



NEGLECTED TROPICAL DISEASE NGO NETWORK

A global forum for nongovernmental organizations
working together on NTDs

One Health:

report from consultation for the
NNN Cross Cutting Working Group

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Background

As a concept, One Health means that human, animal and environmental health are interconnected, interdependent and of equal importance. As an approach, it refers to a “collaborative, multisectoral, and transdisciplinary approach with the goal of achieving optimal health outcomes recognizing the interconnection between people, animals, plants, and their shared environment” ([CDC](#)). It is rooted in growing acknowledgement that infectious disease control will not be possible without due emphasis on the role of animal and the environment in their continued transmission.

The zoonotic nature of approximately half of the neglected tropical diseases (NTD), and the increasing role of animals in NTD previously considered to be exclusively human, highlight the role of animal health in human health. Further, the role of climate change and environmental degradation in increasing interactions between humans and wildlife is important to understand zoonotic diseases. Both the human and environmental determinants of zoonotic disease, and thus a large portion of NTD, mean that the concept of One Health is essential to the continued impact and sustainability of NTD programmes.

Linking NTD programmes with animal and environmental health and livelihood programmes offers new and exciting opportunities to increase the reach and uptake of NTD interventions

and potentially reduce costs. Capitalising on these opportunities requires translating these links into policy and programme solutions that include the multiple sectors and stakeholders involved.

The NTD NGO Network (NNN) plays a unique and important role in driving the development and implementation of new programming approaches. The need for the NNN to address One Health through its deliberations has been discussed since the annual meeting in Dakar in 2017, resulting in the formation of a cross-cutting group. During the summer of 2019, the group undertook a two-part consultation to inform its agenda and workplan, consisting of an expert consultation through interviews, and a group consultation at the NNN meeting in Liverpool, September 2019.

This report summarises the outcomes of the consultation and sets out the proposed objectives and priorities for the cross-cutting group.

Results from expert consultation

a. The definition of One Health

Prior to each interview, informants were asked to share their own definition of One Health to set the scene for the discussion. This revealed multiple and at times conflicting definitions of the concept of One Health and its purpose:

- Not *what* you do but *how* you do things. **Interdisciplinary partnerships** to tackle complex problems around the interface between animal & human health, and **optimal solutions** that address issues from different perspectives.
- **Institutional links** that respond to people's (especially those in subsistence agriculture) common concerns: family, livestock and crop health. This can then be further broken down into linking veterinary care and human healthcare, or agriculture outreach and healthcare – institutional links that satisfy the customer.
- **Integrated or joint surveillance and interventions** for human and animal health, and the environment – without concern for sectoral interests, and working towards a common goal.
- The **joint risk assessment** by animal, human and environmental sectors; the ability to get together on one platform and discuss issues relating to public health events.
- The **added value** of collaboration between animal, human and environmental health actors. 'One health' aims to show the added value in a quantitative and qualitative way of a better

collaboration between human, animal and environmental health.ⁱ Collaboration on One Health is not necessary where it does not add value.

b. Service entry points:

Given the strong emphasis on integration and collaboration between human, animal and environmental services, informants were asked to provide examples of entry points through which such services and interventions could be delivered. These are summarised in the table below:

Entry point	Potential benefits
<p>Animal vaccination (e.g. rabies, foot and mouth disease) as platform for human health interventions:</p> <ul style="list-style-type: none"> • Child/women immunisation: nurse vaccinators joining vets through the animal vaccination programme targeting pastoralist groups • STH treatment: Veterinary and medical teams going into rural areas and treating STH in children and adults while vaccinating dogs. <p>Health promotion: hygiene (e.g. community veterinary staff vaccinating cattle against FMD trained to treat pigs for <i>T. solium</i> and discuss cysticercosis prevention with farmers)</p>	<p>Reaching hard-to-reach groups: Pastoral/itinerant communities; out-of-school children</p> <p>Building trust in services: For instance among groups that are less likely to take up healthcare services for social, economic or cultural reasons (in Chad, joint vaccination programmes targeting humans and animals allowed children under the age of 5 and women of reproductive age to get vaccinated)</p> <p>Reach: Rabies is widespread and affects many; attendance of rabies vaccination campaigns is likely to be high. Dog vaccination has the potential to get health professionals into communities quickly and provide a visible and tangible benefit.</p> <p>Engagement: [For STH deworming] Opportunity to engage adults with what is presumed to be a school programme</p> <p>Programme Savings: shared logistics/ cold-chain</p> <p>Household efficiencies: time savings by accessing multiple services at the same time</p>
<p>Plant/agricultural service as platform for women’s health (e.g. combination of plant health services and maternal health services in Uganda). Hubs in district cities providing multiple services to people bringing their plants or animals from surrounding villages.</p>	<p>Adding user value to existing community structures and services</p> <p>Household efficiencies: time savings by accessing multiple services at the same time</p>
<p>Broadening remit of women’s groups/community health groups to include/consider animal and environmental health</p>	

