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Acceptability of One Health as an approach in the prevention and control of animal bites and rabies

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Abstract:

INTRODUCTION: Rabies is a public health concern in the Philippines, where gaps in animal bite prevention and control persist despite national mandates. The One Health approach is a framework which recognizes the interconnectedness of human, animal, and environmental health. Although the Anti-Rabies Act of 2007 aligns with the One Health strategies, its implementation at the local level faced many challenges in coordination, delivery of service, and program sustainability.

OBJECTIVE: This study aimed to determine the factors influencing the acceptability of One Health approach among key stakeholders as a strategy in the prevention and control of animal bites and rabies in the municipality of Alaminos, Laguna.

METHODOLOGY: A qualitative Grounded Theory design was used in the study. Eleven key informants from the provincial, municipal, and barangay levels were interviewed.

RESULTS AND DISCUSSION: Thematic analysis of key informants' responses revealed that, despite limited awareness of the One Health approach, multi-sectoral coordination aids program implementation, although operational gaps remain. Fragmented program delivery, lack of formal training and certification, unclear roles, poor communication, inactive task forces, outdated ordinances, weak enforcement, limited community engagement, and low prioritization of rabies prevention collectively hinder effective implementation.

CONCLUSION: The study highlights the complex challenges of implementing the One Health approach for animal bites and rabies control in rural communities. Effective implementation requires strengthened stakeholder capacity-building and training, enhanced community engagement, improved access to veterinary services, reinforced intersectoral coordination and policy enforcement through revitalized task forces, and ongoing monitoring of progress through vaccination coverage and incidence data.

Keywords:

Animal bite, neglected tropical diseases, One Health, public health, rabies

Introduction

Background of the study

Rabies is a neglected tropical disease that poses a significant public health concern, primarily affecting impoverished and vulnerable populations. It exists in over 150 countries, resulting in approximately 59,000 human deaths worldwide annually, with the majority occurring in Asia and Africa. Alarming, 40% of these fatalities

affect children under 15 years old. Rabies is almost 100% fatal once clinical signs appear, making swift action crucial.^[1,2]

Rabies is a zoonotic disease caused by the rabies virus (RABV) belonging to the *Lyssavirus* genus.^[3,4] Rabies primarily spreads through direct contact with saliva or bodily fluids of infected animals, with dogs, cats, bats, and other mammals being common carriers. Rabid dogs are the primary source of human rabies cases in the Philippines.^[5]

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Rabies is preventable, particularly with key strategies that include vaccinating dogs and preventing dog bites. Dogs are the primary reservoir for RABVs, responsible for 90%–99% of rabies-related human fatalities worldwide.^[4,6,7] Challenges in low and middle-income countries include maintaining dog vaccination coverage, affordability of postexposure prophylaxis (PEP), and weak surveillance systems.^[1,2,8]

In the Philippines, animal bites have persisted as a significant cause of morbidity. In 2022, there were 503,167 documented cases in the Philippines, with a case rate of 450.98 cases per 100,000 people.^[9] Animal bites are the primary risk of acquiring human rabies.^[10] DOH aims to declare the Philippines rabies-free by 2030 and eliminate human rabies by 2027.^[9,11,12] Strategies implemented by DOH included distribution of PEP to all animal bite treatment centers (ABTCs); allocation of preexposure prophylaxis to high-risk individuals; enhanced information, education, and communication (IEC) promotion; training of medical providers on treating rabies victims; and establishment of ABTCs in every interlocal health zones.^[10,13]

Rabies control is a model for One Health implementation, emphasizing collaboration at the human–animal interface.^[14] Countries such as Indonesia and Nepal have adopted the One Health approach for rabies control, with varying levels of success.^[15–18] In an international study across Africa, Asia, and the Americas, Swedberg *et al.* were able to explore the application of the One Health approach in the surveillance of rabies through Integrated Bite Case Management.^[8]

Recent literature underscores the value of the One Health Approach in rabies control, emphasizing the integration of human, animal, and environmental health sectors to optimize outcomes. For example, studies in Indonesia and Nepal demonstrated that applying One Health strategies improved coordination between veterinary services, human health agencies, and local communities, resulting in more effective rabies surveillance and vaccination campaigns.^[16,18]

