



ASEAN BIOLOGICAL THREATS SURVEILLANCE CENTRE

RABIES In the ASEAN Region FOCUS REPORT

With Support by:



Korea Disease Control and
Prevention Agency



in partnership with
Canada



Kemenkes



ASSOCIATION
OF SOUTHEAST
ASIAN NATIONS



ASEAN BIOLOGICAL THREATS SURVEILLANCE CENTRE

Editorial

ASEAN SECRETARIAT

Assistant Director and Head of Health Division
Human Development Directorate
ASEAN Socio-Cultural Community Department
Jennifer Frances dela Rosa, MPH, MSc HPPF

Programme Coordinator (Health Security)
Mitigation of Biological Threats (MBT) Programme
Michael Glen, MSc

EDITORIAL TEAM

Editor-in-Chief
Abdurrahman, MPH

Managing Editor
Habibi Rohman Rosyad, MSc

Associate Editor
Aldilas Achmad Nursetyo, MD, MS
Abdul Haris Ibrahim, MHI

Copy Editors
Dwi Sasongko
Ajeng Sekar Pratiwi
Nindy Fadellah Wulan S
Svetlana Pratiwi

Graphic Design
Divva Kaamila
Natasha Alicia Putri

PUBLISHER

ASEAN BIOLOGICAL THREATS SURVEILLANCE CENTRE

EDITORIAL ADDRESS

ASEAN BIOLOGICAL THREATS SURVEILLANCE CENTRE
Health Policy Agency
Ministry of Health of Indonesia,
Building 6- Center of Global Health Strategy and
Governance Policy, 2nd floor
Percetakan Negara No. 29 Johar Baru, Jakarta
Pusat, Indonesia 10560
E-mail: support@aseanbiosurveillance.org
E-mail: data@aseanbiosurveillance.org

Table of Contents

RABIES FOCUS REPORT

Table of Contents	2
Acronyms and Abbreviations	3
Introduction	5
Methods	6
Case Definition and Clinical Features	7
• Case Definition	8
• Transmission	10
• Risk Factors and Risk Groups	10
• Clinical Presentation	11
• Clinical Diagnostic	12
Epidemiology	13
• Global Situation	14
• Burden of Rabies in the ASEAN Region	17
Case Management and Prevention	22
• Case Management	23
• Prevention	24
Control Measures Strategy	25
• Control Measures in ASEAN Member States	28
References	39



ASEAN BIOLOGICAL THREATS SURVEILLANCE CENTRE

Acronyms and Abbreviations

AEGCD	: ASEAN Experts Group on Communicable Diseases	MOAF	: Ministry of Agriculture and Forestry
AMS	: ASEAN Member States	MOES	: Ministry of Education and Sport
ARES	: ASEAN Rabies Elimination Strategy	MOH	: Ministry of Health
ASEAN	: Association of Southeast Asian Nations	MOHA	: Ministry of Home Affairs
ASWGL	: ASEAN Sectoral Working Group on Livestock	MPRT	: Ministry of Primary Resources and Tourism
AVS	: Animal and Veterinary Service	MyRes	: Strategic Plan for Rabies Elimination
CDC - GDAHP	: Centers for Disease Control and Prevention – Global Disease Detection and Health Protection	NGO	: Non-Governmental Organizations
EBS	: Event-Based Surveillance	NSP	: National Strategic Plan
DRIT	: Direct Rapid Immunohistochemical Test	ORV	: Oral Rabies Vaccination
EID	: Emerging Infectious Diseases	PCR	: Polymerase Chain Reaction
FAO	: Food and Agriculture Organization	PeEP	: Pre-Exposure Prophylaxis
FAT	: Fluorescent Antibody Test	PEP	: Post-Exposure Prophylaxis
GARC	: Global Alliance for Rabies Control	PHE	: Public Health Emergencies
IBCM	: Integrated Bite Case Management	SARE	: Stepwise Approach towards Rabies Elimination
IMCC	: Inter-Ministerial Coordination Committee	SOPs	: Standard Operating Procedures
MDV	: Mass Dog Vaccination	TNRM	: Trap-Neuter-Rehome/Release-Manage
		WHO	: World Health Organization
		WOAH	: World Organisation for Animal Health
		WPRO	: Western Pacific Region Office

RABIES

Introduction & Methods



Introduction

Rabies is a viral zoonotic disease that affects the central nervous system, almost always resulting in death once symptoms appear (WHO, 2024). The virus is primarily transmitted through the bite or scratch of an infected animal, with domestic dogs being the main source of human rabies cases worldwide (WOAH, nd). After entering the body, the virus travels along peripheral nerves to the brain, causing progressive neurological symptoms such as fever, hydrophobia (fear of water), aerophobia (fear of air drafts), agitation, paralysis, and ultimately coma and death.

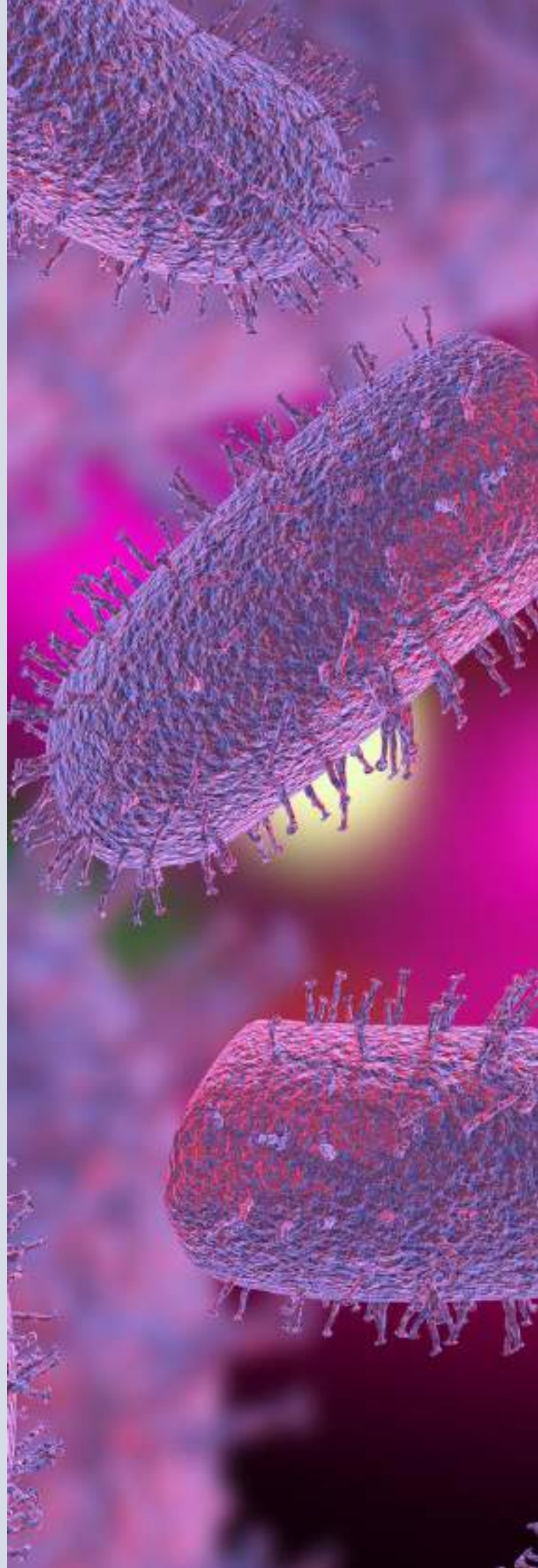
Rabies is entirely preventable through prompt wound care, post-exposure prophylaxis (PEP), and pre-exposure vaccination for high-risk groups (WHO, n.d). However, individuals who do not receive PEP after exposure remain at extreme risk of developing fatal disease. Children under 15 years are disproportionately affected, as they are more likely to play with animals and may not report bites or scratches. Wildlife, including bats, foxes, and raccoons, also contribute to rabies transmission in certain regions, complicating control efforts.

