

ONE HEALTH HIGH- LEVEL EXPERT PANEL

ANNUAL REPORT 2022



Food and Agriculture
Organization of the
United Nations



World Health
Organization



World Organisation
for Animal Health
Founded as OIE



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FOREWORD FROM THE CO-CHAIRS

The One Health High-Level Expert Panel (OHHLEP) was first assembled in May 2021 and quickly found its role advising the four global partners; The Food and Agriculture Organization FAO, the World Health Organization (WHO), the World Organization for Animal Health (WOAH) and the United Nations Environment Program (UNEP), that in March 2022, joined to form the 'Quadripartite'. The months until the end of 2021 were primarily focused on establishing the four working groups with a major emphasis on deliberations to agree on a new definition of One Health, which was very well received by the Quadripartite and applauded by many actors and stakeholders globally, including at the executive and political levels. The second year was focused on providing scientific advice on the Quadripartite One Health Joint Plan of Action (OH JPA) which was launched in October 2022 at a high-profile meeting in Berlin during the World Health Summit. Concomitant with and paralleling the Theory of Change that became an integral part of the OH JPA, OHHLEP put together its own Theory of Change which was published on the OHHLEP website with further commentary published in The Lancet. Later in 2022 OHHLEP provided opinions on pre-drafts of the envisaged Pandemic Instrument, and to further inform discussions around Pandemic Instrument, as well as the newly launched Pandemic Fund, OHHLEP developed a definition for the Prevention of Zoonotic Spillover for publication in 2023. OHHLEP also continued to support implementation of the Quadripartite OH JPA OHHLEP through development of an inventory of One Health tools that would be carried forward into 2023.

OHHLEP met for the first time in-person in May 2022 in conjunction with the Global Health Forum in Geneva and a second time in November 2022 in conjunction with the 7th World One Health Congress in Singapore. In both events, OHHLEP featured prominently.

The co-chairs want to express their sincere gratitude to the members of OHHLEP who offer their time, expertise and labor to fulfill the Terms of Reference in assisting the Quadripartite with scientific advice relevant to One Health. We also thank the Quadripartite Partners for their support and, in particular, the Secretariat, currently hosted by WHO, for technical help. Entering its final months of the first 2-year term, OHHLEP has established a prominent place as a major player in the One Health arena which we are looking forward to continuing.

FOREWORD FROM THE QUADRIPARTITE COLLABORATION FOR ONE HEALTH

Since the launch of the One Health High-Level Expert Panel in May 2021 by the Quadripartite with the objective of providing evidence-based recommendations to the four partner agencies, FAO, UNEP, WHO and WOA, to support a One Health approach in global, regional, national and local contexts, the panel has met nine times in plenary and has made significant progress on their initial workplan.

Over just a year and a half, OHHLEP has developed a definition of One Health that has been widely adopted around the world, developed a One Health Theory of Change to guide countries and institutions to enact a paradigm shift for multisectoral One Health collaboration, and provided guidance on an optimized One Health Surveillance System. Moreover, OHHLEP has provided inputs into the negotiations around the Pandemic Instrument including the provision of a definition and a whitepaper on Prevention of Zoonotic Spillover. Work in progress includes three OHHLEP products; an inventory of One Health tools, and a compendium of One Health practices designed to provide practical One Health implementation guidance are nearing completion, and a larger literature review on the drivers of zoonotic spillover is underway.

The Quadripartite welcomes the second OHHLEP annual report, which documents the work of the Panel over its second year of operation, and is committed to using the knowledge generated by OHHLEP with a view to developing policy guidance to member countries to support prevention of zoonotic spillover events and to advocate for and move One Health from concept to practice at all levels.

The Quadripartite organizations take this opportunity to thank OHHLEP experts for their continued hard work and collaboration to support the provision of evidence-based scientific and policy advice to address the challenges raised at the animal-human-environment interface using the One Health approach.

The Quadripartite also thank OHHLEP members for their support to the development of the Quadripartite One Health Joint Plan of Action and its implementation framework, which will align and advance our common goals to strengthen the One Health approach.

PARTNER FOCAL POINTS

FAO: Keith Sumption; Barbara Haesler

UNEP: Doreen Robinson; Julian Blanc

WHO: Francesco Branca; Danny Sheath; Abigail Wright

WOAH: Jean Philippe Dop; Chadia Wannous

INTRO- DUCTION



INTRODUCTION

This second annual report summarizes the activities and results achieved by the One Health High-Level Expert Panel (OHHLEP) during the year 2022, according to the updated work plan agreed by the Quadripartite Partners in 2021. The report highlights main outputs and deliverables produced by OHHLEP over the calendar year 2022.

OHHLEP was constituted in 2021 by the Food and Agriculture Organization (FAO), the United Nations Environment Programme (UNEP), the World Health Organization (WHO) and the World Organisation for Animal Health (WOAH) (the “Quadripartite Partners”) to provide technical advice and guidance on the complex and multisectoral issues arising at the interface of human, animal and ecosystem health and to promote integrated transdisciplinary and cross-sectoral collaboration and response to these issues. In the context of the COVID-19 pandemic and its aftermath, OHHLEP has been tasked with informing the Partners’ joint action toward the improved prevention and response to emerging zoonotic disease threats.

OHHLEP was established following a global call for expressions of interest in 2021 to which over 700 applications were received. It encompasses 26 international experts from 24 countries. (See Annex 1 for OHHLEP membership). In 2022, Dr Thomas Mettenleiter and Dr Wanda Markotter continued as co-chairs and Dr Dominique Charron continued as Rapporteur. OHHLEP is supported by a secretariat hosted by WHO. Dr Danny Sheath of WHO was the OHHLEP Secretariat focal point for the reporting period and Dr Abigail Buchanan Wright of WHO assumed the responsibilities of focal point in January 2023.



TERMS OF REFERENCE

The Terms of Reference for OHHLEP were jointly developed by the Partners for an initial two-year mandate. The purpose of OHHLEP is to provide guidance on One Health related matters to the Quadripartite. It has an advisory role to the Partners and is expected to support their

provision of evidence-based scientific and policy advice to address the challenges raised by One Health.

The original terms of reference are provided in Annex 2.



WORKPLAN

OHHLEP's workplan for 2022 was informed by the work conducted during 2021 and was organized along four technical working groups set up in 2021. In 2022, working groups were reorganized thematically to adapt to the changing needs of the Partners and to better align with capacities of the Partners and OHHLEP. Objectives shown below in bold-face are finished or expected to be completed by May 2023. OHHLEP Co-Chairs continued to provide continuity across the working/thematic groups.

GROUP 1. ONE HEALTH IMPLEMENTATION

- Provide support to the partners in finalising the One Health Joint Plan of Action (OH JPA)
- Finalise the OHHLEP theory of change
- Support partners in the development of an implementation plan for the OH JPA

GROUP 2. INVENTORY OF CURRENT KNOWLEDGE IN PREVENTING EMERGING ZOOSES

- To align with the needs of partners regarding the implementation of OH JPA, the objective of the systematic review and inventory of useful documents was refined to focus on review of frameworks and tools for One Health, building on a review published in 2019
- Review requirements for a One Health workforce

- Review evidence and case studies to support guidance for national One Health governance
- Identify case studies demonstrating good practice in One Health in detecting, controlling and preventing emerging zoonoses. This was combined with the Group 2 objective of case studies of ministerial/administrative set-up and is now aimed to be a compendium of One Health case studies covering all six tracks of the OH JPA.

GROUP 3. DEVELOP A ONE HEALTH FRAMEWORK FOR SURVEILLANCE, EARLY DETECTION, AND RAPID DATA SHARING IN THE PREVENTION OF EMERGING ZOOSES

- Define the model One Health surveillance system according to the OHHLEP Definition
- Develop a practically implementable surveillance framework and good practice guidelines - this includes objectives of providing guidance for systems for sharing surveillance data, laboratory samples data and results

GROUP 4. IDENTIFY FACTORS CONTRIBUTING TO SPOVER AND SUBSEQUENT SPREAD OF DISEASES AND DEVELOP RISK

- Identify key drivers of spillover
- Systematically analyze the evidence for risk of zoonotic spillover for groups of pathogens.

