



Eradication of Rabies Virus by 2030: Bangladesh Perspective

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Bangladesh has made significant strides in its mission to eradicate rabies, aiming to fully eliminate cases by 2030 through an extensive rabies control program. The initiative combines mass vaccination efforts for dogs, community awareness, improved healthcare infrastructure, and partnerships with international organizations¹. Although the original 2020 target shifted to 2030 for regional eradication under the WHO's "Zero by 30" goal, Bangladesh has been a model for rabies control in South Asia due to its robust implementation of multi-sectoral strategies. Bangladesh has embarked on a journey to eliminate rabies by 2030 through a comprehensive strategy aligned with the WHO's "Zero by 30" global goal for rabies elimination.

Rabies is a viral disease mainly transmitted through bites from infected animals, particularly dogs and this is responsible for around 2,000 deaths annually in Bangladesh, with children being disproportionately affected². The government, in collaboration with organizations like the WHO, FAO, and Gavi, has implemented a multi-faceted approach combining mass vaccination, community awareness, improved post-exposure treatment, and regional collaboration³.

Mass Dog Vaccination: The most effective measure against rabies is controlling its main vector-stray and domestic dogs. Bangladesh's approach involves annual mass dog vaccination campaigns aimed at achieving at least 70% coverage, the threshold recommended for reducing rabies transmission¹. Trained teams,

including local veterinarians and community volunteers, carry out these vaccination drives in both urban and rural areas. The campaigns, supported by the FAO and the Indonesian "Bali A-Team," are complemented by training in effective dog-catching techniques, which have improved vaccine delivery in hard-to-reach areas².

Post-Exposure Prophylaxis (PEP) Accessibility: Following a rabid dog bite, post-exposure prophylaxis (PEP) is crucial in preventing the disease from progressing. Since 2011, Bangladesh has provided free intradermal PEP at numerous healthcare centers across the country². This system ensures that bite victims, especially in rural areas, receive timely treatment without the burden of cost. Over 250,000 patients benefit from PEP services annually, which has significantly reduced reliance on unproven or alternative treatment practices^{1,3}.

Community Awareness and Education: Raising awareness among communities about rabies prevention and treatment has been a core element of Bangladesh's strategy. Local campaigns educate the public on the importance of dog vaccination, safe interaction with animals, and the need for timely medical intervention following a bite. Educational programs also emphasize responsible pet ownership, which can reduce the number of stray and unvaccinated dogs².

One Health and Cross-Sector Collaboration: Bangladesh's rabies elimination program is founded on a "One Health" approach, integrating public health, veterinary, and environmental sectors³. Coordination between these sectors has facilitated shared resources, data, and expertise. For instance, through collaborations with the FAO and WHO, Bangladesh has leveraged international knowledge and resources, such as South-South cooperation with Indonesia, which trained Bangladeshi professionals in mass vaccination and dog handling techniques².

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Monitoring and Data Collection: To track progress and assess the effectiveness of interventions, Bangladesh has invested in data-driven monitoring systems. Accurate data on rabies cases, dog vaccination rates, and PEP utilization are collected and analyzed, enabling authorities to make evidence-based decisions and adjust strategies as needed. Surveillance efforts also help in identifying rabies hotspots, ensuring that resources are effectively targeted³.

Challenges and Path Forward

Despite significant progress, challenges remain, particularly in vaccinating stray dogs in remote regions and maintaining continuous PEP supply in rural health facilities. Additionally, further training and resources are needed to expand vaccination coverage and ensure sustained community engagement. To address these issues, Bangladesh is scaling up vaccination drives and seeking to improve infrastructure for PEP storage and distribution.

Bangladesh's rabies eradication program stands as a strong example for other developing nations aiming to achieve similar goals. With continued support from international partners and a sustained commitment to its One Health approach, the country is on a promising path to achieve rabies elimination by 2030. Success in Bangladesh could serve as a replicable model for other nations within the WHO South-East Asia Region (SEAR), reinforcing the feasibility of achieving the "Zero by 30" target globally². By 2030, Bangladesh aims to reduce human rabies deaths to zero, underscoring the power of collaborative public health initiatives in addressing zoonotic diseases³.

The combined impact of post-exposure prophylaxis and mass dog vaccination has resulted in a consistent

decrease in the annual incidence of rabies from over 2000 before 2010 to 1500 in 2012 and 200 in 2015³. This unprecedented achievement resulted from political commitment and appropriate budget allocation, which rose from US\$ 0 in 2010 to US\$ 7 million (2011–2016) and subsequently to US\$ 33 million (2017–2022) of the five-year health sector plan, respectively³. Bangladesh is continuing to work towards its goal of eliminating rabies by 2020, with plans to conduct three further rounds of mass dog vaccination targeting 1.6 million dogs by 2020³. Overall, Bangladesh has demonstrated that with an effective strategy, well-devised action plans, and trained human resources supported by a sufficient budget, significant progress can be made towards decreasing the global burden of rabies. Bangladesh has now become a role model for the global rabies elimination programme.

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