Globally, dog vaccination programs, combined with improved access to human vaccines and immunoglobulins, have reduced the incidence of rabies in several regions. Maintaining high vaccination coverage in dogs, ensuring timely access to PEP, and strengthening community awareness remain essential to eliminating human rabies deaths. Regional strategies, such as those supported by ASEAN member states, align with the World Health Organization (WHO) and global partners' "Zero by 2030" goal to end human deaths from dog-mediated rabies (FAO, WOA, WHO, and GARC, 2018).

This report provides an overview of rabies, covering its transmission, symptoms, prevention, and control measures, along with data on reported cases, vaccination programs, and gaps in access to PEP. It also analyses the regional situation within ASEAN and highlights the importance of surveillance, intersectoral collaboration, and rapid public health response to achieve rabies elimination across vulnerable communities.

Methods

This report employs a comprehensive literature review to examine the global landscape of rabies, with a particular focus on the ASEAN region. Information on the disease was gathered from existing guidelines, WHO press releases, and other established academic sources. Additionally, data on disease incidence, diagnostic criteria, preventive measures, and policy strategies were collated from WHO publications, official reports from ASEAN Member States, and reputable news sources. This approach enabled a detailed analysis of current trends, patterns, and challenges in managing rabies within the ASEAN region.



Case Definition and Clinical Features



Case Definition

Rabies is a viral disease caused by viruses of the genus *Lyssavirus* in the family *Rhabdoviridae*. It affects the central nervous system of mammals (dogs, cats, foxes etc.), including humans (WOAH, nd). The virus is concentrated in the saliva and brain of infected animals, most commonly dogs, and is transmitted through bites. A high presence in wildlife species can create multiple opportunities for cross-species transmission, mostly affecting domestic animals and humans.

Rabies spreads from animals to humans, most often through the bite or scratch of an infected (rabid) animal. Stray dogs are the main source of human infection, although bats, foxes, and other mammals can also transmit the virus. In the Americas, where dog-mediated rabies is mostly controlled, bats are now the primary source of human rabies (WHO, 2024, WHO, nd.a). Bat-mediated rabies is also an emerging public health threat in Australia and parts of western Europe.

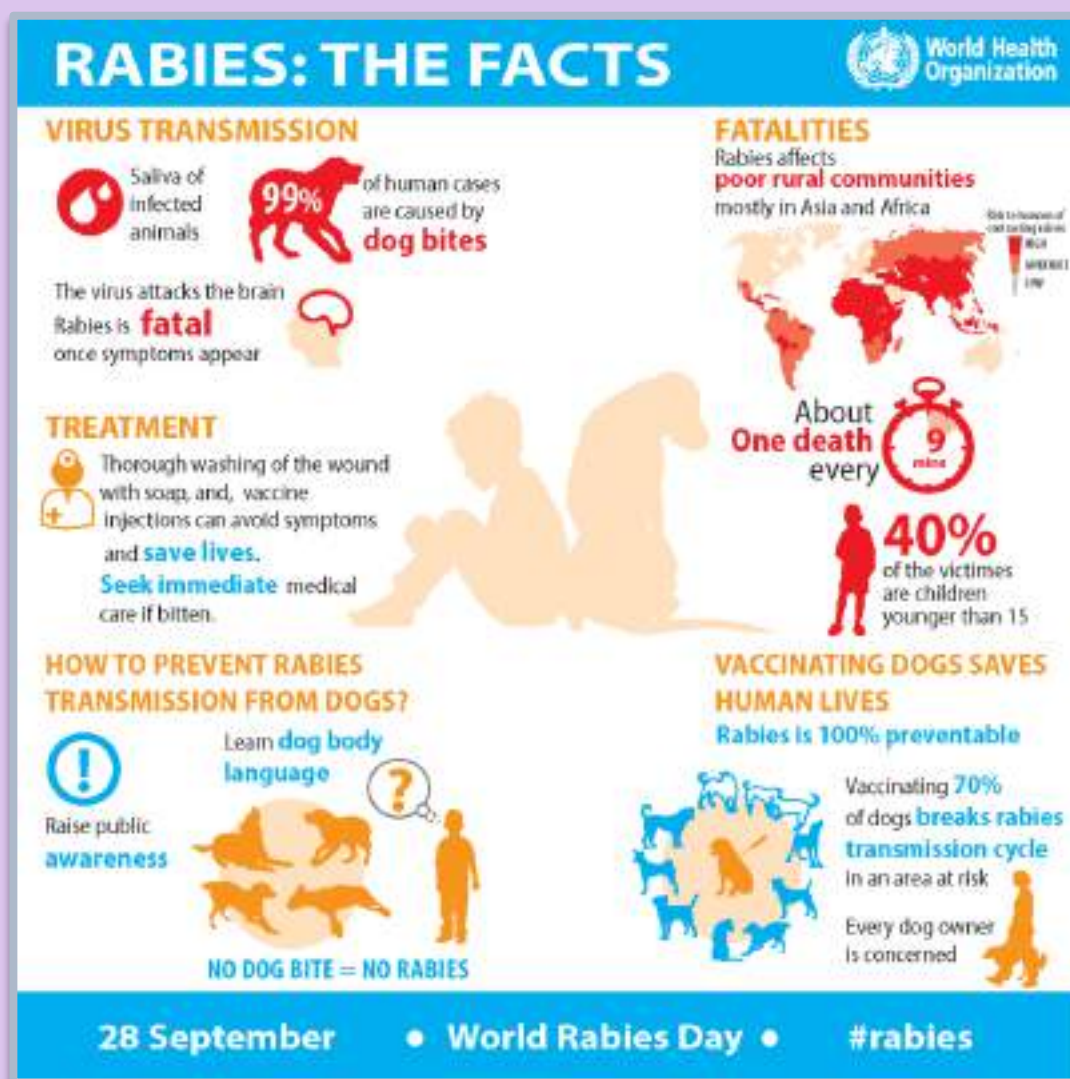


Figure 1. WHO factsheet on Rabies

Source: WHO (<https://www.who.int/multi-media/details/the-facts-on-rabies>)

The World Health Organization (WHO) defines rabies in animal as follows (WHO, 2025a):

Suspected rabid animal: Any animal showing signs such as hypersalivation, paralysis, lethargy, abnormal aggression (e.g., biting multiple people, animals, or objects), unusual vocalization, or daytime activity in nocturnal species.