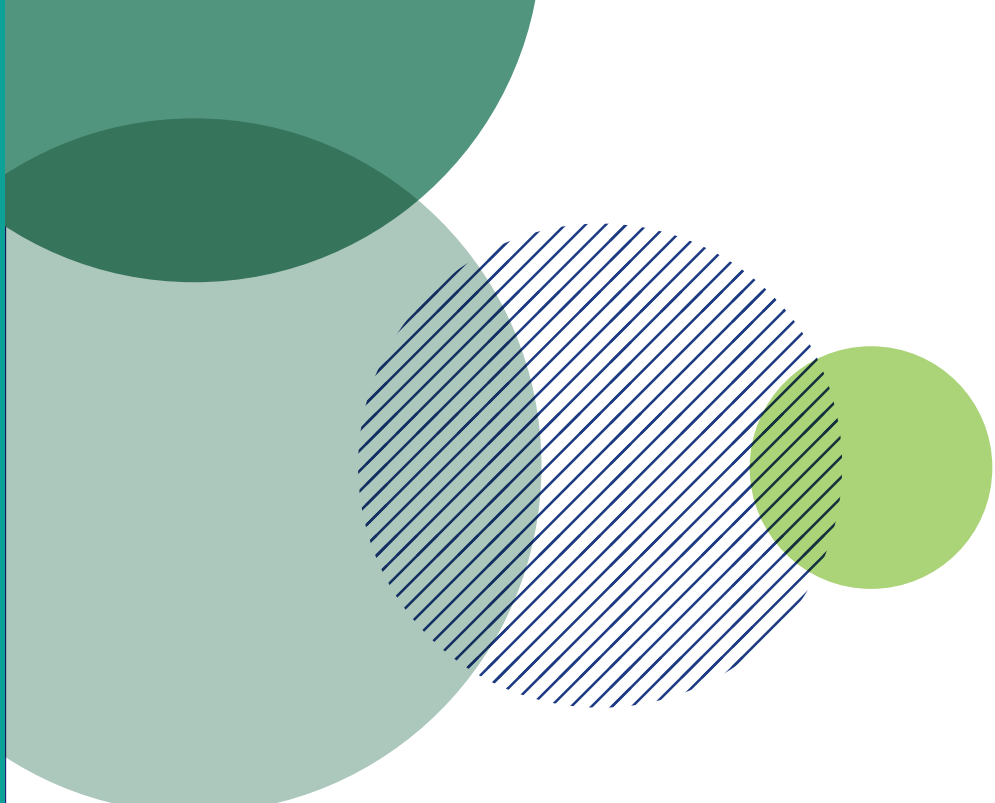
- Develop a multisectoral risk assessment framework for zoonotic spillover and spread based on Hazard Analysis and Critical Control Point (HACCP) principles.

5. OVERARCHING ACTIONS FOR THE PANEL

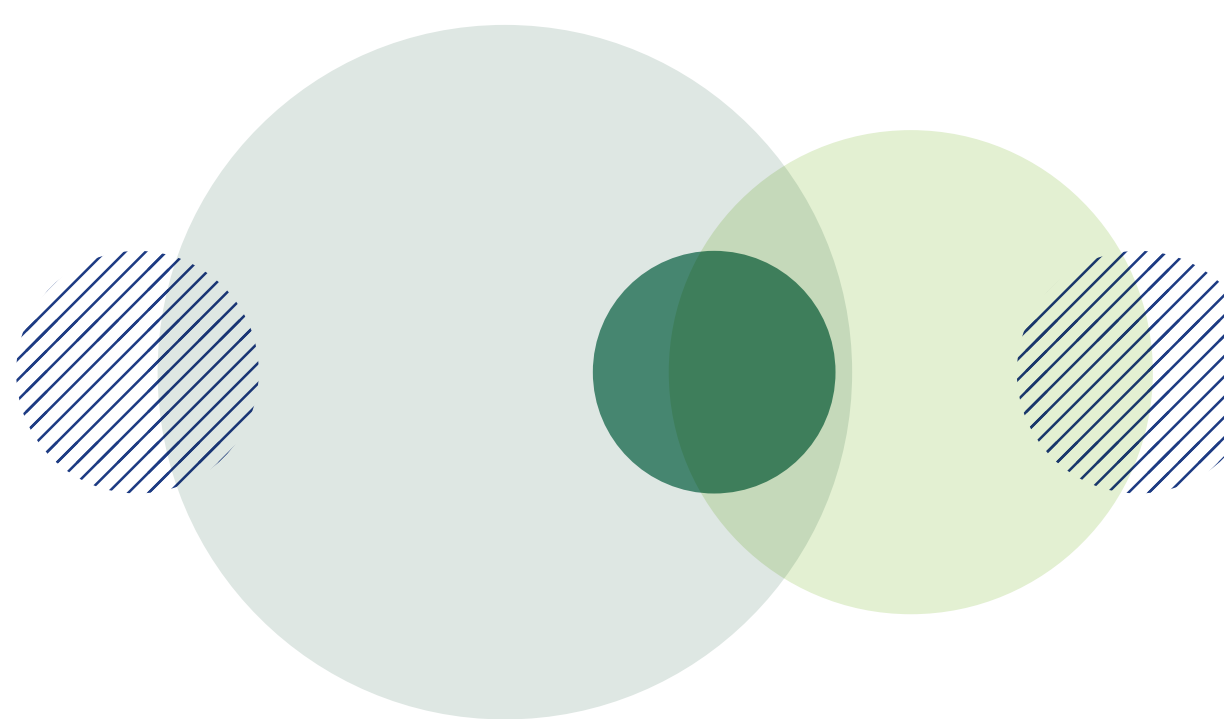
- Respond to Partner needs on key issues, knowledge and evidence gaps, including in 2022 support to the Partners in positioning prevention and One Health within the Pandemic Instrument negotiations.

- Share the work of OHHLEP and the Partners in key forums and media for enhanced uptake and impact

OHHLEP met as a panel four times in 2022. The dates and links to meeting minutes are shown in Annex 3. In addition, informal working meetings under the four thematic groups were convened frequently throughout the reporting period. The following sections cover key progress and outputs achieved in 2022 toward the revised work plan presented above.



WORK PLAN PROGRESS REPORT





1. One Health Definition

In late 2021, OHHLEP's definition of One Health was endorsed by the Quadripartite partners. It was published in PLOS Pathogens in June 2022¹. The uptake of the definition was considerable. Between publication and the finalisation of this report (April 25, 2023), the paper was viewed on the journal website over 19,800 times and cited 56 times in peer review and in other publications². It was cited in new guidance published by the Quadripartite Partners; for example, *How natural resource management sectors can contribute to reducing emerging infectious diseases: the example of forest ecosystems* (FAO 2022); *One Health Joint Plan of Action, 2022–2026* (Quadripartite 2022);

Global antimicrobial resistance and use surveillance system (GLASS) report: 2022 (WHO). It also had a broader reach, being referenced in the decision on biodiversity and health adopted at the 15th Conference of the Parties to the Convention on Biological Diversity (COP15) in December 2022. The visual and underlying principles accompanying the definition remain integral components and have helped to ensure greater awareness about the potential utility of a One Health approach to assess trade-offs and co-benefits in addition to human, animal and ecosystem health outcomes.

1. One Health High-Level Expert Panel (OHHLEP), Adisasmito WB, Almuhairei S, Behravesh CB, Bilivogui P, et al. (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>

2. <https://www.onehealthcommission.org/>

2. Framework and tools for One Health Implementation

While the partners found the inventory of resources and initiatives curated by OHHLEP in 2021 to be useful, in 2022 it became clear that this was a rapidly evolving landscape and there was a meaningful opportunity for OHHLEP to conduct a review of One Health tools that could be used to support the implementation of the One Health Joint Plan of Action. Drawing on a review published in 2019³ by a group of authors

that included OHHLEP member Casey Barton Behravesch, OHHLEP undertook to update this review, broadening the scope to include all dimensions of One Health according to OHHLEP's definition, in particular, strengthening the environmental aspects as well as gender and social equity aspects in the list of available tools. This work was initiated in late 2022, with a planned publication date June 2023.

3. Pelican K, Salyer SJ, Barton Behravesch C, Belot G, et al. Synergising tools for capacity assessment and One Health operationalisation. Rev Sci Tech. 2019 May;38(1):71-89. doi: 10.20506/rst.38.1.2942. available at: [Synergising tools for capacity assessment and One Health operationalisation - PubMed \(nih.gov\)](#)

3.

Case Studies of One Health in Practice

OHHLEP members have contributed 17 examples of best practice in One Health implementation. These cases vary in terms of focus, where some focus on One Health activities in general and others more specifically on infectious diseases response, surveillance or other areas.

The examples are now being reviewed by OHHLEP and a template has been developed that will allow for a standardized reporting of best practices. The cases are intended for publication on the OHHLEP website initially by mid-2023, and then other platforms will be considered.

4.

