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bulletin

Fighting dog-mediated rabies in Namibia and Angola: progress and challenges

Training of the vaccinators prior to the vaccination campaigns. © DVS/Namibia

A large-scale mass dog vaccination campaign under implementation since 2016 in the Northern Communal Area of Namibia has significantly reduced rabies deaths in dogs and humans, contributing to the global goal of ending dog-mediated human rabies deaths by 2030.

Dog-mediated rabies is a public health concern in the Northern Communal Area (NCA) of Namibia, causing an estimated 242 human deaths during the past two decades (1, 2). Aligned with the One Health concept, the Namibian Government adopted a National Rabies Control Strategy in 2015, which strives to contribute to the global goal of eliminating dog-mediated human rabies deaths by 2030 (3).

Subsequently, in 2015, the Namibian Government launched a national rabies elimination project to support the implementation of the Control Strategy. In March 2016 the pilot phase began in the Oshana region with a roll-out to all NCA regions from March 2017 onwards (2). The Namibian programme has been supported by an OIE project which is funded by the German Federal Ministry of Food and Agriculture, with technical coordination and support by the OIE and the Friedrich-Loeffler-Institut (FLI) in Germany (3). The ongoing programme is also flanked by cross-border activities in Southern Angola and an OIE laboratory twinning project between the Namibian Central Veterinary Laboratory (CVL) in Windhoek and the FLI as an OIE Reference Laboratory for Rabies.

Training and awareness education campaigns

Training sessions for vaccination teams, district veterinary officers, district medical officers, health workers and laboratory staff were organised in preparation for, and prior to, annual vaccination campaigns. Rabies

public awareness and education events were also conducted prior to vaccination campaigns using media channels (television, radio, newspapers), display of posters and banners, distribution of leaflets and school-based awareness campaigns that reached more than 56,500 students in 161 schools (3).

Rabies awareness education given to children at school and at the vaccination points in Namibia. © DVS/Namibia

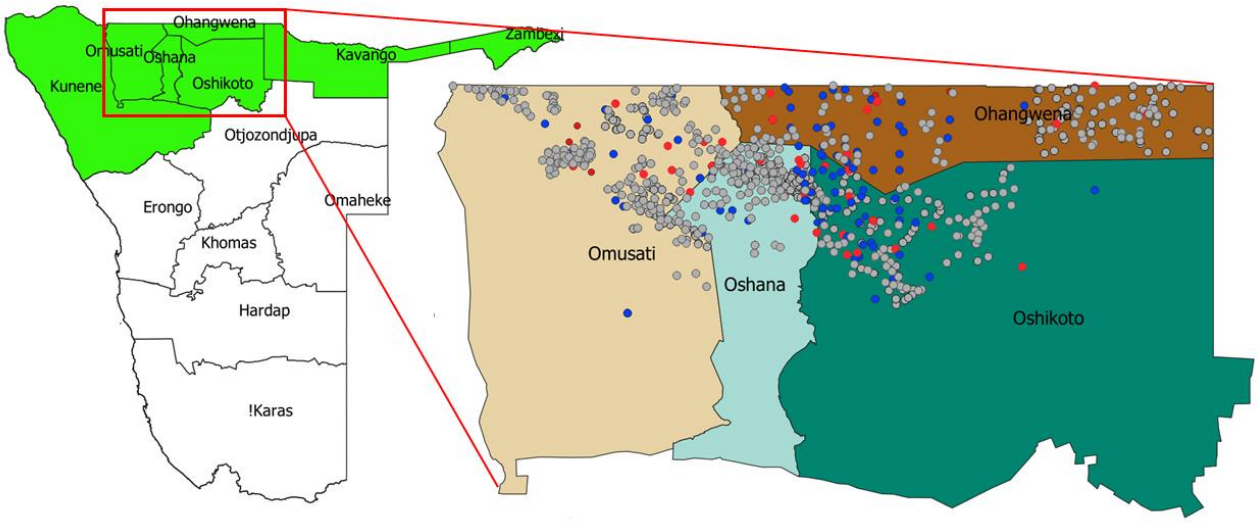
Mass dog vaccination campaign

Mass dog vaccination campaigns were implemented during school holidays via central vaccination points, and also alongside regular cattle vaccination against contagious bovine pleuropneumonia (CBPP) and foot and mouth disease (FMD) at the cattle crush pen. High-quality vaccines manufactured according to OIE International Standards and procured through the OIE Vaccine Bank were used for the vaccination.

