
| RESEARCH ARTICLE

Rabies Prevention in Algeria: Regulatory Framework, Preventive Measures, and Perspectives

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| ABSTRACT

Rabies is a highly fatal viral zoonotic disease that continues to pose a significant public health challenge worldwide, particularly in developing countries. In Algeria, rabies remains endemic, with rural communities disproportionately affected due to the high prevalence of stray and unvaccinated dogs, which constitute the principal source of human exposure. Despite the availability of effective preventive measures, cases of animal bites and potential human exposure continue to be reported annually. This article examines the regulatory framework governing rabies prevention and control in Algeria, including relevant veterinary and public health legislation. It also reviews the principal preventive strategies implemented at the national level, such as animal vaccination, post-exposure prophylaxis, epidemiological surveillance, public awareness campaigns, and multisectoral collaboration. Furthermore, the article highlights the major challenges hindering effective rabies control, including inadequate stray dog management, insufficient vaccination coverage, limited public awareness, and disparities in access to healthcare services. Finally, perspectives and recommendations are proposed to strengthen rabies prevention efforts and support the achievement of the global objective of eliminating dog-mediated human rabies deaths.

| KEYWORDS

Rabies, regulation, public health, zoonosis, Algeria, multisectoral coordination

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1. Introduction

Rabies is one of the oldest and most feared zoonotic diseases in the world, posing a persistent threat to both human and animal health. Caused by a neurotropic virus belonging to the genus *Lyssavirus*, rabies affects the central nervous system of mammals, including humans, and is almost invariably fatal once clinical symptoms manifest. The disease is primarily transmitted through the saliva of infected animals, most commonly via bites, scratches, or contact between infected saliva and mucous membranes or broken skin. Domestic dogs remain the principal reservoir and source of human rabies transmission in many developing countries, particularly in Africa and Asia, where canine rabies continues to circulate widely.

Globally, rabies is recognized as a major public health concern, especially in low- and middle-income countries where access to vaccination, veterinary services, and post-exposure prophylaxis may be limited. According to international health organizations, tens of thousands of people die annually from rabies, with children representing a particularly vulnerable group due to their frequent interactions with animals and increased likelihood of sustaining severe bites. Despite the fact that rabies is entirely preventable through vaccination and timely medical intervention, the disease continues to cause substantial human suffering, economic losses, and social anxiety.

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In Algeria, rabies remains endemic and constitutes an important public health and veterinary challenge. The country records thousands of animal exposure cases every year, requiring medical consultation and post-exposure treatment. Although the incidence of human rabies has decreased over recent decades due to strengthened prevention programs and improved healthcare access, sporadic human cases and persistent animal infections continue to occur. The epidemiological situation is closely linked to the circulation of the virus among domestic and stray dogs, insufficient vaccination coverage in some areas, uncontrolled animal movement, and gaps in public awareness regarding preventive measures.

The growing urbanization of Algerian cities, combined with the increasing population of stray animals, has further complicated rabies control efforts. Rural and peri-urban communities are particularly vulnerable because of close human-animal interactions, livestock breeding activities, and limited veterinary infrastructure. In addition, environmental and socio-economic factors such as poor waste management, inadequate animal registration systems, and limited community engagement contribute to the persistence of the disease. These realities highlight the complexity of rabies prevention and the necessity for coordinated multisectoral responses.

Rabies prevention in Algeria is supported by a regulatory and institutional framework involving both the public health and veterinary sectors. National legislation establishes mandatory measures related to animal vaccination, surveillance, reporting of suspected cases, management of biting animals, and provision of post-exposure prophylaxis to exposed individuals. Public health authorities, veterinary services, municipalities, and local communities all play essential roles in implementing prevention and control strategies. Preventive measures include routine vaccination campaigns for domestic animals, epidemiological surveillance, public education programs, management of stray animal populations, laboratory diagnosis, and rapid medical treatment following exposure.

