

b Leptospirosis in a Correctional Services facility in the Western Cape Province

The NICD was requested by the Department of Correctional Services to assist with investigation and management of leptospirosis that had been identified in two awaiting trial prisoners in a facility in the Western Cape Province. A site assessment was done on 2nd of September, by members of the NICD Outbreak Response Unit, Centre for and Zoonotic Diseases, infectious diseases physicians and infection control nurses from local hospitals, the Western Cape Provincial Communicable Diseases Co-ordinator and environmental health practitioners.

Leptospirosis is endemic to South Africa, with a number of case series having been reported from the Western Cape and Gauteng Provinces in the 1950s and 60s. Serological surveys of dogs, that like humans, fall ill from leptospirosis, have revealed that the organisms are more common in the coastal regions of South Africa, particularly Kwa-Zulu Natal. A case of leptospirosis has been reported in the Communiqué as recently as June 2015 (<http://nicd.ac.za/?page=archives&id=134>). Exposure to *Leptospira* species occurs when humans come into contact with infected rodent urine. The organism survives in moist environments, and infection occurs when the organisms enter through intact mucous membranes, via drinking of contaminated water, or through abrasions or cuts in the skin. In South Africa, most cases of leptospirosis have been sporadic, amongst persons with identified exposures to rodents or other animals. Globally, high-profile outbreaks of leptospirosis have occurred in outdoor recreational events such as

triathlons, or open water swimming, when ingestion of contaminated water or exposure to contaminated water sources most likely occurred. Leptospirosis presents as a spectrum of illness from mild or asymptomatic with non-specific symptoms including fever and myalgias, to severe life-threatening Weil's disease with renal and liver failure, presenting as overwhelming sepsis and jaundice. *Leptospira* species are highly susceptible to penicillin, the drug of choice for treating moderate to severe disease. Doxycycline is suitable for treatment of mild disease. Diagnosis is through PCR of blood (positive up to 7 days post-infection) and serology. IgM levels remain high for 3-12 months post-illness.

A review of the facility revealed extensive opportunity for inmate exposure to rodent-contaminated environments through a combination of overcrowding, difficulties in achieving adequate waste management, and blocked drains. Recommendations were made to the Department of Correctional Services regarding elimination of rodent activity in the facility and prevention of further cases. Pre-emptive treatment for leptospirosis amongst persons with non-specific symptoms, and early referral for investigation were advised.

Source: Division of Public Health Surveillance and Response, NICD-NHLS; Infectious Diseases, Groote Schuur Hospital; Victoria Hospital, Wynberg; Communicable Diseases Control and Environmental Health, Western Cape Province

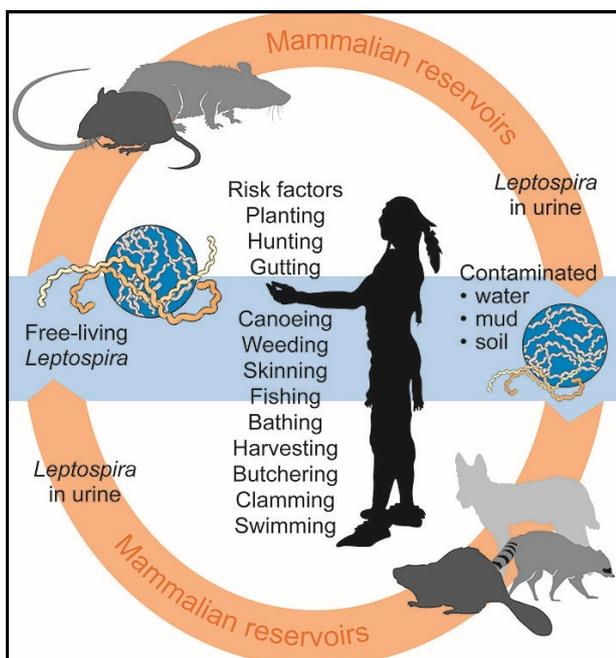


Figure 4 (left). Diagram illustrating the perpetuation of *Leptospira* species in the environment through contamination with rodent urine. Humans and other mammals are accidentally infected. (photo courtesy wikipedia.com)

Figure 5 (below). Electron micrograph illustrating the thin, helical *Leptospira* bacteria (photo courtesy equestrianoutreach.com)

