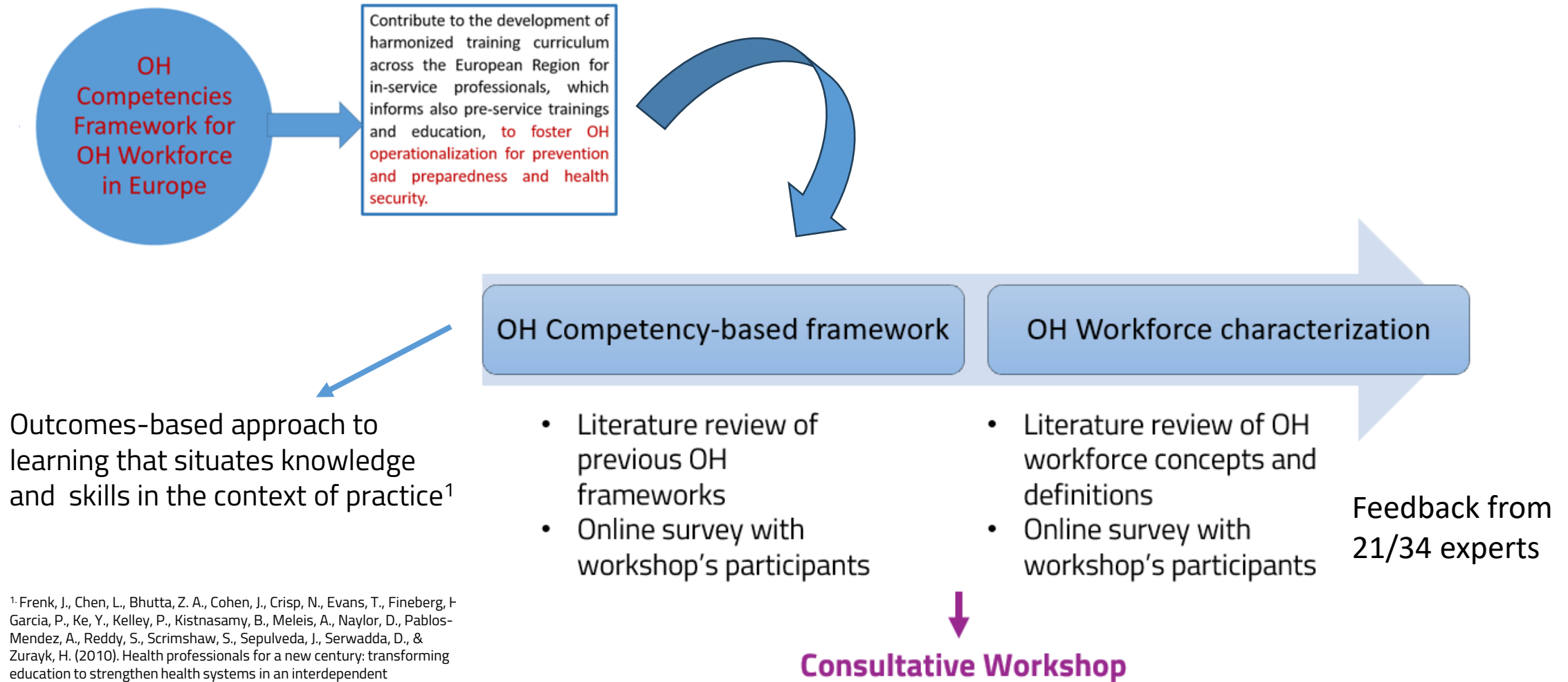
# Workshop: Building the One Health workforce in the European Region

Italian National Institute of Health – Istituto Superiore di Sanità  
29th February – 1st March 2024

Claudia Robbiati

National Center for Global Health - Italian National Institute of Health

# The competency-based framework for OH prevention & preparedness



<sup>1</sup>Frenk, J., Chen, L., Bhutta, Z. A., Cohen, J., Crisp, N., Evans, T., Fineberg, H., Garcia, P., Ke, Y., Kelley, P., Kistnasamy, B., Meleis, A., Naylor, D., Pablos-Mendez, A., Reddy, S., Scrimshaw, S., Sepulveda, J., Serwadda, D., & Zurayk, H. (2010). Health professionals for a new century: transforming education to strengthen health systems in an interdependent world. *Lancet* (London, England), 376(9756), 1923–1958. [https://doi.org/10.1016/S0140-6736\(10\)61854-5](https://doi.org/10.1016/S0140-6736(10)61854-5)

# Definitions for the scope of the workshop

**One Health:** OHHLEP 2022<sup>2</sup>

**Competencies:** The abilities of a person to integrate knowledge, skills and attitudes in their performance of tasks in a given context. Competencies are durable, trainable and, through the expression of behaviours, measurable.<sup>3</sup>

**Competency-based education:** An approach to preparing the workforce for practice that is fundamentally oriented to outcome abilities and organized according to competencies. It de-emphasizes time-based training and facilitates greater accountability, flexibility and learner-centredness.<sup>3</sup>

**OH Operationalization:** The process of making One Health an integral part of the national and global governance including all the relevant aspects of legislation and procedures.

