One Health Hub UK (OHH)

Implementing evidence synthesis and encourage uptake of findings and recommendations

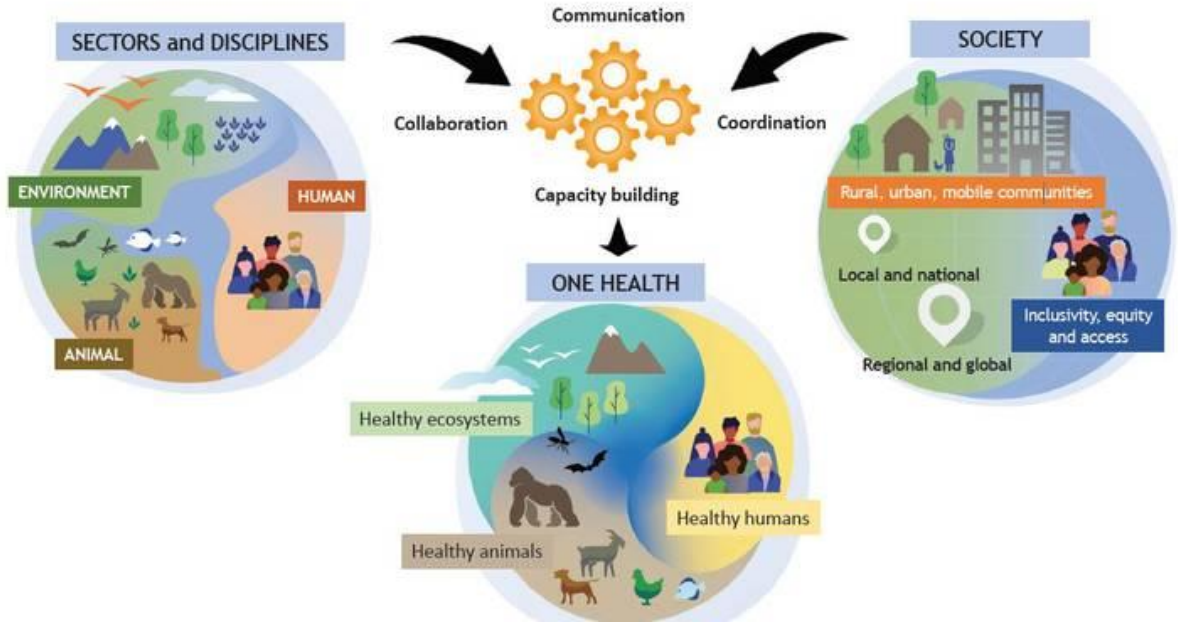
Supporting the integration of One Health approaches

One Health Hub is a **knowledge, evidence and learning** platform

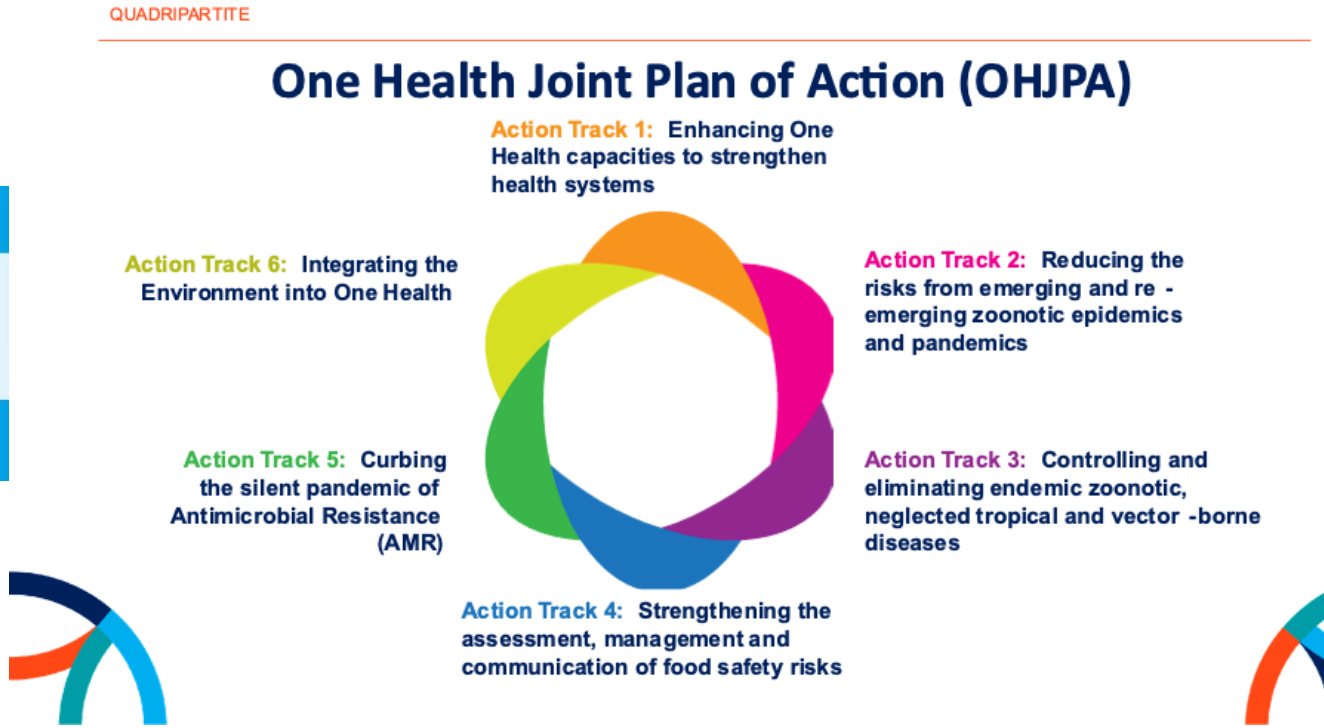
The One Health Hub is funded by UK International Development from the UK Government

