

ONE HEALTH THEORY OF CHANGE

WORKING TOWARD A WORLD BETTER ABLE TO PREVENT, PREDICT, DETECT, AND RESPOND TO HEALTH THREATS AND IMPROVE THE HEALTH OF HUMANS, ANIMALS, PLANTS, AND THE ENVIRONMENT WHILE CONTRIBUTING TO SUSTAINABLE DEVELOPMENT

ONE HEALTH THEORY OF CHANGE

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OVERVIEW OF THE THEORY OF CHANGE

The One Health High Level Expert Panel (OHHLEP), established in May 2021, provides an advisory function to the Quadripartite organisations – FAO, UNEP, WHO and WOA – to support their provision of evidence-based scientific and policy advice¹ and technical support on One Health-related matters to their members².

For its initial term, the OHHLEP has been tasked to 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.

To help achieve these aims in a comprehensive, systematic and sustainable way in keeping with the underlying principles of the One Health approach, OHHLEP has developed an over-arching Theory of Change (ToC) in addition to the One Health definition also published by the panel³. This ToC is designed to guide OHHLEP's own work and that of the Quadripartite as well as providing a conceptual framework for other organisations, agencies and initiatives working towards similar One Health goals (see impact statement, page 5).

The ToC approach facilitates an in-depth exploration of values, beliefs and how change happens. Furthermore, it analyses stakeholders, systems and power to ascertain where organisations can collaborate and partner to add the most value. The ToC offers a common narrative of coherence that reflects organisational values, models and approaches to achieving impact⁴.

The ToC is laid out in the accompanying overview visual (see page 6) and a set of explanatory panels (1-6) to guide readers through a series of key steps - from the problem statement to a set of measurable outcomes, and ultimately a desired impact. The ToC provides a framework that is intended to be used as a living document, subject to formal periodic review as new science, evidence and understanding emerges, and in keeping with a constantly evolving landscape of political, institutional and socioeconomic realities.

1. Sources: [OHHLEP Annual Report 2021](#); [OHHLEP Website](#)


2. Please see panel 2 (page 9) for the One Health working definition and principles.

3. Source: One Health High-Level Expert Panel (OHHLEP), Adisasmito WB, Almuhairei S, Behravesh CB, Bilivogui P, Bukachi SA, et al. (2022) One Health: A new definition for a sustainable and healthy future. *PLoS Pathog* 18(6): e1010537. <https://doi.org/10.1371/journal.ppat.1010537>

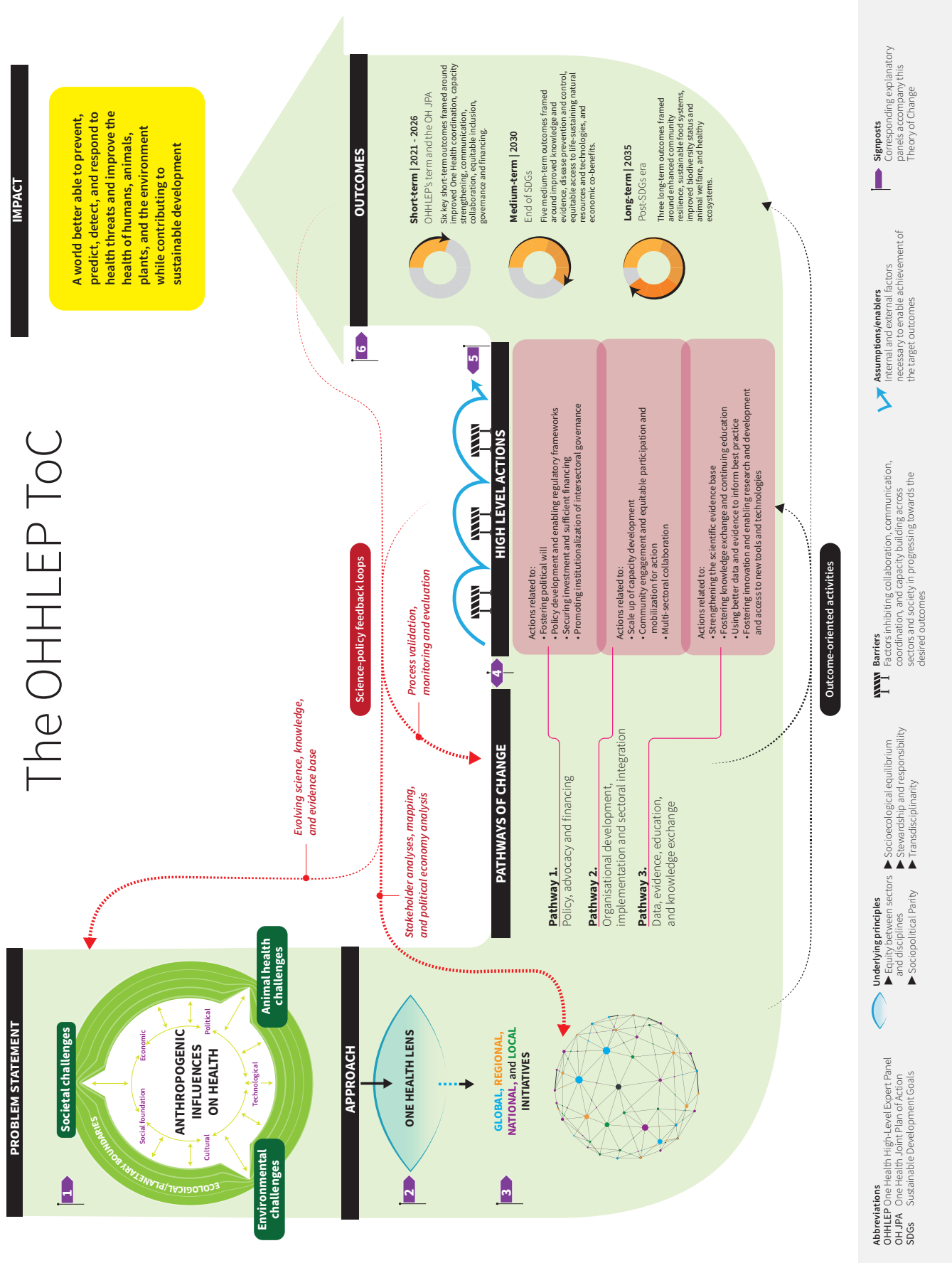
4. Source: Theory of Change for Organisations Published by Bond, Society Building, 8 All Saints Street, London N1 9RL, UK Registered Charity No. 1068839 Company Registration No. 3395681 (England and Wales) © Bond, 2017