**Prevention:** Shifting the control paradigm of threats to health from reactive to proactive. Prevention includes addressing the drivers of threat emergence, namely ecological, meteorological and anthropogenic factors and activities, in order to reduce the risk of human and animal infection.<sup>4</sup>

2. One Health High-Level Expert Panel (OHHLEP)(2022). One Health: A new definition for a sustainable and healthy future. *PLoS pathogens*, 18(6), e1010537.

<https://doi.org/10.1371/journal.ppat.1010537>

3. Global Competency Framework for Universal Health Coverage. Geneva: World Health Organization; 2022.

4. Adapted from: Prevention of zoonotic spillover. Geneva: OHHLEP; 2023.



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# Definitions for the scope of the workshop (cont)

**Preparedness:** Activities that aim at preventing, mitigating, and preparing for emergencies.<sup>5</sup>

**One Health worker:** A person who works in a position that requires interdisciplinary collaboration among human health, animal health, plant health, and/or environmental health.<sup>6</sup>

**OH system:** The wide range of roles and responsibilities and interactions among diverse actors seen in systems that deal with multi-sectoral challenges.<sup>7</sup>

**OH workforce:** Actors needed to operationalize OH and support the development of OH systems.

5. Global Assessment of National Health Sector Emergency Preparedness and Response. Geneva: World Health Organization., 2008.

6. Togami, E., Behraves, C. B., Dutcher, T. V., Hansen, G. R., King, L. J., Pelican, K. M., & Mazet, J. A. K. (2023). Characterizing the One Health workforce to promote interdisciplinary, multisectoral approaches in global health problem-solving. *PloS one*, 18(5), e0285705. <https://doi.org/10.1371/journal.pone.0285705>

7. Ferrinho, P., & Fronteira, I. (2023). Developing One Health Systems: A Central Role for the One Health Workforce. *International journal of environmental research and public health*, 20(6), 4704. <https://doi.org/10.3390/ijerph20064704>



# Preliminary competency-based framework for OH prevention & preparedness (1/4)

<b>Competencies domains</b> (derived from needs for OH prevention and preparedness operationalization highlighted with previous studies)	<b>OH Competencies</b> to integrate the OH approach in prevention and preparedness strategies (other than subject matter expertise)
OH awareness, advocacy and leadership	<ul style="list-style-type: none"><li>- Knows OH fundamentals and challenges, its added value and lessons learnt</li><li>- Understands global, regional and national policies and multisectoral policy-making process</li><li>- Advocates for policy changes and resource allocation to support One Health initiatives at local, national, and international levels</li><li>- Applies participatory and transdisciplinary leadership models</li><li>- Establishes partnerships and alliances to leverage resources and expertise</li><li>- Supports emerging leaders in the One Health field to foster continuity and growth</li><li>- Conducts public awareness campaigns to educate communities about the importance of OH principles and practices</li></ul>
OH system assessment	<ul style="list-style-type: none"><li>- Knows available tools and approaches for assessing the national OH system</li><li>- Masters national sectors organization, responsibilities and flow of information</li><li>- Identifies and prioritizes transversal OH threats by engaging relevant disciplines and stakeholders (including communities)</li><li>- Is aware of the available resources (human and financial) and how to mobilize them</li><li>- Is able to define roles and responsibilities also with a gender-based perspective</li></ul>

# Preliminary competency-based framework for OH prevention & preparedness (2/4)

<b>Competencies domains</b> (derived from needs for OH prevention and preparedness operationalization highlighted with previous studies)	<b>OH Competencies</b> to integrate the OH approach in prevention and preparedness strategies (other than subject matter expertise)
Multisectoral governance and financing	<ul style="list-style-type: none"><li>- Knows how to establish national multisectoral governance mechanisms and legislative frameworks that could adapt to different OH threats</li><li>- Facilitates collaboration and coordination to align policies and resources across sectors and stakeholders</li><li>- Masters principles of sustainable and multisectoral planning and financing</li><li>- Knows how to promote and regulate systems interoperability (surveillance and early warning, risk assessment, labs, databases etc.)</li></ul>
Integrated action plans and strategies	<ul style="list-style-type: none"><li>- Knows how to develop multisectoral plans engaging all the relevant sectors and stakeholders, including civil society and communities</li><li>- Promotes multisectoral analysis of drivers and impacts of OH threats, including socio-economic and gender/sex factors to address inequities and disparities</li><li>- Considers evidence-based strategies across the different sectors and valid/legitimate feedback from different forms of knowledge</li><li>- Knows the requirements for systems interoperability (surveillance and early warning, risk assessment, labs, databases, epidemic intelligence, satellite imagery, environmental monitoring data, socio-economic data, etc.)</li></ul>



# Preliminary competency-based framework for OH prevention & preparedness (3/4)

<b>Competencies domains</b> (derived from needs for OH prevention and preparedness operationalization highlighted with previous studies)	<b>OH Competencies</b> to integrate the OH approach in prevention and preparedness strategies (other than subject matter expertise)
Transversal capacity building	<ul style="list-style-type: none"><li>- Develops OH training curricula and interdisciplinary trainings for the OH workforce (including decision-makers)</li><li>- Develops integrated simulation exercises and case studies</li><li>- Promotes peer-learning and knowledge exchange initiatives</li><li>- Establishes mentorship programs involving different expertise</li><li>- Collaborates with academic institutions to integrate OH principles into formal curricula and training programs</li></ul>
International harmonization	<ul style="list-style-type: none"><li>- Knows OH global governance and frameworks</li><li>- Adapts international guidance to the national context</li><li>- Supports international collaboration and networking activities</li></ul>