A key principle guiding contemporary rabies prevention is the “One Health” approach, which recognizes the interconnectedness of human health, animal health, and environmental conditions. This integrated strategy emphasizes collaboration among physicians, veterinarians, environmental authorities, researchers, and policymakers to achieve more effective disease control. In the context of rabies, the One Health framework is particularly relevant because successful prevention depends not only on treating exposed individuals, but also on controlling the disease at its animal source and addressing environmental factors that facilitate transmission.

In recent years, Algeria has undertaken efforts to strengthen rabies prevention through expanded vaccination campaigns, awareness initiatives, improved surveillance systems, and intersectoral cooperation. Nevertheless, several challenges remain, including insufficient vaccination coverage of stray and domestic dogs, underreporting in certain regions, limited public adherence to preventive measures, and resource constraints affecting local control programs. These challenges underscore the importance of evaluating current prevention strategies and identifying opportunities for improvement.

This study therefore aims to examine rabies prevention in Algeria by analyzing the existing regulatory framework, the preventive measures currently implemented, and the perspectives for improving disease control. It seeks to highlight the achievements and limitations of national rabies prevention efforts while emphasizing the importance of sustained political commitment, community participation, and interdisciplinary collaboration in the fight against this deadly yet preventable disease.

2. Regulatory Framework in Algeria

The prevention and control of rabies in Algeria are supported by a relatively comprehensive legal and institutional framework that combines veterinary legislation, public health regulations, epidemiological surveillance mechanisms, and intersectoral coordination strategies. Because rabies is both a zoonotic and fatal infectious disease, its management requires the involvement of several sectors, including veterinary services, public health authorities, local administrations, municipalities, environmental services, and civil society actors. Algeria’s regulatory framework

therefore reflects the “One Health” approach promoted internationally, recognizing the close relationship between human, animal, and environmental health.

One of the foundational legal instruments governing rabies prevention in Algeria is **Law No. 88-08 of January 26, 1988, relating to veterinary medicine and animal health protection**. This law establishes the general principles for the prevention, diagnosis, surveillance, and control of animal diseases across the national territory. It defines the authority of veterinary services in monitoring animal health and grants the administration the power to impose sanitary measures when contagious diseases threaten public or animal health. Within the context of rabies, the law authorizes mandatory vaccination campaigns, epidemiological investigations, quarantine measures, movement restrictions for infected or suspected animals, and the implementation of emergency interventions during outbreaks. It also specifies the responsibilities of animal owners, who are required to comply with vaccination and reporting obligations.

Complementing this law is **Executive Decree No. 95-66 of February 22, 1995**, which establishes the official list of notifiable animal diseases and the general control measures applicable to them. Rabies is classified as a notifiable disease, meaning that any suspected or confirmed case must be immediately reported to the competent veterinary authorities. This obligation is crucial for epidemiological surveillance because it enables rapid detection of outbreaks and facilitates prompt intervention measures. The decree also provides the basis for compulsory administrative actions such as isolation of infected animals, observation of biting animals, laboratory confirmation procedures, and sanitary policing measures aimed at limiting disease spread.

The implementation of more specific rabies-related sanitary measures is further detailed in the **Inter-ministerial Order No. 175 of July 17, 1995, concerning sanitary measures for animal rabies**. This order constitutes one of the principal operational texts dedicated specifically to rabies control in animals. It outlines the procedures to be followed when a rabies case is suspected or confirmed, including the declaration process, epidemiological investigations, management of exposed animals, and destruction or confinement of infected animals where necessary. The order also defines procedures for disinfection and surveillance zones around reported outbreaks. Importantly, it emphasizes preventive vaccination of domestic carnivores, especially dogs, which remain the primary reservoir and transmitter of rabies to humans in Algeria.

Additional regulatory and instructional texts strengthen the operational capacity of the national rabies control system. These texts specify the mobilization of veterinary personnel during epizootics, surveillance protocols, reporting mechanisms, and vaccination requirements according to animal species. Veterinary inspectors and public veterinary services are empowered to coordinate vaccination campaigns, supervise animal movement, and enforce compliance with sanitary regulations. In practice, annual vaccination campaigns targeting dogs are organized in several regions, particularly in areas considered highly endemic for rabies. However, enforcement challenges persist due to insufficient vaccination coverage, logistical constraints, and the growing population of stray animals.