c. Surveillance

Although it is one of many potential areas of integration and collaboration within One Health, surveillance merits separate considerations due to the opportunities it offers. The following entry points were identified:

- **Central level joint risk assessment platform:** Cross institutional/sectoral national level platforms can be effective at identifying clusters of events from human, animal and environmental surveillance that might become a public health threat. The UK Human Animal Infections and Risk Surveillance (HAIRS) working group is an example of such platforms, conducting monthly joint risk assessments on all infectious events globally, developing guidelines and commissioning further data collection. Similar platforms are used in Australia and Ghana. In [the Behavioural adaptations in live poultry trading and farming systems and zoonotic control in Bangladesh \(BALZAC\)](#) project in Bangladesh, a One Health secretariat was formed, convening stakeholders from all public and private sectors working at the human/animal/environment interface to regularly meet to discuss issues of common concern and conduct joint risk assessment of emerging events when they occur. A One Health Strategic Framework for 2017–2021 was also developed as a result.
- **Use of mobile technology for community participation in surveillance:** one example of this is Participatory One Health Disease Detection (PODD), implemented in Thailand and Tanzania, in which volunteers reporting potential human/animal outbreaks and environmental hazards through mobile app, generating a local response from public health and livestock offices, and leading to collaboration with the community on preventative or outbreak control measures. Mobile surveillance in pastoralist populations has also been pilotedⁱⁱ, and has great potential for the follow up of transhumance routes, the surveillance of human and animal diseases, telemedicine, emergency evacuation and long-term follow-ups of treatments. Participants noted that for such approaches to work, the right incentives will need to be put in place, i.e. people must receive a benefit from any of these activities, or at the very least, there should be a clear response mechanism regarding reports. Work in Kenya has shown that farmers may sometimes be unwilling to report a disease due to lack of compensation or feedback, fear of castigation, or if they cannot afford the necessary preventive services (e.g., treatment, vaccination). Furthermore, many diseases are under- or misdiagnosed due to staff shortages and lack of diagnostic capacity.
- **Data analysis across species and populations in the same geographic area:** Data can be gathered from different passive and active systems (e.g. animals as sentinels for likely disease in human population), instead of applying a narrow focus on a specific species or

disease. This offers a broader perspective taking account of multiple problems across these populations. Surveillance activities do not need to be co-located. The [Zoonotic and Emerging Livestock Systems](#) project carries out human surveillance in hospitals and livestock surveillance within the livestock context - and because the data overlap geographically, inferences can be made. Examples of potential benefits of this approach: West Nile Virus surveillance in Italyⁱⁱⁱ is undertaken in insect, animal and human populations to prevent contaminated blood from entering the transfusion cycle; and use of dog cancer data as 'sentinel' surveillance for human cancer originating from environmental exposures (as dogs develop cancer faster than humans).

d. Principles for applying a One Health approach

In addition to specific interventions and collaboration for One Health, interviewees touched on the importance of the approach taken to identification and implementation of these interventions – described below as a suggested set of principles to inform OH best practice.

Local, bottom up

- Locally-relevant interventions through local functions to build community trust
- May not be scalable – and this is fine!
- Given the local focus, extra effort may be needed to sustain national support
- Starting with relatively simple interventions and adding components once the process has been established
- Involvement of local NGOs may be needed/desirable
- What people want as the starting point/ relevant entry point – not the (disease) outcome.
- Recognised the value of animals, as well as cultural and social needs

Institutionalise change

- Garnering political support
- Embedding necessary changes in institutions, monitoring frameworks and funding mechanisms and budgets

Avoid a single-disease/outbreak focus

- Can be used to catalyse action, but every-day challenges matter more to people
- Risk that the specific issue becomes less politically urgent – reduced resources and political support
- Implement broad, overarching policies to cover a range of zoonotic diseases (with subsidiary plans for specific diseases if needed)

Incremental change

- Start small and build momentum

Communication & consistency

- Communication between disciplines can improve cost effectiveness and cost savings

e. Challenges to integration and potential responses

Informants shared their views regarding the main challenges to an integrated One Health approach, as well as potential ways of addressing these challenges. These are matched up as far as possible in the table below.