To acknowledge this need for review and reflection, each step within the ToC is subject to science-policy feedback loops. In the overview visual, red arrows represent the evidence review, monitoring, analysis and evaluation necessary to track progress and inform implementation plans. The black arrows represent outcome-oriented activities prioritised along specified pathways of change.

The OHHLEP ToC is closely aligned to the aims and objectives of the global One Health Joint Plan of Action (OH JPA) developed by the Quadripartite Partners (FAO, UNEP, WHO and WOA). Both initiatives have a similar ultimate goal/impact, namely to help create:

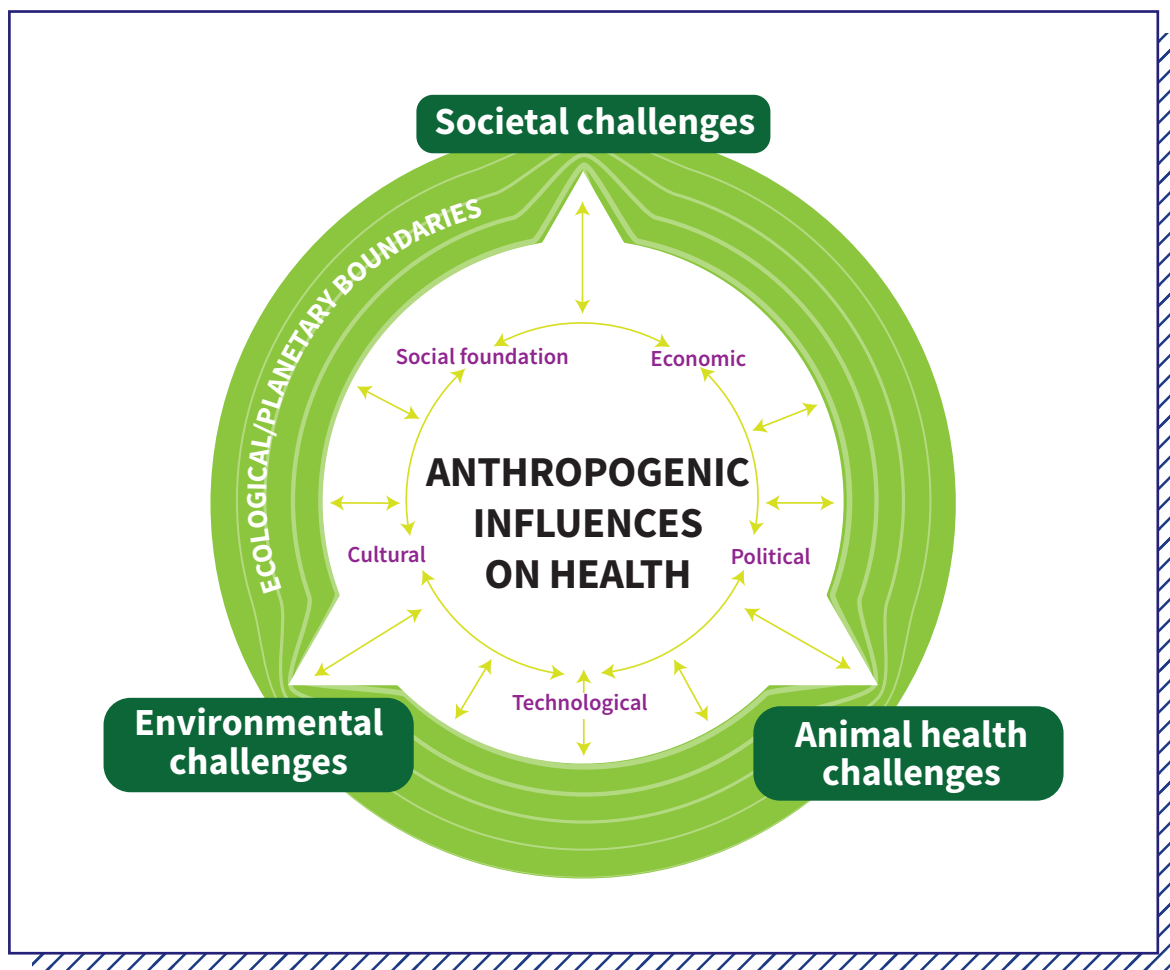


A WORLD BETTER ABLE TO PREVENT, PREDICT, DETECT, AND RESPOND TO HEALTH THREATS AND IMPROVE THE HEALTH OF HUMANS, ANIMALS, PLANTS, AND THE ENVIRONMENT WHILE CONTRIBUTING TO SUSTAINABLE DEVELOPMENT.



