

## ZOONOTIC AND VECTOR-BORNE DISEASES

### An update on rabies in South Africa, 2021

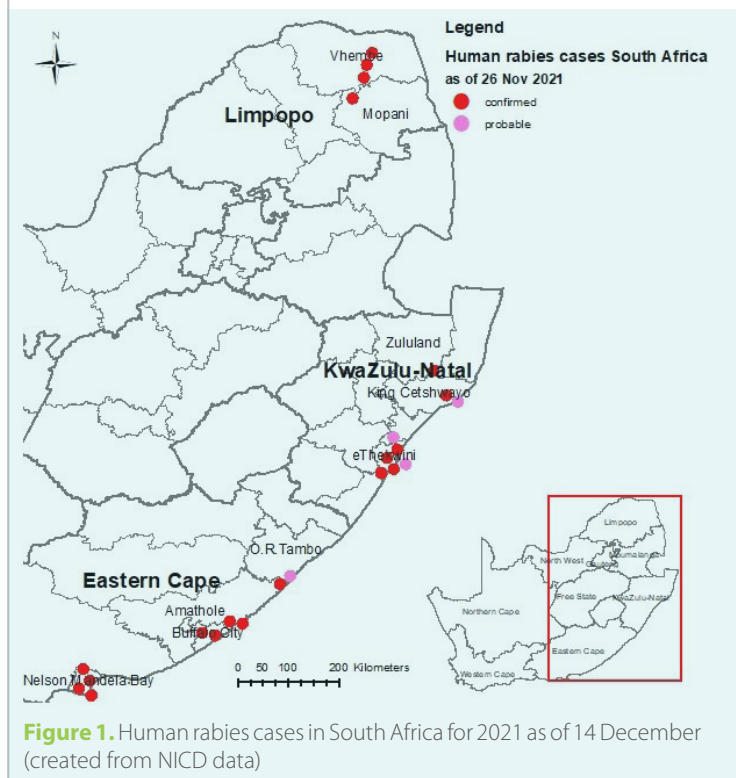
As of 14 December 2021, a total of 19 laboratory-confirmed human rabies cases has been reported in South Africa for 2021 (Figure 1). The cases are from Eastern Cape (n=9), KwaZulu-Natal (n=6) and Limpopo (n=4) provinces. In addition, four probable rabies cases were reported from KwaZulu-Natal (n=3) and the Eastern Cape (n=1) provinces. A probable case of rabies is defined as a person who has had a history of contact with a suspected or confirmed rabid animal and has developed an acute encephalitis with hyperactivity and paralytic signs and symptoms that progressed and resulted in death, usually by cardiac or respiratory failure, typically within ten days.

Since the previous NICD Communiqué report, three cases of human rabies were reported (these cases are included in the total provided above). Two cases were laboratory confirmed whilst a third is reported as probable. The confirmed cases were reported from KwaZulu-Natal Province (n=2). The first case involved a 10-year-old boy from eThekweni, reporting a dog bite on the leg in August 2021. The second case involved an 11-year-old boy, also from eThekweni. No dog bites or other animal exposures were reported in this case, but the area is amidst a marked outbreak of rabies in dogs. Both cases were confirmed by RT-PCR on ante-mortem collected saliva samples. The third case, categorized as a probable rabies case, involved a four-year-old child from Mapuzi, Mqanduli, OR Tambo District, Eastern Cape Province. The child was exposed to a dog at his grandparent's home. It is reported that no post-exposure management was sought, and only wound cleaning was done at home. The child died in November 2021 following clinical diagnosis of rabies. No samples were available for laboratory investigation.

Rabies is preventable in humans with prompt rabies post-exposure prophylaxis (PEP).<sup>1</sup> For the 23 rabies cases (19 laboratory-confirmed and 4 probable) reported in 2021 to date, several issues in the delivery of rabies PEP were noted. For 14 cases (60.9%) apparently, no post-exposure intervention was sought. For nine cases, about a third of cases, post-exposure intervention was noted, but with deviation from recommendations:<sup>1-3</sup> no rabies immunoglobulin (RIG) provided and series of four vaccinations not completed (n=3, 33.3%); no RIG but full course of vaccination (n=1, 11.1%); or received RIG but not full course of vaccination (n=2, 22.2%). For three cases (33.3%) both RIG and full course of vaccination was provided; for two of these cases, facial wounds were reported. For most cases, the course on wound treatment was not available for analysis. Rabies PEP is considered a lifesaving intervention when provided appropriately and according to international guidelines.<sup>1-3</sup> Wound treatment, including copious washing of all wounds with soap and water, is important to physically and chemically remove virus

from the wound site.<sup>1-3</sup> This can be performed at home and then repeated at the health care facility. Rabies vaccination should be provided intramuscularly with one dose administered each on days 0, 3, 7 and 14.<sup>1,3</sup> Follow-up strategies are important to ensure that patients do not default the full course of vaccination. The administration of RIG is crucial in providing neutralization of virus present in and around the wound site whilst the immune response is activated following vaccination. The RIG should be infiltrated, up to the maximum calculated dosage, in and around the wound site/s, ensuring that all wound sites receive RIG.<sup>1,3</sup> In some cases, sedation/general anaesthesia may be required in order to facilitate proper infiltration.

The NICD website, [www.nicd.ac.za/rabies](http://www.nicd.ac.za/rabies), has more information on rabies and rabies PEP.



**Figure 1.** Human rabies cases in South Africa for 2021 as of 14 December (created from NICD data)

<sup>1</sup>World Health Organization. Rabies vaccines: WHO position paper – April 2018. Available from: [http://www.who.int/entity/rabies/resources/who\\_wer9316/en/index.html](http://www.who.int/entity/rabies/resources/who_wer9316/en/index.html) (as accessed 15 August 2020).

<sup>2</sup>Standard Treatment Guidelines and Essential Medicines List for South Africa. Primary Healthcare Level, 2020 Edition, National Department of Health, South Africa. Accessed from:

<https://www.knowledgehub.org.za/elibrary/primary-healthcare-phc-standard-treatment-guidelines-and-essential-medicines-list-south>.

<sup>3</sup>Draft National Guidelines for the Prevention of Rabies in Humans in South Africa, September 2021. Accessed from: [www.nicd.ac.za/rabies](http://www.nicd.ac.za/rabies)