Probable rabid animal: A suspected case with a reliable history of contact with a suspected, probable, or confirmed rabid animal, or an animal that was killed, died, or disappeared within 4–5 days of illness onset.

Confirmed rabid animal: A suspected or probable case verified through laboratory testing.

A human rabies case is characterized by acute neurological syndrome (i.e. encephalitis) dominated by forms of hyperactivity (furious rabies) or paralytic syndromes (paralytic rabies) (WHO, 2024).

Furious rabies is the more common form and is characterized by hyperactivity, agitation, hallucinations, lack of

coordination, hydrophobia (fear of water), and aerophobia (fear of air drafts). Death usually follows within a few days due to cardio-respiratory failure. **Paralytic rabies**, which accounts for about 20% of human cases, progresses more slowly and less dramatically. Paralysis begins at the site of exposure and gradually spreads, leading to coma and eventually death. Because of its atypical presentation, paralytic rabies is often misdiagnosed, contributing to underreporting of the disease.

In terms of infection in human, the WHO defines rabies cases as suspected, probable, and confirmed cases:

Suspected case: a case that is compatible with a clinical case definition of human rabies.

Probable case: a suspected case with a reliable history of contact with a suspected, probable, or confirmed rabid animal.

Confirmed case: a suspected or probable case verified through laboratory testing.

Transmission

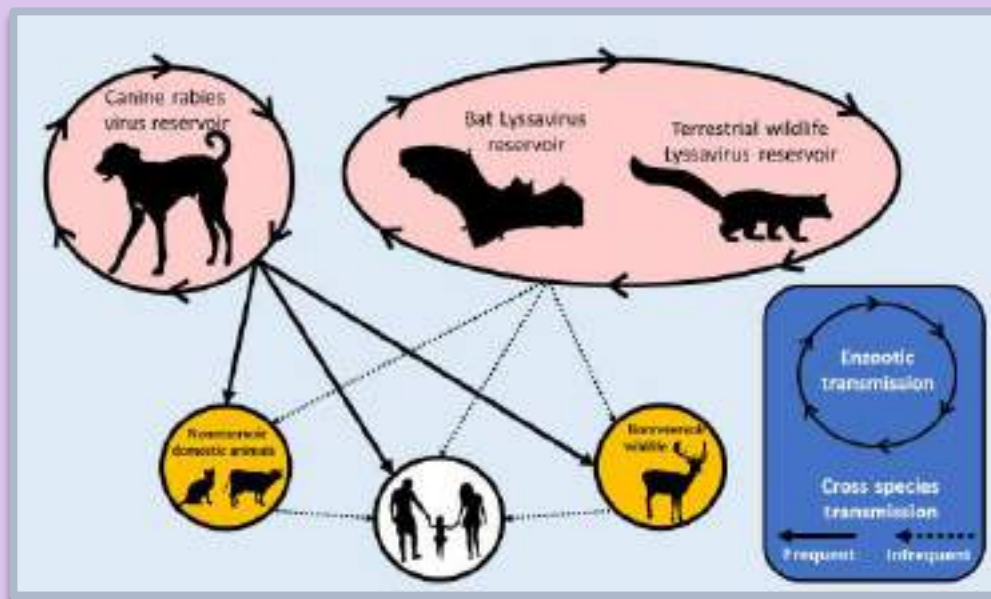


Figure 2. Rabies Transmission

Source: WHO (<https://www.sciencedirect.com/topics/immunology-and-microbiology/rabies-transmission>)

Rabies is most transmitted through the saliva of infected animals, most often via bites, scratches, or contact with mucous membranes such as the eyes, mouth, or open wounds (WHO, 2024). In up to 99% of the human rabies cases, dogs are responsible for virus transmission. Children between the age of 5 and 14 years are frequent victims.

Rabies virus is also found in tears and nervous tissue, posing potential transmission risks, but it is absent from

blood and faces (WHO, 2018). There is no evidence of transmission through milk or cooked meat, although consumption of products from rabid animals is discouraged. Those who handle or slaughter rabid animals risk infection through skin breaks and should use protective equipment and seek medical advice if exposed. Human-to-human transmission is extremely rare, but caregivers should avoid contact with saliva and other bodily fluids.

Risk Factors and Risk Groups

Certain populations are at increased risk of rabies due to behavioural, occupational, and environmental exposure (WHO, 2018). Children are vulnerable due to frequent close contact with animals, bites to the face or neck, and underreporting of minor

injuries. Veterinarians, animal health workers, and those handling potentially rabid animals are at risk from exposure to infectious fluids, especially through skin abrasions. Travelers to rabies-endemic regions, particularly in rural or outdoor

settings, also face heightened risk due to greater exposure potential and limited access to prompt medical care. These groups may benefit from targeted education and pre-exposure prophylaxis based on the nature and duration of their exposure.

The risk of developing rabies depends on multiple factors (WHO, 2018). Deep or multiple bites carry a greater risk than

superficial scratches. Bites located on the head, neck, or fingers result in faster disease progression due to their proximity to the central nervous system. The species and health status of the biting animal, particularly bats and unvaccinated dogs, also influence transmission risk. Additionally, the immune status of the exposed individual affects susceptibility to infection.

Clinical Presentation



Figure 3. Rabies Symptoms

Source: WHO (<https://www.instituteofhumananatomy.com/blog/rabies>)

Clinical manifestations of rabies may include aerophobia, hydrophobia, paraesthesia or localized pain, dysphagia, localized weakness, and nausea or vomiting. Following infection, symptoms may take several weeks to months to develop, as the virus gradually travels

along the peripheral nerves to the brain, leading to severe neurological illness. Without intensive medical care, the disease typically progresses to coma and death, most often due to cardiac or respiratory failure, within 7–10 days after symptom onset (WHO, 2025a).



Figure 4. Rabies Symptoms in Humans

Source: Global Alliance for Rabies Control (<https://rabiesalliance.org/resource/rabies-symptoms-humans-infographic>)

Clinical Diagnostic

Rabies can be diagnosed through clinical examination and exposure history or confirmed by laboratory testing (WHO, 2025a). Testing data reflects diagnostic and laboratory capacity and can indicate testing coverage at national or subnational levels. Adequate testing is essential to confirm the presence or absence of rabies

and to support planning and elimination goals. Virus variant typing helps identify the animal reservoir and infer the source of infection when exposure history is unclear. It is also used to confirm canine-rabies-free status and to distinguish between imported and local cases.

Epidemiology



Global Situation

Rabies remains a major global public health concern, present on every continent except Antarctica (WHO, 2024). An estimated 59,000 people die from the disease each year, although the true burden is likely higher than official figures due to underreporting. Figure 5 illustrates

the global distribution of reported rabies deaths from 2015 to 2024, based on WHO data (WHO, 2025). Countries are shaded by the number of deaths reported, ranging from 0 (green) to over 1,000 (dark orange), while grey areas indicate missing surveillance data.