1

Problem statement



The OHHLEP ToC is prefaced on a recognition that the effects of human activity on our environment and planetary boundaries have a profound impact on the health and well-being of humans, animals and the ecosystems we co-habit.

As such, the OHHLEP ToC has identified a series of societal (pertaining to human, organizational, and socio-economic behaviors, customs, and norms), animal and environmental challenges stemming from inter-linked categories of human activity (anthropogenic influences on health). The listed challenges below are general in most instances and described as factors contributing to risks and vulnerability to poor health for humans, animals and ecosystems. Their relevance and scale of influence varies based on the specific context. They are intended to convey key themes, to be more precisely grouped and standardized in future iterations as the evidence base matures.

1. SOCIETAL CHALLENGES

- Socioeconomic inequalities
- Persisting racial/ethnic/gender inequalities
- Poor understanding of health risks and mitigation measures
- Inequitable access to education and limited knowledge transfer
- Consumption-based economic growth models
- Poorly planned urbanization and human population growth
- Increased migration (voluntary and forced) and displacement
- Increased volume and complexity of trade and travel
- Restricted justice and political voice
- Lack of trust in government
- Corruption
- Inequitable access to medicines and other health technologies
- Inappropriate use of medicines (e.g. antimicrobials) and other health technologies
- Unsafe and overcrowded housing
- Poor heating/cooling and ventilation for housing
- Inadequate WASH and IPC systems and infrastructure
- War/conflict
- Poor health systems and infrastructure
- Unemployment and poor working conditions
- Ageing populations
- Inequitable access to safe and nutritious food
- Disruptive, fast-paced technological change (e.g. digital technologies)

2. ANIMAL HEALTH CHALLENGES

- Disease emergence and pathogen spillover
- Changing animal migratory patterns
- Poorly regulated wild meat and wildlife trade
- Increasingly complex products/food system trade
- Poorly regulated live animal/bird transport, markets, and IPC systems
- Wildlife population declines and species extinction
- Illegal and unregulated trade in animal medicines including counterfeit and sub-standard products
- Inappropriate use of antimicrobials, pesticides and insecticides
- Intensified aquaculture, livestock and wildlife farming systems
- Unsustainable growth in livestock/poultry populations and density
- Poor biosecurity
- Uncontrolled non-native species introduction into new ecosystems
- Shrinking wildlife corridors
- Genetic diversity and breed loss
- Poor conditions and standards of animal welfare and protection
- Irresponsible pet ownership and care
- Selective breeding of genetic traits that compromise animal health and welfare
- Wide disparities in access to effective medical technologies for animal health

