

outcome HIGHLIGHTS

Under the One Health vaccination campaign, veterinarians and human health specialists travel together to aid pastoralists. In this image from Chad, women and children are vaccinated in addition to the pastoralists' cattle.

Photo: Daniel Weibel

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One Health

Human and animal health specialists: making use of synergy

In brief

- The One Health approach encourages doctors and veterinarians to work together in a joint field of human and animal health – particularly in the case of vaccines.
- Application of the approach led to improved health behaviour among mobile populations in Chad and better understanding of disease transmission patterns in Kyrgyzstan.



Research featured here was conducted in West Africa and Kyrgyzstan

Though human and veterinary medicine are kept separate in most countries, they overlap in many ways. Often, cooperation between the two sectors would save costs and better combat disease. Under a concept known as One Health, researchers from the Swiss Tropical and Public Health Institute (Swiss TPH) have partnered with others in Africa and Asia and successfully laid the groundwork for closer cooperation between human and veterinary medicine. They make use of synergy and pool resources – for example, when refrigerating vaccines and transporting them to remote populations; or when diagnosing and managing zoonoses, diseases which are transmissible between animals and humans.

Joint vaccination campaigns

Focusing on mobile pastoralist communities in West Africa, researchers found that the pastoralists' livestock were often better vaccinated than their children. On the one hand, the pastoralists' mobility made it difficult to bring their children to fixed village health centres. On the other, some avoided health centres for fear of being discriminated against. In certain cases, researchers found that the

pastoralists were wary of academic medicine, preferring instead to visit traditional healers.

Livestock are mobile peoples' main source of subsistence, income, and social standing. The health of their animals is paramount. In Chad, researchers observed that veterinary services were more mobile than medical services. This inspired them to develop a joint vaccination campaign, sending health personnel such as nurses and midwives to join the veterinary specialists already visiting remote areas. They also created an information campaign, presenting materials on health, hygiene, human reproduction, and HIV/AIDS to the mobile communities on each visit.

The joint vaccination strategy led to a 15% savings in operational costs for Chad's public health sector and increased vaccination rates among the country's mobile groups. Previously, very few pastoralist children were vaccinated against measles, tuberculosis, polio, diphtheria, tetanus, or whooping cough. After the campaigns, 40% of the children were fully vaccinated; and 80% partially. Moreover, the information campaign



NCCR North-South researchers from Côte d'Ivoire and Switzerland collaborated with experts in Kyrgyzstan to investigate the disease transmission pathways of brucellosis, a disease affecting both humans and their livestock.

Photo: Jaldoshek Kasymbekov

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triggered changes in the pastoralists' health behaviour, including notable improvements in hygiene practices and use of contraceptives.

Maintaining higher rates of immunisation remains challenging, however. It requires sustained information campaigns that effectively convey the importance of revaccination. Further, animal and human health specialists must strive continuously to harmonise their schedules.

Controlling zoonoses

Wherever governments maintain a strict separation between human and animal health, the risk of missing opportunities for specialists from each field to inform each other of emerging zoonotic diseases is great. And yet, there is vast potential for innovative, cost-effective control of zoonoses. Understanding transmission pathways is key. In Kyrgyzstan, for instance, researchers have begun testing livestock owners and their animals for brucellosis simultaneously, in order to identify sources of exposure to the disease. The data they generate can provide a basis for

cooperation between local human and animal health authorities.

Meeting the challenge

The One Health approach must work to overcome entrenched health curricula and sectoral health policies. One of the project's biggest assets here is its transdisciplinarity: including affected communities in the decision-making process can help to improve health services in resource-poor areas. Further, project leaders at Swiss TPH stress the importance of putting local experts in charge of research: this, they say, contributed greatly to Chadian veterinary institutes' and governmental interest in the project. Interdisciplinarity was also key to the project's success: veterinarians, physicians, geographers, ethnologists, and biologists were all involved in the project.

Joint health services have since been expanded to communities in Northern Mali. In addition, researchers are studying the feasibility of introducing One Health approaches in Switzerland, drawing on practical experiences in Africa and Asia.

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- World Health Organization
- Swiss Federal Veterinary Office

Further reading

Zinsstag J, Schelling E, Wyss K, Bechir M. 2005. Potential of cooperation between human and animal health to strengthen health systems. *Lancet* 366:2142-2145.

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Outcome Highlights feature effective collaborations between researchers, policymakers, practitioners, and local communities in the NCCR North-South network.

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