In 2022, the World Health Organization (WHO), Food and Agriculture Organization of the United Nations (FAO), World Organization for Animal Health (WOAH), and the United Nations Environmental Programme (UNEP) formulated the One Health Joint Plan of Action (OHJPA), which outlines collaboration for improved health and reduced risks at the human–animal–plant–environment interface by 2030.^[19] OHJPA Action Track 3 focuses on addressing zoonotic diseases to empower nations with community-focused solutions, policy framework fortification, and enhanced political commitment.^[1] One Health is a unifying approach seeking to achieve a

harmonious balance between the well-being of humans, animals, plants, and their interconnected ecosystems. It emphasizes collaboration across various sectors and sustainable development, among others.^[1,17,20] It places greater emphasis on health promotion rather than just disease treatment.^[21] Implementing One Health requires systematic data collection, coordination, and communication across sectors.^[22] Evidence suggests that the successful implementation of the One Health Approach depends on strong governance and coordination, which can be challenging in decentralized health systems.^[8]

The decentralization of health services in the Philippines began with the enactment of the Local Government Code of 1991 (RA 7160), which transferred significant authority and responsibility for health service delivery from the national government to local government units (LGUs).^[23] Under this system, LGUs are tasked with planning, financing, and implementing health programs tailored to the needs of their constituencies, including preventive and curative services. While devolution aimed to enhance local autonomy and responsiveness, it also created variability in the technical capacity, financial resources, and governance structures across municipalities and barangays. Studies have shown that the effectiveness of devolved health programs heavily depends on the capability of LGUs to manage personnel, facilities, and budgets, as well as on the coordination between national and local health agencies.^[23–25] In the context of rabies control, this decentralized structure has implications for the implementation of the National Rabies Prevention and Control Program (NRPCP), as LGUs are now primarily responsible for dog vaccination campaigns, surveillance, and community engagement.

The Anti-Rabies Act of 2007 (RA 9482) established the NRPCP, which emphasizes responsible pet ownership and requires LGUs to implement activities such as dog vaccination, registration, management of free-roaming dogs, and the establishment of dog pounds. The NRPCP predates the coining of the One Health Approach. However, the core principle of the One Health Approach is embedded in the program on paper by integrating human, animal, and environmental factors in action.^[26]

The Mandanas-Garcia ruling mandated the devolution of governmental functions to LGUs in the Philippines. This ruling allocates a larger share of national taxes to LGUs by expanding the national tax allocation (NTA).^[27] This allows LGUs to better address specific needs of their constituents, considering disparities in local capabilities^[28] in designing and executing programs, projects, and activities, emphasizing decentralization and capacity building.^[23]

Decentralization introduces additional complexity to the implementation of the One Health approach in the Philippines. Under the Local Government Code of 1991, health programs and services, including human, animal, and environmental health initiatives, were gradually devolved from the national government to LGUs. This transfer of authority includes personnel, facilities, and financial responsibilities, requiring LGUs to plan, fund, and execute programs according to local priorities and capacities.^[23,24] While devolution aims to enhance responsiveness and allow LGUs to address specific community needs, it also creates variability in program implementation, coordination, and intersectoral collaboration. In the context of rabies prevention and control, decentralization can lead to fragmented service delivery, gaps in resource allocation, and uneven enforcement of policies, which may hinder the effective application of the One Health approach.^[23,24,29]

Despite these programs and policies, a gap remains in understanding how local stakeholders perceive and adopt the One Health Approach in their daily operations. Previous studies in Bicol and Bohol provinces showed that while collaborative efforts exist, formal awareness, training, and integration of One Health principles among municipal and barangay-level staff are limited.^[16,30-32]

While the NRPCP aligns with One Health principles, there is limited empirical evidence on the factors influencing the acceptability and practical adoption of One Health strategies at the local government and community levels in the Philippines. Specifically, the perceptions, awareness, and intersectoral collaboration of key stakeholders in a devolved health system have not been systematically explored. This gap justifies the need for this study, which seeks to examine these factors in the municipality of Alaminos, Laguna.

Research objectives

This study aimed to determine the factors influencing the acceptability of the One Health Approach among key stakeholders as a strategy in the prevention and control of animal bites and rabies in the municipality of Alaminos, Laguna, as stipulated in the implementing guidelines of the Anti-Rabies Act of 2007.