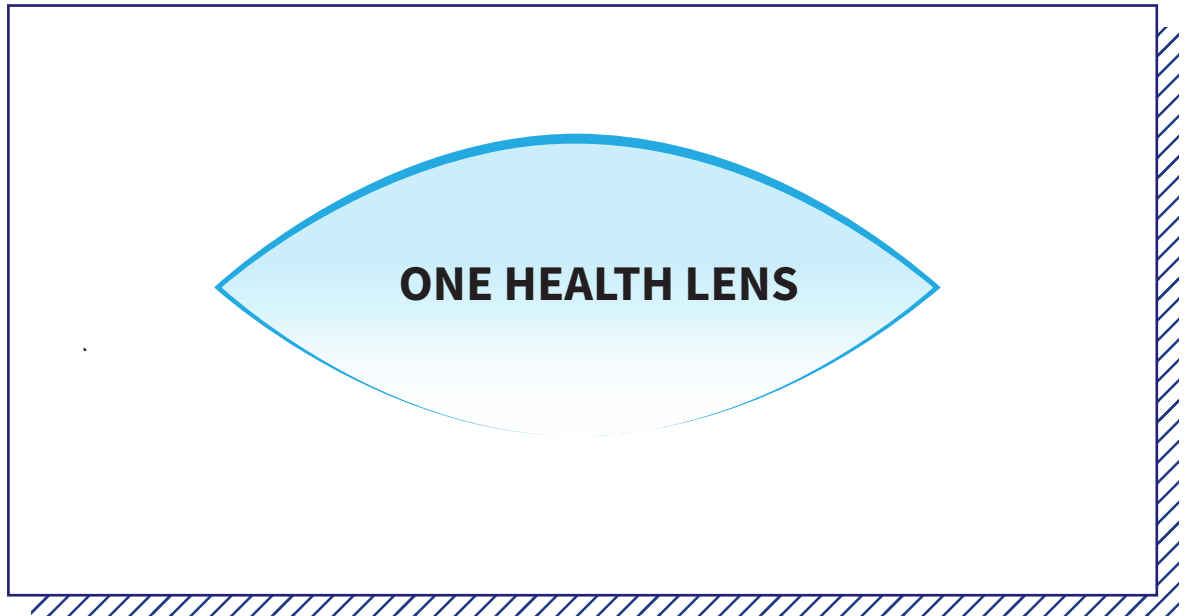
3. ENVIRONMENTAL CHALLENGES

- Climate change and increasing frequency/severity of extreme weather events
- Land use change
- Ocean Acidification
- Biodiversity Loss
- Unsustainable harvest of wild species
- Air pollution/ozone depletion
- Non-renewable energy consumption and increased greenhouse gas emissions
- Chemical pollution and contamination including antimicrobial/pesticides residues
- Horizontal gene transfer causing the spread of resistance genes
- Freshwater loss and depletion and aquatic/wetland ecosystem degradation
- Growing landfill/non-recyclable waste
- Unsustainable agricultural intensification
- Unrestrained urbanization
- Poor waste and wastewater management
- Genetic diversity loss
- Extractive industries-related degradation and health impacts
- Limited protected and conserved habitats
- Primary and secondary forest loss and unrestrained monoculture expansion
- Natural and man-made disasters
- Soil erosion and arable land loss
- Water siltation and salinization

Acronyms

IPC: infection prevention and control
WASH: water, sanitation and hygiene

The approach



The One Health definition^{5,6} and its underlying principles are fundamental to framing the approach taken by the OHHLEP ToC. The approach is applicable at community, subnational, national, regional, and global levels. It relies on shared and effective governance, joint responsibility and accountability, communication, collaboration, coordination, and capacity to understand and address co-benefits, risks, trade-offs, and opportunities for equitable and holistic solutions. Inclusiveness across all segments of society (such as by gender, ethnicity, indigenous peoples, and disadvantaged and marginalized groups) is core to the approach, and the scope reinforces the universal human right to equitable access to a clean, healthy and sustainable environment. The definition and its key underlying principles are summarised in the figure and accompanying text below.

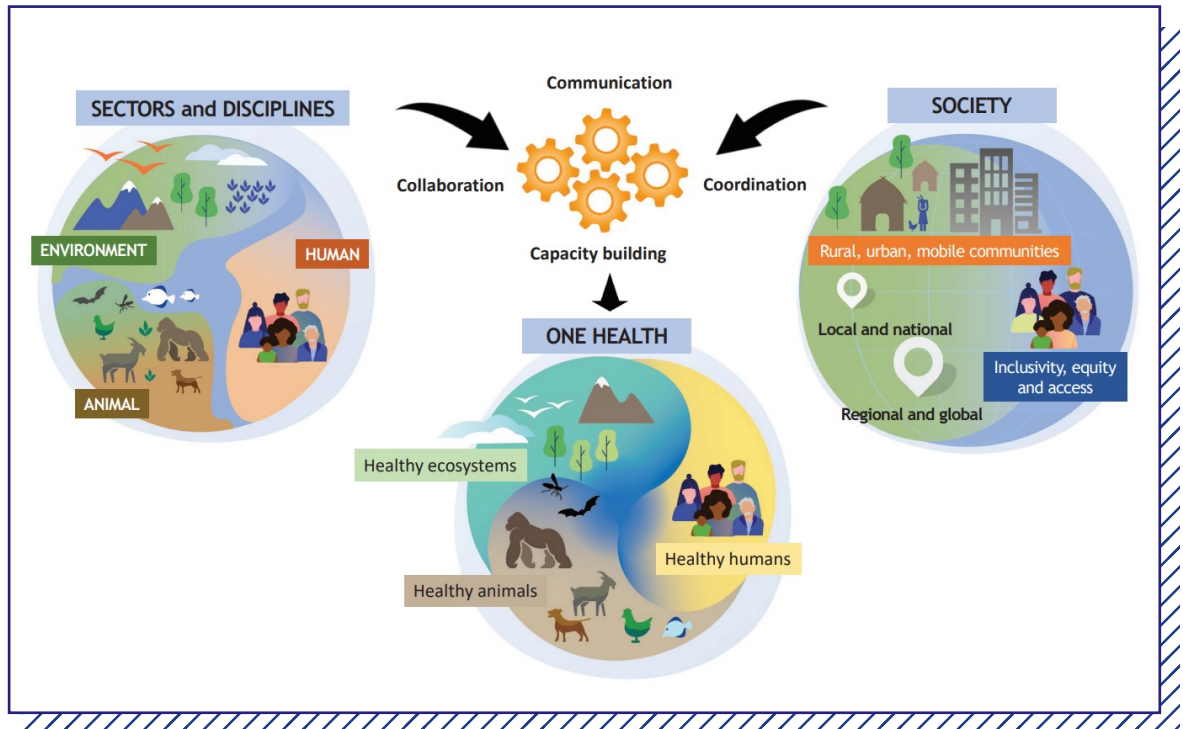
5. Sources: One Health High-Level Expert Panel (OHHLEP), Adisasmito WB, Almuhairi S, Behraves CB, Bilivogui P, Bukachi SA, *et al.* (2022) One Health: A new definition for a sustainable and healthy future. *PLoS Pathog* 18(6): [e1010537](https://doi.org/10.1371/journal.ppat.1010537). <https://doi.org/10.1371/journal.ppat.1010537>

6. Sources: One Health High-Level Expert Panel (OHHLEP). OHHLEP Annual Report 2021.

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 inter-dependent.