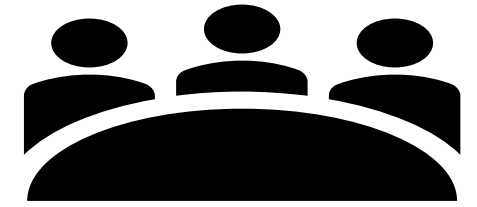


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# Preliminary competency-based framework for OH prevention & preparedness (4/4)

<b>Competencies domains</b> (derived from needs for OH prevention and preparedness operationalization highlighted with previous studies)	<b>OH Competencies</b> to integrate the OH approach in prevention and preparedness strategies (other than subject matter expertise)
Consolidation, evaluation and operational research	<ul style="list-style-type: none"><li>- Develops standardized transversal overarching OH goals and indicators</li><li>- Designs and executes multisectoral evaluation of OH plans and strategies and highlights OH benefits by incorporating stakeholder feedback</li><li>- Promotes multisectoral policy translation through synthesis of knowledge coming from different sources, disciplines, and sectors-</li><li>- Promotes multisectoral implementation research including the definition of common methodological standards</li><li>- Is able to liaise with research teams from different sectors</li></ul>
OH practice	<ul style="list-style-type: none"><li>- Promotes systems thinking and a pluralism of knowledge and methods</li><li>- Is prone to a collaborative attitude supporting dialogue and trust building processes</li><li>- Is able to communicate and coordinate with different sectors, stakeholders, also in a multilevel and multilayer dimension, and owns negotiation skills</li><li>- Foster diversity, equity and inclusion</li><li>- Emphasizes the importance of empathy and compassion in understanding the interconnectedness of human, animal, and environmental health.</li><li>- Masters OH complexity and harnesses uncertainty, paradox and limited knowledge</li></ul>

# Session 1 Working Groups: OH Competencies



## Objective

To consolidate the framework and reach consensus on relevant competencies for a workforce able to adopt OH approaches in prevention and preparedness plans and strategies.

## Tasks:

- Round of introductions and identification of a rapporteur.
- Discuss within the group and use the session 1 restitution slides, to highlight the following information in the framework:
  - In red: aspects you would like to change and the suggested improvements
  - In green: aspects you deem relevant/priorities and the opportunities that could arise from them
  - In purple: any new addition
  - In blue: aspects where you can't reach an agreement as a group
  - Include comments if needed
- The rapporteur should present and discuss the main points using the restitution slides in a maximum of 5 minutes.

# Session 1: Restitution templates

## Preliminary competency-based framework for OH prevention & preparedness (1/4)

Competencies domains (derived from needs for OH prevention and preparedness operationalisation highlighted with previous studies)	OH Competencies to integrate the OH approach in prevention and preparedness strategies (other than subject matter expertise)
OH awareness, advocacy and leadership	<ul style="list-style-type: none"> <li>- Knows OH fundamentals</li> <li>- Understands OH</li> <li>- Advocates for OH</li> <li>- Applies for OH</li> <li>- Establishes OH</li> <li>- Supports OH</li> <li>- Conducts OH</li> </ul>
OH system assessment	<ul style="list-style-type: none"> <li>- Knows available OH</li> <li>- Masters national OH</li> <li>- Identifies and OH</li> <li>- Is aware of the OH</li> <li>- Is able to define OH</li> </ul>

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## Preliminary competency-based framework for OH prevention & preparedness (2/4)

Competencies domains (derived from needs for OH prevention and preparedness operationalisation highlighted with previous studies)	OH Competencies to integrate the OH approach in prevention and preparedness strategies (other than subject matter expertise)
Multisectoral governance and financing	<ul style="list-style-type: none"> <li>- Knows how to establish national multisectoral threats</li> <li>- Facilitates collaboration and coordination to OH</li> <li>- Masters principles of sustainable and multisectoral OH</li> <li>- Knows how to promote and regulate systems OH</li> </ul>
Integrated action plans and strategies	<ul style="list-style-type: none"> <li>- Knows how to develop multisectoral plans and strategies</li> <li>- Promotes multisectoral analysis of drivers and inequalities and disparities</li> <li>- Considers evidence-based strategies across the OH</li> <li>- Knows the requirements for systems OH</li> <li>- Masters OH complexity and harnesses uncertainty, paradox and limited knowledge</li> </ul>

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## Preliminary competency-based framework for OH prevention & preparedness (3/4)