What is One Health?

- Recognises that the health of people is closely connected to the health of animals and our shared environment
- Not a new concept but has become more important in recent years, particularly since the COVID-19 pandemic



What is One Health?



CABI One Health action areas

	Action area	One Health problems addressed
Field interventions	1. Integrated service delivery	Pesticide/vet drug risks incl. AMR, zoonoses, mycotoxins, hygiene
	2. Social behavioral change campaigns	Pesticide risks, aflatoxins
	3. Integrated landscape management	Invasive species
	4. Biocontrol of invasives species	Invasive species
	5. Mycotoxin management	Mycotoxins
	6. Soil microbiome	AMR genes

Cross-cutting: Research, evidence, knowledge resources (+ collaboration with OH resources)

One Health Research Roadmap

Visit the roadmap →

Three big questions

The One Health Research Roadmap explores the evolution of One Health research, current knowledge gaps, and future research priorities. By asking where we are, what needs more attention, and where to go next, the roadmap offers strategic insights to guiding researchers, funders, and policymakers to deliver inclusive, impactful, and coordinated One Health solutions.

1. Where are we now?
2. Where are the research gaps?
3. Where do we go next?

Briefs on OH research for policymakers & researchers

One Health research must give voice to Global South

Background

One Health has enjoyed growing popularity over the past decades and po
Health approaches when tackling health challenges. There are now nume
Health and to put its ideas into practice. The number and scale of One He

The One Health Quadripartite's Joint Plan of Action (OH JPA) 2022-26 has o
stresses the importance of collaborations and partnerships that traverse sec
geographical distribution, structures, and power dynamics of such collabora
offer new insights that can help guide scientific and strategic decision-makin

This evidence brief contributes to a One Health research roadmap, produced by the One Health Hub with support from UK International Development.

It is based on a bibliometric analysis of 6168 publications from 2010 to 2024, guided by the Joint Plan of Action (JPA), where One Health appeared in the title or abstract. The study identified where the research was focused and the extent to which researchers from those countries were involved. This brief covers One Health research collaborations, while a second brief from the same study covers trends in One Health research topics.

Key points

The study finds:

- Europe has published 4
2014. While the volume
has been most rapid in E
America has dropped.
- While most research is p
(HICs), there has been in
(e.g. India and Nigeria) a
income countries (LMICs
approximately 20% of all
- One Health research as a
LMICs in Africa and Asia,
hotspots for emerging inf
- Researchers in HICs hav
research, with larger rese
example, 16 out of the to
the top 20 most connect
enjoy higher research ou
action tracks.

The evolution of One Health research

Background

One Health (OH) has been increasingly recognized as an integrated, unifying approach for optimising the health of people
animals, plants, and ecosystems. To guide the design and coordination of global, regional, and national OH initiatives, the
Quadripartite for One Health has developed the One Health Joint Plan of Action (2022–2026) (OH JPA), covering six priori
areas or action tracks (ATs).

However, it was not clear whether OH research had correspondingly evolved from the traditional focus on zoonoses to encompas
other areas within today's broader definition of One Health. Understanding the global trends in research and how these align with
JPA will help funders and policymakers to better advocate for and support OH implementation.

This evidence brief is based on a bibliometric analysis of 6168 publications from 2010 to 2024, guided by the Joint Plan of Action (JPA), where One Health appeared in the title or abstract. Topic modelling was used to map publications against the six JPA action tracks. This brief covers trends in One Health research topics, while a second brief from the same study covers One Health research collaborations.

This evidence brief contributes to a One Health research roadmap, produced by the One Health Hub with support from UK International Development.