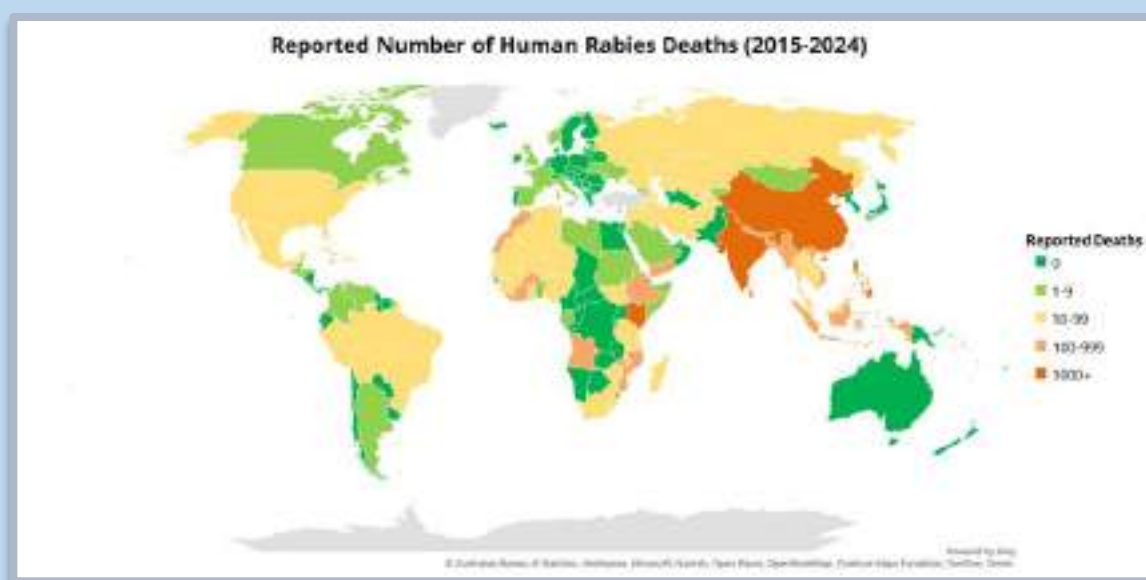


Figure 5. Reported human rabies deaths by country, 2015–2024
(Source: WHO global health observatory (<https://www.who.int/data/gho/data/themes/topics/rabies>))

Over the past decade, the highest numbers of reported rabies-related deaths were recorded in India (4,712), China (3,288), the Philippines (2,941), and Kenya (1,115) (WHO, 2025). Fourteen other countries reported several hundred deaths each, including Angola (945), Liberia (934), Viet Nam (723), Myanmar (574), Indonesia (572), Bangladesh (557), Burkina Faso (316), Sri Lanka (245), Yemen (240), Ethiopia (238), Côte d'Ivoire (200), Mozambique (182), Nepal (147), and Morocco (137).

From 2015 to 2024, a total of 19,638 rabies-related deaths were reported worldwide.

The Western Pacific Region accounted for the highest number (7,148), followed by South-East Asia (6,883) and Africa (4,597) (Figure 6). Significantly fewer deaths were reported in the Eastern Mediterranean (640), the Americas (201), and Europe (169). The sharp decline observed in 2024, as shown in Figure 6, should be interpreted with caution, as many countries had yet to submit their data as of September 9, 2025 (WHO, 2025). This is further supported by the absence of deaths reported from African region that had previously recorded relatively high numbers of cases in past years.

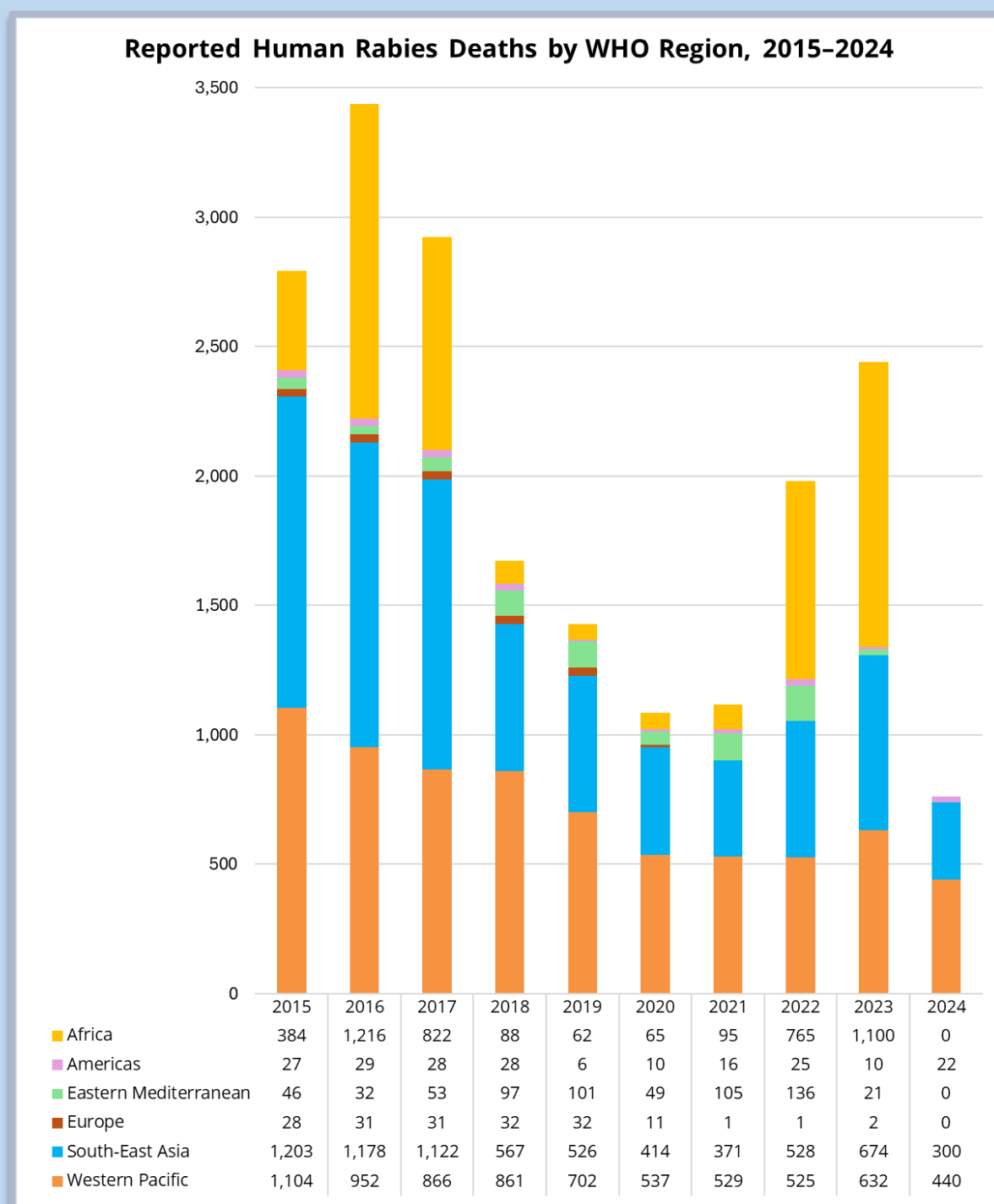


Figure 6. Distribution of reported rabies deaths by WHO Region, 2015 - 2024
(Source: WHO global health observatory (<https://www.who.int/data/gho/data/themes/topics/rabies>))

In 2022, the WHO assessed the global status of dog-mediated human rabies among its member countries (WHO, 2025b). Of these, 89 countries (45.6%) reported no dog-mediated human rabies and no dog rabies, while 73 (37.4%) reported the presence of dog-mediated human rabies (Figure 7). Six countries

(3.1%) reported no dog-mediated human rabies, but dog rabies confined to limited areas, and five (2.6%) reported either sporadic human cases with localized dog rabies or no human cases but widespread dog rabies. Data were unavailable from 17 countries (8.7%).