Develop a model surveillance system

The definition of surveillance differs across Quadripartite organizations. OHHLEP reviewed what is currently considered as One Health surveillance, examples of existing One Health surveillance systems, and identified key components of an optimal One Health surveillance system. This was done by reviewing inventories of the Quadripartite, literature, and questionnaires completed by OHHLEP members. The finding was that there are clear gaps that, often for reasons outside of the scope of the Quadripartite Partners, due to previous historic priorities, are not dealt with by any organization, a position reflected in national systems. The objective was to recommend a One Health surveillance framework that would help identify infectious disease

risks, drivers and their changes, and impacts of interventions, with the thinking that a One Health Surveillance System has the potential to be more cost-efficient than siloed surveillance schemes, and mitigation of drivers is hugely more cost effective than dealing with a disease once it has emerged.

In 2022, OHHLEP continued to refine its model One Health Surveillance system with input on a draft publication from all OHHLEP members and representatives from the Quadripartite Partners. A brief for high-level guidance was presented to the Partners at the end of November. The white paper is now in the process of being submitted to a scientific journal.

5.

Identify drivers of zoonotic spillover and risk assessment

In 2022, OHHLEP continued its work to identify key upstream drivers that are facilitating the more frequently occurring zoonotic disease spillovers. Drawing on an extensive review of the literature and expert opinion, a list of eleven anthropogenic upstream drivers were identified by OHHLEP.

These anthropogenic direct drivers increase the interface and interaction between humans, wildlife and domestic animals. They include practices related to wildlife hunting, capture, farming and consumption; unsustainable agricultural practices for livestock and crops production; Climate change and the fragmentation of and encroachment into natural habitats. Given the diversity of published evidence for the role and importance of drivers of zoonotic spillover, OHHLEP initiated a systematic review.

The evidence base for the following drivers is being investigated:

- Hunting/Capture of wild animals
- Captive wild animal / Farming wild species of animals
- Live wild animal trade
- Trade in wild animal products
- Agriculture expansion for growing crops
- Agricultural expansion for farming livestock
- Intensification of livestock farming
- Extensive livestock farming
- Climate change
- Urbanization
- Habitat fragmentation

OHHLEP developed key words for each driver that were used to inform the search queries in three different databases. The search results for all the drivers combined generated 47,994 references. A team of reviewers composed of OHHLEP panel members and collaborators with support from OHHLEP secretariat are currently screening this library.

Given the volume of papers for most drivers, OHHLEP will focus first on a systematic review of reviews of the evidence for drivers of zoonotic spillover with a draft summary in mid-2023.

A brief for high-level guidance was presented to the Partners at the end of November. The white paper is now in the process of being submitted to a scientific journal.

6.

Quadripartite One Health Joint Plan of Action

A key contribution of OHHLEP was to provide scientific advice for the development and implementation of the OH JPA 2022-2026⁴. The OH JPA will guide the Quadripartite organizations and support countries to implement One Health activities on the six action tracks and their associated outcomes:

Action track 1: Enhancing One Health Capacities to strengthen health systems

Action track 2: Reducing the risks from emerging and re-emerging zoonotic epidemics and pandemics

Action track 3: Controlling and eliminating zoonotic neglected tropical and vector-borne diseases

Action track 4: Strengthening the assessment, management and communication of food safety risks

Action track 5: Curbing the silent pandemic of Antimicrobial Resistance (AMR)

Action track 6: Integrating the environment into One Health

- The OH JPA was launched at the Berlin World Health Summit in October 2022 and is now being rolled out by the Partners across regions and countries to support national One Health plans.
- The Partners developed a draft implementation guide that was shared with OHHLEP in early 2023 for input and guidance, before the anticipated publication of the guide in the last quarter of 2023.

4. <https://www.who.int/publications/i/item/9789240059139>



7. OHHLEP Theory of Change

Once the OH JPA was published, OHHLEP finalized its Theory of Change. It was published on the OHHLEP Website on 7 November 2022. The Theory of Change frameworks of OHHLEP and the Partners are closely aligned; however, seeking to be complementary with the Quadripartite scope, the OHHLEP One Health Theory of Change captures a broader range of stakeholders and activities that support intended outcomes and impacts and reflect the One Health underlying principles. OHHLEP used

the Theory of Change to support an opinion piece (“One Health action for health security and equity”) in the Lancet series on One Health and Global Health Security on the need for a broadening of the current global health security framework to include all essential elements and principles of One Health, and to engage on the Action tracks in order to achieve measurably improved global health security. The Lancet Series was launched at an event hosted by Chatham House in February 2023.

5. available at: [One Health theory of change \(who.int\)](https://www.who.int/onehealth/theory-of-change)

6. [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(23\)00086-7/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(23)00086-7/fulltext)

7. <https://www.chathamhouse.org/events/all/research-event/one-health-approaches-global-health-security>



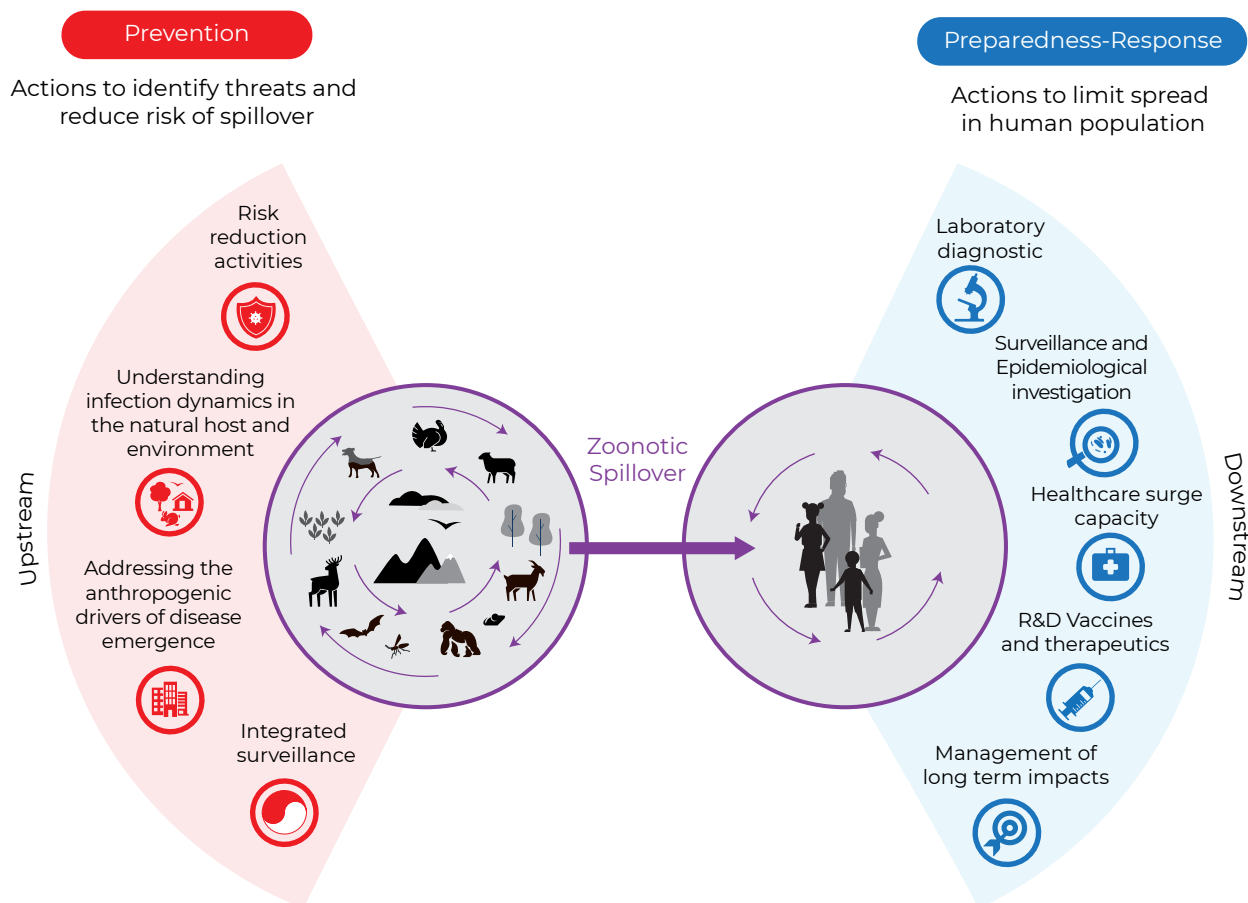
8. Other OHHLEP Activities

PREVENTION OF ZOOONOTIC SPILLOVER WHITE PAPER

OHHLEP prepared a white paper on the Definition of Prevention of Zoonotic Spillover to inform the discussions around the forthcoming global Pandemic instrument. The purpose of the white paper was to highlight the importance of prevention within the triad of prevention, preparedness, and response. The paper points out that strategies to reduce the probability of spillover events are under-prioritised and under-utilized, and have been lost in overall preparedness discussions and recovery financing. A disproportionate focus on detection and response suggests that a number of factors, such as insufficient evidence, complex mechanisms, and lack of political will lead to the allocation of attention and financial resources to infectious disease problems only once they have

occurred, rather than taking the steps necessary to reduce the risk of their occurrence in the first place. The paper argues that addressing the drivers of pathogen spillover through a One Health approach has significant subsequent economic and social co-benefits. In addition, it presents a definition of prevention aimed at providing clarification and harmonized understanding, and suggests illustrative indicators for risk reduction that can inform tangible progress tracking. The white paper was published on the WHO OHHLEP website in early 2023, and has been shared with the Intergovernmental Negotiating Body to inform discussions on the Pandemic Instrument. It has recently been submitted to a scientific journal. A joint Quadripartite Statement on the Prevention whitepaper appears on all Partner websites.