Specifically, the study aimed to (1) examine the awareness and perceptions of key stakeholders in their roles and responsibilities in using One Health approach in implementing animal bites and rabies prevention and control, (2) describe the positive or negative effects of existing government policies in the One Health approach implementation of the program, and (3) to assess the government key stakeholder's perceptions and practices on the human, animal, and environmental aspect of

One Health approach toward prevention and control of animal bites and rabies.

Significance of the study

The One Health Approach, recently introduced by WHO, FAO, WOA, and UNEP, promotes integrated human, animal, plant, and environmental health. This study will help policymakers, government officials, and program advocates understand the health beliefs and risk perceptions that influence community response to neglected disease programs, supporting wider acceptance and adoption. It will benefit both human and animal populations.

Conceptual framework

The One Health approach addresses health issues through the interconnected human, animal, and environmental sectors, where improvements in one sector support the others. Its success depends on the synergy of political, administrative, and social factors. The conceptual framework was revised by integrating relevant constructs of the Health Belief Model grounded from the data collected from the study. In rabies control, understanding sociocultural determinants, perceived risks and benefits, barriers, and stakeholder attitudes is crucial, as effective dog vaccination and elimination efforts require strong collaboration and commitment [Figure 1].

Methodology

Research design

The study used a qualitative grounded theory design and was conducted from May to November 2024 in the municipality of Alaminos, Laguna, which was classified as a third-class municipality. It spans 5363 hectares and comprises 15 barangays. According to the 2020 census by the Philippine Statistics Authority, Alaminos had a population of 51,619 across 13,249 households.

According to data from the Laguna Provincial Rabies Prevention and Control Program (2020–2022), Alaminos recorded four rabies-related deaths in 2020. Despite this, the municipality has experienced a steady rise in animal bites from 406 cases in 2020 to 624 cases in 2022; hence, highlighting a continued risk for rabies transmission.

Study participants

The study included 11 key informants from provincial, municipal, and barangay levels involved in the Animal Bite and Rabies Prevention and Control Program. Purposive sampling ensured representation across sectors and roles, including decision-makers, program implementers, and frontliners. Provincial participants (KI#1–KI#3) were primarily senior

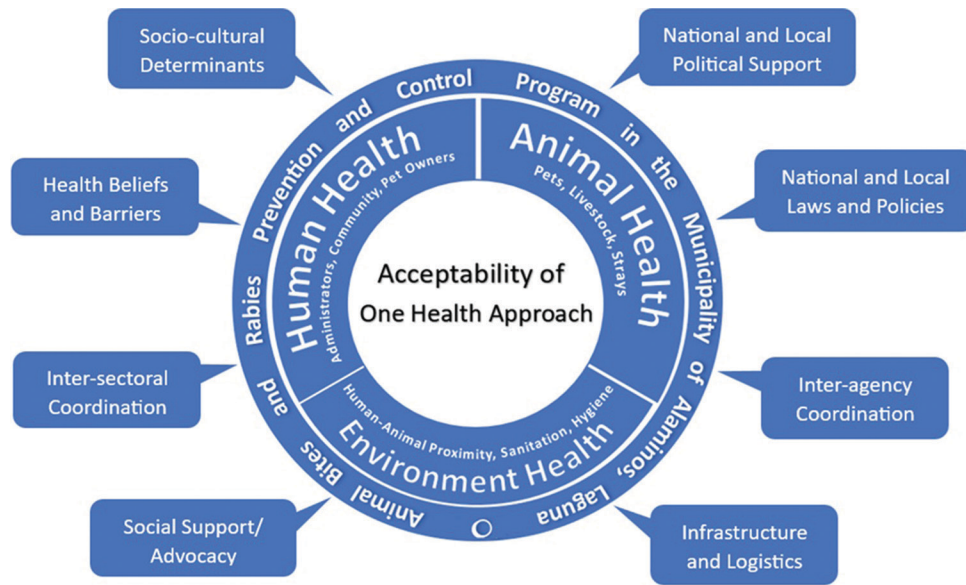


Figure 1: Conceptual framework on the factors affecting the acceptability and implementation of One Health approach in the prevention and control of animal bite and rabies

staff in Agriculture and Healthcare, municipal participants (KI#4–KI#9) included practitioners and public administration personnel responsible for program delivery, and barangay participants (KI#10–KI#11) were frontline healthcare workers and local administrators engaged in community-level implementation [Table 1] details each informant's sex, jurisdiction, sector, years of service, and role.