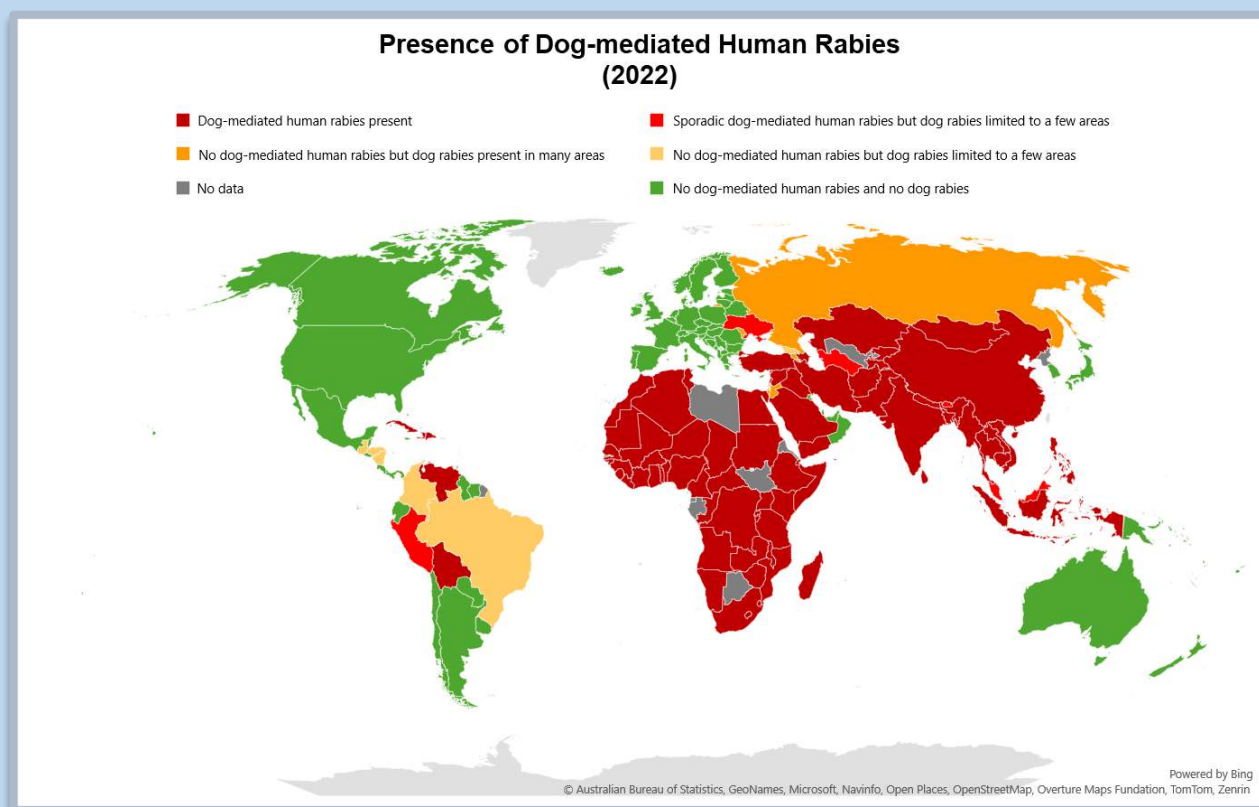


Figure 7. Distribution of global presence of dog-mediated human rabies, 2022
(Source: WHO global health observatory (<https://www.who.int/data/gho/data/themes/topics/rabies>))

Burden of Rabies in the ASEAN Region

Rabies is often under-reported, misdiagnosed, or undiagnosed, resulting in limited data on human deaths, vaccine access, and animal infections. Existing data typically indicate disease presence rather than its full burden. As control programmes expand toward dog-mediated rabies elimination, surveillance and data quality are expected to improve (WHO, 2025).

Figure 8 shows reported rabies deaths in the ASEAN region from 2015 to 2024. During this period, the Philippines recorded the highest number, with 2,941 deaths (ranging from 209 to 425 annually). Viet Nam, Myanmar, and Indonesia each reported several hundred deaths. Malaysia, Thailand, Lao PDR, and Cambodia reported lower numbers, while Brunei Darussalam and Singapore reported no rabies-related deaths.

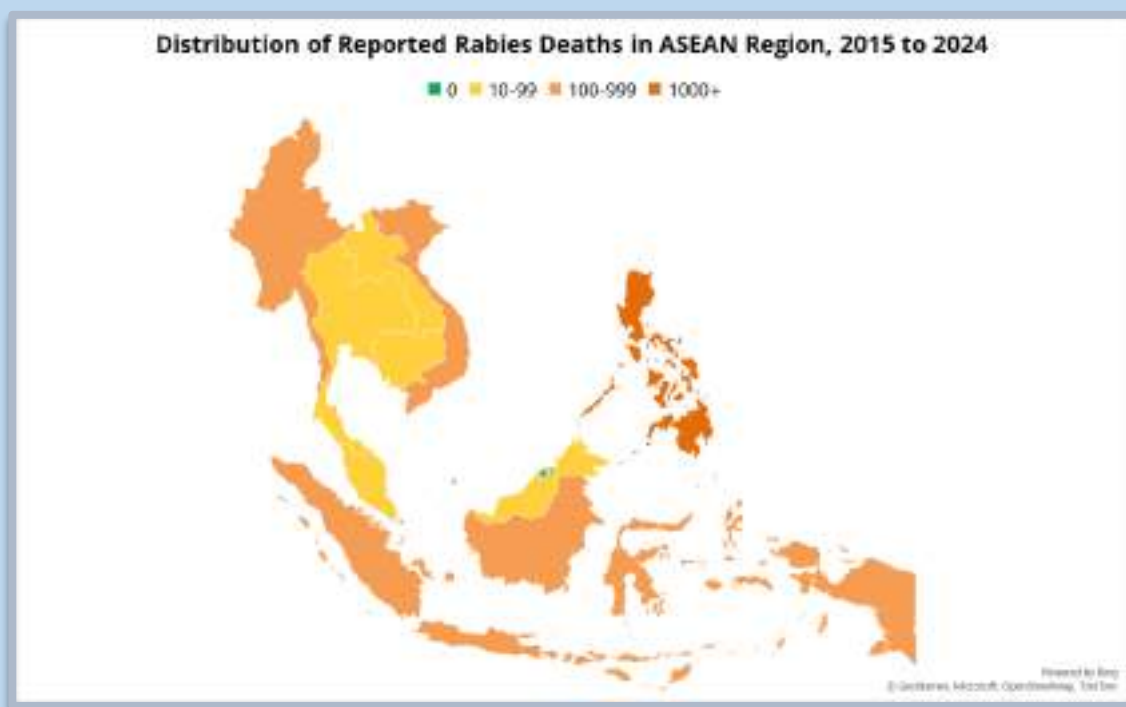


Figure 8. Distribution of reported rabies deaths in ASEAN, 2015 - 2024
(Source: WHO global health observatory (<https://www.who.int/data/gho/data/themes/topics/rabies>))

