

Cattle, sheep and goats may transmit leptospirosis to humans in Tanzania

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Leptospirosis, which affects more than one million people worldwide each year, is known to be transmitted to humans from a wide range of animals. Now, researchers reporting in *PLOS Neglected Tropical Diseases* have discovered that more than 7 percent of the cattle and 1 percent of sheep and goats in local slaughterhouses in northern Tanzania are infected with *Leptospira* bacteria.

Leptospirosis is a disease caused by infection with bacteria of the genus *Leptospira*. In humans, the disease can range in severity from mild to severe disease leading to kidney damage, liver failure, or death. The disease is most common in tropical environments, but occurs worldwide, particularly in people who work outdoors or with [animals](#). Acute [leptospirosis](#) is an important cause of febrile disease in Tanzania, where little is known about the most common sources of infection in humans.

In the new work conducted in northern Tanzania, Kathryn Allan, of the University of Glasgow, UK, and colleagues tested rodents, [cattle](#), goats and sheep for *Leptospira* infection. Animals were sampled in the catchment areas of two hospitals that had high prevalence of patients with leptospirosis. Small samples of kidney tissue were collected and used to test for the bacteria.

Among 384 trapped rodents trapped, no animals were found to carry *Leptospira* infection. In contrast, *Leptospira* was detected in kidney samples from 7.1% of cattle, 1.2% of goats, and 1.1% of sheep. As well as having a high prevalence of infection, cattle were found to be carrying

four different types of *Leptospira* bacteria, all of which have the potential to cause [disease](#) in people.

"Our study makes a substantial contribution to the growing body of evidence that livestock, especially cattle, play an important role in the epidemiology of human leptospirosis in sub-Saharan Africa," the researchers say. "Our findings support recent hospital studies that have identified cattle farming as a major risk factor for human infection. Understanding the factors that support the transmission of *Leptospira* from livestock to people are important priorities for future public health research and could help us develop effect control measures to reduce both human and animal [infection](#)."

More information: Allan KJ, Halliday JEB, Moseley M, Carter RW, Ahmed A, et al. (2018) Assessment of animal hosts of pathogenic *Leptospira* in northern Tanzania. *PLOS Neglected Tropical Diseases* 12(6): e0006444. doi.org/10.1371/journal.pntd.0006444

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