Neglected zoonoses

OHRECA
One Health Centre in Africa

Problem statement

Zoonoses are diseases naturally transmitted between people and animals, and comprise approximately 60% of all human diseases. While the world's focus is on the real and present danger posed by the two-thirds of emerging diseases which are of zoonotic origin, the burden imposed from endemic diseases such as *brucellosis* (undulant fever) and *cysticercosis* (pork tapeworm) is large and often overlooked. These endemic diseases cause an estimated one billion illnesses and millions of deaths every year, and are associated with malnutrition through multiple pathways. Many of these diseases have been 'neglected' by policymakers and clinicians due to under-reporting and association with marginalised communities. Along with other tropical diseases such as soil transmitted helminths these can be seen as 'neglected diseases of neglected populations.

Zoonotic diseases impose a dual burden upon communities, impacting the health and wellbeing of humans as well as their livestock. Animal health impacts include reduced productivity, livestock mortality and downgrading of livestock products with consequential economic losses.

How we are addressing the problem

Building on approximately 20 years of research by the International Livestock Research Institute (ILRI) and partners, the Neglected Zoonotic Diseases theme will address four key thematic areas.

- Support the economic evaluation of control strategies for selected zoonoses and seek out the added value where control may also improve the profitability of livestock enterprises and food safety. In addition, monitoring processes may be utilised for early warning of emerging infectious diseases and evaluating the impact of the intervention on the use of antimicrobials and other veterinary pharmaceuticals.
- Support the development of integrated surveillance technologies for both endemic and emerging zoonoses to facilitate data sharing and joint responses between sectors.
- Provide flexible support to ILRI scientists and our partners to address foundational research gaps within the neglected zoonoses across sub-Saharan Africa focusing on their health and economic burden and transmission dynamics in humans and animals.

- Build One Health capacity in the region in partnership with ILRI Capacity Development department and other partners.

Role of One Health

For many zoonoses a 'One Health' approach to control is proposed, where infections are addressed in both the human and animal hosts. The integration of data collected in both humans and livestock can result in faster responses to disease outbreaks and fewer human cases. In some situations, One Health approaches provide enhanced economic benefits compared to single host or single sector approaches. These economic benefits include the potential for human and animal health sectors to share facilities and resources such as laboratories, IT systems and investigation team members.

Expected outcomes

Among the proposed outcomes in this area are the following.

- Generating evidence which improves the prioritization and control of zoonotic diseases, including the provision of risk maps and mathematical models as decision support tools.
- Establishing evidence-based protocols for the deployment of novel surveillance and control tools and integrating these protocols into official programs.
- Improving implementation of national disease control policies.
- Generating empirical data on the cost-effectiveness of One Health approaches to zoonoses control.
- Strengthening consortia for progressive control or eradication of high priority zoonoses n
- Strengthening regional capacity in One Health through graduate fellowships and other outreach and educational activities.

One Health Centre in Africa

The International Livestock Research Institute (ILRI) has established a One Health Research, Education and Outreach Centre in Africa (OHRECA) with support from the German Federal Ministry for Economic Cooperation and Development (BMZ). The centre's primary goal will be to enhance human, animal and ecosystem health by developing capacity in One Health, supporting One Health network initiatives, and developing pathways from evidence to policy and practice.

The centre's research and development activities are implemented under four themes, each having its own defined technical (scientific), capacity and policy outputs and outcomes. The four themes are:

- preventing emerging infectious diseases;
- controlling neglected zoonoses;
- ensuring safe food; and
- reducing antimicrobial resistance

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