

BEYOND OUR BORDERS

The 'Beyond our Borders' column focuses on selected and current international diseases that may affect South Africans travelling abroad. Numbers correspond to Figure 2 on page 7.

Brucellosis – China: Gansu

As of Monday 14 September 2020, a total of 3 245 people had tested positive for brucellosis in Lanzhou, North West of China's Gansu Province. This is according to an investigational report into the brucellosis antibody positive event that occurred in December 2019, at Lanzhou Veterinary Research Institute. A total of 21 877 people had been tested with 3 245 positive cases being confirmed by the Gansu Provincial Centre for Disease Control and Prevention.

The main exposure is said to have occurred between 24 June 2019 and 20 August 2020 when Zhongmu Lanzhou biological pharmaceutical factory, near the Lanzhou Veterinary Research Institute, used expired disinfectant in the process of brucella vaccine production for animal use. This led to incomplete sterilisation of the waste gas from the production fermentation tank. The waste gas carrying the fermentation liquid, containing bacteria, formed bacteria-containing aerosols. During the production period, the prevailing wind direction in the region was

southeast, making Lanzhou Veterinary Research Institute directly downwind of the factory and resulting in the observed infections. The factory has reported this as an accidental exposure.

A report released by the Health Commission of Lanzhou this month states that compensation will be carried out in batches in October 2020 to effectively protect people's health and interests. In addition to this, 11 public medical institutions have been designated as relevant hospitals, with green channels and specialised clinics to provide free and convenient health testing and standardised treatment. Health records have been established for those who tested positive, and specially assigned staff will carry out monthly health follow-ups with the infected individuals. There is also a drive to increase public awareness of the disease which will include on site and online counselling, telephone hotlines and the distribution of information brochures.

Tick-Borne Encephalitis (TBE) – Germany

Germany has seen record numbers of tick-borne encephalitis cases with more than 530 human cases reported to the German governmental agency, Robert Koch-Institute. This year about 90% of all cases have been reported from the federal states of Baden-Württemberg and Bavaria. Historically, districts at higher altitudes of 550 to over 600 meters above sea level are more heavily affected than districts in lower altitude due to higher population of ticks in these regions.

Authorities are indirectly attributing part of the increase in cases to the COVID-19 pandemic. Due to the pandemic many citizens have spent their holidays in Germany, especially in the mountainous recreational areas of Southern Germany. As such, there has been increased exposure to ticks in these regions and consequently increased risk of TBE infections.

In addition to the described indirect COVID effect, record numbers of ticks have been observed for three consecutive years with unusually high numbers of TBE virus (TBEV)-infected adult ticks in 2020. The change of weather (and climate change in a longer aspect) during the last years, with record temperatures and mild winters, is the apparent reason for increased survival of ticks and for an intensified virus circulation among rodents and ticks at the higher altitudes.

The current TBE vaccination recommendations for inhabitants and visitors must be revisited and adapted to the new epidemiological situation.

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West Nile Virus (WNV), USA: Florida

Miami-Dade County has now seen more than 50 reported cases of West Nile virus since the first two cases of the infection in May this year. On Friday 11 September 2020, the Florida Department of Health in Miami-Dade County announced five more human cases, bringing the total count to 54 cases in 2020. Miami-Dade County's mosquito-control chief attributes much of the resurgence in the summer to heavy rains causing an increase in mosquito populations. As such, the county has been placed under a mosquito-borne-illness alert. The health department has also been working with the Department of Solid Waste Management to introduce mosquito control prevention efforts in the exposure areas. The state department of Health says the West Nile virus is the leading cause of

mosquito-borne disease in the United States. Health officials have encouraged the motto "drain and cover." This promotes draining of standing water in garbage cans, gutters, buckets, pools, coolers, birdbaths, pet water bowls and the like, to reduce areas where mosquitos can lay eggs and thrive. In addition, residents should cover with clothing and apply repellent for protection from mosquitos.

So far this year, as of 9 September 2020, the CDC has reported 81 cases in 18 states country wide. It is expected that transmission of WNV will continue across the USA until the onset of killing frosts ends mosquito activity for the year.

Salmonellosis – USA, Canada

In Canada, there have been 506 confirmed cases of *Salmonella* Newport (*enterica* serotype), as of 14 September 2020, linked to a *Salmonella* outbreak associated with onions. This outbreak spans several Canadian provinces and has also crossed to the USA side of the border where it has affected at least 1 012 people across 47 states (as reported 1 September 2020).

Public health officials in the USA report having identified 34 illness clusters in 13 of the implicated states. Information on 23 of the 34 clusters was collected at restaurants and grocery stores. Of the patients interviewed thus far in the USA, 90% report specifically eating onions or foods

containing onions during the days before they developed symptoms of *Salmonella* infection.

The company that had shipped and supplied the implicated onions has initiated recalls of their onions and related onion-products in both Canada and the USA. Investigations conducted by the Canadian Food Inspection Agency and the USA Food and Drug Administration have shown a link between the illness and red onions; however because of the way the onions are grown, harvested and packed, other onion types (e.g. white, yellow or sweet yellow) are also likely to be implicated.



Figure 2. Current outbreaks/events that may have implications for travellers. Numbers correspond to text above. The red dot is the approximate location of the outbreak or event.