Key points

From an analysis of research literature, the study finds:

- The volume of research labelled 'One Health' increased globally over the past
decade, exceeding 200 for the first time in 2017, growing exponentially to 1300
in 2023. This trend may be due to efforts to mitigate disease outbreaks such
as COVID-19, Zika, and Ebola, and the increased labelling of research as 'One
Health' as the term rose to prominence during COVID-19.
- The share of publications across the JPA ATs has shifted from being largely
focused on ATs 1–3 to more balanced proportions (each AT covered in 20–30% of
publications).
  - While AT 6 has lagged behind for most of this period, most recent data suggests that this may have caught up or even surpassed that of other ATs, indicating the increasing importance of integrating the environment in OH research. However, more years of observation would be needed to confirm this shift in trend.
- Animal health and environment are increasingly being examined concurrently across ATs.
- Despite the high impact of pesticides and mycotoxins on food safety and trade; and the impact of biodiversity and land-use change on ecosystem health and zoonotic outbreaks, these topics have had 10- to 100-fold less OH research output compared to zoonoses or antimicrobial resistance.

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One Health research – integ
surveillance tops future prio

Background

The One Health approach offers a unified, cost-effective framework for anticipating, preventi
the interface of human, animal, plant, and environmental health. Despite growing global sup
countries, particularly in Africa and Asia, require context-specific research to guide effective
priorities is essential to ensure that policies and investments are evidence-based and appro

This evidence brief presents the key takeaways for policymakers from the One Health Horizon Scanning project, conducted by Oxford Systematic Reviews (OKSREV) and funded by UK International Development as part of Juno Evidence Alliance's work under the One Health Hub. A participatory, multi-stage methodology was used to identify global research priorities, guided by an expert panel of One Health specialists. Over 400 stakeholders from academia, government, NGOs, and international organizations engaged with the horizon scanning through multilingual surveys, online and in-person workshops, guided by an expert panel of One Health specialists. The process allowed for regional analysis to identify both global consensus and local context, with a specific focus on Africa and Asia.

This evidence brief contributes to a One Health research roadmap, produced by the One Health Hub with support from UK International Development.

Key points

Through the global consultation, five research prio

1. Integrated surveillance systems – Designin
that unite human, livestock, agricultural, an
early detection, community engagement, a
2. Climate change and emerging diseases –
degradation and biodiversity loss contribut
transmission of infectious diseases.
3. Governance mechanisms – Strengthening
at national and international levels within th
4. Antimicrobial resistance (AMR) – Developing multisectoral approaches to prevent and manage AMR across human health, agriculture, and ecosystems.
5. Socio-environmental drivers of disease – Investigating how factors such as climate shifts, migration, and biodiversity loss influence the spread of zoonotic and vector-borne diseases.

The findings also revealed disparities between different age groups, genders, and sectors. Key differences were:

- African respondents prioritized governance and surveillance highly, likely reflecting systemic gaps in public health infrastructure. In contrast, European and North American respondents showed greater interest in predictive modelling and zoonotic risk forecasting.

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Research into zoonotic disease risks needs a One Health approach

Background

Zoonotic diseases pose significant threats to human health and wellbeing, with around 60% of known h
and 75% of newly emerging infections originating from animals. Zoonoses are also responsible for 2.5 b
illness and 2.7 million human deaths globally, each year. Agrifood systems play an integral part in the e
zoonotic diseases. Factors such as land use change, intensifying livestock production and wildlife trade
risks. Meanwhile, the impacts of climate change may pose further challenges. Despite growing recogni
decision-makers lack evidence-based linkages connecting specific practices to the emergence of zoo

This evidence brief is based on an evidence synthesis by the Juno Evidence Alliance and Newcastle University conducted under a collaboration with the One Health Hub. It examined evidence on factors influencing zoonotic disease occurrence in agrifood systems in low- and middle-income countries (LMICs). Researchers conducted systematic mapping searching five bibliographic databases and 17 organizational websites. 7839 of the 49,038 unique publications were identified as potentially relevant using manual screening and machine learning. A 14% random sample (1034 publications) were screened at full text, and 424 of these were included in the map.

This evidence brief contributes to an overall One Health research roadmap, produced by the One Health Hub with support from UK International Development.

Key points

From a systematic mapping of literature, the study revealed:

- No published research on zoonoses risks linked to agrifood
46% of LMICs, which could point to an uneven distribution of
Understanding these disparities can help prioritize research
decision-makers allocate funding to areas with the most urg
agrifood systems.
- The four most commonly investigated categories of factors
  - Exposure to potential hosts or vector species, particul
(featuring in 53% of publications)
  - Social and economic factors (47%)
  - Physical and environmental factors, including land use,
  - Domesticated animal management practices (38%)
- Brucellosis, tapeworm infections, and Toxoplasmosis wer
investigated zoonotic diseases across publications, featu
of publications, respectively. Taxonomically, bacterial zoo
commonly examined, followed by protozoan (24%), and v
- Several key areas related to zoonotic disease occurrence
the published research. These include:
  - Wild animal hosts
  - How exposure to wild animals may influence occurren
domesticated animals

KNOWLE

Time to root plant health in One Health

Background

Plant health is increasingly recognized as a vital pillar of the One Health (OH) approach, which recognizes the interconnection of human, animal, plant and ecosystem health. Yet, plant health is often overlooked in strategic plans.

