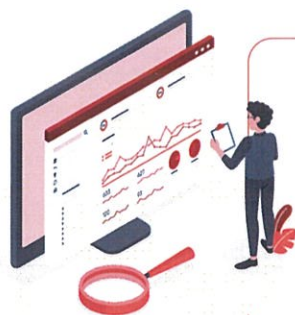


Dog Population and Vaccination: *Finding the Right Ratio to Achieve Rabies-Free Philippines*

Recommendations



1. Revisit the rabies control program guidelines and recalibrate the metrics used to set the national targets for rabies vaccination coverage. According to the World Organization for Animal Health (OIE), the most effective method to control rabies is through mass animal vaccination and by achieving the 70% vaccine coverage of the at-risk dog population. Our findings suggest that the current ratio used to set the vaccine allocation for the local dog population in the country only covers 41.7%, and an even lower figure of 15.5% if we use the 1:3.7 dog to human ratio—the ratio that's more reflective of the real-world figure as suggested by the research data. It is difficult to provide an adequate number of vaccines if we do not have an accurate estimate of the dog population.

2. Shift to One Health Approach in the efforts to eradicate rabies in the country. We cannot eradicate the cases of human rabies without addressing the rabies in animals. Despite providing over 1 million people in the Philippines with rabies shots each year, the country's cases of human rabies have not decreased in the past decade. We must also strengthen our efforts in mass animal vaccination to achieve higher coverage.



3. Improve the health education efforts in the communities and fund targeted campaigns which will address the current knowledge gaps on rabies disease. Our survey focusing on knowledge about rabies shows that the community has a relatively good understanding of rabies; however, the knowledge on how animals and humans can acquire it is lacking. This knowledge gap contributes to the proliferation of the perception that rabies is innate in dogs and is therefore, not something that we can eliminate. Addressing this gap is an essential step in eliminating rabies.

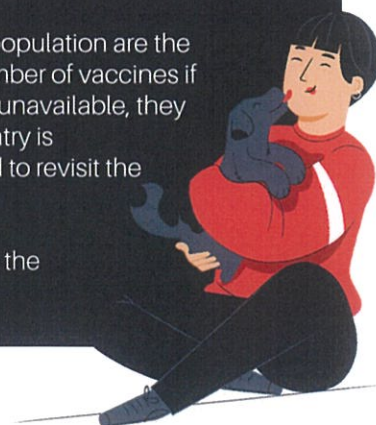
Overview

Rabies is a zoonotic disease that can be prevented through a combination of different measures, such as raising awareness through education campaigns, responsible pet ownership, enforcement of animal vaccination policies, eliminating exposure to rabid animals, and provision of post exposure prophylaxis (PEP).

Dogs transmit 99% of cases of recorded human rabies deaths. It is estimated that 59,000 human deaths occur annually worldwide due to rabies. The annual average of deaths due to rabies in the country is 231, putting us behind in the goal of achieving a Rabies-free Philippines by 2022.

According to OIE, mass animal vaccinations and 70% vaccine coverage of the at-risk dog population are the most effective methods to control rabies. However, it is difficult to provide an adequate number of vaccines if we do not have an accurate estimate of the dog population. If local dog population data is unavailable, they are estimated using the 1:10 dog to human ratio. Our research data suggests that the country is underestimating the actual dog population by using this ratio, establishing the urgent need to revisit the current guidelines in order to provide adequate vaccine coverage.

Human and animal rabies are two sides of the same coin, and we cannot hope to eliminate the disease by solely focusing on humans.



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Key Findings

We conducted the study with two major objectives; the first was to conduct an owned dog population survey, and the second was to ascertain the level of knowledge on rabies of the identified community. Given the recommendation of the rabies control program of using a 1:10 ratio when dog population numbers are unavailable, we hypothesized that identifying gaps in owned dog population could provide better estimates and support vaccination strategies in the future.

This study was conducted in six municipalities of the province of Bulacan, a densely populated province in central Luzon where the number of cases of human rabies is high.

Our findings established that we might be underestimating the actual dog population in the country by using the ratio prescribed by the current guidelines. The ratio of 1:3.7 from our data might prove to be more reflective of the real-world figures and is consistent with the findings of other dog population studies previously done in the Philippines. With the 1:10 ratio, we only cover 41.7% of the dog population and even less using the 1:3.7 ratio with only 15.5% coverage. This means that we are way below the target of 70% sustainable animal vaccination.



Our survey on the community members' knowledge on rabies shows that the community has a relatively good understanding of rabies; however, their grasp on the concept of how the disease can be transmitted between animals and humans is lacking.

Most participants of the study were not able to correctly answer the question on whether rabies can only be transmitted by rabid dogs. We theorize that this knowledge gap contributes to the persisting misconception that rabies is innate in dogs, and therefore is not possible to completely eliminate. Addressing this knowledge gap is an essential step in eliminating rabies.



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Editorial Board

Researchers

Timothy John R. Dizon¹, Nobuo Saito^{2,3}, Marianette Inobaya¹, Alvin Tan¹, Mark Donald C. Reñosa¹, Thea Andrea Bravo¹, Vivienne Endoma¹, Catherine Silvestre¹, Micah Angela O. Salunga², Patricia Mae T. Lacanilao², Jerric Rhazel Guevarra¹, Yasuhiko Kamiya³, Maria Glofiezita O. Lagayan^{3,4}, Kazunori Kimitsuki², Akira Nishizono², Beatriz P. Quiambao¹

¹Research Institute for Tropical Medicine, Philippines

²Osaka University Faculty of Medicine, Japan

³School of Tropical Medicine & Global Health, Nagasaki University, Japan

⁴Bureau of Animal Industry, Department of Agriculture, Philippines

Layout and Design

Reina D. Manongsong

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