

Rabies in Borneo: A preventable threat we cannot ignore

BY MELVIN EBIN BONDI ON APRIL 6, 2026, MONDAY AT 5:02 AM



RABIES remains one of the most feared infections in medicine because death is almost certain once symptoms develop. Yet it is entirely preventable. Vaccination, early wound care, and timely post-exposure prophylaxis (PEP) can stop

it completely. The gap between prevention and death is not scientific; it is behavioural, logistical, and systemic. In many settings, the tools to prevent rabies already exist, but their consistent and disciplined application remains uneven.

Sabah is often described as rabies free, with no reported human cases since 1881. While this status reflects decades of effective prevention, it should not be mistaken for permanent protection. Sabah exists within a broader ecological and epidemiological landscape in Borneo, where rabies continues to circulate. The rabies outbreak in Sarawak, which began in 2017, remains ongoing, with new human cases and deaths continuing to be reported in 2026. These figures represent an ongoing transmission cycle that poses a constant and credible risk to surrounding areas.

Rabies does not recognise administrative boundaries. Once introduced into a susceptible animal population, particularly among dogs, it can spread rapidly and become difficult and costly to eliminate. For Sabah, the implication is clear: prevention must be prioritised before an outbreak occurs, rather than relying on response after transmission has been established.

Geography further reinforces this risk. Sabah shares ecological connectivity with areas where rabies remains endemic. Animal movement, whether formal, informal, or through natural movement patterns, creates pathways for the virus to cross borders. This risk is amplified in areas with significant populations of free roaming or stray dogs, where vaccination coverage may be low or uncertain. In rural and plantation settings, dogs frequently move between households, farms, and surrounding environments, increasing opportunities for contact and transmission.

Rabies is transmitted through the saliva of infected animals, most commonly via bites or scratches, or when saliva comes into contact with broken skin or mucous membranes. Globally, dogs account for most human rabies deaths, underscoring a key principle of control: preventing rabies in humans depends on eliminating rabies in dogs. Vaccinating at least 70 per cent of the dog population in at risk areas is sufficient to interrupt transmission.

A defining feature of rabies is its prolonged and silent incubation period. Following exposure, individuals may remain asymptomatic for weeks or months while the virus travels along the nervous system. Once clinical symptoms begin, such as agitation, confusion, difficulty swallowing, or paralysis, the disease is almost invariably fatal. This makes rabies unique among infectious diseases. It offers a critical window for prevention, but almost no chance of cure once that window closes.

Immediate action after exposure is therefore essential. Washing the wound thoroughly with soap and water for at least 15 minutes significantly reduces viral load. This simple but effective intervention should be followed by prompt medical assessment. Healthcare providers will determine the need for PEP, which may include rabies vaccination and, in high-risk cases, rabies immunoglobulin. When administered promptly and appropriately, PEP is highly effective in preventing disease.

Recent observations in Borneo also highlight a persistent gap between perceived and actual risk. While dogs remain the primary reservoir, a substantial proportion of bite and scratch incidents involve cats. These are often perceived as minor and may not prompt timely medical attention. However, in areas where rabies is present, any break in the skin caused by an animal, regardless of species, should be treated as a medical urgency. Delays in seeking care can compromise the effectiveness of preventive measures.

Recognising rabies in animals is challenging and requires laboratory confirmation. However, warning signs include sudden behavioural changes, unexplained aggression, unprovoked biting, excessive salivation, disorientation, weakness, paralysis, or difficulty swallowing. Rabies does not always present with aggression. In its paralytic form, animals may appear quiet, tame, or lethargic, making it unsafe to rely on appearance when assessing risk.

In many communities, particularly rural settings, close interaction with animals is part of daily life. Dogs may be kept for security, companionship, or work, and often roam freely within and between communities. This familiarity can create a false sense of safety. However, even well-known animals can become infected. Any sudden behavioural change should be treated seriously and reported to veterinary authorities.

Equally important is understanding what actions should be avoided. Members of the public should not approach, restrain, or handle animals suspected of being ill. Handling carcasses of animals that may have died from rabies also poses a risk of exposure. Such situations should be managed by trained veterinary or local authority personnel.

Pet ownership is a cornerstone of rabies prevention. Vaccinating pets, particularly dogs, is one of the most effective measures to protect both households and the wider community. In settings where dogs roam freely, vaccination becomes even more critical. A single unvaccinated dog can serve as a source of transmission, undermining broader control efforts. Responsible ownership also includes limiting free roaming, ensuring proper identification, and seeking veterinary care when animals show signs of illness.

At the institutional level, rabies prevention depends on coordinated multisectoral systems. Veterinary services lead vaccination, surveillance, and animal movement control, while the Ministry of Health ensures access to PEP and clinical care. Timely access to treatment remains critical.

Legal frameworks reinforce these efforts. In Malaysia, rabies is a notifiable disease under the Prevention and Control of Infectious Diseases Act 1988 (Act 342), requiring prompt reporting of suspected or confirmed cases. This enables rapid public health response. Animal health regulations, including vaccination requirements and movement controls, further support prevention. Together, these systems form the backbone of rabies control.

The complexity of rabies underscores the importance of the One Health approach, which recognises the link between human, animal, and environmental health. In practice, a bite incident should trigger a coordinated response involving healthcare providers, veterinary services, and relevant authorities, ensuring timely management of both the exposed individual and the potential source.

Extending from this perspective, eliminating rabies in Borneo requires sustained and coordinated action. Human health interventions alone cannot interrupt transmission if the virus persists in animal populations. Controlling rabies at its source, primarily through consistent dog vaccination, remains the most effective strategy. At the same time, surveillance systems must support timely detection, reporting, and response.

Public behaviour remains a decisive factor. Awareness must translate into action. Any bite or scratch that breaks the skin should be treated as a medical urgency. Immediate wound care and prompt medical assessment can save lives. Addressing misconceptions and encouraging early care-seeking behaviour are essential components of prevention.

Dr Mohd Fazeli bin Sazali

This perspective is reinforced by Dr. Mohd Fazeli bin Sazali, Public Health Medicine Specialist and District Health Officer of Rompin, Pahang, whom I spoke to. He emphasised that “maintaining a rabies free status requires continuous vigilance rather than reactive measures. The absence of reported cases should not lead to complacency, but instead strengthen commitment to sustained prevention. The One Health approach must be operationalised at all levels, with seamless coordination between human health and veterinary services. Every exposure should be treated as a potential public health event, triggering joint investigation and timely intervention, particularly in settings with close human and animal interaction. Achieving zero human deaths from dog mediated rabies by 2030 is realistic and achievable, as the necessary tools including effective vaccines, clear treatment protocols, and coordinated systems. The real challenge lies in consistent implementation and sustained commitment. Complacency remains the greatest threat, as in the absence of visible cases, preventive behaviours may decline, vaccination coverage may weaken, and surveillance systems may become less

The experience of Borneo underscores a clear lesson. Rabies prevention is a shared responsibility. Governments, healthcare providers, veterinary authorities, and communities all have critical roles to play. Success depends on coordination, consistency, and sustained effort. The message is clear. Rabies is entirely preventable using existing knowledge and tools. Eliminating it requires disciplined application of proven strategies rather than new innovations. With strong systems, coordinated action, and informed public participation, the goal of zero human rabies deaths is not only aspirational, it is achievable.

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