The One Health Joint Plan of Action (2022–2026) was developed by the UN Quadripartite for One Health – a collaboration between the UN Food and Agriculture Organization (FAO), the UN Environment Programme (UNEP), the World Health Organization (WHO), and the World Organization for Animal Health (WOAH) – to manage cross-sectoral health threats and foster collaboration. Integrating plant health into this strategy is essential to tackling issues such as pesticide risks, mycotoxins, invasive species, and biodiversity loss, which threaten global food security and human health.

This evidence brief contributes to a One Health research roadmap, produced by the One Health Hub with support from UK International Development.

The brief provides the key takeaways from a policy forum article on the critical role of plant health in One Health, supplemented by data from a bibliometric analysis of 6,168 publications from 2010 to 2024 where One Health appeared in the title or abstract. Both papers were published in the journal CABI One Health.

Key points

Despite growing recognition of plant health as an important component of OH, the two worlds remain largely disconnected. Key issues include:

- Narrow conceptual focus – OH discourse and national action plans remain dominated by zoonoses and antimicrobial resistance (AMR), with minimal engagement from plant or agricultural sectors. Plant health tends to be subsumed into 'the environment', with its specific role omitted.
- Limited inclusion in strategy – Plant health is often overlooked in strategic plans within OH. Of 114 activities in the One Health Joint Plan of Action, only one promotes climate-smart approaches to sustainable agriculture. Plant-related risks such as pesticide risks or mycotoxins are not specifically addressed.
- Missed synergies – Analysis of research literature shows that a wealth of cross-sectoral plant health work, such as agroecology, biological control, or pesticide management, is aligned with OH principles but remains 'undeclared'. This (self-) exclusion from the OH framework means plant health remains disconnected from OH communities and funding streams.
- Institutional representation – The disconnect between plant health and OH means the 'plant world' misses the political and institutional clout of bodies like the Quadripartite and the One Health High-Level Expert Panel (OHHLEP), essential for driving global support.
- Funding imbalance – The majority of 17 recently identified OH funding schemes concentrate on human health dimensions such as zoonoses, AMR and pandemic preparedness. Few take plant health into consideration.

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STAR IDAZ International Research Consortium on Animal Health

Bridging the One Health Funding Gap: Strategic Mechanisms for Integrated Research Coordination

Background

Global health security is threatened by a myriad of challenges that emerge at the human-animal-plant-environment interface. But
t international advocacy for a One Health (OH) approach to tackling these threats, research funding remains largely
nd siloed, with a heavy bias toward human health outcomes. This fragmentation risks hampering the implementation
f OH policies.

ce brief synthesizes
m the STAR IDAZ IRC
ing report and a March
nding workshop in
l subsequent report.
op involved over 40
from the Quadripartite
WOAH, UNEP), the
elopment Bank, and
akeholders to identify
llenges to OH research
d co-develop practical
funders and scientists.
e brief contributes to
h research roadmap
y the One Health Hub
t from UK International
nt.

In this context, a One Health Working Group was established by STAR IDAZ International Research Consortium on Animal Health (IRC), the international consortium of animal health research funders and programme owners. The Working Group is focused on identifying recommendations for research funding mechanisms designed to improve the integration of OH approaches more widely into research and implementation.

Key points

Global OH funding comes mainly from international governmental bodies, national research councils, and specific global health initiatives. However, access to funding streams is restricted by "geographical remits" and review processes that favour traditional, single-sector domains:

- **Systemic barriers to integration**: The most significant hurdles include funding timeframes that are too short (often 2–3 years) to realise the benefits of holistic approaches, and "siloed governance" where priorities and funding are not joined up across ministries.

One Health briefs for FCDO health advisers

One Health Brief – 1

Making One Health
Communication, c
governance

Stronger systems don't emerge
through sustained co-ordination,
long before the crisis arrives

One Health Brief – 2

Seeing risk early: Why surveillance and cross-sectoral data sharing matter for One Health

Surveillance only works when information moves across sectors and triggers action. As multi-hazard risks rise, One Health shows where intelligence – and the data behind it – breaks down, and why that matters

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One Health Brief – 3

ople make sy
rkforce matt

g systems depend on
orkforce is fragmented
ss sectors

One Health Brief – 4

At the frontline: Joint community-level service delivery for prevention, outreach and uptake

Routine services and time-bound campaigns – such as vaccination or outreach – can improve reach, efficiency and uptake when delivered jointly across sectors, particularly in underserved populations facing overlapping risks

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One Health Brief – 5

trengthening One
r outbreak manag

tbreak response is faster and n
mal and environmental sectors
ion and learn together – One H
ors before, during and after a c