Competencies domains (derived from needs for OH prevention and preparedness operationalisation highlighted with previous studies)	OH Competencies to integrate the OH approach in prevention and preparedness strategies (other than subject matter expertise)
Transversal capacity building	<ul style="list-style-type: none"> <li>- Develops OH training curricula and interdisciplinary trainings for the OH</li> <li>- Develops integrated simulation exercises and case studies</li> <li>- Promotes peer-learning and knowledge exchange initiatives</li> <li>- Establishes mentorship programs involving different expertise</li> <li>- Collaborates with academic institutions to integrate OH principles in OH</li> </ul>
International harmonization	<ul style="list-style-type: none"> <li>- Knows OH global governance and frameworks</li> <li>- Adapts international guidance to the national context</li> <li>- Supports international collaboration and networking activities</li> </ul>

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## Preliminary competency-based framework for OH prevention & preparedness (4/4)

Competencies domains (derived from needs for OH prevention and preparedness operationalisation highlighted with previous studies)	OH Competencies to integrate the OH approach in prevention and preparedness strategies (other than subject matter expertise)
Consolidation, evaluation and operational research	<ul style="list-style-type: none"> <li>- Develops standardized transversal overarching OH goals and indicators</li> <li>- Designs and executes multisectoral evaluation of OH plans and strategies and highlights OH benefits by incorporating stakeholder feedback</li> <li>- Promotes multisectoral policy translation through synthesis of knowledge coming from different sources, disciplines, and sectors</li> <li>- Promotes multisectoral implementation research including the definition of common methodological standards</li> <li>- Is able to liaise with research teams from different sectors</li> </ul>
OH practice	<ul style="list-style-type: none"> <li>- Promotes systems thinking and a pluralism of knowledge and methods</li> <li>- Is prone to a collaborative attitude supporting dialogue and trust building processes</li> <li>- Is able to communicate and coordinate with different sectors, stakeholders, also in a multilevel and multilayer dimension, and owns negotiation skills</li> <li>- Fosters diversity, equity and inclusion</li> <li>- Emphasizes the importance of empathy and compassion in understanding the interconnectedness of human, animal, and environmental health</li> <li>- Masters OH complexity and harnesses uncertainty, paradox and limited knowledge</li> </ul>

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# Working groups (Session 1)

1 Silvia Declich	2 Laura Mancini	3 Gaia Scavia	4 Claudia Robbiati	5 Flavia Riccardo
Barbara Alessandrini	Stephan Bronzwaer	Gunel Ismaylova	Simona Seravesi	Carmen Valera Santos
Gerald Barry	Claudia Cataldo	Angela Genova	Andrea Winkler	Massimo Canali
Maurizio Aragrande	Giorgi Chakhunashvili	Vicente Domingo	Moreno Di Marco	Arcangelo Saggese Tozzi
Kevin Di Domenico	Angela Nardin	Stefania Lauzi	Olaa Mohammed-Ahmed	Paola Roncada
Rusmir Goletic	Hein Imberechts	Walter Cristiano	Giorgia Angeloni	Stefania Marcheggiani
Marteen Hoek	Francesco Maraglino	Giuseppe Ru	Marco Cristofori	Simon Ruegg
Alberto Mantovani	Paola Scaramozzino	Alessia Milano	Attlio Puzzolante	Antonella Maugliani
Roberta Pireddu	Manuela De Sario	Zaida Herrador	Marco Simonelli	Federica Ferraro
Laura Narciso				Maria Gabriella Perrotta



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# Session 2: The OH Workforce

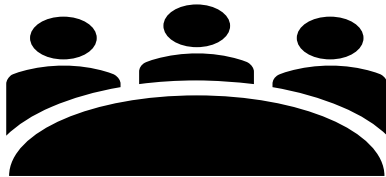
## Objective:

Lay the foundations to conceptualize the OH workforce who should adopt the competency-based framework.

Highlight strengths and challenges to develop a harmonized workforce in the European Region.

## Tasks:

- Work with in mind the preliminary competency-based framework you discussed in the previous session.
- Identify a rapporteur for your group.
- Discuss within the group and use the restitution slides for session 2 to reply to the questions.
- The rapporteur should present and discuss the 3 slides in a maximum of 5 minutes



## Session 2: Restitution template

To whom the competencies defined in the framework should apply?

**Elaborate a definition/description of the concept OH workforce**



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## Session 2: Restitution template

OH workforce characteristics (e.g., public and private; level of proficiency; local and national; technical staff and decision-makers etc.) may differ according to the countries' policies and organization:

- What **strengths** should we leverage on to develop a **harmonized workforce** in the European Region?

### Strengths (in order of relevance)

1.

2.

3.



## Session 2: Restitution template

OH workforce characteristics (e.g., public and private; level of proficiency; local and national; technical staff and decision-makers etc.) may differ according to the countries' policies and organization:

What **challenges** we might face and what **solutions**?

Challenges (in order of relevance)	Solutions
1.	
2.	
3.	