7. <https://www.who.int/publications/m/item/prevention-of-zoonotic-spillover>

Figure 1. Prevention of zoonotic spillover to humans (visual)

CONTRIBUTION TO INTERNATIONAL INSTRUMENTS

The Quadripartite invited OHHLEP to provide input to the zero draft of the Pandemic Instrument, to strengthen considerations of prevention and a One Health approach to pandemic preparedness and response, and will continue to facilitate OHHLEP input on subsequent drafts. Three members of the panel, took part in the fourth informal focused consultation (IFCs) organized on the 14th October 2022 by the Intergovernmental Negotiating Body (INB) on One Health and antimicrobial resistance, climate change

and zoonoses⁹. More recently OHHLEP was asked to provide a briefing on One Health during a member state consultation on the Zero draft.

OHHLEP has also engaged with the Pandemic Fund hosted by the World Bank, sharing its Prevention White Paper and engaging in informal discussions around the placement of prevention within the call for proposals. Two OHHLEP members also serve on the Governing Board and Technical Advisory Panel of the Pandemic Fund. OHHLEP has also been requested to jointly host a meeting with the World Bank and other partners to discuss

9. Fourth Informal, focused consultation in relation to a new international instrument on pandemic prevention, preparedness and response: One Health and antimicrobial resistance, climate change and zoonoses.

coordination of methodologies for One Health Assessment in view of applications to the Pandemic Fund (and potentially other financing and planning mechanisms) and with the aim of streamlining and making the exercise more efficient and effective for countries.

DISSEMINATION AND REPRESENTATION

OHHLEP members continued to promote a One Health approach and strategically positioned the work of OHHLEP at several high-level events and meetings, including:

- The 2022 World Health Summit in Berlin, during which the Quadripartite One Health Joint Plan of Action was launched.
- The G7 science dialogue forum, in May 2022 in Berlin, Germany, that aimed to provide scientific advice for policy making.

- The 7th World One Health Congress in Singapore, November 2022, that gathered scientists, policy makers and different stakeholders from around the world.

- The 27th United Nations Climate Change Conference (COP27) in Sharm el-Sheikh in Egypt, November 2022.

- OHHLEP was also represented during several G20 events/side events organized through the year 2022 by Indonesia G20 presidency.

In total, OHHLEP has been represented in over 126 global, regional, and country level events, taking place in 2022 in over 25 different countries across the five continents and ranging from congresses, expert meetings, strategic workshops, to forums and others to engage with multiple stakeholders in the effort to advocate for One Health and promote the work of the Quadripartite and OHHLEP. A list of the main dissemination activities of OHHLEP members during the year 2022 is provided in Annex 4.



Conclusion and Next Steps

In its second year, OHHLEP and the Quadripartite achieved effective collaboration, as is documented by the influential outputs and activities in 2022. There is a continuing opportunity for OHHLEP to add value and support the Partners in the promotion and implementation of One Health, including through the One Health Joint Plan of Action. The growing demand for inputs and engagements from OHHLEP as a whole as well as OHHLEP members individually indicates a growing role for the One Health High-Level Expert Panel as a knowledge leader in One Health.

In 2022, the world was faced not only with the continuation of the SARS-CoV-2 pandemic but the emergence of mPox, Ebola-Sudan strain, Marburg and the spread of H5N1 Avian Influenza. This reinforces the need for greater multisectoral collaboration across the Quadripartite, and between and within member countries and regions to better prevent, prepare for, and respond to shared health threats at the human-animal-environment interface including emerging zoonotic infections and other threats. OHHLEP has shown its capacity to contribute substantially and in a timely fashion

on a number of key issues, including the contributions to the Pandemic Instrument under negotiation.

In 2023 the OHHLEP workplan continued to be carried out, including guidance on a model One Health surveillance framework, the One Health Tool inventory, Case studies, and the evidence base for assessing risks of zoonotic spillover. Threats and challenges to the health of humans, animals and ecosystems remain a major concern as the world navigates a state of persistent polycrises of climate change, biodiversity loss, conflict, epidemics and the recovery from the COVID-19 pandemic among other challenges. However, there is a way forward: these and other pressing issues are reflected in the six action tracks of the OH-JPA, bringing greater attention and imperative to act through evidence-based solutions and transformative changes. OHHLEP's first 2-year mandate ends in May 2023. However, as the Quadripartite discusses the future role of OHHLEP, there is no doubt that the implementation of a One Health approach, based on growing data and evidence, will remain critical in tackling challenges to the health of humans, animals and the planet as a whole.

ANNEXES

Annex 1

LIST OF OHHLEP MEMBERS

Last Name	First Name	Affiliation
ADISASMITO	Wiku B.	Universitas Indonesia, Depok, West Java, Indonesia
ALMUHAIRI	Salama	National Emergency Crisis and Disasters Management Authority, Abu Dhabi,
BARTON BEHRAVESH	Casey	Centers for Disease Control and Prevention, Atlanta, Georgia, United States of America.
BILIVOGUI	Pépé	World Health Organization, Guinea Country Office, Conakry, Guinea.
BUKACHI	Salome A.	Institute of Anthropology, Gender and African Studies, University of Nairobi, Nairobi, Kenya.
CASAS	Natalia	National Ministry of Health, Autonomous City of Buenos Aires, Argentina
CEDIEL BECERRA	Natalia	School of Agricultural Sciences, Universidad de La Salle, Bogotá, Colombia.
CHARRON	Dominique F.	International Development Research Centre, Ottawa, Canada
CHAUDHARY	Abhishek	Indian Institute of Technology (IIT), Kanpur, India
CIACCI ZANELLA	Janice R.	Brazilian Agricultural Research Corporation (Embrapa), Embrapa Swine and Poultry, Concórdia, Santa Catarina, Brazil
CUNNINGHAM	Andrew A.	Institute of Zoology, Zoological Society of London, London, United Kingdom.

DAR	Osman	Global Operations Division, United Kingdom Health Security Agency, London, United Kingdom; Global Health Programme, Chatham House, Royal Institute of International Affairs, London, United Kingdom.
DEBNATH	Nitish	Fleming Fund Country Grant to Bangladesh, DAI Global, Dhaka, Bangladesh.
DUNGU	Baptiste	Afrivet B M, Pretoria, South Africa; Faculty of Veterinary Science, University of Kinshasa, Kinshasa, Democratic Republic Congo.
FARAG	Elmoubasher	Ministry of Public Health, Health Protection & Communicable Diseases Division, Doha, Qatar.
GAO	George F.	Chinese Center for Disease Control and Prevention, Beijing, People's Republic of China.
HAYMAN	David. T.S.	Molecular Epidemiology and Public Health Laboratory, Massey University, Palmerston North, New Zealand
KHAITSA	Margaret	Mississippi State University, Starkville, Mississippi, United States of America
KOOPMANS	Marion P.G.	Erasmus MC, Department of Viroscience, Rotterdam, the Netherlands.
MACHALABA	Catherine	EcoHealth Alliance, New York, New York, United States of America.
MACKENZIE	John S.	Faculty of Health Sciences, Curtin University, Perth, Australia, School of Chemistry and Molecular Biosciences, The University of Queensland, Brisbane, Australia.
MARKOTTER	Wanda	Centre for Viral Zoonoses, Department of Medical Virology, Faculty of Health Sciences, University of Pretoria, Pretoria, South Africa.

METTENLEITER	Thomas C.	Friedrich-Loeffler-Institut, Federal Research Institute for Animal Health, Greifswald-Insel Riems, Germany
MORAND	Serge	MIVEGEC, CNRS-IRD-Montpellier Université, Montpellier, France, Faculty of Veterinary Technology, Kasetsart University, Bangkok, Thailand.
SMOLENSKIY	Vyacheslav	Federal Service for Surveillance on Consumer Rights Protection and Human Well-being (Rospotrebnadzor), Moscow, Russian Federation.
ZHOU	Lei	Chinese Center for Disease Control and Prevention, Beijing, People's Republic of China.