One Health Brief – 6

Keeping people nourished and safe: Why One Health matters for nutrition and food security in fragile settings

In fragile contexts, nutrition and food security fail when health, agriculture, animal health and environment systems work in isolation

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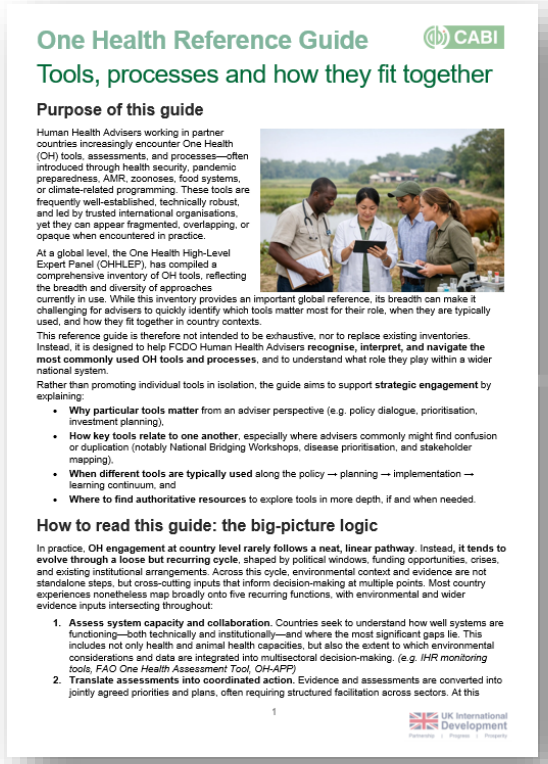
OH Reference Guide of Tools and Processes



One Health Reference Guide

CABI

Tools, processes and how they fit together

Purpose of this guide

Human Health Advisers working in partner countries increasingly encounter One Health (OH) tools, assessments, and processes—often introduced through health security, pandemic preparedness, AMR, zoonoses, food systems, or climate-related programming. These tools are frequently well-established, technically robust, and led by trusted international organisations, yet they can appear fragmented, overlapping, or opaque when encountered in practice.

At a global level, the One Health High-Level Expert Panel (OHHLEP), has compiled a comprehensive inventory of OH tools, reflecting the breadth and diversity of approaches currently in use. While this inventory provides an important global reference, its breadth can make it challenging for advisers to quickly identify which tools matter most for their role, when they are typically used, and how they fit together in country contexts.

This reference guide is therefore not intended to be exhaustive, nor to replace existing inventories. Instead, it is designed to help FCDO Human Health Advisers **recognise, interpret, and navigate the most commonly used OH tools and processes**, and to understand what role they play within a wider national system.

Rather than promoting individual tools in isolation, the guide aims to support **strategic engagement** by explaining:

- **Why particular tools matter** from an adviser perspective (e.g. policy dialogue, prioritisation, investment planning),
- **How key tools relate to one another**, especially where advisers commonly might find confusion or duplication (notably National Bridging Workshops, disease prioritisation, and stakeholder mapping),
- **When different tools are typically used** along the policy → planning → implementation → learning continuum, and
- **Where to find authoritative resources** to explore tools in more depth, if and when needed.

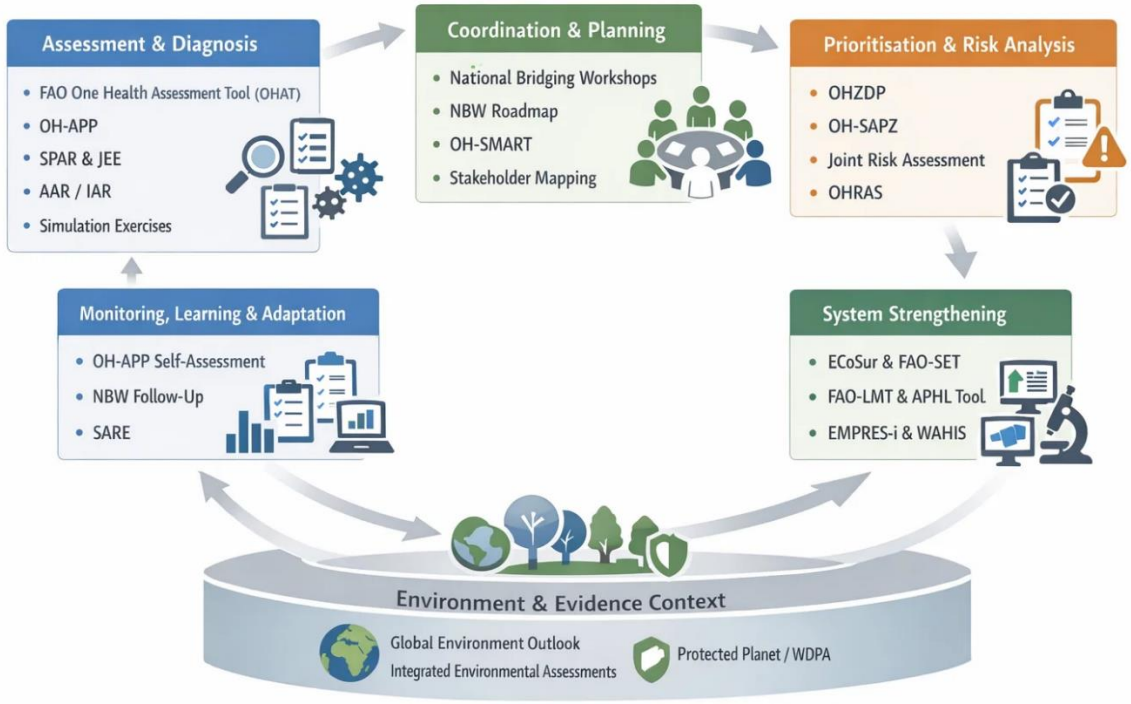
How to read this guide: the big-picture logic

