

## e Rabies

There were no additional reports of laboratory-confirmed cases of human rabies in South Africa for the month of August 2014. For 2014 to date, a total of five rabies human cases has been laboratory confirmed at the National Institute for Communicable Diseases (NICD). These cases involved four South Africans who acquired rabies within the country in Eastern Cape (n=2), Limpopo (n=1) and North West (n=1) provinces. The fifth case was a South African citizen who acquired the disease in Angola but was medically evacuated to South Africa for care.

In the past decade, a total of 138 rabies deaths was confirmed by specialised diagnostic testing at the NICD, which is the only facility in the country that performs rabies testing for human cases. Rabies is fully preventable if correct post-exposure prophylaxis (PEP) is administered, and yet human deaths occur every year - of which many are undiagnosed and go unnoticed in South Africa, as elsewhere in the developing world. Many countries in Africa and elsewhere lack adequate laboratory confirmation and reporting systems as a result of logistic and financial constraints. In South Africa, despite having the necessary laboratory expertise, rabies remains under-recognised and under-reported even though it is a notifiable disease.

Rates of dog bite injury consultations at healthcare facilities are high in both the public and private South African health sectors. Despite these figures being poorly documented, it suggests that the reported human rabies cases are only the 'tip of the iceberg'. The lack of accurate data has rendered rabies a low public health and veterinary priority. Under-reporting in South Africa is compounded by other factors. Rabies is difficult to diagnose clinically and has a broad spectrum of differential diagnosis, including tetanus, bacterial meningitis, other viral encephalitides, and non-infectious aetiologies (such as drug reactions, poisoning and delirium tremens), which complicates clinical recognition of rabies in human patients. The clinical presentation of rabies is also not consistent and may present as

encephalitic or paralytic forms. The encephalitic form may include the characteristic signs of hydrophobia, hallucinations and aggression (although these are not universally present); whilst the paralytic form includes ascending paralysis from the site of the original injury. Furthermore, ante-mortem testing is often inconclusive. These laboratory investigations includes PCR applied to saliva, cerebrospinal fluid (CSF) and skin biopsy specimens. An intermittent pattern of virus shedding in saliva mandates testing of multiple specimens. CSF specimens are also tested, but these tests are not sensitive. Post-mortem confirmation requires testing of brain biopsy specimens with a direct fluorescent antibody assay as the gold standard. Obtaining consent for invasive necropsy is often problematic, and contributes to the number of clinically suspected cases which remain unconfirmed. Skin biopsies are additional specimens that may also be tested for post-mortem confirmation of cases. A major challenge in the prevention of human rabies is poor public awareness of the risk of rabies. This results in many animal exposure victims not presenting to healthcare facilities for consideration of rabies PEP.

This month the world celebrates World Rabies Day with the theme of '*Together Against Rabies!*'. This theme reiterates the importance of cohesive activities to control and prevent rabies in all sectors. Events and programs for World Rabies Day are aimed at increasing awareness for the prevention and control of this deadly disease. More information regarding World Rabies Day may be found at <http://rabiesalliance.org/world-rabies-day/>.

Health professionals and members of the public can access more information on rabies through the NICD website: [www.nicd.ac.za](http://www.nicd.ac.za) in order to prevent human cases.

**Source:** Division of Public Health Surveillance and Response and Centre for Emerging and Zoonotic Diseases, NICD-NHLS