From 2015 to 2024, ASEAN member states reported approximately 5,076 rabies-related deaths (Figure 9). The Philippines accounted for the largest share, with 2,941 deaths over the period, consistently recording the highest annual totals and peaking at 425 in 2024. Viet Nam followed with 723 deaths, reaching a high of 103 in

2018 before declining steadily, with no deaths reported in 2024. Myanmar recorded 574 deaths, fluctuating annually, and peaking at 103 in 2015. Indonesia reported 572 deaths since 2019, including 106 in 2019, 146 in 2023, and 122 in 2024. Lower but persistent numbers were observed in Malaysia (86), Thailand (71),

Lao PDR (67), and Cambodia (42). Brunei Darussalam and Singapore reported no rabies deaths during the period. Overall, the regional trend indicates fluctuations

with a gradual increase in total reported deaths, rising from around 400 in 2015 to more than 700 in 2023.

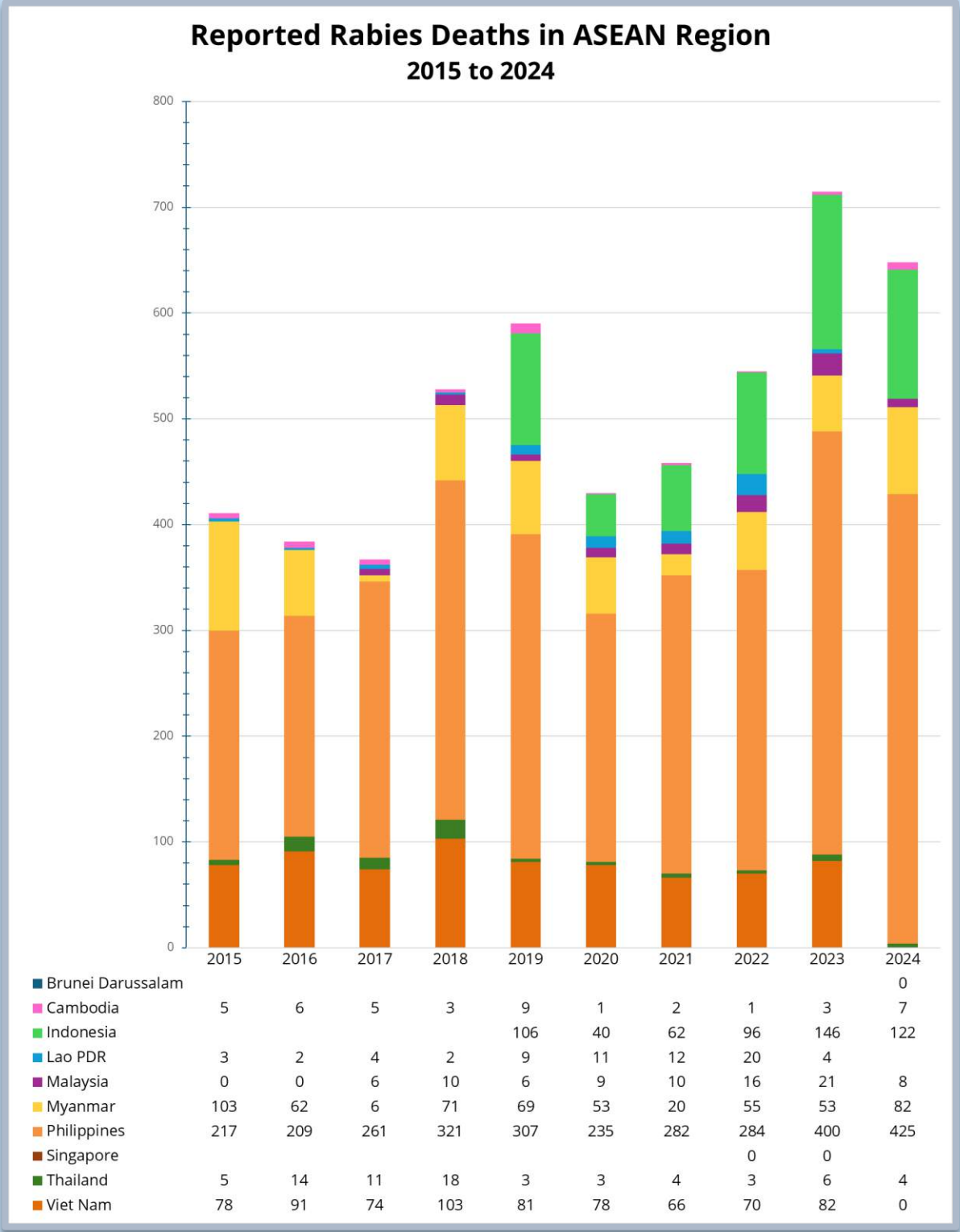


Figure 9. Trend of reported rabies deaths in the ASEAN Region, 2015-2024
(Source: WHO global health observatory (<https://www.who.int/data/gho/data/themes/topics/rabies>))



Brunei Darussalam

From 2015 to 2024, Brunei Darussalam reported no human deaths related to rabies.



Cambodia

Cambodia reported relatively few human rabies-related deaths over the past decade, with fewer than 10 deaths recorded annually (Figure 10). The highest number occurred in 2019, with nine reported deaths.

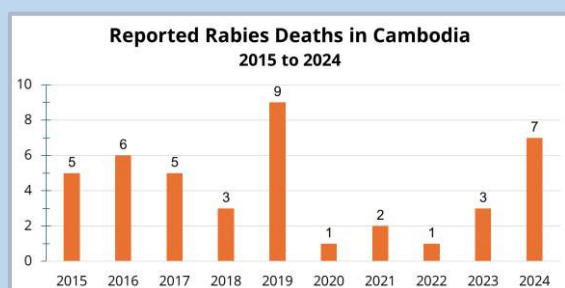


Figure 10. Trend of reported rabies deaths in Cambodia, 2015-2024

(Source: WHO global health observatory (<https://www.who.int/data/gho/data/themes/topics/rabies>))



Indonesia

Indonesia recorded notable fluctuations in human rabies-related deaths between 2019 and 2024, with over 100 deaths reported in 2019, 2023, and 2024 (106, 146, and 122 deaths, respectively). Fewer deaths were reported from 2020 to 2022, with 2020 marking the lowest number at 40 deaths during the period. (Figure 11).