In practice, **OH engagement at country level rarely follows a neat, linear pathway**. Instead, **it tends to evolve through a loose but recurring cycle**, shaped by political windows, funding opportunities, crises, and existing institutional arrangements. Across this cycle, environmental context and evidence are not standalone steps, but cross-cutting inputs that inform decision-making at multiple points. Most country experiences nonetheless map broadly onto five recurring functions, with environmental and wider evidence inputs intersecting throughout:

1. **Assess system capacity and collaboration.** Countries seek to understand how well systems are functioning—both technically and institutionally—and where the most significant gaps lie. This includes not only health and animal health capacities, but also the extent to which environmental considerations and data are integrated into multisectoral decision-making. *(e.g. IHR monitoring tools, FAO One Health Assessment Tool, OH-APP)*
2. **Translate assessments into coordinated action.** Evidence and assessments are converted into jointly agreed priorities and plans, often requiring structured facilitation across sectors. At this

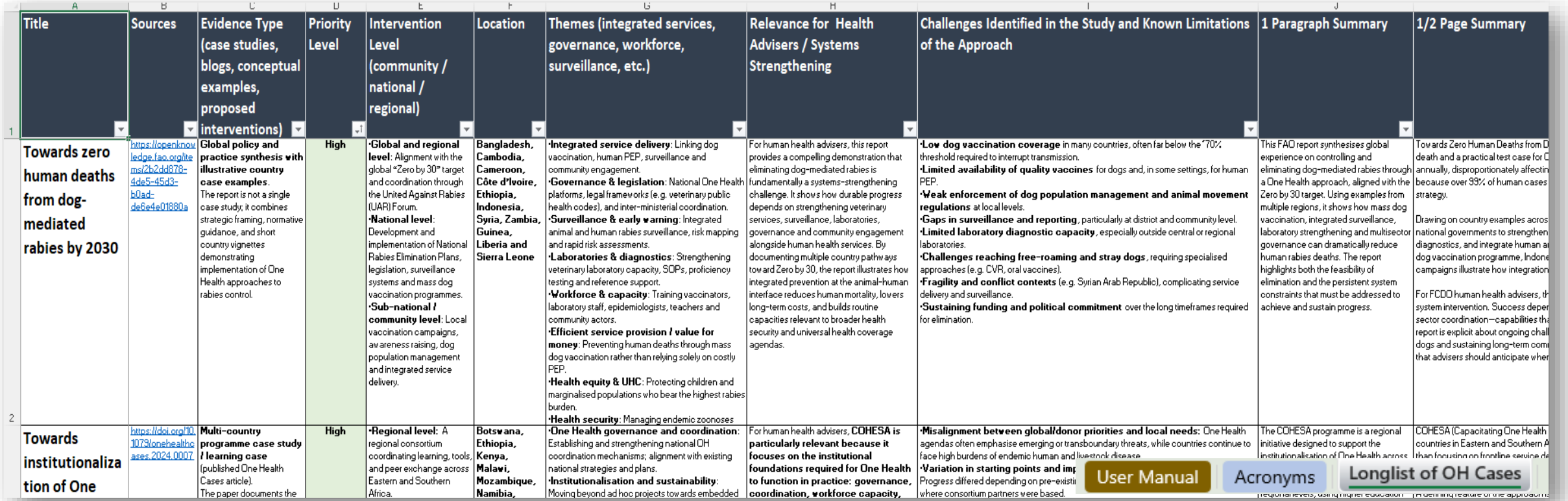
1

UK International Development



The OH Reference Guide presents **a curated sample of 18 tools from the broader inventory compiled by OHHLEP**. Rather than listing tools individually, **the guide groups those perceived as most relevant for advisers into five clusters aligned with the OH policy cycle**: prioritisation, assessment, planning and coordination, implementation, and monitoring and learning. The structure contributes to clarifying how tools fit together over time and supports more coherent, sequenced operationalisation of OH at country level.