Challenge	Potential response
FINANCIAL	
<ul style="list-style-type: none"> • Lack of international prioritisation = lack of national prioritisation → lack of resourcing • Dominance of the user pay model and private sector delivery in veterinary practice, creating reliance on private sector and commercial interests to enable action (e.g. purchase of rabies vaccines) • Popularity of One Health undermining funding for Veterinary Public Health • Restrictive modalities of external funding: e.g. funds may be available for interventions in humans but not animals • Those sectors/institutions bearing the costs of the intervention may not be those who gain all the benefits from it, creating a financial disincentive <p><u>Institutional funding</u></p> <ul style="list-style-type: none"> • Lack of funding for coordination, joint response and some interventions 	<ul style="list-style-type: none"> • Shared budgets and/or ability to pool resources • Catalytic funding to support coordination • Accountability frameworks that allocate clear responsibilities for One Health to ensure resource allocation (rather than creating separate budget lines)
CULTURAL	
<ul style="list-style-type: none"> • Resistance to being treated by the same programme/person treating animals • Confusion about whether the programme/intervention is targeted at humans or animals • Resistance to applying medical interventions (e.g. vaccines) to dogs • Power differential between doctors and vets – doctors may be seen as more powerful/knowledgeable than vets by 	<ul style="list-style-type: none"> • Community involvement and consultation prior to the start of co-delivery of interventions, including through community-based facilitators, existing groups and structures, and undertaking sensitisation activities before implementation starts • Consultation with local health and veterinary personnel to avoid

<p>people; doctors may have more power within the programme/intervention structure, and may ignore views/contribution of vets</p>	<p>duplication of efforts and to make use of all existing personnel and infrastructure</p> <ul style="list-style-type: none"> • Involvement of the relevant national programmes (e.g. vaccination, IMCI, deworming etc) • Formal acknowledgement of the needs of specific populations (e.g. Chad MoH establishing Directorate for Nomadic Health)
<p>INSTITUTIONAL (COUNTRY)</p>	
<ul style="list-style-type: none"> • Lack of clear authority/ implementation structure for OH to take approaches forward • Public health agencies focused on large scale implementation are not set up to deliver locally-tailored, small scale approaches • Lack of/ weak community voluntary structures and links with the health system 	<ul style="list-style-type: none"> • Starting local and scaling up may be easier than starting at the national level and cascading down as local relationships can help facilitate collaboration and accountability (this will still require approval by higher level. • Embedding OH in existing frameworks – e.g. HMIS • Establishment of effective communication channels between sectors and services
<p>INSTITUTIONAL (UN/GLOBAL)</p>	
<ul style="list-style-type: none"> • Power, resourcing and prioritisation imbalances within the One Health tripartite arrangement between WHO, FAO and OIE, globally, regionally and at country level • Lack of support to/in countries to meet standards & guidelines set by the tripartite agencies 	<ul style="list-style-type: none"> • Convening of global and national efforts by WHO, utilising its ‘soft power’ and reach at national level in response to country demand and in support of bottom-up processes • Interagency collaboration at regional level (may be easier than at HQ level), which can then drive or support national action

f. Advocacy opportunities

- **The “Leave no one behind” agenda:** a One Health approach can help reach neglected and hard-to-reach communities while strengthening health systems, by ensuring the delivery of targeted, relevant and acceptable interventions in contexts in which the relationship between communities and authorities is characterised by mistrust.

- **Guinea worm eradication:** dog vaccination for rabies can offer a platform for GW case finding and treatment, and more likely to result in dog owner engagement
- **Antimicrobial resistance:** an area of high political and scientific engagement; could catalyse more effective diagnostics and provide resources for medical management and possibly veterinary prevention (given misuse of antibiotics in livestock due to lack of diagnostic). Has the attention of large funders although the main focus is on new drugs, meaning there is justification for engagement on One Health. Success may require a global convention on AMR, and strong involvement from the One Health Commission.
- **Climate change:** One Health as a way of contributing to resilience.
- **The International Health Regulations:** building One Health into self-assessments undertaken by countries and submitted to WHO (e.g. a specific question on linking health services) as a way to leverage country engagement through legitimate channels.