Annex 2

ORIGINAL OHHLEP

TERMS OF

REFERENCE AND

WORKPLAN

A) TERMS OF REFERENCE

The areas of focus of the OHHLEP will be subject to regular review by the Partners. Initially, OHHLEP will focus on:

- providing policy relevant scientific assessment on the emergence of health crises arising from the human-animal-ecosystem interface, as well as research gaps; and
- guidance on development of a long-term strategic approach to reducing the risk of zoonotic pandemics, with an associated monitoring and early warning framework, and the synergies needed to institutionalize and implement the One Health approach, including in areas that drive pandemic risk.

Specifically, OHHLEP will perform the following functions

- a) To provide advice on the analysis of scientific evidence on the links between human, animal and ecosystem health, and contribute to foresight on emerging threats to health;
- b) To provide advice on better understanding of the impacts of food systems (including agriculture, livestock farming and trade, wildlife hunting and trade, aquaculture, animal products
- c) processing, handling, distribution and consumer practices) and ecological and environmental factors that may be contributing to zoonotic disease emergence/re-emergence and spillover events;
- d) To contribute to the One Health research agenda setting and propose, advise on and review approaches and specific studies relevant to the development of a global approach to reduce risk of zoonotic pandemics;
- e) To provide advice by invitation on One Health policy response in relevant member countries; and
- f) To provide recommendations on specific issues identified by the Partners in the areas of highest concern for attention and action, and future directions, in One Health.

B) ORIGINAL WORKPLAN

1. One Health Implementation

- Defining One Health in the context of the panel
- Develop a theory of change to make One Health go from a theoretical concept to the daily practice of collaborative work between the different sectors (health, agriculture, environment) and at different levels
- Identify technical and institutional barriers for implementation of One Health on the ground
- Identifying case studies demonstrating good practice in One Health in detecting, controlling and preventing emerging zoonoses. Specifically, what worked, how were barriers overcome, governance arrangements, funding, incentives, etc.
- Suggest/develop improved flexible implementation strategies for One Health, focusing on preventing emerging zoonoses in different contexts

2. Inventory of current knowledge in preventing emerging zoonoses

- Systematic review and inventory of useful documents, knowledge-sharing platforms, capacity building tools, projects, networks, committees and good practices for the use of One Health approaches in the prevention of emerging zoonoses
- Identify successful transnational and national strategies and/or ministerial/administrative set-up

that have shown practical and useful intersectoral collaboration (examples of good practice)

- Review requirements for a One Health workforce
- Develop and prioritize a portfolio of issues that would make a difference in the prevention of emerging zoonoses at the global, regional and national level
- Updated TG2 workplan for 2022

3. Develop a One Health Framework for Surveillance, early detection, and rapid data sharing in the prevention of emerging zoonoses

- Define the model One Health surveillance system (coordinated, integrated etc.)
- Assess what is known today about the presence of potential zoonotic pathogens, including current hotspot identification work
- Identify existing international guidance for integrated disease surveillance and the level of implementation
- Identify existing agreements and systems allowing/facilitating sharing of surveillance data.
- Provide guidance for interlaboratory systems for sharing of samples, data, results to provide early detection and diagnosis of disease pathogens
- Develop a practically implementable surveillance framework and good practice guidelines

4. Identify Factors contributing to spillover and subsequent spread of diseases and develop risk management framework

This includes all factors such as wildlife trade, food production and distribution, traditional markets, land-use changes, biodiversity, animal production and trade, human action, biosafety and biosecurity, any other relevant environmental issues, including climate change

- Identify key drivers of spillover
- Systematically analyze the evidence for risk of zoonotic spillover.
- What are the gaps, what factors are neglected and what should be prioritized?
- Consider tools already available for multisectoral risk assessments; for example, investigate if HACCP principles could be adapted as risk assessment possibilities.

5. Overarching actions for the panel

- Bring all aspects of the different working groups together
- Develop a portfolio of key issues, knowledge and evidence gaps and prioritize these for their potential for making a difference in the prevention of emerging zoonoses, and as part of the development of a research agenda
- Give guidance and inputs to the work of generating knowledge and evidence on One Health of the partners, including the potential development and priorities for the Knowledge and Evidence Network and the Global Plan of Action on One Health
- Make evidence-based recommendations to the Partners for global, regional, national and local action
- Share the work of OHHLEP in key forums and media

Annex 3

LIST OF OHHLEP PANEL MEETINGS 2022

Meeting 5, 24-25 February 2022 virtual meeting, [Minutes](#)

Meeting 6, 6 May 2022, Geneva in person meeting, [Minutes](#)

Meeting 7, 21-22 July 2022, virtual meeting, [Minutes](#)

Meeting 8, 11-12 November, Singapore in person meeting, [Minutes](#)

Annex 4

List of OHHLEP member One Health presentations and dissemination activities carried out in individual professional capacities 2022.

Date	OHHLEP member	Event	Event details/ Description/ Title of contribution	Virtual link to contribution
1-Jan-22	Janice R Ciacci Zanella	National TV intervention - 'Brazilian scientists research ways to prevent new pandemics' - Brazil	Media interview for National TV: Jornal Nacional – Rede Globo de Televisão	https://g1.globo.com/jornal-nacional/noticia/2022/01/03/cientistas-brasileiros-pesquisam-formas-de-evitar-novas-pandemias.ghtml
12-Jan-22	Serge Morand	PREZODE Conference - 'Joining forces to escape the era of pandemics' - France	Round-table organized by the Preventing Zoonotic Disease Emergence (PREZODE) and the French Presidency of the Council of UE	https://www.cirad.fr/en/cirad-news/news/2022/prezode-joining-forces-to-escape-the-era-of-pandemics
30-Jan-22	Abhishek Chaudhary	Interview for the Outlook Business magazine - 'One Health' cure for multiple ills'	Media Interview - Explains the need for an integrated approach to tackle health threats emerging from the human-animal-environment interface and how One Health framework can help save millions of lives and billions of dollars lost to diseases of animal origin.	https://www.outlookbusiness.com/enterprise-3/feature/one-health-cure-for-multiple-ills-6484
3-Feb-22	David Hayman	Media article - 'Donation allows Massey to appoint epidemiology and public health role' - New Zealand	Media coverage	https://www.stuff.co.nz/science/300510143/donation-allows-massey-to-appoint-epidemiology-and-public-health-role
15-Feb-22	Nitish Debnath	One of Panelists in the event organized by International Livestock Research Institute (ILRI)	Strategic Consultation on Preparedness for Prevention of Transboundary Infectious Diseases of Livestock and Poultry in South Asian countries" organized	
21-Feb-22	Catherine Machalaba	Panel discussion - Lessons learned from human and animal disease eradication programmes to help inform the peste des petits ruminants global eradication programme (PPR-GEP)	Speaker - Global framework for the progressive control of transboundary animal diseases - FAO, WOA (previously OIE)	http://www.gf-tads.org/events/events-detail/en/c/1155544/
24-Feb-22	Catherine Machalaba	R&D Blueprint - Covid-19 Global research & innovation forum	Speaker - 'The ONE HEALTH approach: how research in this area helps us prepare for future pandemics?' - WHO	https://cdn.who.int/media/docs/default-source/blue-print/agenda_covid19-grif-2022-final-web-version.pdf?sfvrsn=913c2321_9
24-Feb-22	David Hayman	Media interview - 'Covid-19: How to look after your pets if you catch Omicron or have to isolate' - New Zealand	Media coverage	https://www.stuff.co.nz/life-style/homed/latest/127872704/covid19-how-to-look-after-your-pets-if-you-catch-omicron-or-have-to-isolate
1-Mar-22	Janice R Ciacci Zanella	Live broadcast - You are what moves us – Animal Health	How the Javali project has helped One Health	https://www.youtube.com.br/embrapa