On the human health side, rabies management is supervised by the Ministry of Health through a network of prevention units, Pasteur Institutes, hospitals, and anti-rabies treatment centers. A major recent regulatory development is **Instruction No. 15 of September 3, 2024**, which amends and supplements **Instruction No. 05 of February 14, 2016**, relating to the management of rabies exposure risks. This updated instruction strengthens national procedures concerning post-exposure prophylaxis (PEP), risk assessment, patient referral systems, wound management, vaccine administration protocols, and coordination between healthcare providers and veterinary authorities. The instruction reflects evolving international recommendations regarding rabies prevention and aims to improve the standardization and efficiency of care provided to bite victims.

The updated instruction also highlights the importance of rapid medical intervention following exposure to suspected rabid animals. Healthcare professionals are required to assess the severity of exposure, initiate immediate wound cleansing, administer anti-rabies vaccination when indicated, and ensure follow-up monitoring. In severe exposures, rabies immunoglobulin may also be recommended. The integration of standardized procedures into

healthcare facilities helps reduce delays in treatment initiation, which is critical because rabies becomes almost invariably fatal once clinical symptoms appear.

Algeria's regulatory framework further recognizes the importance of local authorities and municipalities in rabies prevention. Municipal services are responsible for sanitation measures, waste management, and the control of stray animal populations, particularly stray dogs that contribute significantly to rabies transmission. Regulations therefore encourage coordination between veterinary authorities and municipal administrations to implement dog population management strategies, including capture, vaccination, sterilization, and, where necessary, euthanasia in accordance with sanitary regulations. Nonetheless, the management of stray animals remains one of the most challenging aspects of rabies control in many urban and rural areas.

At the strategic level, Algeria has adopted a **national strategy for the elimination of rabies by 2030**, aligned with the global objective promoted by the World Health Organization, the World Organisation for Animal Health, the Food and Agriculture Organization, and international partners under the "Zero by 30" initiative. This strategy seeks to eliminate dog-mediated human rabies through strengthened vaccination campaigns, improved epidemiological surveillance, expanded public awareness, better access to post-exposure prophylaxis, and enhanced intersectoral collaboration. It also emphasizes capacity building for veterinary and healthcare professionals, laboratory strengthening, community education, and data-sharing systems between institutions.

Despite the existence of this extensive legal and institutional framework, implementation challenges remain significant. These include insufficient financial and logistical resources, underreporting of animal cases, inadequate surveillance in remote areas, limited public awareness, irregular dog vaccination coverage, and difficulties in controlling stray animal populations. Furthermore, coordination between sectors can sometimes be fragmented, reducing the efficiency of outbreak response mechanisms. Consequently, strengthening operational enforcement, improving community participation, and ensuring sustainable funding remain essential priorities for achieving effective rabies elimination in Algeria.

Overall, Algeria's regulatory framework provides a solid legal basis for rabies prevention and control. By combining veterinary legislation, public health regulations, surveillance systems, and intersectoral collaboration mechanisms, the country has established important institutional foundations for combating rabies. Continued reinforcement of these measures, together with stronger implementation and public engagement, will be critical to achieving the national and international objective of eliminating human rabies deaths by 2030.

3. Implemented Preventive Measures

3.1 Animal Vaccination

Animal vaccination constitutes the cornerstone of rabies prevention in Algeria because domestic dogs remain the principal reservoir and vector responsible for human transmission. National veterinary authorities regularly organize vaccination campaigns targeting domestic carnivores, especially dogs and cats, in both urban and rural areas. These campaigns are generally coordinated by veterinary services under the supervision of the Ministry of Agriculture and are often intensified in regions reporting high numbers of bite incidents or confirmed animal rabies cases.

Vaccination of owned dogs is mandatory in several circumstances, particularly for animals intended for transport, breeding, guarding, or participation in public activities. Owners are encouraged to maintain updated vaccination records and to present proof of immunization during veterinary inspections or administrative procedures. Annual booster vaccination is recommended to ensure continuous immunity and to reduce viral circulation within the canine population.