# Working groups (Session 2)

1 Claudia Robbiati	2 Flavia Riccardo	3 Laura Mancini	4 Silvia Declich	5 Gaia Scavia
Barbara Alessandrini	Stephan Bronzwaer	Gunel Ismaylova	Simona Seravesi	Carmen Valera Santos
Gerald Barry	Claudia Cataldo	Angela Genova	Andrea Winkler	Massimo Canali
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Roberta Pireddu	Manuela De Sario	Zaida Herrador	Marco Simonelli	Federica Ferraro
Laura Narciso				Maria Gabriella Perrotta



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# References for OH operationalization needs identificatoin

Dente, M. G., Riccardo, F., Bolici, F., Colella, N. A., Jovanovic, V., Drakulovic, M., Vasic, M., Mamlouk, H., Maazaoui, L., Bejaoui, M., Zakhshvili, K., Kalandadze, I., Imnadze, P., Declich, S., & MeSA Working Group (2019). Implementation of the One Health approach to fight arbovirus infections in the Mediterranean and Black Sea Region: Assessing integrated surveillance in Serbia, Tunisia and Georgia. *Zoonoses and public health*, 66(3), 276–287. <https://doi.org/10.1111/zph.12562>

Dente, M. G., Robbiati, C., Pireddu, R., Marcheggiani, S., Maugliani, A., Riccardo, F., Mantovani, A., Seravesi, S., Simonelli, M., & Bertinato, L. (2023). One health good practices across the European region: The co-production of a compendium. *European Journal of Public Health*, 33(Supplement\_2). <https://doi.org/10.1093/eurpub/ckad160.083>

Dente, M. G., Riccardo, F., Nacca, G., Ranghiasi, A., Escadafal, C., Gaayeb, L., Jiménez-Clavero, M. A., Manuguerra, J. C., Picard, M., Fernández-Pinero, J., Pérez-Ramírez, E., Robert, V., Victoir, K., & Declich, S. (2018). Strengthening Preparedness for Arbovirus Infections in Mediterranean and Black Sea Countries: A Conceptual Framework to Assess Integrated Surveillance in the Context of the One Health Strategy. *International journal of environmental research and public health*, 15(3), 489. <https://doi.org/10.3390/ijerph15030489>

Milano, A., Robbiati, C., Declich, S., Calistri, P., Pediconi, O., Amato, L., Paronyan, L., Avetisyan, L., Manucharyan, A., Avetisyan, G., Yesayan, T., Gevorgyan, A., Markosyan, T., & Dente, M. G. (2024). Assessing the Adoption of One Health Approaches in National Plans to Combat Health Threats: The Pilot of a One Health Conceptual Framework in Armenia. *Tropical medicine and infectious disease*, 9(1), 22. <https://doi.org/10.3390/tropicalmed9010022>

Riccardo, F., Monaco, F., Bella, A., Savini, G., Russo, F., Cagarelli, R., Dottori, M., Rizzo, C., Venturi, G., Di Luca, M., Pupella, S., Lombardini, L., Pezzotti, P., Parodi, P., Maraglino, F., Costa, A. N., Liumbruno, G. M., Rezza, G., & working group (2018). An early start of West Nile virus seasonal transmission: the added value of One Health surveillance in detecting early circulation and triggering timely response in Italy, June to July 2018. *Euro surveillance : bulletin European sur les maladies transmissibles = European communicable disease bulletin*, 23(32), 1800427. <https://doi.org/10.2807/1560-7917.ES.2018.23.32.1800427>

Robbiati, C., Milano, A., Declich, S., Riccardo, F., Mancini, L., Di Domenico, K., Scavia, G., & Dente, M. G. (2023). Building a european one health workforce for prevention and preparedness to health threats. *European Journal of Public Health*, 33(Supplement\_2). <https://doi.org/10.1093/eurpub/ckad160.213>

Robbiati, C., Milano, A., Declich, S., Di Domenico, K., Mancini, L., Pizzarelli, S., D'Angelo, F., Riccardo, F., Scavia, G., & Dente, M. G. (2023). One health adoption within prevention, preparedness and response to health threats: Highlights from a scoping review. *One health (Amsterdam, Netherlands)*, 17, 100613. <https://doi.org/10.1016/j.onehlt.2023.100613>

Robbiati, C., Milano, A., Habib, M., Declich, S., Dente, M. G., & On behalf of the study working group. (2024). MediLabSecure One Health Situation Analysis (OHMeSA) in Montenegro. MediLabSecure Project. <https://doi.org/10.5281/zenodo.10631734>



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## One Health definition (OHHLEP, 2022)

### Box 1. One Health definition and key underlying principles

#### Definition

**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.

#### Key underlying principles including

1. **equity** between sectors and disciplines;
2. sociopolitical and multicultural **parity** (the doctrine that all people are equal and deserve equal rights and opportunities) and inclusion and engagement of communities and marginalized voices;
3. socioecological **equilibrium** that seeks a harmonious balance between human–animal–environment interaction and acknowledging the importance of biodiversity, access to sufficient natural space and resources, and the intrinsic value of all living things within the ecosystem;
4. **stewardship** and the responsibility of humans to change behavior and adopt sustainable solutions that recognize the importance of animal welfare and the integrity of the whole ecosystem, thus securing the well-being of current and future generations; and
5. **transdisciplinarity** and multisectoral collaboration, which includes all relevant disciplines, both modern and traditional forms of knowledge and a broad representative array of perspectives.