Results of NNN consultation

The consultation, held at the 10th meeting of the NNN in Liverpool, coincided with and drew upon meeting on One Health held at the concurrent European Congress on Tropical Medicine and International Health. Participants were divided into three groups, and asked to discuss the following:

1. What are some of the programming options for (integrated/ coordinated) veterinary public health and NTD interventions?
2. What will it take to achieve the options highlighted in response to Q1?
 - a. Policies
 - b. Tools
 - c. Funding

The responses are summarised in the table below:

Q1: Programme Options	Q2: Enablers (Policies, tools, funding:)
<ul style="list-style-type: none"> • WASH and biosecurity for infection control • Utilise trust in existing platforms and access points (e.g. schools, MDA programmes, MCH clinics, community health) according to likely reach and efficacy • Knowledge sharing e.g. behaviour change communication, WASH programming for animals • NTDs requiring case management vs treatment & care, leads to very engaged groups • Focus on livelihoods rather than health in development of services for communities • Create collaboration across professional and NGO networks • Utilise animal immunisation platforms to reach humans (e.g. with deworming) • Work through local NGOs and networks • Identify activities on which ministries already work together – and facilitate inter-ministerial collaboration • Establish OH mechanism at national and sub-national level/ broaden existing platform remit • At international/global level: Invite donors and partners to meet and brainstorm integration opportunities 	<p>Policy</p> <ul style="list-style-type: none"> • Facilitate knowledge exchange at high level – joint sector reviews as an entry point • Adapt existing policies and frameworks from a OH lens to enhance accountability • Joint training across locations and professions • Interministerial MoUs <p>Tools</p> <ul style="list-style-type: none"> • Livelihoods as outcomes: guidance on how VPH fits in • Tools, guidelines and frameworks for integration – specific information on <i>how to integrate</i> → feeds into funding (Adapt or expand existing WASH toolkit for VPH and environmental aspects?) • Advocacy tools focused on potential funders <p>Funding</p> <ul style="list-style-type: none"> • Creating animal health markets in new communities to encourage increased pharmaceutical company engagement: A UHC package for animals? • Involvement of animal focused charities in programme delivery • Identify sources of catalytic funding based of priorities aligned with advocacy opportunities • Operational research on proof of concept

Recommended actions by the OHCCG

Based on the expert consultation and the discussion at the NNN, the following actions are recommended for discussion by the One Health Cross Cutting group.

- Advocate for and participate in a **One Health platform** convened by WHO/the tripartite (similar platform exists for WASH in healthcare settings, and for cholera) as a legitimate space for discussion and collaboration, and for engagement with other relevant themes and platforms, such as AMR
- Develop a set of clear **advocacy messages** for different audiences including a Joint global roadmap (like for cholera, WASH in HCF)
- Develop **joint goals and indicators/outcome measures** (similar to process done for WASH and NTDs) – based on the recognition that OH currently lacks clear outcome measures. Joint goals and indicators would be interesting for rabies given the focus on elimination.
- **Tools and resources** (toolkit?) for programme managers, based on articulated country needs and evaluated during and after implementation.
- Further engage partners and projects working in wildlife and environmental health
- Explore existing One Health training and advocacy tools and partners working in area such as [One Health Central and Eastern Africa](#) and the [South East Asia One Health University Network](#)

ⁱ Zinsstag et al. (2011) From "one medicine" to "one health" and systemic approaches to health and well-being. *Preventive veterinary medicine*, 101(3–4), 148–156. <https://doi.org/10.1016/j.prevetmed.2010.07.003>

ⁱⁱ Jean-Richard et al. (2014) The use of mobile phones for demographic surveillance of mobile pastoralists and their animals in Chad: proof of principle. *Global health action*, 7, 23209. <https://doi.org/10.3402/gha.v7.23209>

ⁱⁱⁱ Paternoster et al. (2017) Economics of One Health: Costs and benefits of integrated West Nile virus surveillance in Emilia-Romagna. PLoS ONE. 12. <https://doi.org/10.1371/journal.pone.0188156>