Vaccination of dogs at the vaccination point. © DVS/ Namibia

A total of 37,272 dogs and 2,985 cats were vaccinated in the pilot project area. During the roll-out phase, a total of 99,814 dogs and 10,538 cats were vaccinated in 2017 and 72,953 dogs and 8,710 cats in 2018,

achieving an estimated coverage ranging between 26% and 74% across the region (3). However, due to logistic constraints, and most recently the effects of the SARS-CoV-2 pandemic, the Veterinary Services have prioritised vaccination in rabies hotspot areas in 2019 and 2020 campaigns. As a result, as of August 2020, 17,304 dogs and 754 cats were vaccinated in 2019 and 26,000 dogs and 1,646 cats in 2020, despite the challenges resulting from COVID-19 restrictions.



Map showing the eight NCAs of Namibia (green shaded) and rabies hotspot and targeted vaccination regions during 2019 and 2020 campaigns (inset map). The red dots (positive cases) and blue dots (negative cases) indicate the location of rabies surveillance in dogs during 2018 and 2019. While the grey dots indicate the location of vaccination centres where more than 40,000 dogs were vaccinated during 2019 and 2020 campaigns. The vaccination data were collected using data loggers.

The introduction of GARC data loggers from 2019 onwards improved timely data capturing, real time online monitoring and visualisation and analysis of vaccination campaigns.

Impact of dog vaccination on rabies incidence in dogs and humans

The analysis of the animal rabies surveillance data showed a declining trend in reported rabies cases in dogs and humans in the region. Rabies cases in dogs were mostly detected in the Oshana, Oshikoto, Omusati and Ohangewena regions, with a reduction from over 90 cases between 2015 and 2016 to 34 in 2018, but an increase to 62 cases in 2019, which may be due to reducing vaccination coverage and also improvement in surveillance activities. Human rabies deaths dropped from 23 cases in 2015 to 13 cases in 2016, six cases in 2017, one case in 2018 and two cases in 2019 (3), indicating that the Namibian rabies control efforts have already had a positive effect on eliminating dog-mediated human rabies. The strong political will to fight dog-mediated human rabies and the implementation of such a huge large-scale One Health programme is a success in itself.

Cross-border rabies elimination programme

Since neither the rabies virus nor dogs respect national borders, the coordination of rabies control efforts between Angola and Namibia and its implementation through the creation of a strategic plan was a significant achievement. To take advantage of the positive dynamics regarding rabies control in Angola, the OIE Vaccine Bank, with the support of the European Union Strengthening Veterinary Services in Developing Countries Project, delivered 140,000 doses of rabies vaccines to Angola to facilitate the mass dog vaccination campaign in southern Angola. Despite SAR-CoV-2 pandemic challenges, Angolan Veterinary Services started the implementation of the mass dog vaccination campaign in the four southern provinces on 14 July 2020, and, as of August 2020, had covered around 20,000 dogs.

Challenges and way forward

The highly dispersed settlements in the huge, sparsely populated (1.2 million people) Northern Communal Areas of Namibia covering 263,376 km^2 where dog rabies is endemic is a challenge and requires immense logistic efforts with regard to vaccination points, transport of vaccines and human resources. Other challenges include the estimation of the target dog population, a high dog population turnover, unforeseen budgetary constraints at the governmental level, and most recently the COVID-19 pandemic. Therefore, strategic vaccination campaigns focusing on high-risk areas and improving the vaccination coverage at the local level are a way towards achieving zero human deaths due to dog-mediated rabies in Namibia and Angola. To demonstrate commitment towards the rabies elimination programme, Namibia submitted a rabies elimination commitment letter to United Against Rabies in February 2019, and is preparing to submit an application for endorsement by the OIE of their official national control programme for dog-mediated rabies.

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