Exclusion criteria

Individuals who were either not affiliated with offices mandated by the NRPCP or had < 6 months of relevant experience were excluded from the key informant interviews.

Data collection

Semistructured, one-on-one interviews lasting approximately 60–90 min were conducted in person at the key informants' offices by the researcher. The interview guide contained open-ended questions. All interviews were audio-recorded, transcribed verbatim, anonymized, and securely stored in a restricted-access Google folder.

Constructs of the study

The study examined key areas related to the integration of the One Health approach in implementing the NRPCP among the key informants. Health Literacy and Access explored the participants' knowledge and use of health information concerning the One Health approach and NRPCP during program implementation, including their access to training and their capacity to facilitate community access to services. Interdisciplinary collaboration was examined through the interactions and cooperation among various government agencies

represented by the key informants in implementing the program. Community engagement examined the ability of the key informants' agencies to encourage and involve the community as active participants in program activities. Policy integration and political support explored how the One Health approach is incorporated into policies at the provincial, municipal, and barangay levels, as well as the influence of national and local policies on implementation. Motivation and resilience assessed the key informants' motivation to perform their public service roles despite challenges, and their capacity to navigate bureaucratic processes within the program.

Researcher reflexivity, positionality, and bias

I am a Filipino, middle-class woman of Chinese descent. My upbringing in Caloocan City, with its complex urban social structure, having residents of diverse socioeconomic status, ethnic origin, and religious beliefs living side by side, has exposed me to the reality of societal issues such as poverty, inequality, and crime. I have been a physician and an educator for over 20 years, with experience providing prehospital emergency care. My practice allowed me to provide care for the elite in need of air medical evacuation, as well as those desolated during charity missions and disaster response.

My reflexivity is grounded in a deep commitment to providing support to those facing adversity during their most critical moments. Through my experience, I have witnessed the transformative impact of empowering individuals to recover and rebuild their lives, particularly in stressful situations. This perspective shapes my approach in interpreting

Table 1: Characteristics of key informants (n=11)

Informant	Sex	Jurisdiction	Sector	Years of Service
KI#1	Male	Provincial	Agriculture	28 years
KI#2	Male	Provincial	Agriculture	27 years
KI#3	Male	Provincial	Healthcare	8 years
KI#4	Female	Municipal	Agriculture	32 years
KI#5	Male	Municipal	Public administration	2 years
KI#6	Female	Municipal	Healthcare	13 years
KI#7	Female	Municipal	Agriculture	1 year
KI#8	Male	Municipal	Public administration	6 years
KI#9	Female	Municipal	Healthcare	10 years
KI#10	Female	Barangay	Healthcare	14 years
KI#11	Male	Barangay	Public administration	8 years

Legend: KI – Key informant

and engaging with participants and data. I strive to remain conscious of how my social identity, biases, and personal history may affect the research process and outcomes. My background and experience on quantitative methods sometimes made it difficult for me to change gears to qualitative methods. However, further reading, training, and coaching provided by my adviser, further reading, and panel members made me understand and respond to these difficulties. By maintaining self-awareness, I aim to minimize potential biases and foster an approach that is empathetic, respectful, and sensitive to the lived experiences of the participants.

Data analysis

Responses were analyzed following Braun and Clarke's six-step thematic analysis method. Triangulation of responses helped validate the data by assessing credibility, transferability, dependability, and confirmability of both the participants and their answers.^[33]

Ethical considerations

Ethical approval was secured from the University of the Philippines Manila Research Ethics Board (UPMREB) before data collection begins with reference code UPMREB 2024-0327-EX.

The study posed minimal risk to participants and the community. An endorsement letter was secured from the Office of the Municipal Mayor and presented to participants during recruitment. Informed consent, written in Filipino, was provided and explained to each prospective respondent, emphasizing their right to withdraw at any time without any impact on their employment or responsibilities within the local government. All data from withdrawn participants were destroyed.

Confidentiality and anonymity were maintained by assigning serial numbers in place of names. Only the

researchers had access to the data, which are securely stored in a locked cabinet or an encrypted Google folder for five years. After this period, physical documents will be shredded and digital files will be permanently deleted.