Date	OHHLEP member	Event	Event details/ Description/ Title of contribution	Virtual link to contribution
22-23-Mar-22	Serge Morand	TAIEX Workshop "Appui à l'élaboration d'un système de surveillance des virus émergents à l'interface homme-animal-environnement"	Co-organizer - Organized by Algeria and European Commission	
22-Mar-22	Nitish Debnath	Workshop One-Health Poultry Hub-Bangladesh	Speaker - "Antimicrobial use, resistance and residues: What's driving antimicrobial utilization & resistance and how can a One Health approach help?"	
26-Mar-22	David Hayman	Radio interview - 'Hunting for the next pandemic virus' - New Zealand	Radio New Zealand National interview	https://www.rnz.co.nz/national/programmes/saturday/audio/2018835803/prof-david-hayman-hunting-for-the-next-pandemic-virus
29-Mar-22	Catherine Machalaba	Expert webinar - International Alliance against Health Risks in Wildlife Trade	Expert Talk on 'Operationalizing One Health: entry points, trade-offs and co-benefits when designing effective policy options'	
30-Mar-22	Serge Morand	Round table - 2022 GESDA Science Breakthrough Radar - Switzerland	Speaker - Anticipating future advances around Infectious Diseases	
31-Mar-22	Janice R Ciacci Zanella	Seminar - One Health and Planetary Health - Brazil	Speaker - One Health Seminar - Fiocruz	
March-May-22	Andrew Cunningham	Centre for European Policy Studies (CEPS) - Expert Working Group on alternative configurations for the institutional design of the European Health Emergency preparedness and Response Authority (HERA), 2022	Member and advisor to the EU on the configuration of the European Health Emergency preparedness and Response Authority	
2-Apr-22	Nitish Debnath	Virtual conference - 'PANDEMIC TO ENDEMIC SHIFT OF COVID-19: WHAT WE NEED TO DO?'		
5-6-Apr-22	Andrew Cunningham	Round table in a High-Level Conference - The Americas on the Illegal Wildlife Trade and the role for the Americas - Cartagena de Indias, Colombia	Speaker - Talk on 'Illegal Wildlife Trade and risks to Human Health' - Organized by Government of Colombia and the Government of the United Kingdom	
15-Apr-22	David Hayman	Media article - 'Massey University appoints David Hayman as first Percival Carmine Chair in Epidemiology and Public Health' - New Zealand	Media coverage - published in Manawatu Guardian newspaper	
19-Apr-22	Janice R Ciacci Zanella	Module 6: 'How can Global coordination and Governance help the implementation of One Health?' - FEAM's modules of the MOOC on the implementation of the One Health approach and the related challenges	Lesson 1: OHHLEP & OFFLU: How did these two governance mechanisms enhance the One Health implementation during the COVID-19 pandemic?.	

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19-20-Apr-22	Nitish Debnath	WOAH Virtual Workshop for Veterinary Education Establishments (VEEs) and Veterinary Statutory Bodies (VSBs) in South Asia and Iran	Keynote speaker - On Establishing Veterinary Education Network in South Asia	
22th April 22	Natalia Cediell Becerra	MOOC Antimicrobial Resistance - MODULE One Health and AMR	Invited teacher at the Pan American Health Organization MOOC	
28-Apr-22	Thomas Mettenleiter	Focus Group / Workshop - 'Bridging the gap between policy and knowledge of biodiversity in Europe'	Eclipse	https://eklipse.eu/wp-content/uploads/website_db/Request/Biodiversity_pandemics/Focus-group-report_-_V3.pdf
28-Apr-22	Janice R Ciacci Zanella	Latin American Congress of Veterinarians and Food Hygienists	Speaker - The consumption of exotic animals and the risk of the appearance of new diseases	
2-May-22	Catherine Machalaba	IUCN Save Our Species webinar - Detecting and managing wildlife diseases	Speaker	
2-May-22	Catherine Machalaba	T20 Webinar - Implementing and Financing One Health	Panel remarks	
2-May-22	Dominique Charron	Health Canada Science Forum - Ottawa Canada	Speaker - High Level Policy Panel on One Health	
3-May-22	Andrew Cunningham	Bright Blue Think Tank meeting on preventing the next pandemic - UK	Think Tank discussion with experts and Members of the UK Houses of Parliament, including government ministers	
3-5-May-22	David Hayman	Geneva Health Forum - Switzerland	Round-table - 'Addressing the Environmental Drivers of Pandemics'	
3-5-May-22	Serge Morand	Geneva Health Forum - Switzerland	Round-table - 'Addressing the Environmental Drivers of Pandemics'	
6-May-22	Natalia Cediell Becerra	Geneva Health Forum - Switzerland	Speaker - Panel session: 'Implementing the One Health approach: what is being done?'	https://youtu.be/CWi_HeY_iww
7-May-22	Wiku Adisasmito	UN-DRR Global Summit Preparation - Geneva Switzerland	Covid-19 Task Force - Government of Indonesia	
16-20-May-22	David Hayman	Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) - Frankfurt, Germany	Nexus assessment: First author meeting	
23-26-May-22	David Hayman	Lab twinning meeting - Monrovia, Liberia	Liberian Dept of Agriculture / WOA	
23-28-May-22	Wiku Adisasmito	GPDRR Global Platform for Disaster Risk Reduction - Bali Indonesia	Co-Organizer with the UN-DRR	
31-May-22	Thomas Mettenleiter	G7 Academies Dialogue Forum		

Date	OHHLEP member	Event	Event details/ Description/ Title of contribution	Virtual link to contribution
2-3-June-22	Nitish Debnath	G20 Side Event - 'Implementing and Financing One Health'	Panelist - Implementing and Financing One Health - Organized by G20 Indonesia Presidency	
6-8-Jun-22	Wiku Adisasmito	G20 Health Working Group - Lombok Indonesia	Participant - Discussion on 'Global Health, One Health and Sustainable Resilience' - Organized by G20 Indonesia Presidency	
7-Jun-22	Casey Barton Behraves	Quadripartite One Health Intelligence Scoping Study risk-based mini-workshops	Participant - Mini-workshop on Epidemic and Emerging Zoonotic Diseases relevant to OHISS	
8-Jun-22	Margaret Khaitsa	One Health at the Global, Regional and National Level Webinar	Speaker - Organized by the Faculty of Veterinary Medicine - University of Nairobi, Kenya	
8-Jun-22	Salome A. Bukatchi	One Health at the Global, Regional and National Level Webinar	Speaker - Organized by the Faculty of Veterinary Medicine - University of Nairobi, Kenya	
13-Jun-22	Serge Morand	Biodiversity and Human Well-Being – Europe's Role in Shaping Our Future (ALTERNET) - Belgium	Roundtable - 'Governing system-level risks: connecting human and environmental health with other sustainable development goals'	
13-Jun-22	Catherine Machalaba	FAO One Health Dialogue - 'Workforce development for One Health'	Panel remarks	
14-Jun-22	Andrew Cunningham	Meeting with UK Deputy Chief Veterinary Officer and Head of One Health Unit - UK	Discussions on One Health governance and implementation in the UK	
23-Jun-22	Serge Morand	FEAM Roundtable - Combatting zoonoses and AMR on the planet with a One Health approach (Academie de Médecine) - France	Participant	https://www.feam.eu/conference-combatting-zoonoses-and-addressing-amr-on-the-planet-with-a-one-health-approach/
27-Jun-22	Thomas Mettenleiter	Roundtable for EJP One Health - Side event at One Health EU 2022 conference	Speaker	https://www.linkedin.com/posts/h2020-one-health-ejp_onehealth-ejp-oneeu2022-ohejp-activity-6945405106423005184-nMSA?utm_source=share&utm_medium=member_desktop
5-Jul-22	Natalia Cediell Becerra	Inaugural session of the Doctorate in Silvo-agricultural and Veterinary Sciences Program at the Chile University - Santiago de Chile, Chile	Speaker - 'One Health and Climate Change: a Gender Perspective Vision'	
6-Jul-22	Abhishek Chaudhary	12th National Conference on One Health - India	Keynote lecture - 'How climate change and environmental degradation exacerbates the risk of zoonotic disease emergence'	https://www.youtube.com/watch?v=_AmhkZ9heeU&ab
6-Jul-22	Andrew Cunningham	Workshop - One Health in the Era of Global Warming - UK	Panel members - 'One Health and Climate Change' - 3rd anniversary workshop of the Centre for Digital Public Health in Emergencies at University College London (UCL)	