Special attention is also directed toward the management of stray dog populations, which represents one of the major public health challenges in Algeria. Large numbers of free-roaming dogs in peri-urban and rural environments contribute significantly to rabies persistence. Preventive strategies therefore combine vaccination

with animal population control measures such as capture campaigns, sterilization programs, shelter management, and sanitary monitoring. Municipal authorities frequently collaborate with veterinary services to reduce uncontrolled animal proliferation while attempting to balance public health concerns and animal welfare considerations.

Border control and animal movement surveillance also contribute to prevention efforts. Veterinary inspections at border points and transport checkpoints help limit the introduction or spread of infected animals between regions. In addition, awareness programs encourage responsible pet ownership, including registration, confinement, vaccination, and avoidance of abandonment.

Mass dog vaccination remains internationally recognized as the most effective long-term strategy for interrupting rabies transmission. Achieving and maintaining vaccination coverage above the recommended threshold in canine populations is essential for progressively eliminating the disease and reducing human exposure risks.

3.2 Human Post-Exposure Prophylaxis

Human post-exposure prophylaxis (PEP) is a critical lifesaving intervention because rabies becomes almost invariably fatal once clinical symptoms appear. Algeria has established a broad network of anti-rabies treatment centers within public healthcare facilities to ensure rapid and free access to preventive care following exposure.

Any person bitten, scratched, or licked on broken skin or mucous membranes by a suspected rabid animal is advised to seek immediate medical attention. The first and most essential step is prompt local wound treatment. Immediate washing of the wound with soap and running water for at least 15 minutes significantly reduces viral load at the site of exposure. After thorough cleaning, antiseptic agents such as povidone-iodine, alcohol-based disinfectants, or diluted bleach solutions may be applied to further decrease the risk of infection.

Healthcare professionals then assess the exposure according to internationally recognized exposure categories. Factors considered include the type of contact, severity and location of wounds, species of animal involved, vaccination status of the animal, and epidemiological context of the region. This assessment determines whether vaccination alone or combined immunoglobulin therapy is required.

Rabies vaccination schedules are administered promptly after exposure using approved anti-rabies vaccines. Timely administration is essential because prophylaxis is most effective before the virus reaches the central nervous system. For severe exposures, especially deep multiple bites, head and neck injuries, or mucosal contamination, rabies immunoglobulins are infiltrated around the wound whenever possible to provide immediate passive immunity while vaccine-induced immunity develops.

One of the major strengths of the Algerian anti-rabies strategy is the free provision of post-exposure prophylaxis within public healthcare structures. This policy improves accessibility and encourages exposed individuals to seek treatment rapidly. Nevertheless, challenges remain regarding equitable access in remote rural regions, maintenance of vaccine stocks, and public awareness concerning the urgency of immediate consultation after exposure.

Continuous monitoring of exposed individuals and follow-up vaccination schedules are also important aspects of prevention. Health professionals must ensure adherence to the complete vaccination regimen and maintain accurate records for epidemiological surveillance.

3.3 Awareness, Training, and Multisectoral Coordination

Public education and awareness campaigns play a fundamental role in reducing rabies transmission because many exposures result from insufficient knowledge regarding animal behavior, bite prevention, and emergency response measures. Algerian authorities organize regular sensitization activities throughout the year, with intensified communication during events such as World Rabies Day observed every 28 September.

Awareness programs target schoolchildren, families, livestock owners, rural communities, and high-risk occupational groups. Educational messages emphasize avoiding contact with stray animals, recognizing abnormal animal behavior, reporting suspicious cases, vaccinating pets, and seeking immediate medical care after exposure. Schools frequently participate in educational activities because children constitute one of the most vulnerable groups affected by animal bites.

Media campaigns using television, radio, social media, posters, and community outreach are employed to disseminate preventive information to the general population. In rural areas, where healthcare access may be limited and exposure risks are higher, community engagement initiatives are particularly important. Religious leaders, local associations, and civil society organizations may also contribute to awareness dissemination and public mobilization.