Results and Discussion

Theme 1: Current multisectoral coordination helps program implementation but faces operational gaps

Sub-theme 1.1: Improvement of functional intersectoral committees to promote joint action

There is a generally positive perception of the value of collaborative strategies to the success of the program. Some of the respondents expressed how collaboration with other agencies across the health, agriculture, and LGUs helps in carrying out their roles and responsibilities. However, their effectiveness varied, with some committees rarely meet or even dormant.

This finding reflects the critical role of multisectoral collaboration in operationalizing One Health programs; however, the inactivity of some committees may reduce overall program efficiency and continuity, consistent with prior observations in similar provincial rabies programs in Bicol and Bohol.^[7,34]

"Whenever we have field work, we coordinate with the health office. For me, the One Health approach involves different sectors working together to eliminate rabies." (KI#1)

This demonstrates that frontline staff recognize the collaborative nature of One Health, suggesting that implicit understanding exists even if formal training is limited.^[35]

"We do have a technical working group before the pandemic... but during the pandemic, it stopped. Until now, it is still on pause." (KI#3)

Disruption of committee activity during crises highlights the fragility of institutional collaboration, stressing the need for continuous engagement and contingency planning to maintain One Health operations.^[36]

The informants were able to articulate strong collaboration as they described the protocol when there is a reported suspected rabies case. However, in day-to-day operations, respondents communicated that they are overwhelmed by the multitude of responsibilities within their respective agencies.

This exemplifies that operational burden can impede routine program execution, even when procedural knowledge is present, reflecting usual challenges in resource-constrained rural settings.^[8]

“There is collaboration when cases arise. If anything happens during the 14-day observation, the barangay will be notified. The barangay will then facilitate transporting the dog’s body. During the last positive case, those who were exposed were vaccinated. The BHWs and barangay officials were aware of the situation.” (KI#9)

The neighboring cities and municipalities of Laguna have created an interzonal collaborative body to help one another. The collaboration is called “SPARCLI,” which is an acronym for the 6 members of the group. They created a seed fund that they placed in San Pablo District Hospital, which is one of their main referral centers. When a member borrows a bottle of vaccine, it must be replaced later on once their regular supply arrives.

This interlocal innovation exemplifies how pooling resources and mutual aid can mitigate vaccine shortages and operational gaps, aligning with the principles of collective action in One Health implementation.^[31]

“When delivery of vaccine is delayed, we often get help from our inter-local health zone called ‘SPARCLI,’ which includes San Pablo, Alaminos, Calauan, Rizal, Nagcarlan and Liliw. We have a seed fund used to purchase rabies vaccines.” (KI#6)

Such collaborative resource-sharing strategies are consistent with international recommendations that emphasize joint planning and support to overcome local capacity limitations.^[35]

Sub-theme 1.2: Limited awareness of the one health approach

Participants were asked if they were familiar with the One Health Approach and to explain their understanding of the concept. Aside from senior administrators from the healthcare and agriculture agencies, many stakeholders appeared to have a demonstrated limited understanding of the One Health concept despite working in sectors directly related to collaborative programs.

This highlights a critical knowledge gap, suggesting that formal understanding of One Health principles is limited among frontline staff, which may hinder comprehensive intersectoral program integration.^[34]

Those who have encountered it were able to provide at minimum the basic definition of the One Health approach, mentioning the key idea of collaboration between human, animal, and environmental health. In contrast, participants who heard about the concept for the first time during the interview required the researcher to give a brief explanation and background of the One Health approach before proceeding.

“I have no idea about the One Health approach. But for us, we just share what we can. What we are able to provide to the students, farmers and pet owners.” (KI#2)

This illustrates that despite lacking formal knowledge, staff often rely on ad hoc collaboration, which can maintain program activity but risks inconsistent quality.^[8]

Sub-theme 1.3: Insufficient training and capacity building on one health

Certification training on One Health principles was scarce, and limited formal training reduces consistency and standardization of practices, a challenge observed in other provincial programs where informal knowledge transfer was the default method.^[7]

The lack of training among frontliners was evident even though the national government continued persists to provide training for staff. This can be attributed to the insufficient and irregular availability of training scheduled. Training was often limited to ABTC Personnel. It was expected that although the trained staff are expected to re-echo their learnings to their colleagues in the municipality. Informal transfer of knowledge leads to poor diluted training quality and delays in timely skill development at the municipal and barangay level. Only regular staff were invited to attend training while, which excludes augmentation workers despite their active involvement in the delivery of service were excluded from the training. Key informants shared that they had to learn by observing and assisting senior staff members, which compromises the standardization of program delivery.