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6-Jul-22	Nitish Debnath	SAARC Regional Veterinary Association Webinar on World Zoonosis Day	Keynote speaker - 'Emerging One Health Zoonotic Diseases: Challenges and Perspectives'	
12-Jul-22	Thomas Mettenleiter	Roundtable - 'Preventing the next pandemic' - Four Paws	Speaker	
13-Jul-22	Janice R Ciacci Zanella	Workshop - 'One Health approach within the veterinary public health' - Rio de Janeiro, Brazil	Participant	
13-Jul-22	Natalia Casas	Workshop - 'One Health approach within the veterinary public health' - Rio de Janeiro, Brazil	Participant	
12-Jul-22	Salome A. Bukachi	panel discussion - 'Pandemic Prevention Through Resilient Ecosystems' - Brisbane, Australia	Panel member - 2022 Academy of Environmental Law Colloquium	
13-14-Jul-22	Natalia Cediël Becerra	Workshop - 'One Health approach within the veterinary public health' - Rio de Janeiro, Brazil	Speaker - 'One Health from the Veterinary Public Health' - Organized by Pan American Health Organization, Veterinary Public Health Unit	
15-Jul-22	Natalia Cediël Becerra	Webinar - 'Building back better: animal welfare, environment and sustainable development nexus'	Speaker - Webinar organized by the World Federation of Animals	
21-Jul-22	Catherine Machalaba	IUCN African Protected Areas Congress	Speaker	
5-8-Aug-22	Andrew Cunningham	Conference on Global Amphibian & Reptile Disease - Tennessee, USA	Plenary talk (8th August) & workshop co-leader - First International Amphibian & Reptile disease conference - Hosted by the University of Tennessee, Knoxville, Tennessee, USA	
8-11-Aug-22	David Hayman	Round-table - 'Approaches for Prioritization of Global Health Security Capabilities'	Organized by the National Academies of Sciences, Engineering and Medicine	
18-Aug-22	Casey Barton Behravesh	Global One Health Initiative Webinar Series - Ohio, USA	Presented an overview of the OHHLEP Updated Definition of One Health - Hosted by The Ohio State University	
23-Aug-22	Catherine Machalaba	Asia-Pacific Economic Cooperation Health Ministers Working Group	Presentation - 'Balancing One Health and economy'	
22-Aug-22	Nitish Debnath	Workshop - 'One-Health Activities SWOT analysis' and 'One-Health Strategic Framework 2017-21'	Moderator of the workshop	
30-Aug-22	Nitish Debnath	Webinar organized by Internews	Speaker - 'Two Viral Zoonotic Diseases Journalists Should Know About: A Webinar on Lassa Fever and Nipah Virus'	
27-31-Aug-22	Wanda Markotter	BioAfrica 2022	OHHLEP representation	

Date	OHHLEP member	Event	Event details/ Description/ Title of contribution	Virtual link to contribution
1-Sep-22	Natalia Casas	Panel discussion - Active and Present ProTenencia Cycle 2022	Speaker - 'One Health: How do we translate the theoretical concept into daily practice?'	https://www.youtube.com/watch?v=mPB-xGySF5M
1-Sep-22	Janice R Ciacci Zanella	Podcast - 'Viruses, History, Zoonoses, and Street Racing' - Suinocast	SuinoCast #141 - with Dr. Janice Zanella	https://podcasts.google.com/feed/aHR0cHM6Ly9hbmNo-b3luZm0vcy8yNDhmND-cwL3BvZGNhc3QvcnNz/episode/MTc0N2EyND-ktMmFjNy00MDE3LT-gxMDMtZTlzMjMxZjU1N-zQz?hl=pt-BR&ved=2a-hUKEwiHq7ONzPfIAhX9Frk-GHYbhDmYQjrkEegQIA-hAR&ep=6
1-2-Sep-22	David Hayman	23rd Khon Kaen Veterinary Annual International Conference - KVAC 2022 - Khon Kaen, Thailand	Keynote speaker	
8-9-Sep-22	Nitish Debnath	Inaugural meeting of the Governing Board of the Financial Intermediary Fund for Pandemic Prevention Preparedness and response (FIF PPR) - World Bank	Alternate Interim Civil Society Representatives	
12-Sep-22	Dominique Charron	Conference - Canadian Food Inspection Agency and other government of Canada - Ottawa Canada	OHHLEP Overview	
13-Sep-22	Wanda Markotter	Science Summit at United Nations General Assembly 77 (UNGA77)	Speaker - OHHLEP representation	
14-Sep-22	Nitish Debnath	Seminar - Organized by ESCAP and IISD, in collaboration with FAO, UNEP, and WTO	Panelist - 'Interactive Policy Dialogue on the Environment-Health Nexus in Asia and the Pacific'	
15-Sep-22	Catherine Machalaba	Interactive Policy Dialogue on the Environment-Health Nexus in Asia and the Pacific	Panel remarks - Organized by UNESCAP	https://www.unescap.org/sites/default/d8files/event-documents/Environment-Health%20Policy%20Dialogue%20Concept%20Note%20-%2014%20September%202022_0.pdf
19-Sep-23	Wanda Markotter	Round table discussion - 'Taking One Health seriously: What are the concrete steps to build an effective pandemic instrument' - Four Paws	Round table organized by Four Paws and Australian Permanent Mission to the UN, at the Geneva School of Diplomacy and International Relations	
21-Sep-22	Natalia Cediell Becerra	One Health Day - Science Summit at the 77th United Nations General Assembly	Speaker - "One Health initiatives in The Americas Region"	
22-Sep-22	David Hayman	Science Summit at the United Nations General Assembly (UNGA77)	Invited speaker - 'One Health presentation'	
23-Sep-22	Catherine Machalaba	IUCN Regional Event on Zoonoses and Protected Areas	Speaker - Disease Risk Reduction Guidelines	
28-30-Sep-22	David Hayman	Joint UK-ICN/CSIRO Cutting Edge Virtual Symposium - 'Coronaviruses with "Disease X" Potential'	Invited speaker	

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29-Sep-22	Thomas Mettenleiter	50th Anniversary of the Inter University Center Dubrovnik - Croatia	Bio-medical perspectives of the pandemic	
4-7-Oct-22	Wanda Markotter	Workshop - Inaugural Africa One Health Network Workshop in Ghana	participant - 'Managing Zoonotic Infectious Diseases in Africa: The key role of the One Health Approach'	
6-7-Oct-22	Natalia Casas	XXXVII National Hydatid Disease Conference - LVIII International Conference of Hydatidology - Argentina	Echinococcosis from the One Planet - One Health approach. One Health Concept	
12-13-Oct-22	Thomas Mettenleiter	G7 Workshop on One Health	Input by OHHLEP	
14-Oct-22	David Hayman	Fourth informal, focused consultation in relation to a new international instrument on pandemic prevention, preparedness and response: One Health and antimicrobial resistance, climate change and zoonoses	Invited experts for the panel discussion: Framing One Health Multisectoral laboration for animal human and environmental health Integrated surveillance, monitoring and interoperable tata sharing systems for One Health	https://www.who.int/news-room/events/detail/2022/10/14/default-calendar/fourth-informal-focused-consultation-in-relation-to-a-new-international-instrument-on-pandemic-prevention-preparedness-and-response-one-health-and-antimicrobial-resistance-climate-change-and-zoonoses
14-Oct-22	Osman Dar	Fourth informal, focused consultation in relation to a new international instrument on pandemic prevention, preparedness and response: One Health and antimicrobial resistance, climate change and zoonoses	Invited experts for the panel discussion: Framing One Health Multisectoral laboration for animal human and environmental health Integrated surveillance, monitoring and interoperable tata sharing systems for One Health	https://www.who.int/news-room/events/detail/2022/10/14/default-calendar/fourth-informal-focused-consultation-in-relation-to-a-new-international-instrument-on-pandemic-prevention-preparedness-and-response-one-health-and-antimicrobial-resistance-climate-change-and-zoonoses
14-Oct-22	Wanda Markotter	Fourth informal, focused consultation in relation to a new international instrument on pandemic prevention, preparedness and response: One Health and antimicrobial resistance, climate change and zoonoses	Invited experts for the panel discussion: Framing One Health Multisectoral laboration for animal human and environmental health Integrated surveillance, monitoring and interoperable tata sharing systems for One Health	https://www.who.int/news-room/events/detail/2022/10/14/default-calendar/fourth-informal-focused-consultation-in-relation-to-a-new-international-instrument-on-pandemic-prevention-preparedness-and-response-one-health-and-antimicrobial-resistance-climate-change-and-zoonoses
15-Oct-22	Natalia Cediell Becerra	Massive Online Open Course "One Health and Sustainable development Goals"	Invited teacher at the Rosario University MOOC - ModuleS "What is One health", "One health Implementation"	https://www.edx.org/es/course/ods-y-one-health-hacia-la-vision-transversal-e-integral-del-desarrollo-saludable
15-Oct-22	Janice R Ciacci Zanella	One Health Award, One Health, One Earth - Teramo, Italy	Speaker (One Health One Earth - A new understanding of the world) and jury of the 2022 award	
16-Oct-22	Catherine Machalaba	World Health Summit	Panelist - The Cost of Inaction	
17-Oct-22	Wanda Markotter	World Health Summit	Prezode: OHHLEP	