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 clean water, energy and air, safe and nutritious food, taking action on climate change, and contributing to sustainable development.



The figure reinforces the need for practical action to put the One Health approach into practice, using the “4Cs”: communication, collaboration, coordination, and capacity building.

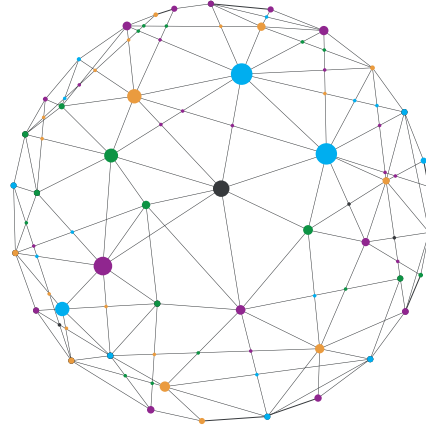
Key underlying principles⁷ include:

- 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.**

7. Sources: One Health High-Level Expert Panel (OHHLEP), Adisasmito WB, Almuhairi S, Behraves CB, Bilivogui P, Bukachi SA, et al. (2022) One Health: A new definition for a sustainable and healthy future. PLoS Pathog 18(6): e1010537. <https://doi.org/10.1371/journal.ppat.1010537>

OHHLEP and the Quadripartite in an ecosystem of actors

GLOBAL, REGIONAL, NATIONAL, and LOCAL INITIATIVES



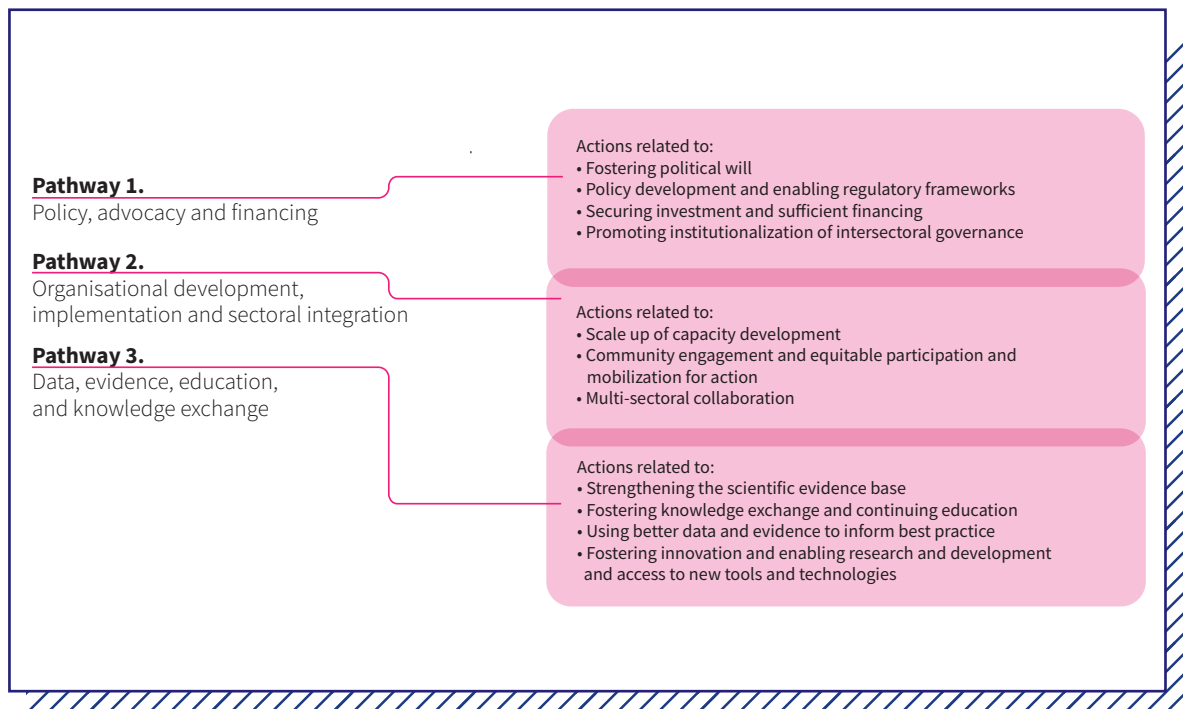
OHHLEP and the Quadripartite recognise they exist in a complex institutional architecture of One Health actors and initiatives. Regular institutional stakeholder mapping, analysis and political economy analyses of relevant global and regional initiatives and institutions will be necessary to ensure OHHLEP and Quadripartite are harmonised and coordinating activities with all relevant actors.

