

Leptospirosis and Rainfall in the Pacific: Does it Tell Us Enough?

Anne Johnson

The zoonotic disease leptospirosis, caused by the bacterium *Leptospira* spp., currently poses a threat to human health in the Pacific. This threat is expected to increase with future climate change. The study aimed to determine whether rainfall can be used to predict incidence in the Pacific, and if so, whether this can inform public health management and prevention strategies.

Incidence data provided for French Polynesia for the period 2006-2012 cross-referenced with available rainfall data from the region found no statistically significant correlations between extreme rainfall events and reported incidence, although patterns of seasonality were evident. However, it was documented that an epidemic of leptospirosis in Tahiti during 2010 was linked to heavy rains caused by Cyclone Oli. The findings suggest that for rainfall data to be used in public health planning and management of the disease in developing Pacific states, modifications to data collection would be essential.

Critical evaluation of the ability to predict incidence and outbreaks of leptospirosis via meteorological data is used to suggest future research into a) causality in the Pacific region and b) expected changes in incidence as a result of future climate change.