Professional training is another essential component of rabies prevention. Physicians, nurses, veterinarians, laboratory personnel, and municipal agents receive training on rabies diagnosis, case management, vaccination protocols, epidemiological reporting, and outbreak response. Continuous professional development helps maintain preparedness and ensures compliance with updated national and international guidelines.

Algeria increasingly promotes the “One Health” approach, which recognizes the close relationship between human health, animal health, and environmental conditions. Rabies prevention therefore requires multisectoral collaboration involving the Ministries of Health, Agriculture, Interior, Education, local municipalities, veterinary institutions, law enforcement agencies, and non-governmental organizations. Coordination mechanisms facilitate data sharing, joint outbreak investigations, vaccination campaigns, and harmonized public communication.

This integrated strategy strengthens national capacity to respond effectively to rabies threats while promoting sustainable disease control measures across sectors.

3.4 Surveillance and Mandatory Reporting

Epidemiological surveillance is a central pillar of rabies prevention and control in Algeria. Both human rabies and animal rabies are classified as notifiable diseases, requiring mandatory reporting to public health and veterinary authorities. Rapid notification allows health officials to investigate cases, identify exposure sources, and implement appropriate containment measures.

Veterinary services monitor suspected rabid animals through field investigations, clinical observation, and laboratory confirmation when possible. Animals presenting neurological signs, aggressive behavior, paralysis, hypersalivation, or unexplained death are subject to veterinary assessment. Surveillance systems also track animal movement and outbreak distribution to identify high-risk geographic areas.

In the human health sector, anti-rabies centers record all exposure cases, including bites, scratches, and other forms of contact with potentially infected animals. These records provide valuable epidemiological indicators for assessing disease burden and guiding preventive interventions. The number of reported bite cases remains particularly important because it reflects exposure trends and helps estimate rabies risk within communities.

Algeria reports a substantial number of animal exposure incidents annually. For example, more than 180,000 bite cases were reported in 2023, highlighting the continuing public health importance of rabies prevention and the persistent circulation of exposure risks. Surveillance data also assist authorities in evaluating the effectiveness of vaccination campaigns, identifying underserved areas, and improving resource allocation.

Laboratory diagnosis represents another important surveillance component. Specialized laboratories contribute to confirmation of suspected rabies cases in humans and animals using virological and immunological techniques. Strengthening laboratory capacity remains essential for improving diagnostic accuracy and outbreak monitoring.

Periodic epidemiological assessments and annual reports produced by health and veterinary authorities support evidence-based policymaking. These evaluations help identify emerging challenges such as increasing stray dog populations, regional disparities in healthcare access, or gaps in vaccination coverage. Strengthened surveillance systems, integrated databases, and real-time information sharing between sectors are increasingly recognized as necessary tools for achieving long-term rabies elimination objectives in Algeria.

4. Challenges and Issues Specific to Algeria

Despite the progress achieved in rabies prevention and control in Algeria, several persistent challenges continue to hinder the complete elimination of the disease. One of the most significant concerns is the continued high number of animal bites and exposure cases reported annually. In some years, the number of declared bite incidents has even increased considerably, reflecting ongoing viral circulation among animal populations and insufficient preventive control measures. The reported rise of approximately 17% in exposure cases in 2024 compared with 2023 illustrates the continuing public health burden posed by rabies in the country. These bite incidents place substantial pressure on healthcare services due to the demand for post-exposure prophylaxis and long-term monitoring of exposed individuals.

The proliferation of stray dogs remains one of the principal epidemiological risk factors in Algeria. Urban expansion, inadequate waste management, and the uncontrolled reproduction of stray animals contribute to the persistence of large roaming dog populations in both urban and rural environments. Stray dogs may act as reservoirs and vectors of rabies transmission, particularly when vaccination coverage is low. Municipal authorities often face logistical, financial, and ethical difficulties in implementing effective stray animal control programs. Measures such as dog capture, vaccination, sterilization, and shelter management require sustained investment and coordination, which may not always be available at the local level.

