1 ZOONOTIC AND VECTOR-BORNE DISEASES

a An update on rabies in South Africa

A case of rabies was confirmed in an eight-year-old boy from Canzibe, Eastern Cape Province. A history of possible contact with a rabid dog, six weeks before onset of illness, was reported but the details could not be verified. The child presented to an Eastern Cape hospital with “strange violent” movements, vomiting, hiccupps, spasms and hydrophobia. A single saliva was collected for testing before the patient demised. The sample tested positive for rabies by PCR and sequencing.

A total of ten human rabies cases has been confirmed in South Africa for 2018 to date. This includes five cases from KwaZulu-Natal and five cases from the Eastern Cape (including the case reported here) provinces. In addition, two probable cases of rabies were reported from the Eastern Cape Province. These cases could not be confirmed through laboratory testing, but fulfilled the clinical case definition of rabies and both cases had a history of exposure to a likely rabid animal.

The rise in the number of human cases reported from the Eastern Cape and KwaZulu-Natal coincides with the outbreak of rabies in dogs (and cats) experienced in the two provinces. Rabies can be prevented by ensuring vaccination of dogs and cats, and through prompt post-exposure prophylaxis following a possible exposure to a rabid animal. For more information regarding rabies post-exposure prophylaxis, visit the NICD website: www.nicd.ac.za

Source: Centre for Emerging Zoonotic and Parasitic Diseases, NICD-NHLS; januszp@nicd.ac.za

b An update on human cases of Rift Valley fever on a farm in the Jacobsdal area, Free State Province

Cases of Rift Valley fever (RVF) were reported on 16 May 2018 in 250 sheep on a farm in the Jacobsdal area of Free State Province by the Department of Agriculture, Forestry and Fisheries (DAFF). The disease causes a flu-like illness in most humans, but could progress in a minority to either retinitis with permanent blindness, or severe forms like encephalitis or bleeding manifestations that may lead to death. Initial epidemiological investigation and testing of humans living on the affected farm, who were involved in handling of potentially infected animals, revealed four confirmed cases of RVF, and four probable cases, as reported in the June 2018 Communiqué. Further laboratory testing led to the confirmation of RVF in the four probable cases. Retrospective testing of whole blood revealed the presence of RVF viral nucleic acid in three of the initial four cases. Sequencing studies have been conducted and further phylogenetic analyses are underway to determine the viral lineage responsible for the 2018 outbreak. Six of the eight individuals confirmed to have been infected with RVF virus reported a history of a mild flu-like illness. All confirmed cases underwent an ophthalmic examination but had no signs of eye complications. The outbreak remained limited to one farm, unlike the widespread epidemic which occurred in southern Africa during 2008-2011. There is neither treatment nor vaccine for people. The farmers in the area have been advised by DAFF to vaccinate animals to prevent further outbreaks in the coming 2018/19 summer period. Individuals can prevent exposure by wearing protective clothing and equipment (aprons, gloves, masks, goggles) while working with infected animals, or avoid handling of animals all together during outbreaks. Healthcare worker guidelines and RVF case investigation forms are available from the NICD website, www.nicd.ac.za

Source: Centre for Emerging Zoonotic and Parasitic Diseases, NICD-NHLS (januszp@nicd.ac.za)

c A cluster of leptospirosis cases in Bushbuckridge, Mpumalanga Province

In 2012, a study to identify zoonotic aetiologies for acute adult febrile illness in the Mnis community of Bushbuckridge, Mpumalanga Province, was initiated within NICD. Adults over the age of 18 years presenting to three local community clinics with fever were enrolled and tested for a number of zoonotic diseases, including leptospirosis. This surveillance recently identified three cases of leptospirosis. The first was identified in late April 2018, subsequently, two more cases were identified in the month of June 2018. They presented with fever and malaise. The diagnosis was confirmed on serology on all three cases. All three responded well to antibiotics and there were no complications. All the cases live in the same village in moderately close proximity to each other. The sudden spike of positive cases and the geographical proximity caused concern, thus prompting an investigation.

Leptospirosis is a zoonotic disease spread through the infected urine of animals such as rodents, cattle, dogs and pigs (Figure 1). In areas where people and animals live in close proximity, the possibility for transmission of zoonotic diseases such as
An update on the outbreak of *Listeria monocytogenes*, South Africa

leptospirosis is high. A 2015 systematic review of leptospirosis in Africa found that the prevalence in humans ranged from 2.3% to 19.8% in hospital patients with febrile illness. In South Africa, cases are sporadic, with the most recent outbreak occurring in a prison in 2015.

Given the rarity of leptospirosis outbreaks as well as the animal origin of disease, a One Health approach to the investigation was undertaken. The approach integrates human, animal and environmental role players in a coordinated, collaborative, multidisciplinary and cross-sectoral approach to address potential or existing risks that originate at the animal-human-ecosystems interface (Figure 2). The ‘One Health’ investigative team travelled to the households of the cases in Bushbuckridge, with the aim of collecting risk factor and environmental exposure data.

A review of the households revealed opportunities for human exposure to leptospirosis through animal contact, in particular rodents and domestic animals such as cattle and dogs. Blood samples taken from household members of cases, and animals in their immediate environment as well as water samples from their yards were, however, negative for leptospires. Regardless of these results, awareness among community members and healthcare workers on the prevention and recognition of zoonoses, including leptospirosis continues, to be provided.

**Source:** Centre for Emerging Zoonotic and Parasitic Diseases, Division of Public Health Surveillance and Response, Mpumalanga Provincial Epidemiology, NICD -NHLS; University of Pretoria Faculty of Veterinary Science, and Mpumalanga Provincial CDC (johnf@nicd.ac.za)

![Figure 1. Leptospirosis transmission cycle](image)

![Figure 2. The 'One Health' triad](image)

## FOOD-AND WATER-BORNE DISEASES

### 2 An update on the outbreak of *Listeria monocytogenes*, South Africa

The number of laboratory-confirmed listeriosis cases reported per week has decreased since the outbreak source was identified and the implicated ready-to-eat processed meat products recalled on 04 March 2018 (Figure 3). Since the recall, a total of 87 cases has been reported.

As of 20 July 2018, a total of 1 060 laboratory-confirmed listeriosis cases has been reported to NICD since 01 January 2017. Most cases have been reported from Gauteng Province (58%, 614/1 060) followed by Western Cape (13%, 136/1 060) and KwaZulu-Natal (8%, 83/1 060) provinces. Cases have been diagnosed in both public (64%, 680/1 060) and private (36%, 380/1 060) healthcare sectors. Outcome is known for 808/1 060 (76%) patients of whom 217 (27%) have died (Figure 4).

Females account for 56% (577/1 035) of cases where gender is reported. Where age was reported (n=1 039), ages range from birth to 93 years (median 18 years) – Figure 5. Neonates aged ≤28 days account for 43% (443/1 039) of cases. Of neonatal cases, 95% (423/443) had early-onset disease (birth to ≤6 days).

Although outbreak-related cases have declined sharply, sporadic cases (i.e. not epidemiologically linked) continue to be reported, as expected. Therefore, healthcare workers are encouraged to continue providing risk reduction guidance to persons at high risk for developing listeriosis (pregnant women, neonates ≤28 days of age, persons >65 years of age, and persons with immunosuppression (due to HIV infection, cancer, diabetes, chronic renal disease, chronic liver disease, transplantation and immunosuppressive therapy)). Such guidance