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ONE HEALTH  
Prevention and  
Preparedness

## Annex 6

# “Building the One Health Workforce in the European Region”

29<sup>th</sup> of February – 1<sup>st</sup> of March 2024  
Istituto Superiore di Sanità (ISS), Rome

Organised by the National Center for Global Health,  
in collaboration with  
the Environment and Health Dept., the Food Safety, Nutrition and Veterinary Public Health Dept. and  
the Infectious Diseases Dept.

Maria Grazia Dente-Scientific Coordinator

Italian National Health Institute of Health (ISS), Rome – Italy



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# Domain of the Workshop

## One Health Prevention and Preparedness:

Strategies aimed at adopting and integrating One Health approaches in prevention and preparedness plans by ensuring operationalisation through changes in

- Leadership, governance and partnership
- Data accessibility and sharing
- **Adequate workforce**
- Sustainable financial investments

# ISS strategies to enhance OH adoption in prevention and preparedness

Networking

Assessments of national surveillance and OH systems

Studies on current status of OH operationalisation

Development of Frameworks to assess integration

Advocacy for policy strategies



# Networking

## CONTRIBUTION OF REGIONAL NETWORKS TO THE CONTROL OF CROSS-BORDER PUBLIC HEALTH THREATS: EPI-SOUTH IN THE MEDITERRANEAN REGION AND SOUTHEAST EUROPE

Maria Grazia Dente, Flavia Ricardo, Mondher Bejaoui, Massimo Fabiani, Dragan Lausevic, and Silvia Declich; on behalf of the EpiSouth Working Group

Activities of the Network

- The EpiSouth Plus Project 2010 - 2013
- Networking
- Laboratory Network
- Preparedness Plan and Risk Management
- Cross-border Epidemic Intelligence
- Facilitating IHR Implementation
- Evaluation
- The EpiSouth Project 2006 - 2010
- Website

Member's Area

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Funders

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PROJECT

One Health Network for the Prevention of Vector-Borne Diseases


2014-2024

CBRN Centres of Excellence

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2007-2014

# Assessing integration in surveillance

International Journal of Environmental Research and Public Health 

[Int J Environ Res Public Health](#). 2018 Mar; 15(3): 489. PMID: PMC5877034  
 Published online 2018 Mar 10. doi: [10.3390/ijerph15030489](#) PMID: [29534445](#)

**Strengthening Preparedness for Arbovirus Infections in Mediterranean and Black Sea Countries: A Conceptual Framework to Assess Integrated Surveillance in the Context of the One Health Strategy**

[Maria Grazia Dente](#),<sup>1,\*</sup> [Flavia Riccardo](#),<sup>1</sup> [Gloria Nacca](#),<sup>1</sup> [Alessia Ranghiasi](#),<sup>1</sup> [Camille Escadafal](#),<sup>2,3</sup> [Lobna Gaayeb](#),<sup>2</sup> [Miguel Angel Jiménez-Clavero](#),<sup>4,5</sup> [Jean-Claude Manuguerra](#),<sup>2</sup> [Marie Picard](#),<sup>6</sup> [Jovita Fernández-Pinero](#),<sup>4</sup> [Elisa Pérez-Ramírez](#),<sup>4</sup> [Vincent Robert](#),<sup>6</sup> [Kathleen Victoir](#),<sup>2</sup> and [Silvia Declich](#)<sup>1</sup>

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## Implementation of the One Health approach to fight arbovirus infections in the Mediterranean and Black Sea Region: Assessing integrated surveillance in Serbia, Tunisia and Georgia

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**Table 1.** Proposed criteria to assess existing levels of integration.

Level of Integration	Sublevels of Integration	Criteria
Policy and institutional	Policy	1. Existence of a national policy addressing integrated surveillance for a specific pathogen 2. Existence of a policy addressing integrated surveillance for a specific pathogen at subnational level
	Institutional	3. Existence of agreements among the institutions involved in human/animal/entomological surveillance for the specific pathogen 4. Existence of coordination mechanisms among the institutions involved 5. Existence of identified focal points for each human/animal/entomological surveillance for the specific pathogen
Data collection and analysis	Interoperability mechanisms at data collection	6. Existence of integrated data collection tools 7. Existence of activation mechanisms of human surveillance based on signals from animal/entomological surveillance 8. Other interoperability mechanisms at data collection level
	Interoperability mechanisms at data analysis	9. Presence of database exchange/merging/other mechanisms to facilitate joint analysis among sectors. 10. Performance of joint/integrated data analysis among the different surveillance sectors 11. Other interoperability mechanisms at data analysis level
Dissemination	-	12. Existence of joint results dissemination mechanisms (e.g., bulletins, reports, papers, media reports, websites, etc.)