Another major issue concerns inequalities in access to healthcare and preventive services, especially in rural, mountainous, or isolated regions. In certain remote areas, health facilities capable of providing rabies post-exposure prophylaxis may be geographically distant, resulting in delays in treatment after exposure. Because rabies is almost invariably fatal once clinical symptoms appear, rapid medical intervention following an animal bite is essential. Transportation difficulties, limited awareness of treatment urgency, and occasional shortages of vaccines or rabies immunoglobulins may further complicate patient management in underserved areas.

Behavioral and sociocultural factors also constitute important barriers to effective rabies prevention. Some individuals underestimate the seriousness of animal bites or rely on traditional remedies instead of seeking immediate medical care. In addition, poor adherence to vaccination schedules for domestic animals and incomplete compliance with post-exposure vaccination booster regimens among exposed persons reduce the effectiveness of prevention efforts. Children are particularly vulnerable because of their frequent interaction with animals and limited understanding of risky behaviors around stray or aggressive dogs.

The surveillance and reporting system for rabies also faces operational challenges. Underreporting of animal rabies cases, limited laboratory diagnostic capacity in certain regions, and delays in data transmission may hinder accurate epidemiological assessment and timely interventions. Inadequate coordination between veterinary and public health sectors can reduce the efficiency of outbreak detection and response activities.

Finally, sustaining long-term political commitment and multisectoral collaboration remains essential for achieving the objective of "zero human rabies deaths" by 2030. Rabies control requires continuous engagement from public health authorities, veterinary services, municipalities, environmental agencies, educational institutions, and community organizations. Financial constraints, competing public health priorities, and uneven implementation of national strategies across wilayas may slow progress toward elimination goals. Consequently, Algeria must maintain and strengthen integrated prevention programs to address these interconnected challenges comprehensively.

5. Recommendations to Strengthen Prevention

To improve rabies prevention and move toward the elimination of human rabies deaths, Algeria should reinforce and modernize its national prevention strategy through a comprehensive and sustainable approach. Strengthening vaccination coverage among domestic animals, particularly dogs and cats, should remain a top priority. Regular mass vaccination campaigns should be organized nationwide, accompanied by effective monitoring systems to ensure adequate vaccine coverage and compliance among animal owners. Expanding vaccination initiatives to include stray dogs through capture-vaccinate-release programs may also contribute significantly to reducing viral circulation in animal populations.

Public education and awareness campaigns should be intensified, especially in rural communities and among school-aged children who are frequently exposed to animals. Educational initiatives should focus on promoting safe behavior around animals, recognizing signs of rabies in animals, and emphasizing the urgent need to seek medical care after any bite, scratch, or suspicious contact. Schools, community centers, media outlets, and social networks can serve as effective platforms for disseminating prevention messages and improving public knowledge about rabies risks.

Ensuring equitable and rapid access to post-exposure prophylaxis (PEP) across all wilayas is another critical recommendation. Health authorities should guarantee the continuous availability of rabies vaccines and immunoglobulins in hospitals and healthcare centers, including facilities located in remote or underserved areas. Strengthening the cold chain system, improving transportation logistics, and training healthcare personnel in rabies case management can enhance the effectiveness of emergency treatment services.

The national surveillance system should also be reinforced to improve the detection, reporting, and monitoring of both human and animal rabies cases. Establishing integrated digital reporting systems and strengthening laboratory diagnostic capacities would facilitate faster identification of outbreaks and enable more targeted local interventions. Reliable epidemiological data are essential for assessing disease trends, identifying high-risk zones, and allocating resources efficiently.

A sustainable and humane strategy for the management of stray dog populations is equally necessary. This strategy should combine animal population control measures, sterilization campaigns, vaccination of stray animals, and improved waste management practices to reduce food sources that support stray dog proliferation. Public sanitation initiatives, particularly regular garbage collection and environmental hygiene measures, can help limit the concentration of roaming animals in populated areas.