Repository of OH Case Studies



Title	Sources	Evidence Type (case studies, blogs, conceptual examples, proposed interventions)	Priority Level	Intervention Level (community / national / regional)	Location	Themes (integrated services, governance, workforce, surveillance, etc.)	Relevance for Health Advisers / Systems Strengthening	Challenges Identified in the Study and Known Limitations of the Approach	1 Paragraph Summary	1/2 Page Summary
Towards zero human deaths from dog-mediated rabies by 2030	https://openknowledge.fao.org/items/2b2dd878-4de5-45d3-b0ad-de6e4e01880a	**Global policy and practice synthesis with illustrative country case examples**. The report is not a single case study; it combines strategic framing, normative guidance, and short country vignettes demonstrating implementation of One Health approaches to rabies control.	High	·**Global and regional level**: Alignment with the global "Zero by 30" target and coordination through the United Against Rabies (UAR) Forum. ·**National level**: Development and implementation of National Rabies Elimination Plans, legislation, surveillance systems and mass dog vaccination programmes. ·**Sub-national / community level**: Local vaccination campaigns, awareness raising, dog population management and integrated service delivery.	**Bangladesh, Cambodia, Cameroon, Côte d'Ivoire, Ethiopia, Indonesia, Syria, Zambia, Guinea, Liberia and Sierra Leone**	·**Integrated service delivery**: Linking dog vaccination, human PEP, surveillance and community engagement. ·**Governance & legislation**: National One Health platforms, legal frameworks (e.g. veterinary public health codes), and inter-ministerial coordination. ·**Surveillance & early warning**: Integrated animal and human rabies surveillance, risk mapping and rapid risk assessments. ·**Laboratories & diagnostics**: Strengthening veterinary laboratory capacity, SOPs, proficiency testing and reference support. ·**Workforce & capacity**: Training vaccinators, laboratory staff, epidemiologists, teachers and community actors. ·**Efficient service provision / value for money**: Preventing human deaths through mass dog vaccination rather than relying solely on costly PEP. ·**Health equity & UHC**: Protecting children and marginalised populations who bear the highest rabies burden. ·**Health security**: Managing endemic zoonoses	For human health advisers, this report provides a compelling demonstration that eliminating dog-mediated rabies is fundamentally a systems-strengthening challenge. It shows how durable progress depends on strengthening veterinary services, surveillance, laboratories, governance and community engagement alongside human health services. By documenting multiple country pathways toward Zero by 30, the report illustrates how integrated prevention at the animal-human interface reduces human mortality, lowers long-term costs, and builds routine capacities relevant to broader health security and universal health coverage agendas.	·**Low dog vaccination coverage** in many countries, often far below the ~70% threshold required to interrupt transmission. ·**Limited availability of quality vaccines** for dogs and, in some settings, for human PEP. ·**Weak enforcement of dog population management and animal movement regulations** at local levels. ·**Gaps in surveillance and reporting**, particularly at district and community level. ·**Limited laboratory diagnostic capacity**, especially outside central or regional laboratories. ·**Challenges reaching free-roaming and stray dogs**, requiring specialised approaches (e.g. CVR, oral vaccines). ·**Fragility and conflict contexts** (e.g. Syrian Arab Republic), complicating service delivery and surveillance. ·**Sustaining funding and political commitment** over the long timeframes required for elimination.	This FAO report synthesises global experience on controlling and eliminating dog-mediated rabies through a One Health approach, aligned with the Zero by 30 target. Using examples from multiple regions, it shows how mass dog vaccination, integrated surveillance, laboratory strengthening and multisector governance can dramatically reduce human rabies deaths. The report highlights both the feasibility of elimination and the persistent system constraints that must be addressed to achieve and sustain progress.	Towards Zero Human Deaths from D death and a practical test case for C annually, disproportionately affectin because over 99% of human cases strategy. Drawing on country examples acros national governments to strengthen diagnostics, and integrate human a dog vaccination programme, Indone campaigns illustrate how integration For FCDO human health advisers, th system intervention. Success deper sector coordination—capabilities tha report is explicit about ongoing chall dogs and sustaining long-term com that advisers should anticipate wher
Towards institutionalization of One	https://doi.org/10.1079/onehealthcases.2024.0007	**Multi-country programme case study / learning case** (published One Health Cases article). The paper documents the	High	·**Regional level:** A regional consortium coordinating learning, tools, and peer exchange across Eastern and Southern Africa.	**Botswana, Ethiopia, Kenya, Malawi, Mozambique, Namibia,**	·**One Health governance and coordination**: Establishing and strengthening national OH coordination mechanisms; alignment with existing national strategies and plans. ·**Institutionalisation and sustainability**: Moving beyond ad hoc projects towards embedded	For human health advisers, **COHESA is particularly relevant because it focuses on the institutional foundations required for One Health to function in practice: governance, coordination, workforce capacity,**	·**Misalignment between global/donor priorities and local needs:** One Health agendas often emphasise emerging or transboundary threats, while countries continue to face high burdens of endemic human and livestock disease. ·**Variation in starting points and imp** Progress differed depending on pre-existi where consortium partners were based.	The COHESA programme is a regional initiative designed to support the institutionalisation of One Health across regional levels, using higher education	COHESA (Capacitating One Health countries in Eastern and Southern A than focusing on frontline service de