This finding underscores the importance of structured capacity-building initiatives for all levels of implementers, as informal mentoring may perpetuate variability in practice and reduce program fidelity.^[35]

“All our training is conducted with the help of the DOH. (At the municipal level), it’s only the ABTCs personnel who are trained. They (in turn) should be the ones to train the barangay health worker and nurses in the barangay.” (KI#3)

This cascading training approach can lead to dilution of knowledge, reflecting usual challenges in decentralized health programs where frontline workers rely on secondary dissemination.^[34]

Sub-theme 1.4: Clear communication and understanding of roles affect program execution

Through the interviews, the key informants demonstrated high knowledge about roles and responsibilities that directly involve their agency. However, many were

unsure about the actual roles and responsibilities of other stakeholders outside of their key informant's own agency. Limited inter-agency awareness contributes to siloed operations and reduces opportunities for coordinated One Health interventions, a phenomenon frequently reported in decentralized health systems.^[8]

"As far as I know, we handle the human side, and our counterpart for animals is the Agriculture Office. I know that each barangay has its own ordinance regarding tying dogs and catching stray dogs. But as for others, I'm not familiar with them." (KI#9)

This reflects a gap in cross-sectoral knowledge, which may compromise collaborative decision-making and coordinated program execution.^[36]

Effective communication should enable joint actions in implementing programs. Proactive, pandemic-style communication and coordination should likewise enable quick and unified responses. However, gaps in communication hinder the proper dissemination of program activities to the community. Furthermore, frontliners are burdened by responsibility when higher-level support and commitment we are lacking.

Ineffective communication can lead to logistical inefficiencies and increased workload on frontline staff, highlighting the need for clear, standardized communication protocols within One Health frameworks.^[35]

"We initiate rabies vaccination and information campaigns in our respective areas. Sometimes, there is a lack of support from the municipality. We go to the area, but the area isn't even informed that we will be doing the vaccination." (KI#1)

This example shows how communication gaps can reduce community participation and compliance, undermining program effectiveness.^[31]

The process of documenting and conducting surveillance of dogs in the municipality remained rudimentary. The enlistment of dogs and cats to the municipal agriculture registry occurred only during mass animal vaccination campaigns. As of the moment, they used a manual method, i.e. paper and pen, technology to collect the pet's information, such as with the pet's physical features being identified based on its species, whether dog or cat, its color pattern, and gender. The gathered data were then encoded into a computer file in the Municipal Agriculture Office and then submitted to the Office of the Provincial Veterinarian as part of their efficiency report. In the event that information about one particular pet is needed, the data can be

retrieved through the file in the office computer. Aside from generating statistics for monthly efficiency reports, the data is not used for verifying anti-rabies vaccination status of the animal, since the NRPCP protocol prescribed human anti-rabies vaccination for Category II and III bite victims regardless of the animal's vaccination status.

The reliance on manual record-keeping limits data accessibility and real-time decision-making, reflecting challenges observed in other provinces where digital solutions improved monitoring and vaccination coverage.^[34,35]

"We do ask if the dog was vaccinated. We have not tried confirming vaccination from the agriculture office, we just go by what the patient says. We still give the vaccine whether the biting animal was vaccinated or not as long as it's a Category II or Category III case." (KI#9)

This practice demonstrates adherence to a conservative approach to PEP administration; however, it also highlights underutilization of available interagency data that could optimize resource use and risk assessment (DOH Administrative Order No. 2018-0013).^[37]

Sub-theme 1.5: Community engagement can strengthen implementation

Active involvement of barangay personnel and local groups was identified as a key enabler of program implementation. Informants described how barangay staff assist in organizing vaccination campaigns, making announcements, providing transport support, and sharing local knowledge about households with dogs.