Types of stakeholders include, but are not necessarily limited to:

- Government Ministries and Agencies
- Intergovernmental Organisations
- Non-governmental Organisations/Not-for-Profit Organisations /Civil Society Organisations
- Foundations, Trusts and other Philanthropic Organisations
- Indigenous Peoples and Cultural Communities
- Educational Bodies, Academia and other Research Institutions and Professional Associations
- Private & Public Companies & Industry Bodies and Cooperatives

4

The pathways of change and high level actions



Recognizing that the One Health approach embodies sustainable cross-sectoral collaboration at all levels, three Pathways of Change have been identified to provide a framework for the prioritization and implementation of high-level actions. The list of actions below while not exhaustive, provide detail to the Pathways of Change that will enable the translation of the high-level actions outlined in section 4 into practice. The detailed actions listed in this section are also intended to complement existing activities and synergize with existing efforts towards One Health (OH) implementation including those planned for the closely aligned One Health Joint Plan of Action.

While some overlap of actions exist between the three pathways, most actions more obviously/substantively sit in one pathway versus the others and have therefore been categorized accordingly.

The activities that OHHLEP directly intends to contribute to given its mandate and scope, available resources and agreed work plan are marked in orange.

PATHWAY 1

Actions related to policy development, political will, enabling regulatory frameworks, equitable investments and promoting institutionalization of intersectoral governance.

1. Advocate for adopting a One Health approach to tackle health threats in relevant global and regional fora and their funding instruments, including toward:
 - Prevention and health promotion-oriented focus in international collaborations and investments (e.g. the One Health Joint Plan of Action, a potential international pandemic accord negotiations process, IHR reform, WHO/World Bank Global Preparedness and Monitoring Board (GPMB), and the Pandemic Prevention, Preparedness and Response Financial Intermediary Fund).
 - Adequate safeguards through improved assessment of trade-offs and co-benefits.
 - Value reinforcement for integrated and sustained surveillance systems.
2. Conduct stakeholder mapping and political economy analysis of One Health initiatives and policies and develop case studies.
3. Appraise existing assessment, evaluation and planning tools and outputs to identify critical gaps in architecture including supporting the review of existing Quadripartite health security capacity assessment/building tools.
4. Provide advisory support regarding resource allocation - e.g. gaps in prevention, livestock biosecurity measures, animal welfare, and ecosystem management. Strengthen private sector engagement and private-public partnership for technology transfer and equitable access to common goods.
5. Establish a framework and models of One Health governance structures, legislation, and networks
6. Mainstream One Health into existing programs and plans (e.g. vector-borne diseases, plans for outbreak preparedness, prevention and response) and scale up monitoring and implementation of international conventions and related protocols (e.g. Convention on Biological Diversity, Nagoya protocol on Access and Benefit Sharing, Cartagena Protocol on Biosafety).
7. Advocate for community inclusion and engagement and sociopolitical parity including gender mainstreaming and inclusion of other disadvantaged groupings in One Health prioritization, programs and activities.
8. Promote co-design of top-down and bottom-up approaches, recognizing the needs of those most directly concerned, and ensuring the participation of women and other disadvantaged groups.

9. Establish a sustainable source of funding for systems and promote equitable resource allocation between sectors for effective implementation of global One Health strategies, through advocacy with financing institutions (Development Banks and foundations) to fill gaps and mobilize resources to support the “4Cs”.
10. Develop an advocacy package tailored to political and opinion leaders at national and sub-national level.
11. Promote improved animal welfare standards and environmental protections across food and agricultural systems as well as across wider ecosystems including wildlife, terrestrial and aquatic habitats.
12. Support the investment in public, animal and ecosystem health infrastructure including appropriate WASH, IPC and clean air/water/energy initiatives through well planned urban and rural development programmes.

PATHWAY 2

Actions related to implementation of One Health including scaling up of capacity development, community engagement and mobilization for action, multisectoral coordination, collaboration and communication, and equitable integration of sectors.

1. Develop metrics for One Health monitoring and evaluation frameworks, including for the One Health Joint Plan of Action implementation
2. Provide advisory support for implementation including priority setting, stakeholder identification and others as required.
3. Support the development of an overarching surveillance framework and strengthen surveillance and disease intelligence systems across the domains of human, animal and ecosystem health.
4. Develop and implement safeguards through improved One Health assessment of trade-offs and co-benefits for development projects
5. Conduct a detailed analysis of the challenges and constraints at community level for disease prevention and control to support the development and implementation of:
 - A comprehensive social and community behaviour change strategy.
 - Joint risk communication and community engagement plans and advocacy strategies that enable individuals and communities to protect their health, livelihoods and ecosystems.
 - Community Knowledge, Attitude and Skills (KAS) to use information in assessing their own situations and to take actions to protect their own health, livelihoods and ecosystems against health hazards

6. Establish a global database and platform for identifying, curating, and signposting One Health networks and initiatives.
7. Integrate across sectors a wider expanse of knowledge systems including experiential learning, oral traditions, indigenous communities etc. into the data sets for evidence.
8. Integrate the One Health concept and elements across sectors including but not limited to:
 - Key national assessment, capacity building and implementation tools.
 - Equitable distribution of action plans and budgets between sectors, including wildlife and ecology, to ensure that their roles in relation to disease prevention and detection are understood and optimized.
 - Workforce programs and career pathways for One Health specialists across disciplines and sectors.
9. Incentivize best practices for One Health operationalization.
10. Support implementation plans around the protection of natural habitats (both terrestrial and aquatic) from the excesses of unplanned urbanization, human encroachment, poor waste management and ecosystem pollution (air, land, water).