User Manual | Acronyms | Longlist of OH Cases

One list of OH Cases. Each of the 40 cases in the long list is presented in a **standardised format** to allow comparison across very different contexts. For each case, the Excel captures: **Case title and reference; Evidence type**; **Intervention level**; **Geographic focus**; **Key themes of relevance to human health advisers**; **Relevance for human health advisers**; **Key challenges experienced; Short and longer summaries**.

Insecticide use and One Health

	Use levels
	High
	Mod-high
	Moderate
	Low-Moderate
	Low
	V Low
	None

Patterns of pesticide use in HIC

Active Ingredient	Human	Crop	Animal
Deltamethrin			
Permethrin			
Bendiocarb			
DDT			
Amitraz			
Cypermethrin			
Chlorpyrifos			
Pirimiphos-methyl			
Alpha-cypermethrin			
Chlorfenvinphos			
Dieldrin			
Clothianidin			

Patterns of pesticide use in LMIC

Human	Crop	Animal

No. papers on resistance by sector focus in Uganda 2010-2025 (bib. study unpubl.)

Human	Crop	Animal	Multi
20		4	2
18			
14			
12			1
		6	
		5	
	1	3	
4			
2		2	
		4	
4			
3			

Question: To what extent/how are cross-sectoral mechanisms contributing to control/ management of insecticides used in vector control?

- Insecticide resistance similar issue to AMR (currently mostly about antibiotics, though growing attention to fungicide resistance. Insecticide resistance not considered part of AMR)
- Same active ingredient used in human vector control, crop pests, animal pests and vectors (ticks)
- Major issue in LMICs where regulatory systems and surveillance fragmented

Pyrethroid resistance – a One Health challenge

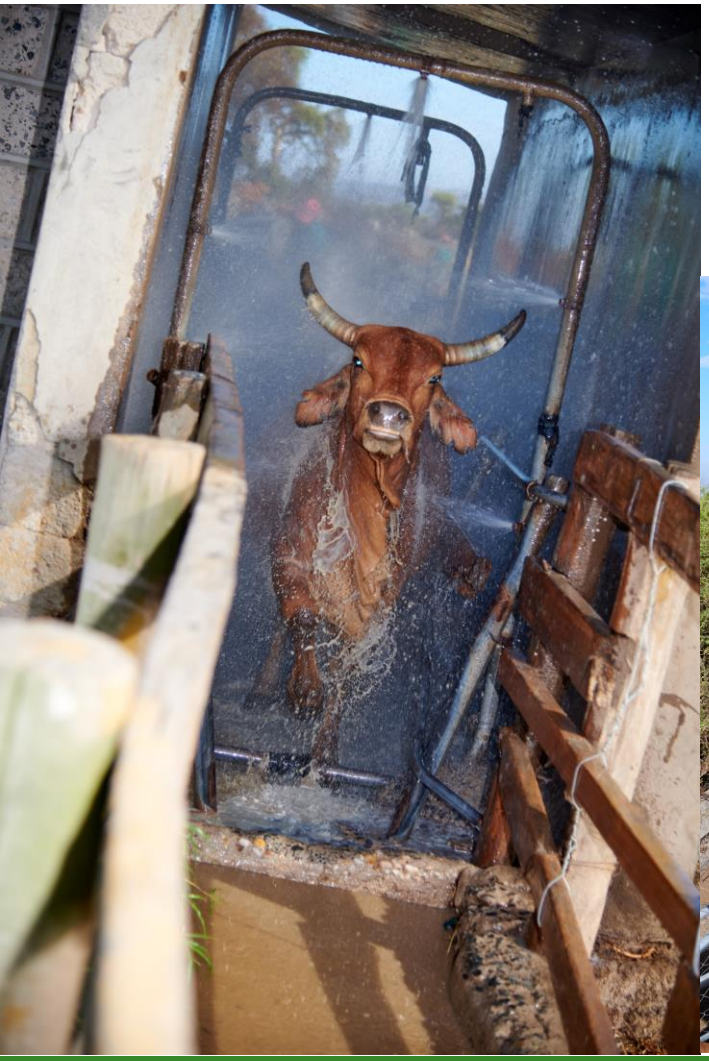
Crop spraying

Pyrethroid resistance – a One Health challenge

Household pest management

Vector management

Pyrethroid resistance – a One Health challenge



Livestock treatment