

# National Action Plan for Dog-Mediated Rabies Elimination: A One Health Approach to Catalytic Response is Key to India Achieving the Target by 2030

The World Organisation for Animal Health (WOAH), the United Nations (UN) Food and Agriculture Organization (FAO), formerly the Office International des Epizooties (OIE), and the Global Alliance for Rabies Control (GARC) conducted extensive collaborative consultations in 2015 to formulate the Global Strategic Plan to end human deaths from dog-mediated rabies by 2030.<sup>[1]</sup> There are three key objectives: (1) stopping rabies transmission in dogs (by using vaccines, medicines, tools, and other technologies) and reducing deaths in humans; (2) being guided by quality evidence to monitor impact and appropriately tailor policy decisions; and (3) promoting multi-stakeholder action collaboration.

India’s NAPRE by 2030 was released during the coronavirus disease 2019 (COVID-19) period of 2020, and it came into operation in 2021.<sup>[2]</sup> The veterinary public health components include estimating the population of dogs, mapping risk zones for rabies, program for mass dog vaccination, effective management and disposal of solid waste, operational research, and promotion of responsible dog ownership. The program components for human public health components include postexposure prophylaxis (PEP), trained human resources, enhancing surveillance of dog bites and clinical rabies in humans, appropriate communication strategies, and public–private partnerships. Based on these national plans, the state action plans will be designed as per local contexts and priorities.

## CATALYTIC RESPONSE PATHWAYS FOR REALIGNMENT (CRPR)

As the NAPRE is rolling out and planning and implementation are underway, we suggest six CRPR [Figure 1] to accelerate the progress and achieve elimination by the target date (2030).

CRPR-1: The first indicator of objective 1 (availability of and access to vaccines for dogs) is the most challenging. Currently, we are aiming for more than 70% coverage of dog vaccination including free-roaming dogs (FRDs). The key challenges include availability of trained human resources including skilled dog-catching teams and administering the vaccine parenterally, specialist equipment or logistics and training for catching, and the financial envelope to effectively complete this activity. At the subnational level, there is a need to map trained human resources and effectively deploy them. Alternative vaccination techniques such as oral rabies vaccines (ORVs) are convenient and have the potential for

accelerating progress and are supported by the WHO and OIE.<sup>[3]</sup> ORVs need safety evaluation, central licensure, acceptable bait development, and resource allocation before induction into the program.

CRPR-2: The second indicator of objective 1 is universal health coverage including management of bites and clinical rabies cases in humans. India has currently made substantial progress in this area. Availability and access to PEP and rabies immunoglobulin (RIG) at block and municipal levels ensure easy and timely access to vaccination. Adherence to completing the schedule remains a challenge, and innovations such as health literacy, mobile-based reminders, and digital means of tracking can go a long way. Specific inputs to ensure sustainability include ensuring that no one eligible for immunoglobulins is not left behind, setting up laboratory diagnostic capabilities, and model treatment centers.

CRPR-3: At the national level, India is firmly committed to the implementation of “One Health.” Efforts are on at the subnational level to improve multisectoral collaboration, in specific to respond to zoonoses. Timely exchange of



Figure 1: Catalytic response pathways for realignment of rabies. Source: Graphic by authors

information and creating platforms for integrated data sharing and dashboard for risk analysis and sharing surveillance data of clinical and nonclinical rabies in domestic and wild animal populations are urgent priorities.

CRPR-4: Each state, district, and local body has legal provisions for vaccination of dogs and control of rabies. The local health authorities need to strengthen the implementation of these provisions for accelerated implementation and control and promote responsible pet ownership.

CRPR-5: Goa introduced rabies education in their school curriculum in 2020 for children aged 11–12 years.<sup>[4]</sup> Rabies awareness through school education is a key investment and can enhance health literacy regarding signs and symptoms of rabies, identification of rabid dogs, and preventive measures such as responsible dog ownership and PEP in case of bites.<sup>[5]</sup>

CRPR-6: The lessons from polio and measles elimination have underscored the importance of molecular epidemiology, and India now has significant laboratory capacities to undertake these for priority programs. Time-scaled phylogenetic analysis<sup>[4]</sup> at state and the newly initiated Integrated District Public Health Laboratories<sup>[6]</sup> are critical to understanding rabies virus transmission dynamics and identifying potential sites for continued reintroduction of canine rabies.

## OPERATIONALIZING “ONE HEALTH” FOR RABIES

India has set out in full earnest to institutionalize the One Health approach and embed it within human and veterinary public health systems.<sup>[7]</sup> There is a need to analyze and identify mechanisms for enhancing collaboration across sectors to respond to zoonoses and the animal–human interface. While different ministries and departments have different objectives and resource priorities, it is encouraging that there are a broad political consensus and commitment. It is significant that the NAPRE carries the endorsements of six ministers: Health and Family Welfare; Fisheries, Animal Husbandry and Dairying; Environment, Forests and Climate Change; Housing and Urban Affairs; Agriculture and Farmers’ Welfare; and Rural Development and Panchayati Raj.

At the same time, One Health needs a more holistic framing that includes a deeper understanding of its multidisciplinary nature. It will entail devising institutional mechanisms to work both within and across ministries and agencies. Allocating appropriate leadership roles will be key to navigating the tacit institutional hierarchies.<sup>[8]</sup> A phased approach to elimination adopted in India will help in reduction of fatality in coming days.

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DOI:  
10.4103/ijcm.ijcm\_554\_23

**How to cite this article:** Dasgupta R, Roy P. National Action Plan for Dog-Mediated Rabies Elimination: A One Health approach to catalytic response is key to India achieving the target by 2030. *Indian J Community Med* 2023;48:637-8.

**Received:** 06-08-23, **Accepted:** 09-08-23, **Published:** 07-09-23