"The barangay assists us with the vaccinations. We schedule with them, and then they announce it in the barangay. They provide (transport) service for us. They know which houses in the barangay have dogs." (KI#7)

This demonstrates that community engagement facilitates coordination, outreach, and efficiency in rabies prevention activities. Engaging local stakeholders aligns with evidence that grassroots participation enhances program reach, compliance, and sustainability.^[7,34]

Theme 2: Fragmented program delivery undermines the core principle of the one health approach

Subtheme 2.1: Devolution of programs lead to fragmentation of services

The Philippine health system has operated under a devolved structure since the Local Government Code of 1991, which transferred key responsibilities for health

service delivery, including public health programs, to LGUs.^[8] The Mandanas-Garcia ruling further expanded LGU fiscal autonomy by increasing their share of national taxes through a broader IRA.^[27,28] While this policy enhances local decision-making and allows LGUs to tailor programs to community needs, it has also introduced challenges in program coordination and resource management for the NRPCP.^[36]

According to key informants, the funding of programs and services in the municipality has become dependent on the priorities of the LGU, unlike the previous arrangement that guaranteed a flow of funding from the national government before devolution of the program.

“Since devolution, vaccine supplies and resources for the rabies program has become limited. The national government has always been supportive, but the assistance stopped from 2021 to 2023 due to the Mandanas-Garcia ruling.” (KI#1)

The devolution of responsibilities to the LGUs following the Mandanas-Garcia ruling resulted in the fragmentation of the process of procuring rabies vaccines. However, despite the devolution of the program, the national government continues to provide assistance to the municipality in a limited capacity. The national government would occasionally provide a few bottles of anti-rabies vaccines for both humans and animals to augment the local supply. They would also provide materials for information and education campaigns.

“Some municipalities don’t prioritize rabies because they have other problems, such as high-value crops, livestock, ASF, avian flu and others.” (KI#1)

This shift illustrates how increased local autonomy can create variability in program prioritization, resource allocation, and operational continuity.^[8] Partial support from higher-level authorities is insufficient to fully compensate for these gaps, highlighting the need for coordinated budgeting, inter-LGU cooperation, and standardized protocols to maintain the core objectives of One Health.^[31,35]

“When they devolved us (the program), they (national agency) still provided us with IEC materials. Sometimes, the province also gives us vaccines when they are able to request from the national government through the BAI, but we buy more of them (vaccines) ourselves.” (KI#4)

The experience of the municipality demonstrates resilience in bridging resource gaps but also reflects systemic vulnerability in a postdevolution

environment. Maintaining program continuity, ensuring equitable access to vaccines, and aligning local priorities with national One Health objectives require deliberate coordination mechanisms and oversight.^[34,36]

Sub-theme 2.2: Uneven policy implementation across levels of government

Despite long-standing policies that embrace the spirit of the One Health approach, even predating the coining of the concept, there is a clear gap in the enforcement of the strategies.

The gap between policy and practice illustrates how decentralized governance without clear enforcement mechanisms can undermine One Health principles. Policies alone do not guarantee compliance without monitoring, adequate funding, and accountability structures.^[8]

“We are supposed to do the activity under the supervision of a veterinarian. However, since we don’t have a veterinarian, we trained on proper vaccine handling and vaccination to carry out the task.” (KI#4)

Task-shifting in the absence of qualified personnel ensures continuity but may compromise technical quality and adherence to standards, a common issue in resource-limited municipalities.^[35]

The latest municipal resolution on record retrieved from the Sangguniang Bayan was passed in 1997, which was before the enactment of RA 9482. The resolution was very brief, with provisions limited to vaccination of dogs and impounding of stray dogs. There was no mention of pet registration, conduction of information and education campaigns on the prevention and control of rabies, and the encouragement of the practice of responsible pet ownership.

“We do have one, but it’s been around for a long time, probably from the 1990s or early 2000s.” (KI#4)

Outdated policies limit program scope and alignment with contemporary One Health strategies. Modernized ordinances incorporating education, registration, and enforcement could strengthen integrated rabies control.^[34]

Four barangays were able to provide copies of their ordinances related to animal bites and rabies prevention and control. The recently enacted ordinances were recently enacted ranged from the year 2022-2024. The title and scope of the ordinances focused on prohibition, imposition of penalties, and punishments on dog owners of stray dogs causing accidents in public places within the barangay.

