



**GERMAN
NETWORK**
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(DNTDs)

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THE ONE HEALTH APPROACH AS KEY FUNCTION TO COMBAT NEGLECTED TROPICAL DISEASES (NTDS)

Antonia Braus (Vétérinaires sans Frontières Germany),
Maria Victoria Larrateguy (Vétérinaires sans Frontières Germany),
Angela R. Schug (Vétérinaires sans Frontières Germany),
Johan Willems (Christoffel Blindenmission CBM)

The German Network against Neglected Tropical Diseases (DNTDs) e. V.

is a national advocacy platform designed to raise awareness on neglected tropical diseases and increase commitment from all parts of the Germany society to fight those diseases. The German Network is supporting the World Health Organization (WHO) in controlling, eliminating or eradicating at least ten of the 20 neglected tropical diseases. The German Network is consisting of various representatives from politic, scientific and research institutes, civil society and the private sector.

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“One Health is a collaborative, multisectoral, and trans-disciplinary approach – working at local, regional, national, and global levels – to achieve optimal health and well-being outcomes recognizing the interconnections between people, animals, plants and their shared environment”¹.

WHY IS THE ONE HEALTH APPROACH CRUCIAL FOR SUCCESS IN THE FIGHT AGAINST NTDs?

Affecting more than a billion people globally², Neglected Tropical Diseases (NTDs) hit the most marginalized and poorest societies and individuals, mainly in the global south where access to safe water, food and healthcare is often limited. Several NTDs can lead to permanent disability and are linked to stigma and social exclusion. They also restrict individuals, families and communities in their ability to earn and sustain a livelihood.

Zoonoses, infectious diseases that can be transmitted between animals (usually vertebrates) and humans, account for more than 60 percent of all human infectious diseases³. They represent a significant burden to human health and have major economic and social consequences for many impoverished communities. Moreover, zoonoses coming from wildlife represent one of the most significant



global health threats of our time⁴, as the Ebola epidemic demonstrated in 2014. Several of the 20 diseases recognised as NTDs are foodborne, caused by agents transmitted by vertebrate animals (zoonoses) or vertebrate animals are involved in the life cycles of the agents (intermediate hosts). As an example, it is suspected that dogs thwart the eradication of dracunculiasis (guinea worm) as they act as alternative hosts for the worm⁵. The Department of Control of Neglected Tropical Diseases of the World Health Organization (WHO) has identified rabies, taeniasis / cysticercosis, echinococcosis and foodborne trematodiasis as priority neglected zoonotic diseases (zNTDs), with the potential to target control at both human and animal hosts. The most common routes of transmission of zoonoses, including the zNTDs, are through direct contact with an infected animal or consumption of unsafe animal food products. The greatest burden of zNTDs – which range from tapeworm infections to the invariably fatal rabies – affects the one billion livestock keepers in Africa and Asia who depend on their animals for livelihood, nutrition and sustenance. Most of these often impoverished and marginalized communities lack access to basic services, including those for water, sanitation and hygiene (WASH), education and for their own health and that of their animals⁶.

Keeping livestock is a central survival strategy for rural populations worldwide and contributes to the livelihood of 70 percent of the world's 1.4 billion people living in poverty⁷. These indigent communities are highly at risk for infections with zNTDs while living in close contact with their animals. Livestock often determines a family's social status and serves as financial protection and nutrition. The close relationship between animals and humans results in high risks for infection with zoonoses and zNTDs. Controlling zoonotic diseases and zNTDs is an important and often overlooked tool for human and economic development.

In addition to close contact with animals, low standards of water, sanitation and hygiene (WASH) practices play a crucial role in the transmission of many NTDs, including Schistosomiasis, Trachoma and Soil-Transmitted Helminths⁸.



The holistic One Health approach acknowledges that the health of people, domestic animals, food production and -safety, as well as the state of wildlife and the environment are inextricably inter-linked. Innovative community-centred and interdisciplinary approaches are required to fight those complex health and development challenges, and move towards attaining health for people, domestic animals, wildlife and environment.

The fourth WHO report on NTDs (2017) argues that, for NTDs, the principal challenge will be to combine the different streams of activity into a comprehensive One Health approach. Essential to developing the required synergies, is ensuring systematic cross-sectoral collaboration, including planning, budgeting, implementation and monitoring and evaluation, among all relevant stakeholders and institutions⁹.

Disease control and elimination measures such as universal access to veterinary and public health services, safe food, water, sanitation and hygiene as well as improved farming practices and information systems require the intersectoral allocation of resources. Synergies through the holistic One Health approach, which enhances the sharing of knowledge, infrastructure, veterinary and public health resources, as well as social and environmental sectors, lead to significant savings enhancing the return on investment¹⁰.

Such cost-saving opportunities were highlighted in a 2014 review of the metrics for One Health benefits¹¹ noting cost savings through sharing of resources and increased cost effectiveness for control and elimination interventions when human and animal health are investigated as a single social system (e.g. rabies and improved vaccination coverage).

In addition to other One Health initiatives, the International Fund for Agricultural Development (IFAD) intends to mobilize resources to enable rural people living in poverty to improve their food security and nutrition, raise their incomes and strengthen their resilience against NTDs.