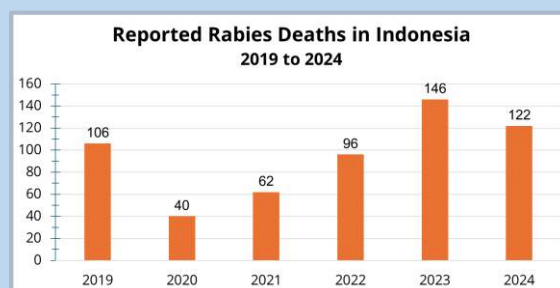


Figure 11. Trend of reported rabies deaths in Indonesia, 2015-2024

(Source: WHO global health observatory (<https://www.who.int/data/gho/data/themes/topics/rabies>))



Lao PDR

Figure 12 shows reported rabies deaths in Lao PDR from 2015 to 2024. Reported deaths remained low between 2015 and 2018 (ranging from 2 to 4 cases annually), then increased noticeably beginning in 2019 (9 deaths) and peaked in 2022 with 20 deaths. Following this peak, the number dropped sharply to 4 deaths in 2023.

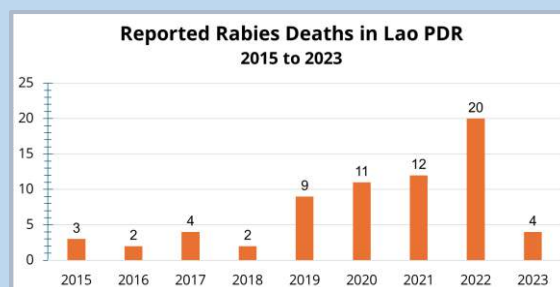


Figure 12. Trend of reported rabies deaths in Lao PDR, 2015-2024

(Source: WHO global health observatory (<https://www.who.int/data/gho/data/themes/topics/rabies>))



Malaysia

As shown in Figure 13, Malaysia reported no human rabies deaths in 2015 and 2016. In the following years, the number fluctuated, with the lowest counts in 2017 and 2019 (six deaths each) and a peak of 21 deaths in 2023. A sharp decline was then observed in 2024, with eight deaths reported.

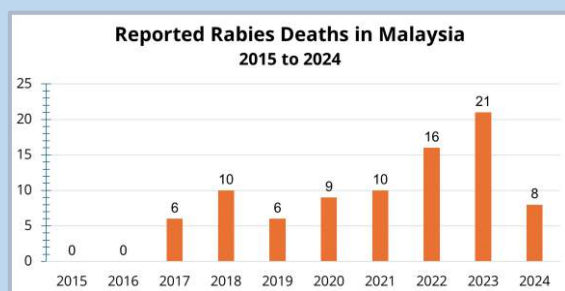


Figure 13. Trend of reported rabies deaths in Malaysia, 2015-2024

(Source: WHO global health observatory (<https://www.who.int/data/gho/data/themes/topics/rabies>))

Myanmar

Figure 14 shows reported rabies deaths in Myanmar from 2015 to 2024. The country recorded a high of 103 deaths in 2015, followed by a decline to 62 in 2016 and a sharp drop to six in 2017. Deaths rose again to 71 in 2018 before gradually decreasing to 20 in 2021. A slight increase was observed in 2022 (55 deaths) and 2023 (53 deaths), followed by a sharp rise to 82 deaths in 2024.

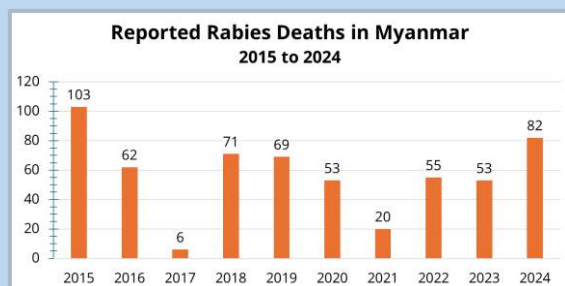


Figure 14. Trend of reported rabies deaths in Myanmar, 2015-2024

(Source: WHO global health observatory (<https://www.who.int/data/gho/data/themes/topics/rabies>))

Philippines

Figure 15 shows the reported rabies deaths in the Philippines from 2015 to 2024, ranging between 209 and 425 annually. Deaths slightly declined from 217 in 2015 to 209 in 2016, then rose steadily, peaking at 321 in 2018 and staying above

300 until a temporary drop to 235 in 2020. From 2021, the numbers increased again, 425 in 2024, the highest count of the decade.

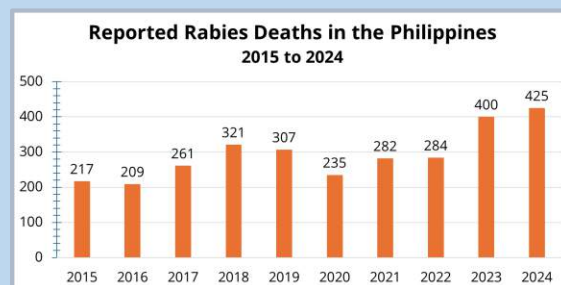


Figure 15. Trend of reported rabies deaths in the Philippines, 2015-2024

(Source: WHO global health observatory (<https://www.who.int/data/gho/data/themes/topics/rabies>))

Singapore

From 2015 to 2024, there were no rabies-related deaths in Singapore.

Thailand

From 2015 to 2024, Thailand reported fewer than 20 rabies-related deaths annually (Figure 16). The number rose from five deaths in 2015 to a peak of 18 in 2018, the highest within the period. Deaths then declined sharply to three in 2019 and remained relatively low and stable, ranging between three and six deaths annually through 2024.

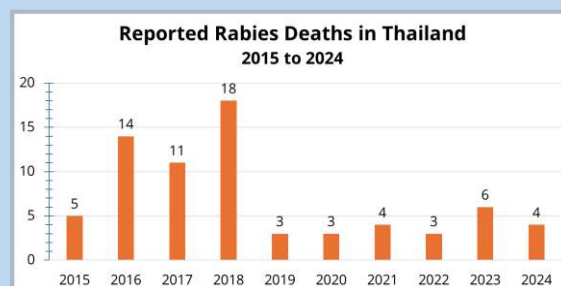


Figure 16. Trend of reported rabies deaths in Thailand, 2015-2024

(Source: WHO global health observatory (<https://www.who.int/data/gho/data/themes/topics/rabies>))



Viet Nam

Figure 17 shows the trend of reported rabies deaths in Viet Nam from 2015 to 2024. The number fluctuated throughout the decade, with the highest count recorded in 2018 (103 deaths) and the lowest in 2021 (66 deaths). Annual deaths ranged between 70 and 91 in most years, before dropping to zero in 2024.

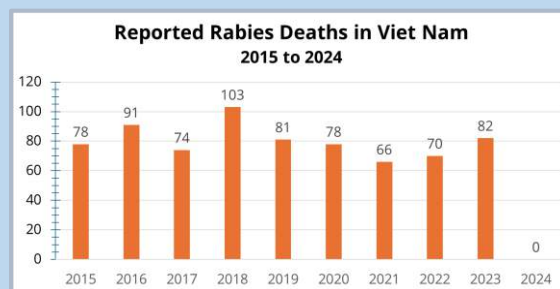


Figure 17. Trend of reported rabies deaths in Viet Nam, 2015-2024

(Source: WHO global health observatory (<https://www.who.int/data/gho/data/themes/topics/rabies>))



Case Management and Prevention



Case Management

Rabies is almost always fatal once symptoms appear, therefore, its prevention including access to prompt post-exposure prophylaxis (PEP), vaccinating dogs, and empowering communities is crucial to reach the global goal of zero human rabies deaths by 2030. Although effective and safe vaccines exist, rabies remains a major burden in endemic countries where access to timely PEP is still limited.

