

View Point

India Needs a Novel Public-Private Partnership Program to Expand Surgical Dog Population Management to Support Canine Rabies Control Work

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DOI: <https://doi.org/10.24321/0973.5038.202503>

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How to cite this article:

Airikkala-Otter I. India Needs a Novel Public-Private Partnership Program to Expand Surgical Dog Population Management to Support Canine Rabies Control Work. APCRI J. 2025; 27(1): 17-22.

Date of Submission: 2025-04-28

Date of Acceptance: 2025-05-25

A B S T R A C T

This article brings a new perspective to the discussion on how to improve the implementation of humane dog population management and rabies control under the global goal of eliminating dog-mediated human rabies deaths by 2030. The author proposes that the existing stray-dog-focused animal birth control (ABC) activities be supplemented with an entirely new concept of public-private partnership (PPP) that directly addresses the very source of the stray dogs without requiring additional capital investment for fixed infrastructure from the public sector. Instead, this PPP provides financial incentives for private sector veterinary clinics to develop their surgical services, especially in smaller towns where specific ABC programs don't yet function effectively.

By strengthening the existing veterinary service provider network, the proposed PPP aims to develop a wider range of veterinary surgery providers to help meet the demands for surgical population control of dogs as a supportive tool for rabies control. The key concept is the acknowledgment that in India, due to the great income disparity, most dog owners cannot be made responsible for having their dogs sterilized unless there is public sector support to make spay/neuter surgery more accessible and affordable for them.

The private sector is in the best position to invest in the surgery-skilled vets and good assistants, as well as in the required equipment, medicine, and materials to perform the surgeries most cost-effectively while also maintaining safety and good surgical quality. The role of the public sector is to provide a subsidy scheme to make spay/neuter affordable for the dog owners in the lower-income demographic groups. The owned dog registration system is the first step to facilitate this program, and it will also form the foundation of recording that all owned dogs are annually vaccinated against rabies.

Keywords: Spay/Neuter, Dog Population Control, Rabies, Public-Private Partnership, Veterinary

Introduction

India is facing a major public health and animal welfare issue with the large roaming dog population. Uncontrolled breeding of roaming dogs contributes to the risk of rabies transmission, and ownerless dogs suffer from malnutrition and are often victims of car accidents and various forms of abuse from humans.

Prevention of rabies transmission in the dog population was initially based on attempts to reduce the roaming dog population by culling.¹ Due to the cruelty and inefficiency of this practice, surgical sterilization of dogs was introduced as a humane alternative for dog population management, first by the Blue Cross of India in Madras in 1960s. Furthermore, WHO endorsed this concept for dog population management in 1990,² and eventually, culling of healthy dogs as a population control measure was banned in India along with the introduction of the Animal Birth Control (ABC) rules in 2001.³ A completely new revision of the rules came into effect in 2023.⁴

As a government policy, the ABC rules 2023 provide the framework and guidelines concerning the ownerless stray dog population control via surgical sterilization, which activity is also considered under the animal health component of the National Rabies Control Program and its state-level plans.⁵ The concept is based on a kind of public-private partnership where the public sector is represented by the municipality that is to provide facilities, infrastructure, and funds for catching and surgical sterilization, rabies vaccination, and hospitalization until recovery for ownerless stray dogs. The municipality can either conduct this work by themselves or outsource the work to a suitable partner, a non-governmental organization (NGO) that is an Animal Welfare Board of India (AWBI)- recognized animal charity, which is to then hire the required veterinary workforce to conduct the surgeries in the facilities provided by the municipality or by the NGO itself.⁴ The municipality is to reimburse the NGO regularly as based on the number of surgeries they have done. As per the observation of the author, NGOs often require additional fundraising via individual donations, foreign grants, or Corporate Social Responsibility (CSR) funding to meet all the expenses of running a full-time ABC program for stray dogs.

Surgical Sterilization is a Supportive Tool for Canine Rabies Control

Rabies transmission is highest where a large, unvaccinated dog population is roaming free. In such a situation, a rabies-infected dog can have multiple opportunities every day, during the short course of the infectious phase of the disease, to come in close contact with an unvaccinated dog and bite it. Such a bite results in rabies exposure and,

in the case of an unvaccinated dog, can lead to the virus reaching the brain and salivary glands, where it begins to multiply and eventually can be transmitted when this dog comes in close contact and bites another unvaccinated dog.⁶ Rabies infection causes a rapidly progressing disease that kills its victims within 7-10 days from the onset of the clinical symptoms. Since the virus does not survive outside of a host for a very long time, it has to get transmitted to a new, susceptible host during this short infectious period. If dog population density is low or the rabies vaccination coverage (herd immunity) in the population is high, the chances of the infected dog biting an unvaccinated dog before succumbing to the disease are lower.⁷

Surgical sterilization of dogs is a lifelong, one-time solution for reproduction control in dogs. Often, as it is always in India too, a roaming dog is also given a rabies vaccine at the time of the surgery. By increasing the number of vaccinated dogs in the population and by reducing the number of unvaccinated dogs entering the population as puppies born to the stray dogs, surgical sterilization can be used as a supportive tool for canine rabies control.⁸ It facilitates the development of herd immunity by helping to stabilize the overall population size (denominator) by decreasing the number of puppies born to the roaming dog population and increasing the number of dogs that are vaccinated in the population (numerator).