Intersectoral collaboration should be further consolidated through the full implementation of the "One Health" approach, which recognizes the interconnectedness of human, animal, and environmental health. Strong coordination between ministries responsible for health, agriculture, environment, education, and local governance is essential for effective rabies prevention. Joint surveillance systems, coordinated vaccination campaigns, and shared public awareness programs can improve the overall efficiency of national control efforts.

Finally, the national rabies control plan should include continuous monitoring and evaluation mechanisms to measure progress and identify areas requiring improvement. Outcome indicators such as the number of human rabies deaths, incidence of animal bites, vaccination coverage rates, and numbers of vaccinated animals should be regularly analyzed. Periodic evaluations would allow authorities to adjust strategies based on epidemiological realities and ensure that prevention measures remain effective, sustainable, and aligned with the international objective of eliminating dog-mediated human rabies deaths by 2030.

6. Conclusion

Rabies remains one of the most serious zoonotic diseases in Algeria because of its almost invariably fatal outcome once clinical symptoms appear. Despite notable progress achieved over recent decades, the persistence of animal

bites, the circulation of the virus among stray and domestic animals, and gaps in preventive practices continue to pose substantial public health concerns. Algeria has nevertheless established an important institutional and legal foundation for rabies prevention through veterinary legislation, mandatory reporting systems, epidemiological surveillance mechanisms, and public health interventions aimed at reducing transmission risks.

The national strategy for rabies prevention is based on several complementary pillars. Animal vaccination campaigns, particularly targeting domestic dogs and cats, constitute the first line of defense against viral circulation. Human post-exposure prophylaxis, including wound management, vaccination, and administration of rabies immunoglobulins when necessary, plays a crucial role in preventing deaths following exposure. In addition, awareness campaigns conducted through schools, healthcare facilities, media platforms, and local authorities contribute to improving public knowledge regarding responsible animal ownership, bite prevention, and the importance of rapid medical consultation after exposure.

Epidemiological surveillance systems and intersectoral collaboration between the veterinary and public health sectors also represent essential components of rabies control in Algeria. The "One Health" approach increasingly adopted by health authorities recognizes the interconnectedness of human, animal, and environmental health. This collaborative framework facilitates early detection of outbreaks, coordinated responses to suspected cases, and improved monitoring of animal reservoirs. Strengthening laboratory diagnostic capacities and improving data-sharing mechanisms between institutions remain important priorities for enhancing surveillance effectiveness.

However, significant challenges continue to hinder the complete elimination of rabies. The proliferation of stray dogs in urban and rural areas remains one of the most critical factors sustaining transmission. Limited resources for mass vaccination campaigns, insufficient animal population control measures, disparities in healthcare access between regions, and occasional shortages of vaccines or immunoglobulins may compromise prevention efforts. In some communities, low awareness levels, traditional beliefs, delayed healthcare-seeking behavior, and poor compliance with preventive recommendations further increase vulnerability to infection.

Achieving the global objective of "zero human deaths from dog-mediated rabies by 2030" will therefore require sustained political commitment, increased financial investment, and stronger community participation. Expanding vaccination coverage among animals, improving access to timely post-exposure prophylaxis, reinforcing public education, and implementing humane and effective stray animal management programs should remain national priorities. Greater involvement of local authorities, civil society organizations, schools, and community leaders could also enhance public mobilization and encourage responsible behaviors.

In conclusion, rabies prevention in Algeria has advanced considerably through the establishment of regulatory measures and operational interventions, yet the disease continues to represent an ongoing public health and veterinary challenge. Long-term success will depend on the continuity of integrated prevention strategies, strengthened multisectoral cooperation, and the active engagement of both institutions and citizens. With sustained efforts and coordinated action, Algeria can significantly reduce rabies transmission and move closer to the elimination of human rabies deaths in the coming years.

References

- [1] Law No. 88-08, enacted on January 26, (1988), pertains to veterinary medicine and animal health protection.
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- [3] Inter-ministerial Order No. 175 of July 17, (1995), concerning sanitary measures for animal rabies.
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- [6] Instruction No. 15 of September 3, (2024), which amends and supplements Instruction No. 05 of February 14, 2016, pertains to the management of a rabies risk.