# Studies on national OH operationalisation




Article

## Assessing the Adoption of One Health Approaches in National Plans to Combat Health Threats: The Pilot of a One Health Conceptual Framework in Armenia

Alessia Milano<sup>1,2,†</sup>, Claudia Robbiati<sup>1,2,†</sup>, Silvia Declich<sup>1</sup>, Paolo Calistri<sup>3</sup>, Ombretta Pediconi<sup>4</sup>, Laura Amato<sup>3</sup>, Lusine Paronyan<sup>5</sup>, Lilit Avetisyan<sup>6</sup>, Arsen Manucharyan<sup>7</sup>, Georgi Avetisyan<sup>8</sup>, Tigran Yesayan<sup>8</sup>, Arman Gevorgyan<sup>8</sup>, Tigran Markosyan<sup>9</sup> and Maria Grazia Dente<sup>1,\*</sup>

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## MediLabSecure One Health Situation Analysis (OHMeSA) in Montenegro

Robbiati, Claudia<sup>1</sup>; Milano, Alessia<sup>1</sup>; Habib, Maham<sup>1</sup>; Declich, Silvia<sup>1</sup>; Dente, Maria Grazia<sup>1</sup>; On behalf of the study working group

The ONE HEALTH CONCEPTUAL FRAMEWORK						
The present framework aims at guiding the relevant national sectors to strengthen the One Health system and implement harmonised and context-driven One Health strategies to support health security globally.						
Target areas						
National level					International level	
GOVERNANCE	PREVENTION AND PREPAREDNESS	DATA COLLECTION AND SHARING	NATIONAL CAPACITY BUILDING	CONSOLIDATION AND EVALUATION OF THE SYSTEM IN PLACE	CROSS-BORDER COLLABORATIONS	GLOBAL CAPACITY BUILDING
Priorities for Action						
Establishing a national multisectoral and multistakeholder team to set principles, rules and procedures to allow operationalisation of OH strategies.	Connecting OH strategies to prevention and preparedness plans by establishing a multisectoral team (OH Team) in charge for development, implementation and monitoring of plans	Identification of national priority areas to be monitored and related monitoring indicators/metrics	Development of training curricula about OH prevention and preparedness	Identifying monitoring and impact indicators	Developing and updating international guidance and regulations to integrate OH strategies in prevention and preparedness plans and international early warning systems	Integration of OH principles in International trainings and in capacity assessment tools
Assessing the opportunity and benefits of setting up a OH National Center	Develop inclusive strategies engaging all the actors, including communities	Verifying available sources of information and data	Training of the OH workforce included in national plans	Assessing level of implementation of OH indicators in prevention and pandemic plans	Identification of OH preparedness indicators/metrics in collaboration with National OH Teams	Promoting harmonised and multicountry exercises
Enacting laws and identifying resources for OH operationalisation		Development of integrated and interoperable database connected with early warning and surveillance systems	Piloting OH strategies and exercising about their implementation	Assessing added value of OH in prevention and preparedness	Establishing Quadripartite collaborating Centers at National OH Centers	
					Facilitating Networking opportunities between OH National Centers	





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## One health adoption within prevention, preparedness and response to health threats: Highlights from a scoping review

Claudia Robbiati<sup>a,b,\*</sup>, Alessia Milano<sup>a,b</sup>, Silvia Declich<sup>a</sup>, Kevin Di Domenico<sup>b,c</sup>, Laura Mancini<sup>c</sup>, Scilla Pizzarelli<sup>d</sup>, Franca D'Angelo<sup>a</sup>, Flavia Riccardo<sup>e</sup>, Gaia Scavia<sup>f</sup>, Maria Grazia Dente<sup>a</sup>

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## Strengthening preparedness against global health threats: A paradigm shift based on One Health approaches

M.G. Dente<sup>a,\*1</sup>, F. Riccardo<sup>c,1</sup>, S. Declich<sup>a</sup>, A. Milano<sup>a</sup>, C. Robbiati<sup>a</sup>, U. Agrimi<sup>b</sup>, A. Mantovani<sup>b</sup>, S. Morabito<sup>b</sup>, G. Scavia<sup>b</sup>, F. Cubadda<sup>b</sup>, L. Villa<sup>c</sup>, M. Monaco<sup>c</sup>, L. Mancini<sup>d</sup>, M. Carere<sup>d</sup>, S. Marcheggiani<sup>d</sup>, A. Lavazza<sup>e</sup>, M. Farina<sup>f</sup>, O. Dar<sup>g</sup>, M. Villa<sup>h</sup>, P. Testori Coggi<sup>i</sup>, S. Brusaferrò<sup>j</sup>

# One Health good practices across the European Region: the co-production of a Compendium

M G Dente ✉, C Robbiati, R Pireddu, S Marcheggiani, A Maugliani, F Riccardo, A Mantovani, S Seravesi, M Simonelli, L Bertinato

