



One Health: Connecting Humans, Animals and the Environment

Video Transcript

Shortfalls

[Jakob Zinsstag]: Human and veterinary medicine are two different disciplines that often don't work enough together. Sometimes this lack of cooperation can have fatal consequences. Let me give you some examples. For more than 16 years, we've been working on rabies control in Africa. We made small-scale trials in N'Djamena, Chad, vaccinating dogs. We could prove that it is possible to reach sufficient coverage to interrupt transmission of rabies to humans. We then talked to the Minister of Health. We asked him for support to mass vaccinate dogs against rabies, but he denied us assistance. He told us that he was in charge of humans and not of dogs.

Thus, the separation of human and animal health prevented us from a possibility to prevent human death by dog rabies. Another example of such a rather unlucky division happened in Kyrgyzstan where we were working on brucellosis. Collecting bacterial strains of brucellosis from aborted sheep, goat, and cattle, we found *Brucella melitensis* to be the dominating strain. We asked then public health authorities of Kyrgyzstan if they would make available *Brucella* isolated from humans. We wanted to type them by molecular methods in order to identify the source of transmission, the big question being how *Brucella* was transmitted between humans and animals. But the Kyrgyzstani public health authorities refused to collaborate. They did not want to share *Brucella* strains. We thus were not allowed to try and identify the source of human infection.

Over the past decades, we observed an accelerating sequence of emerging and re-emerging zoonoses. Although many high-income countries are able to contain them, many low-income countries cannot respond adequately to existing and emerging zoonoses. In Mauritania, for instance, outbreaks of Rift Valley fever among people were mistakenly identified as yellow fever. The correct diagnosis was only made after contacting the livestock services who recorded abortions in livestock due to Rift Valley fever. Similarly, in Sub-Saharan Africa clinicians often ascribe fever to malaria while an estimated 50% to 80% of fevers result from other causes. In a case study on fever-related diseases in Mali, physicians considered potential zoonotic diseases only after veterinarians had identified risk factors for the transmission of zoonoses like brucellosis or Q fever.

Many people argue that such shortfalls happen in Africa or Asia but no longer in more industrialised countries. We don't think this is true, and you will see later that the need for more integrated approaches between human and animal health and other disciplines is universal and applies very well also to highly-industrialized countries.