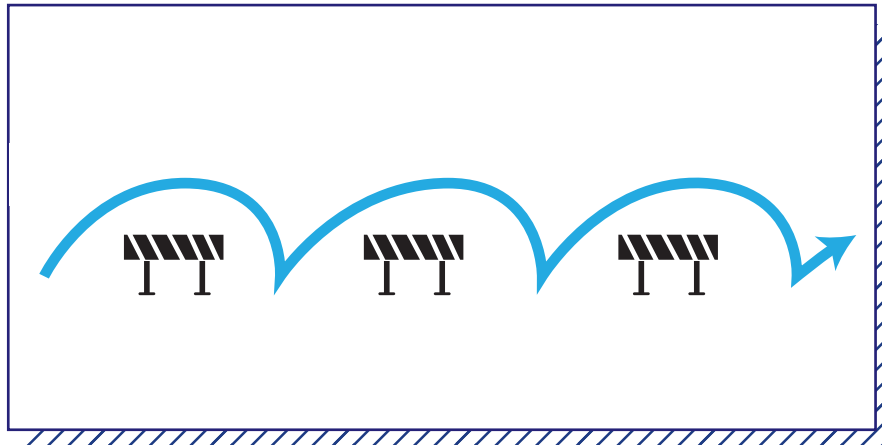
PATHWAY 3

Actions related to strengthening the scientific evidence base, fostering knowledge exchange, technology transfer and continuing education, using better data and evidence to inform best practice, innovation and enabling access to new tools and technologies.

1. Assess the status of natural resources and biodiversity and their relevance to health
2. Review traditional/indigenous forms of knowledge and inputs of marginalized groups and ensure inclusive approaches
3. Assess spillover drivers and identify relevant risk reduction options
4. Identify core components and best practices for One Health surveillance systems
5. Create a global inventory of One Health initiatives, tools, guides, resources, and trainings to serve as a platform for providing reliable and authentic information and data sources

6. Develop and validate training packages, aids and materials for key stakeholders (including governments) at different levels
7. Develop a One Health curricula for different cadres of the One Health workforce and educational materials for all age groups (across primary and secondary schools and higher education institutions) across society
8. Document and disseminate evidence, success stories and good practice
9. Conduct periodic monitoring and evaluation of media, communication materials, packages and initiatives to identify information needs and reach to key stakeholder groups
10. Utilize social science methods to monitor issues and constraints at community level for disease prevention and control to inform appropriate behavioral strategies
11. Analyze data from Quadripartite partners, including assessment/evaluation tools and country reports, to identify critical research gaps and where knowledge reinforcement is needed
12. Collect gender -disaggregated data where relevant to guide design and monitoring and evaluation of relevant One Health initiatives

Barriers and Assumptions



Both internal and external factors to the work of OHHLEP and the Quadripartite Partners (FAO, UNEP, WHO and WOA) will have an effect on achieving ToC outcomes of interest. In order to carry out prioritised activities and successfully implement selected One Health strategies, it is essential to identify and overcome the barriers to change and have options available to adapt to a constantly changing set of internal and external conditions. These conditions can be both enabling or limiting and are listed out below as a set of barriers to implementation and a set of assumptions/enablers critical to achieving outcomes of interest.

LIST OF BARRIERS AND ASSUMPTIONS/ENABLERS

Barriers

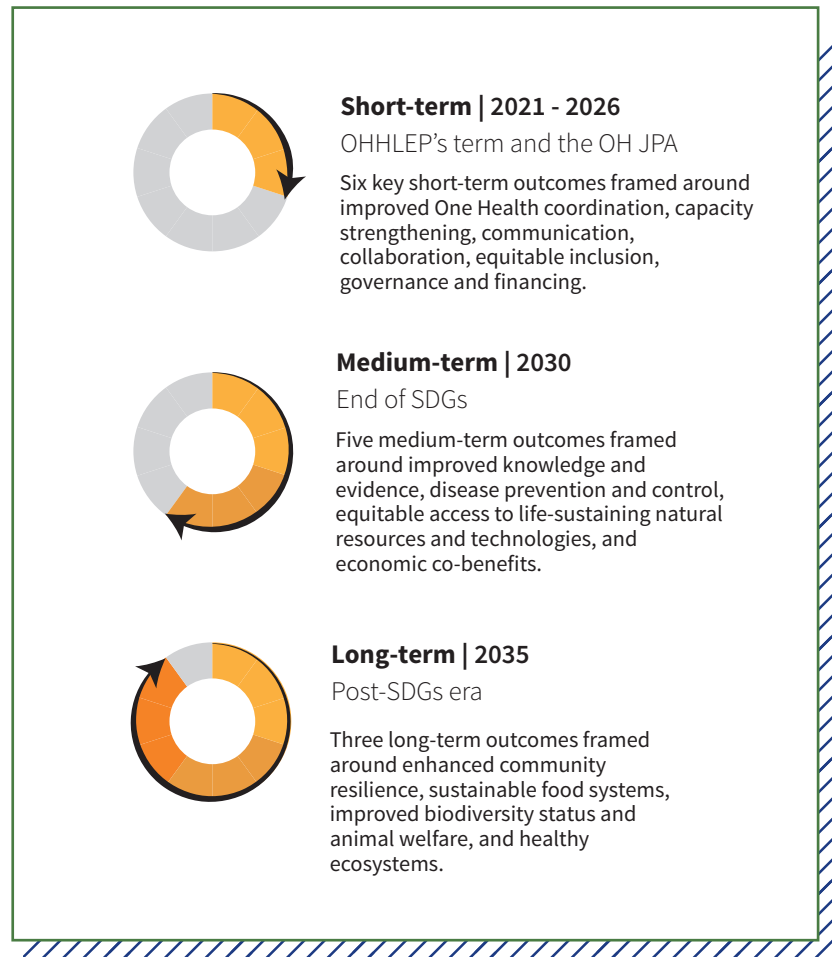
- Wider socio-political context: climate crisis, emerging threats, conflict, global hunger and inequalities.
- Powerful donors/stakeholders having undue influence over prioritisation and resource allocation.
- Limited availability and inadequate use of legal and regulatory frameworks to support One Health practices.
- Poor communication: language and cultural barriers among disciplines and sectors, and between countries.
- Insufficient community inclusion.
- Lack of cooperation between internal and external stakeholders, limited engagement with the environmental sector and professional segregation.
- Limited standardisation around One Health curricula and competency-based frameworks to support education of the One Health workforce.
- Commercial, academic, reputational and profit motives supersede knowledge sharing, technology transfer and collaborative capacity building approaches.

