University of Basel

One Health: Connecting Humans, Animals and the Environment
Video Transcript

Why One Health makes sense

[Jakob Zinsstag]: Cooperation between human and animal health produces shortfalls. This is also true in industrialised countries, like the Netherlands. Q fever is a highly contagious bacterial disease that can be transmitted from sheep, goat, and cattle to humans. Q fever can cause abortions in ruminants. The transmission takes place by air but also by contact and contaminated food. From 2007 to 2009, over 3,000 people got infected with Q fever in the Netherlands, with typical seasonal peaks. The origin of the outbreak were large-scale goat farms in the south-east of the Netherlands, spreading to a large part of the country. The Dutch public-health authorities complained that they were not informed sufficiently early by the veterinary authorities about the outbreak in goats.

A better communication between public and animal health could have prevented a large number of human Q fever cases. There remains a huge divide between human and veterinary medicine borne from unprecedented overspecialisation of disciplines and increasingly reductionist approaches to scientific inquiry. The current fragmentation of medical science is hence not congruent with the needs for complex problem-solving, not only within human medicine but even more so at the interface of humans, animals, and their environment. This leads to misinterpretation in the fields of comparative pathology or, by lack of cooperation, to the late recognition of infectious disease outbreaks, as in the discussed example of Q fever in the Netherlands.

Communication between physicians and veterinarians is nearly absent or very weak, and doctors don't feel competent to talk about sources of zoonosis to their patients. Despite the importance of understanding the life cycle of pathogens in humans and both domestic and wild animals, most national and international health organisations monitor human or domestic animal disease separately. Public health and veterinarian governmental authorities often only start cooperating when they face outbreaks of emerging zoonosis. Collaboration between Ethiopian public health and veterinary departments started only during the outbreaks of Rift Valley fever in 2006. Similarly, collaboration between those departments started in Tajikistan during the anthrax outbreak in 2007. Referring to these examples, Martin Enserink states: 'a closer collaboration of animal and human health should benefit both.' Collaboration between veterinarians and physicians and other related sciences should produce benefits that are much more than merely additive.

The beyond-additive, value-added benefits are related to direct positive outcomes, not just in reduced risks, improved health, or well-being of animals and humans but also in financial savings, reduced time to detection of disease outbreaks, and subsequent public-health actions, as well as improved environmental services. To fully understand the range of potential benefits implies a deeper and comprehensive recognition and understanding of how humans and animals and their environment are interrelated. Equally important, it requires a demonstration and documentation of the benefits and added values resulting from the cross-talk and closer cooperation between human and animal health.
The challenge is now to demonstrate additional benefits and added value from closer cooperation of human and animal health. We need quantitative as well as qualitative methods, genuine One Health methods to provide the evidence.