However, dog population control should never be relied on as the only tool for rabies control in dogs.⁷ Rabies is preventable by an annual vaccination, and the annual vaccination of all owned dogs, irrespective of the socio-economic status of the owner and their place and type of residence, should be made mandatory and recordable via an owned dog registration system. In small towns and panchayats, ensuring annual vaccination of all owned dogs and continuing that year after year might be enough to stop the rabies transmission cycle, especially if supported with surgical sterilization to keep the population under control. One way to increase rabies vaccination coverage in rural areas is to combine that with the delivery of another health intervention program, such as the bi-annual Foot-and-Mouth-Disease (FMD) vaccination program, or even any village-level human health care activity by the public health department, and indeed, such integration of activities is recommended by WHO⁹. In cities, mass rabies vaccination programs targeting stray dogs are required and have been shown to be successful in achieving adequate vaccination coverage among the roaming dogs.¹⁰⁻¹³ One should not forget also the importance of surveys and diagnostics to develop and maintain accurate and up-to-date data on roaming dog population size, dog bite incidence, and laboratory-confirmed rabies cases in animals.¹⁴

The Challenges of the Present Dog Population Management Approach

The challenges and obstacles commonly found to reduce the potential and efficiency of the traditional stray-dog-focused ABC centre approach can be divided into four broad categories: 1) lack of infrastructure, 2) lack of human resources, 3) lack of focus on the source of the stray dogs, and 4) lack of focus on waste management. Indeed, while stray-dog sterilization programs can effectively limit the birth rate,¹⁵ maintaining sufficiently high sterilization coverage with repeated visits to catch any remaining dogs, without addressing these other factors recommended also by the World Organisation for Animal Health WOAAH,¹⁶ will require substantial ongoing investment,¹⁷ that should be understood by all stakeholders when setting the goals and expectations on stray-dog-focused ABC programs.

Stray dog ABC centres often do not operate on owned dogs. Owners also may not want to take their dogs to stray dog centres because of the often-poor image of a stray-dog-ABC centre and owner's concerns over the quality of the surgery and the safety of their dog. Concern over the safety and welfare of their dog has been stated by owners as one reason their dogs are not sterilized.¹⁸ In some cases, the stray dog ABC centre is located so far from any residential areas that owners who do not have private vehicles cannot get there.

It is beyond the scope of this article to go into further details of the reasons behind these challenges, though it is due to these factors that ABC programs can be perceived as not being effective. However, the actions themselves, annual vaccination of a dog and surgical sterilization of a dog, are undeniably effective in achieving what they are supposed to achieve. Annual rabies vaccination protects the vaccinated dog against rabies infection, and surgical sterilization prevents the unwanted breeding of that individual dog.

The discussion needs to move on, acknowledging that the perceived lack of effect is because the large-scale implementation needs to be made more cost-effective and scalable across the different tier towns, including rural areas and owned dogs as well.

Access to Affordable Spay/Neuter Surgery for Owned Dogs?

According to data on the Indian demographics and distribution of household income, 50% of Indian households live on Rs 20,000/month or less.¹⁹ The cost of a spay/neuter surgery at a private veterinary clinic is Rs 5000 – Rs 10,000, and private clinics exist only in the biggest cities and tier 2 and 3 towns, but not usually in smaller towns or

less populated areas. Almost 64% of Indians live in rural areas,²⁰ where allowing your dog to roam free at least part of the day is a very common practice. Government veterinary dispensaries serving the most rural areas do not generally have the required skills or manpower, medicine, or equipment to perform spay/neuter surgeries. According to a recent survey assessing owned-dog demographics in different settlements in three states in India, sterilization coverage among the owned dogs was very low, and the study proposed a possible reason for this to be a lack of access to affordable veterinary surgery.¹⁸ This results in more dogs getting pregnant, and the unwanted pet dog puppies eventually getting abandoned on the roadsides. Those who survive the first 6-12 months will then begin to breed and produce more stray dogs.

To support the canine rabies control by effectively controlling the breeding of dogs, there must be a government-funded subsidy system that will enable access to affordable spay/neuter surgery for those owned dogs that are often roaming free and that belong to households where monthly income does not otherwise allow the use of private veterinary care providers.

Public-Private Partnership as an Additional tool for Roaming Dog Population Control

Public-private partnerships (PPP) are known in the veterinary domain and very much advocated by the WOAAH.²¹ They are a way to strengthen animal disease control activities in areas where neither the public nor the private sector can provide a sufficient solution when working alone.

