

# The Rabies Problem: And the Role of Street Dog Vaccination

Understanding how higher vaccination rates can reduce infections dramatically

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10 December 2025

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Young children tend to love domestic animals like cats and dogs and so on. However, all these animals aren't always safe to touch or pet. Some of these are wild, so there are huge risks of them biting or scratching the person who is trying to pet them. These animals aren't smart enough to understand who is friendly to them and who isn't. It's not their fault; in our young age we also used to fear big animals like cows and horses, but as we grew, we started to have a connection with them. The same goes for those domestic yet sometimes dangerous animals too. Because without vaccination, getting bitten or scratched by them may start rabies in our body.

Rabies is one of the most dangerous and deadly viral diseases in the world, responsible for thousands of human deaths every year, particularly in developing and low-income countries. This disease spreads from adorable animals to humans, most commonly through dog bites. Street dogs are hugely responsible for this major disease as they live without proper medical care or vaccination. As a result, controlling rabies mostly depends on how effectively we can vaccinate the population of street dogs. And if we are successful in giving these animals a healthy life, then in return we will be able to get rid of the deadly virus — the rabies virus, the main reason for the disease rabies.

This virus is a bullet-shaped, single-stranded RNA virus which has a lipid envelope on its outer membrane. It is neurotropic, meaning it mainly attacks the nervous system, especially the brain and spinal cord.

Street dog vaccination is honestly one of the best and most effective ways to control rabies in the long run. If a good number of street dogs get vaccinated, it creates something like a protective shield around them, which helps stop the virus from spreading from one dog to another, and eventually to humans too. Many studies have shown that if we can vaccinate around seventy percent of the dogs in an area, the rabies virus can't spread easily anymore. Countries that managed to run big vaccination programs for dogs have already seen huge drops in rabies cases among both humans and animals. This clearly shows that preventing the disease before it starts is way better than treating people after they get bitten. Rabies cases also depend heavily on how many dogs in a place are vaccinated. In areas where very few dogs get vaccination, rabies outbreaks become more common and more dangerous. Unvaccinated dogs can catch the virus from other infected animals and then spread it to humans through bites or scratches. But in places where most dogs are vaccinated, rabies cases go down noticeably. So when we compare these two factors, it becomes obvious: the more the vaccination, the less the infection. This pattern is seen in both big cities and villages in many countries.

But even though dog vaccination is important, there are many challenges. A lot of street dogs are hard to approach because they are scared of humans or aggressive, which makes it really difficult to vaccinate them. In many developing countries, there isn't enough money, trained staff, or equipment to run regular vaccination programs. On top of that, street dogs breed very fast, creating new puppies every year, so the vaccination work never really ends. Many people also don't know how important dog vaccination is, and they only take rabies seriously after someone gets bitten.

Vaccinating street dogs doesn't only save dogs — it protects humans too. Rabies treatment after a bite is very painful, expensive, and sometimes not even available in rural areas. But if we stop the virus at its main source, which is street dogs, then the whole community becomes safer. Families don't have to go through the trauma of losing someone to a preventable disease. Health workers can focus on other important issues instead of handling emergency rabies cases all the time.

In the end, when we compare dog vaccination rates with rabies infection rates, the result is very clear. The more we vaccinate street dogs, the less chance there is for rabies to spread. To fully control this deadly disease, governments, health organizations, and local communities need to work together and keep the vaccination programs active. If we stay consistent and aware, then one day a rabies-free world may truly become possible.