- Limited resources and funds to support dedicated One Health research and implementation.
- Limited evidence of scalable, effective implementation of One Health initiatives.

Assumptions/Enablers

- Political will and sufficient and sustained financing is in place (and can be mobilised) at the global, national, regional and local levels.
- Funding can be mobilised flexibly to ensure all action tracks are sufficiently funded.
- The four organizations and associated sectors can collaborate and harmonise their practices without territorialism, competition and silos adversely impacting on the work.
- Plans enhance equity and empower stakeholders, including civil society, disadvantaged groups and indigenous communities.
- Learning, innovation, and adaptation are intensified by collaborative and cross sectoral work.
- The strategy can effectively disseminate and foster a wider understanding of One Health approaches and concepts across relevant segments of society and at all levels.

Outcomes



The OHHLEP ToC outcomes of interest are set out over a short, medium and long-term timeframe progressing in five-year blocks. Over the short-term and corresponding with the initial term for OHHLEP and the OH JPA (2021 - 2026), six outcomes of interest have been identified. Over the medium-term and leading up to the end of the SDGs era (2030), five outcomes of interest are identified. A further three key outcomes are identified for long-term substantive progress in all regions by 2035.

All outcomes are described in further detail below. The groupings are intended to convey what can realistically be expected in short, medium and long-term timeframes, but in practice the implementation and achievements will be overlapping and cumulative. Anticipation of consequences and impacts (intended or unintended) are expected to be a continuous part of decision making processes, and should be continuously improved, throughout the time horizon of the ToC.

SHORT-TERM (2021-2026)

Six key short term outcomes framed around improved One Health coordination, communication, collaboration, equitable inclusion, governance and financing.

1. Improved disease surveillance, early warning, and control across human, animal and plant health systems to minimize negative health outcomes
2. Improved surveillance of emerging pathogens and monitoring of identified priority drivers
3. Improved One Health coordination mechanisms to enhance collaboration, communication, and capacity building at different levels of society
4. Improved community engagement including marginalized groups, gender-sensitive interventions and minorities.
5. Improved One Health governance at all levels
6. Sufficient funding in place for key One Health plans and improved coordination of global One Health financing

MEDIUM-TERM (2030)

Five medium term outcomes framed around improved knowledge and evidence, capacity strengthening for disease prevention and control, equitable access to life-sustaining natural resources and technologies, and economic co-benefits.

1. Better informed and more inclusive health decision making and resource allocation that considers unintended consequences (for infectious and non-infectious threats/hazards)
2. Improved ability to prevent, detect and respond to zoonoses and other cross-sectoral health threats including public health events of unknown aetiology.
3. Improved stewardship and equitable access to diagnostics, vaccines, therapeutics and other technologies for the control of human, animal and plant diseases
4. Equitable access to clean water and essential macro and micronutrients for humans, animals and ecosystems
5. Demonstrated return on investment and reduced economic impact from One Health-relevant threats

LONG-TERM (2035)

Three long-term outcomes framed around enhanced community resilience, sustainable food systems, improved biodiversity status and animal welfare, and healthy ecosystems

1. Sustainable livestock and agricultural development with improved animal welfare and improved food safety and food/nutrition security
2. Improved ecosystem protection and management including wildlife, biodiversity, energy security, rural and urban development
3. Enhanced resilience of communities through better disease prevention

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DISCLAIMER

This publication was prepared by OHHLEP members who serve in their personal capacity. The opinions expressed in this article are the author's own and do not necessarily reflect the view of the employer or affiliated institution or agency or those of the Quadripartite organizations.



OHHLEP ONE HEALTH THEORY OF CHANGE