One way to address the present gap that exists for dog owners in accessing affordable spay/neuter surgery is to develop a transactional PPP between the district administration or municipalities and the private veterinary sector. In this model, the municipality maintains a register for all owned dogs, including the income-demographic details of the owner. Dog owner households, where the monthly income is below a level set by the municipality for this purpose, will be issued a voucher for a low-cost or entirely free spay-neuter surgery of the registered pet dog. The surgery can be performed by any vet (private, government, or NGO clinic) that has agreed to be part of the program. The municipality and the veterinarians agree on a rate that the municipality will reimburse the vets for the surgeries they have performed. This could be, for example, Rs 2000 – 2500/surgery, and the rate should be checked and confirmed every two years.

The participating veterinary clinics can announce on what dates and at what time they are taking in voucher surgeries. By scheduling many voucher surgeries to be done back-

to-back on designated dates and in designated time slots, the private vet clinics can perform them economically.²² Veterinarians can also set up temporary field surgery campaign clinics in villages to operate on owned dogs who have been registered and whose owners have received a voucher for the free surgery. The municipality will then reimburse the veterinarians once a month based on the vouchers collected. CSR funding schemes are also important and can be explored to further support improving access to affordable spay/neuter surgery for owned dogs. In the US, specific mentoring programs, for example by the Open-Door Collective, exist to help private clinics develop financially sustainable models to engage more in high-quality, high-volume, and low-cost spay/neuter work²³ to improve access to affordable veterinary care, and this could be a field for Indian companies too, to direct their CSR funding.

The veterinary partner in this PPP is responsible for having the required medicine, materials, and equipment for the surgery. They are also responsible for having adequate skills and sufficient assistant staff available. Being qualified and registered veterinarians, they have the right given by the veterinary council of their states to perform surgeries on dogs brought in to them by the dog owners, in whichever employment sector they are working in. This system provides effective dog population management at the source of the unwanted dogs, without the need for public sector capital and infrastructure investments.

The motivation for the private clinics to participate would be the opportunity to invest more into the surgical preparedness of the clinic; for example, by employing a vet assistant or a part-time junior vet or by purchasing more surgical materials and equipment, because this scheme would guarantee them surgical patients regularly. This would eventually lead the clinics to be able to improve and upgrade their services, also for those owned dogs whose owners would be paying the full price for it. There is also a possibility to gain positive publicity and attract more clients through this program.

By providing an opportunity for established private vet clinics to be part of such a scheme, the municipality is investing in vets that have already settled in the area and are likely to continue to be there for years to come. This is a more sustainable way to support humane dog population management and overall improvement in the available veterinary care than only attempting to separately train and employ young vets to work in stray dog ABC centres.

This PPP program will have a built-in quality control system since it is the private vet clinic's reputation that is at stake. Owners have to sign a consent form to agree to have their dogs spayed or neutered at the clinic they have chosen. In case of any post-operative complications, the

owner can bring the dog back to the same vet. One of the present challenges in the purely ownerless stray-dog-focused ABC program, the need to have multiple rounds of inspections and different committees to ensure the quality and efficiency of the work, is avoided when the work is given to the private sector to conduct, based on the owners' consent.

Conclusions

To meet the WHO's set global challenge of eliminating canine-mediated human rabies deaths by 2030, India needs to take major steps towards ensuring that all owned dogs have access to annual rabies vaccination as well as affordable surgical sterilization to help reduce the unvaccinated roaming dog population. Over the last 60 years, since the ABC-ARV programs in India began in 1960s, dog population control has been mainly focused on systems that aim to catch ownerless stray dogs and have them surgically sterilized and vaccinated against rabies at animal shelters or specific ABC centres, where the dogs would also be kept as inpatients after the surgery until found fit to be released back to the streets where they were caught. While there is a good amount of evidence that this concept can be very effective in controlling the roaming dog population and rabies transmission, there are also complaints about it not being effectively implemented across the country. Numerous challenges hampering effective implementation can be identified when discussing with experienced stakeholders in the field.

A novel public-private partnership program can be developed to be conducted along with the traditional approach to engage more private sector veterinarians and clinics to participate in the work of surgical sterilization of roaming dogs, with a subsidy system funded by the public sector in place to enable affordable access to spay/neuter surgery for dogs belonging to financially fragile households.

Conflict of Interest: None

Source of funding: The text is a 'viewpoint' article and not any research study for which specific funding has been required. The text reflects the author's personal views that have developed during her 20 years of experience in the animal welfare charity field of humane dog population management and rabies control in India. Most of this experience is gained while working with projects funded by Worldwide Veterinary Service.

Declaration of Generative AI and AI-Assisted

Technologies in the Writing Process: None

Acknowledgments: The author acknowledges the role of Worldwide Veterinary Service (WVS), a UK-based international animal welfare organization, as the source

of funding for most of the work and experience that have contributed to the development of her views on rabies control and humane dog population management in India over the last 20 years.

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