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18-Oct-22	Thomas Mettenleiter	Launch Quadripartite JPA One Health	Panel	
18-Oct-22	Andrew Cunningham	DEFRA One Health virtual round table on the UK response to the WHO Pandemic Instrument	Discussion on the UK negotiating position for the Pandemic Instrument	
19-Oct-22	Janice R Ciacci Zanella	CRIS Advanced Seminars on Global Health and Health Diplomacy 2022 - One Health	Speaker - OPAS and Fiocruz	
20-Oct-22	Salome A. Bukachi	One Health session at the FAO Science and Innovation Forum session	Panelist - 'Marrying technical progress and knowledge integration for better One Health outcomes in agrifood systems'	
22-23 Oct-22	Nitish Debnath	World Veterinary Poultry Association Asia Meeting 2022	Keynote speaker - The One Health Poultry Hub: A research programme for safer and more sustainable poultry production and distribution with emphasis on reducing disease risks for humans and animals	
24-Oct-22	Salome A. Bukachi	Expert Seminar - Convened by the United Nations Special Rapporteur on human rights and the environment - Geneva	Panelist - 'The role of human rights and environmental conservation in the prevention of future pandemic'	
24-Oct-22	Janice R Ciacci Zanella	PORKEPO 2022 - 'Emerging and re-emerging diseases of swine: lessons learned over 30 years of practice and research'	Speaker	
25-27-Oct-2022	Margaret Khaitisa	International Biothreat Reduction Symposium (BTRP) for Ukraine	Panelist - 'One Health Implementation' (27th Oct)	
25-27-Oct-22	Casey Barton Behravesh	International Biothreat Reduction Symposium (BTRP) for Ukraine	Panelist - 'One Health Implementation'	
25-27-Oct-22	Wanda Markotter	SAVETCON conference - RSA	Invited speaker - Global One Health initiatives	
25-27 Oct-22	Nitish Debnath	One Health Poultry Hub Conference in Dhaka. UKRI GCRF	Speaker at the inaugural session Chair of Research Update session Speaker - Fleming Fund Country to Bangladesh in AMR session	
27-Oct-22	Nitish Debnath	One Health Poultry Hub Conference in Dhaka. UKRI GCRF	Session Lead - Improving our One Health lens: lessons from the journey so far	
26-Oct-22	Natalia Cediell Becerra	X Conference on Epidemiology and Public Health of the Capital District of Bogotá, Colombia	Speaker - Climate change and One Health: a vision from the gender perspective	
27-Oct-22	David Hayman	Presentation - Pilot study to generate evidence on emerging disease risks through GIS	Organized by the Food and Agriculture Organization (FAO) of the United Nations (UN)	

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31-Oct-22	Salome A. Bukachi	ANTHUSIA CONFERENCE - Cape Town, South Africa	Keynote speaker - 'Evolution of integration of Anthropology in One Health Approach, Research and implementation'	https://anthusia.eu/fileadmin/ANTHUSIA/Anthusia_End_conference_program_final.pdf
31-Oct-22	Janice R Ciacci Zanella	Book Chapter publication - Environmental and Food Virology: Impacts and Challenges in One Health Approach	Chapter 3: Environmental Viruses in Livestock Production	
3-Nov-22	Natalia Casas	II Latin American Society for Vector Ecology Congress - Argentina	Addressing zoonotic disease in Argentina	
5-Nov-22	Dominique Charron	University of Guelph One Health and Development Symposium - Guelph, Canada	One Health and Development -Taking Action	https://opened.uoguelph.ca/one-health---development---sessions#OneHealth
8-Nov-22	Wanda Markotter	World One Health Congress (WOHC) - Singapore	Keynote Presentation OHHLEP as co-chair of the panel	
8-Nov-22	Thomas Mettenleiter	World One Health Congress (WOHC) - Singapore	Keynote Presentation OHHLEP as co-chair of the panel	
8-Nov-22	Catherine Machalaba	World One Health Congress (WOHC) - Singapore	Presenter and Panel member - Financing for One Health	
8-Nov-22	Abhishek Chaudhary	7th World One Health Congress (WOHC), Singapore	Talk - "Identifying future global hotspots of deforestation and biodiversity loss to inform One Health risk"	
8-Nov-22	John Mackenzie	World One Health Congress (WOHC) - Singapore	Organizer - Chair of session: 'Developing an international focus on One Health'	
9-Nov-22	Osman Dar	World One Health Congress (WOHC) - Singapore	Panel member - National Sovereignty and Global Solidarity for Health Security	
9-Nov-22	Nitish Debnath	World One Health Congress (WOHC)	Co-author - Oral presentation on Benefits of Political Economy Analysis of Antimicrobial Resistance: Cross-Examination of PEA Impacts in Bangladesh, Pakistan and Indonesia	
15-Nov-22	Salome A. Bukachi	EcoHealth international-8 th Biennial Conference - Durban, South Africa	Keynote speaker - 'Public Engagement towards disease control: The role of Anthropology'	
15-16-Nov-22	Wiku Adisasmito	G-20 Summit - Bali Indonesia	Organizer - Covid-19 Task Force - Government of Indonesia	
16-Nov-22	Natalia Cediell Becerra	1rst One Health Congress - Quito, Ecuador	Speaker - "Challenges and advances in the implementation of the One Health approach in Latin America".	
17-Nov-22	Serge Morand	Food4Climate Pavilion - COP27 - UNFCCC	Keynote speaker - 'Climate action for pandemic prevention: the role of food systems'	
17-Nov-22	Abhishek Chaudhary	Food4Climate Pavilion - COP27 - UNFCCC	Keynote speaker - 'Climate action for pandemic prevention: the role of food systems'	https://www.youtube.com/watch?v=peQYpTS1Tc8&ab

Date	OHHLEP member	Event	Event details/ Description/ Title of contribution	Virtual link to contribution
17-Nov-22	Catherine Machalaba	IUCN Africa Region Webinar on Disease Risk Reduction	Speaker	
18-Nov-22	Catherine Machalaba	COP27 Joint Quadripartite Side event	Panel presentation	
18-Nov-22	Nitish Debnath	Seminar - One Health Plus Integrated Antimicrobial Stewardship Approach	Panelist - Organized by WHO South-East Asia Region	
18-20-Nov-22	Nitish Debnath	The 5th CEVET Conference of Veterinary Continuing Education - Bangladesh	Plenary speaker - 'Health hazards at human-animal-environmental interface' - Organized by FAO ECTAD	
22-Nov-22	Nitish Debnath	Online seminar - Action for Global Health Policy 'deep dive' in One Health	Speaker - 'Experience of One Health practices in Bangladesh' - Organized by FCDO	
23-Nov-22	Catherine Mashalaba	Podcast for the Indo-Pacific Centre for Health Security: "Making the Case for a One Health Approach"	Contain this: 'Latest in Health Security' Podcast	https://open.spotify.com/episode/7t4oaha7MPO8HRm-64l4EXh?si=dc46e38e2fd849c5
23-Nov-22	Osman Dar	Podcast for the Indo-Pacific Centre for Health Security: "Making the Case for a One Health Approach"	Contain this: 'Latest in Health Security' Podcast	https://open.spotify.com/episode/7t4oaha7MPO8HRm-64l4EXh?si=dc46e38e2fd849c5
23-Nov-22	Dominique Charron	Canadian Conference on Global Health - Toronto, Canada	Launch of IDRC Collaborative One Health Research Initiative on Epidemics - Toronto Canada	
28-Nov-22	Wanda Markotter	European Commission	Invited speaker - 'Operationalising the One Health approach'	
30-Nov-22	Nitish Debnath	ESCAP-FAO-UNEP-WHO Side event at the Seventh Committee for Environment and Development	Panelist - 'Strengthening the environment-health nexus and One Health in Asia and the Pacific' seminar	
1-Oct-22	Natalia Cediell Becerra	XVIII Colombian Congress of Parasitology and Tropical Medicine	Speaker/participant - The One Health approach to the prevention and control of tropical diseases - Bogotá, Colombia	
5-Dec-22	Catherine Machalaba	OECD International Organizations meeting - WOHAI Headquarters	Panelist	
5-7-Dec-22	David Hayman	ANSO-PAS-MAAP Conference on Epidemic and Pandemic Preparedness	Invited speaker	
7-Dec-22	Catherine Machalaba	WHO Workshop on Biodiversity and Climate Change	Presentation	
11-Dec-22	Catherine Machalaba	World Biodiversity Summit - Montreal, Canada (during COP15)	Panel discussion - 'Collaboration for Innovation: Co-Creating Solutions for Health and Biodiversity in Tandem' Panel	

Date	OHHLEP member	Event	Event details/ Description/ Title of contribution	Virtual link to contribution
13-Dec-22	Casey Barton Behravesch	FAO One Health Dialogue Series on 'One Health tools and the opportunities for their rationalization and application to country contexts'	This One Health series dialogue will showcase concrete examples from countries of implementing One Health tools at the community, national, regional and global levels, and discuss the challenges faced during the implementation as well as their sustainability.	https://www.fao.org/geneva/news/detail/en/c/1628645/
15-Dec-22	Wanda Markotter	The Stakeholder Forum for a Sustainable Future	Invited speaker - Round table discussion	
20-Dec-22	Thomas Mettenleiter	Advisory Board BMZ - Germany	Chair	