Frameworks for One Health:

Sustainable Development Goals (SDGs)

The Sustainable Development Goals embody the One Health approach by emphasizing the interconnectedness of different development disciplines. The control, elimination and eradication of NTDs are of greatest relevance for SDG 3 (the health goal) but affect and are affected by almost all of the other goals. For instance, NTD programs play an important role in reducing the financial burden of healthcare costs and prevent people from becoming unable to earn and sustain a livelihood, contributing in this way to SDG 1 (no poverty). The alignment of different disciplines is also evident for the Goals 2 (Zero Hunger), 4 (Quality Education), 6 (Clean Water and Sanitation), 11 (Sustainable Cities and Communities) and 17 (Partnerships for the Goals)¹². The One Health approach thereby assumes the role of a key catalyser for achieving the targets set out in the Agenda 2030 for Sustainable Development.

Best Practice

Mass vaccination is the most effective tool in the control of rabies, as up to 99 per cent of human rabies infections are caused by dog bites. Vétérinaires sans Frontières Germany has been conducting mass vaccination in dogs in Kenya for over twelve years now to prevent rabies in both, humans and animals. Besides vaccination, the organization raises awareness for the disease as well as other zoonoses via sustainable training of Community Animal Healths Workers and by installing billboards in the communities.



UHC and Stewardship for pro-poor health systems strengthening

Universal Health Coverage (UHC) and Health Systems Strengthening (HSS) have become priorities in the portfolio of many global health and development actors. Using NTDs as leverage, programs should be built around these priorities, incorporating a systemic approach with established NTD interventions, which focus on the most vulnerable part of the population. Multisectoral development projects enable investments that are targeted at the poorest and most marginalised communities that are 'not just' created for the purpose of eliminating a single disease, but strengthen systems through establishing processes, building local capacity and sharing expertise useful to others (e.g. last-mile supply chains for NTDs and food supply chains). NTD activities and interventions under the One Health approach must be integrated into broader health and development systems and UHC. This integration is essential to promote physical and mental well-being, and to increase the quality of life and life expectancy for all so that "no one is left behind". Promoting inclusion, it also increases equity, social inclusion and cohesion, and influences development priorities¹³.

Multisectoral project design

There are many opportunities to build bridges between the agriculture, nutrition, water and sanitation sectors, and health in humans and animals. A concerted effort is needed to design programs

that have synchronised goals and result in efficient and effective cross-sectorial programs. Another option is to retrofit NTD-components into existing projects. Therefore, we would suggest a series of workshops between actors from ministries, implementing agencies, NGOs, pharmaceutical companies and research institutions that would work out concrete projects.

Project monitoring and operational implementation research

Conceptual links between health and other sectors are becoming increasingly well-documented. Yet, concrete multisectoral projects on the ground are still scarce and few systematic evaluations have been done on improving surveillance / early detection of emerging and re-emerging diseases. Therefore, operational research, data-driven monitoring and evaluation, should be included in the design of all new multisectoral projects to fill this gap.

We aim to utilize the political momentum for horizontal and integrated programs to promote the One Health approach as a multidisciplinary game-changer to achieve the goals for eradication, elimination and substantial reduction of the burden of NTDs for the most vulnerable in the population.

The German Network against Neglected Tropical Diseases (DNTDs) promotes the One Health approach:

Control and elimination of NTDs offers a feasible and highly cost-effective approach for alleviating poverty especially in remote rural areas and marginalized peri-urban communities. NTD and zNTD transmissions are directly and indirectly influenced by socio-cultural, economic, and ecological factors. The One Health approach is essential to target all these elements together. One Health provides a comprehensive framework for collaboration and coordination between human healthcare services, veterinary public health (VPH) services and environmental programmes, including those covering water, sanitation and hygiene (WASH).

The DNTDs plays an important role as an advocate of the One Health approach by promoting collaboration between non-governmental organizations (NGOs), private sector and governmental actors, and by sharing information and best practices.

- ✓ **Diversity:** The DNTDs brings together a set of diverse actors for cross-sectoral collaboration towards the development and implementation of evidence-based best practices.
- ✓ **Common experience:** Network members have gained substantial experience in dealing with the challenges of reaching marginalised communities to deliver multi-pronged control and elimination programmes.
- ✓ **Catalytic role:** The Network has a track record as a catalyst for concrete action by international organisations, by convening key stakeholders, including implementers, researchers and funders.

The role of the DNTDs in One Health:

Bringing together multiple stakeholders of VPH, NGO, private, academia, and WASH sectors, as well as government representatives to promote the One Health approach and develop a community of practice, in order to:

- ✓ Convene practitioners to share knowledge and relevant experience – through an expanded membership, action-oriented discussions and relevant action groups;
- ✓ Generate tools and preferred practice frameworks to support endemic countries and partners in the delivery and monitoring of inclusive programmes;
- ✓ Develop a comprehensive advocacy agenda to increase understanding around the importance of the One Health approach, such as addressing animal and environmental health factors in NTD control and the inclusion of veterinary public health in the NTD agenda;
- ✓ Bring together researchers and implementers to develop context-specific best practice and documentation frameworks.

Endnotes

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