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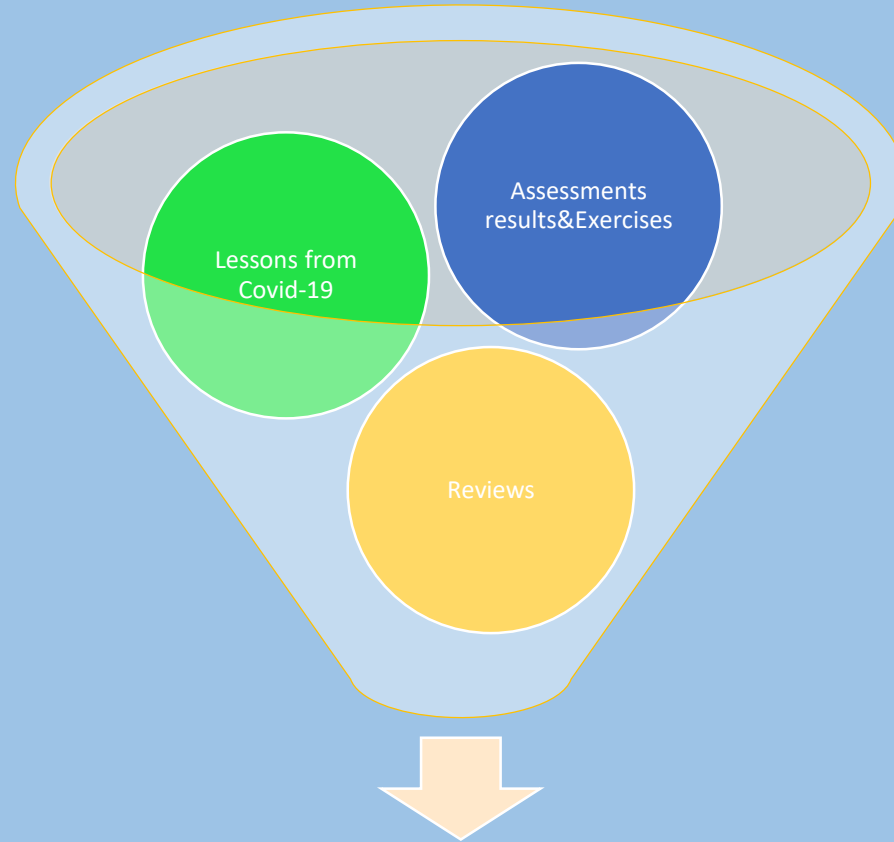
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# Evidence for One Health Policies



# Emerging priorities

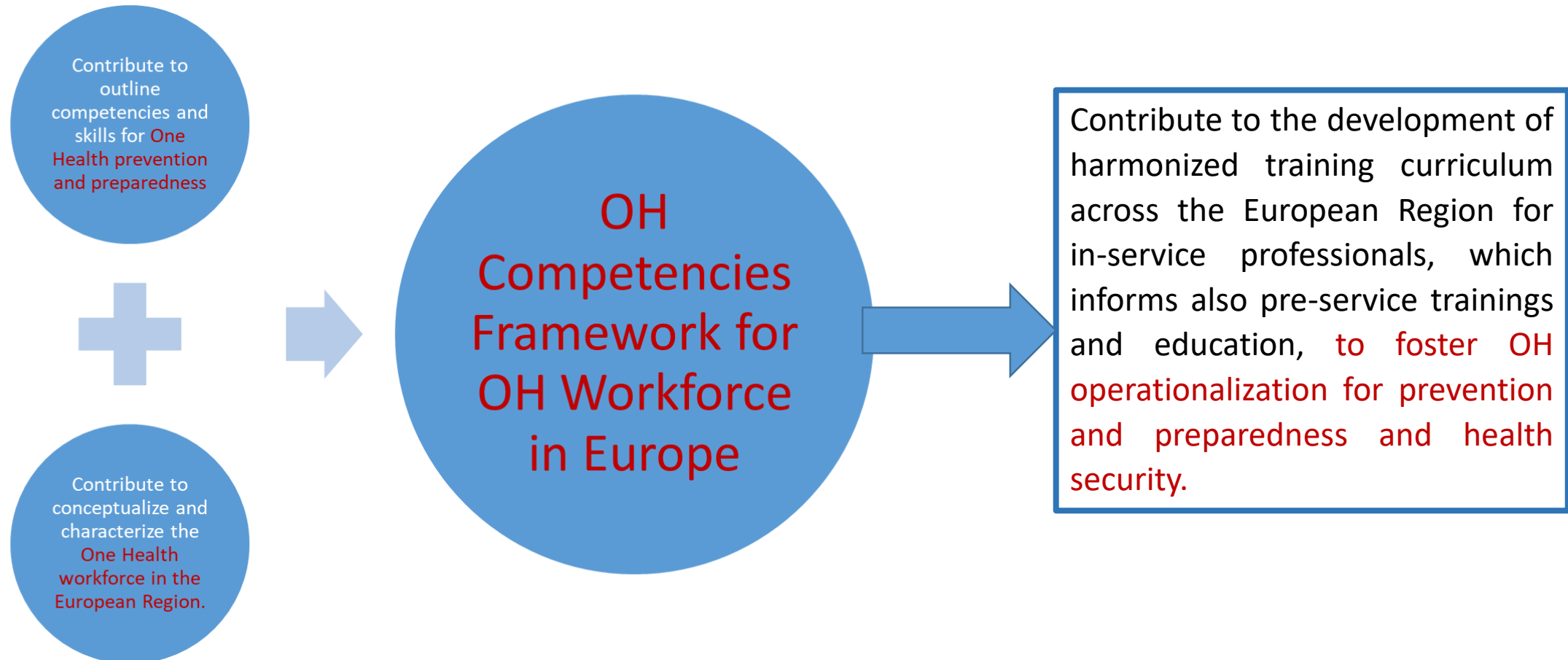


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## Building a European One Health workforce for prevention and preparedness to health threats

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# Workshop main objectives and expected outcome



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**ONE HEALTH**  
Prevention and  
Preparedness

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