Recent barangay ordinances show progress in localized enforcement; however, variations in implementation may lead to unequal protection across communities, reflecting usual challenges in decentralized public health systems.^[31]

“Every barangay has an ordinance. As members of the council, we make sure to remind them. Some barangays are still lax, but not all of them.” (KI#5)

Upon review of the barangay ordinances, it was observed that some provisions do not appear to be implemented in practice, such as the maintenance of the animal pound facility and the issuance of metal tags to vaccinated dogs. Lack of funding for the implementation of the strategies was often cited as a reason.

“Each barangay has its own share (of funds). Perhaps there should just be proper allocation for such programs. They provide funding, but it’s still not enough.” (KI#5)

Insufficient funding and operational resources remain a key barrier to effective policy enforcement, consistent with global evidence on local-level One Health program challenges.^[35]

The barangay ordinances were mainly focused on the leashing of dogs and impounding of stray dogs as a means of preventing dog bites. Although the registration and vaccination of dogs were also mentioned, the barangay serves more as a support to the Bureau of Agriculture technicians who were designated as responsible for the said activity. Despite the use of the wording of “mandatory” in the ordinances, penalties for violations were often downgraded to warnings or were not imposed at all.

“Some are just given a warning first. Usually, the dog is redeemed, but if no one redeems it, we just keep it (the dog) as a guard here at the barangay’s vegetable garden.” (KI#11)

This demonstrates a gap between policy intent and enforcement, emphasizing the need for structured monitoring, clear accountability, and stakeholder capacitation to uphold One Health principles.^[36]

Another challenge to the municipality of Alaminos is their lack of a veterinarian to perform surgery. As per Memorandum Order No. 12, series of 2022 by the Philippine Civil Service Commission, the plantilla of Municipal Veterinarian is only optional.^[38] Hence, the municipal agriculture office needs to request for oversight from the provincial veterinary office when they are conducting services such as neutering or vaccination, leading to limited service delivery.

The absence of critical technical personnel limits program capacity, highlighting the importance of human resource planning and capacity development in sustaining decentralized One Health programs.^[8]

Another policy related to the prevention and control of animal bites and rabies available is Municipal Ordinance No. 01, Series of 2011 (Environmental Code of Alaminos, Laguna). Its provision includes proper covering of garbage bins, proper waste segregation, and disposal only during designated garbage collection schedules. As per key informants, this is a policy that is strictly observed in the barangay, which helps in preventing stray animals from rummaging through it for food.^[39]

Proper waste management indirectly supports rabies prevention by reducing stray animal attraction, highlighting the interplay between environmental health and zoonotic disease control, a core component of the One Health approach.^[35]

No policies in the Sangguniang Bayan mandate task forces to govern and account for the collaborative effort among stakeholders. The Municipal Agriculture Office and the Municipal Health Office operate in silos on zoonotic disease. Formalizing the One Health approach in the implementation of programs should include joint budgets and policies to help overcome institutionalization barriers. Strong political support can lead to smooth collaboration between different sectors. Different stakeholders can pull the program in various directions. By capacitating people in both technical and management roles, they will better understand how to work together and share resources for the greater good.^[29]

Institutionalizing inter-agency coordination through formal structures, shared resources, and joint accountability strengthens program resilience and ensures the sustainability of One Health initiatives.^[31,35]

Conclusion

This study highlights the challenges and opportunities in using the One Health approach in the implementation of the program in the rural communities of the Philippines.

The role of the LGU personnel as the primary source of information reflects their pivotal position in program implementation. However, the limited awareness and formal training about the One Health approach among many of the stakeholders’ points to a significant gap in capacity-building. Despite the conceptual acceptance of One Health principles, operationalizing these strategies is hindered by weak intersectoral coordination, limited inter-agency knowledge of

roles, and insufficient formalized collaboration mechanisms.

These challenges are worsened by outdated ordinances, limited funding, and weak surveillance. Reliable data are crucial for planning, resource management, and achieving herd immunity.

Fully embracing and implementing the One Health approach demands a holistic response that integrates human, animal, and environmental health sectors. Through comprehensive and coordinated efforts, the burden of animal bites and rabies can be sustainably reduced toward the goal of “Zero Rabies by 2030.”

Recommendation

It is essential to strengthen One Health implementation through standardized training, sustained public awareness campaigns, consistent vaccine funding, and revived interagency coordination. Local policies should be aligned with national laws, animal control measures should be consistently enforced, and regular monitoring should guide evidence-based adjustments in the program.

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Conflicts of interest

There are no conflicts of interest.

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