PEP, the emergency intervention after suspected exposure, is essential to prevent the virus from reaching the central nervous system (WHO, 2024). It begins with immediate and thorough wound

washing with soap and water for at least 15 minutes, followed by a full course of rabies vaccination. For high-risk exposures, rabies immunoglobulin or monoclonal antibodies should be infiltrated directly into the wound.

PEP decision-making depends on the type of exposure and wound, animal characteristics, and local surveillance capacity (WHO, 2024a). The WHO provides decision trees to guide healthcare providers in assessing rabies risk and determining appropriate treatment by considering wound severity, animal type and behavior, vaccination status, and the local rabies situation (Figure 18).

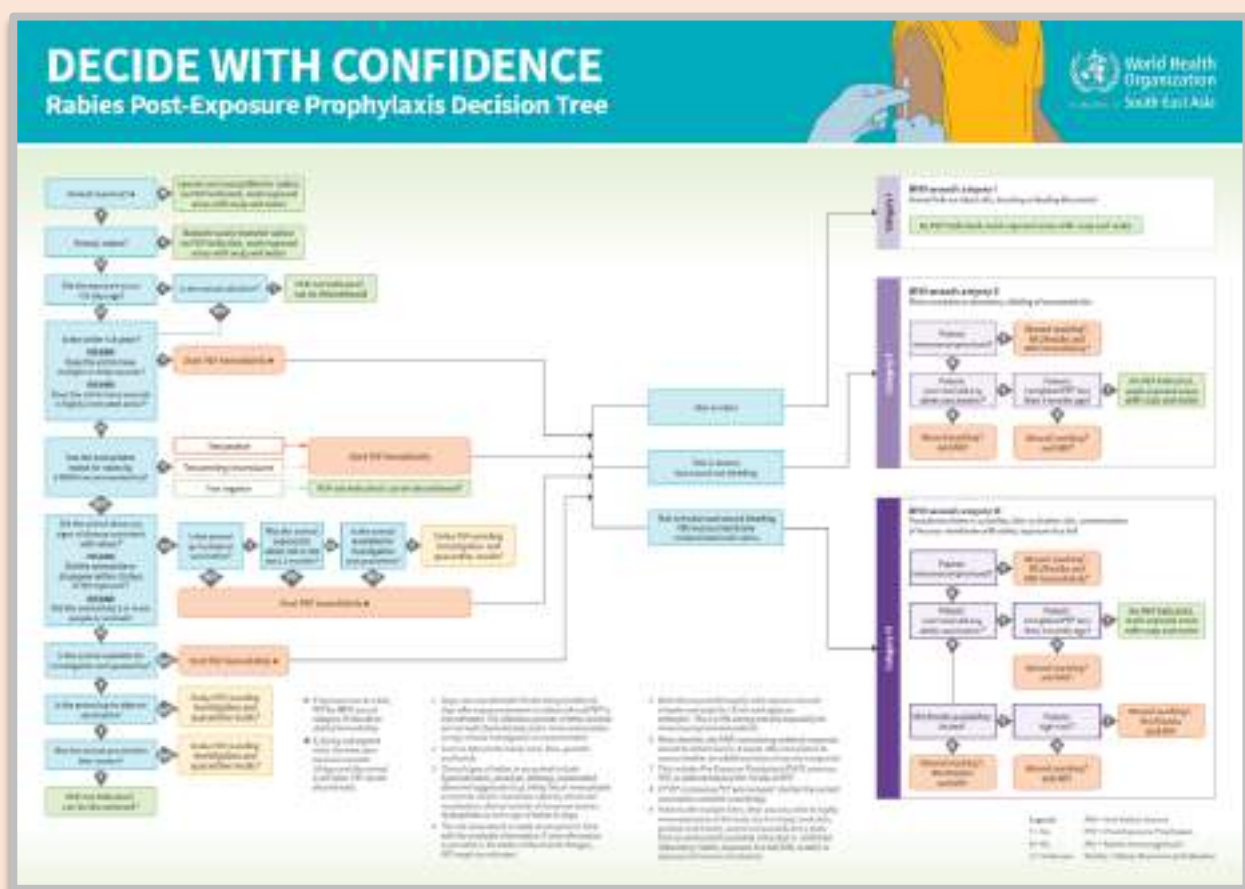


Figure 18. Rabies Post-Exposure Prophylaxis Decision Tree
(Source: WHO (<https://www.who.int/southeastasia/news/detail/28-02-2024-rabies-post-exposure-prophylaxis-decision-tree--decide-with-confidence>))

Prevention

Rabies is preventable through three proven and effective interventions: public awareness, PEP, and mass dog vaccination (WHO, n.d).

1. Community awareness empowers people to recognize risks, seek timely medical care, and understand how to prevent rabies in animals. This includes knowing when to suspect rabies and how to respond to animal bites.
2. PEP involves a series of rabies vaccines being administered after suspected exposure to rabies. In some cases, rabies immunoglobulin (RIG) is also administered. The administration of PEP and appropriate wound management is nearly 100% effective

in preventing death if administered promptly after exposure.

3. Mass dog vaccination remains the most cost-effective method to prevent human rabies, as dogs are responsible for 99% of human cases.

Sustained prevention requires coordinated action between human and animal health sectors under the One Health approach. National and regional elimination strategies improve surveillance, strengthen preparedness, and mobilize local resources, while also enhancing overall disease monitoring systems.



Control Measures Strategy



In 2015, the global community, comprising the WHO, the World Organisation for Animal Health (WOAH, formerly OIE), the Food and Agriculture Organization of the United Nations (FAO), and the Global Alliance for Rabies Control (GARC), joined forces under the United Against Rabies collaboration (FAO, WOAH, WHO, and GARC, 2018). This partnership aims to achieve zero human deaths from dog-mediated rabies by 2030 through coordinated global action, strengthened partnerships, and shared commitment to elimination.

Through a One Health approach, experts and stakeholders from both public and private sectors are engaged to support countries in preventing rabies and achieving the goal of zero human deaths by 2030. The "Zero by 30" global strategic plan provides a country-led, globally supported framework to guide this effort (WHO, 2018). National governments lead implementation through tailored elimination plans, with coordinated technical and operational support from global partners (Figure 19).



Figure 19. United Against Rabies a country-centric, multi-stakeholder collaboration
(Source: <https://www.who.int/publications/i/item/9789241513838>)

Achieving zero human deaths from rabies by 2030 is considered technically feasible, although it requires significant societal and systemic transformation. The Zero by 30 framework presents a structured theory of change aimed at saving lives, reducing economic burden, and guiding countries toward sustainable rabies elimination. This theory of change is structured around three main pillars: (i) operational capacity

building to strengthen health systems; (ii) education and advocacy to prevent human rabies deaths; and (iii) monitoring and evaluation to support global coordination and accountability (Figure 20). The accompanying logic framework translates these pillars into a practical blueprint for action, detailing the outcomes, outputs, and key activities necessary to achieve the 2030 goal.

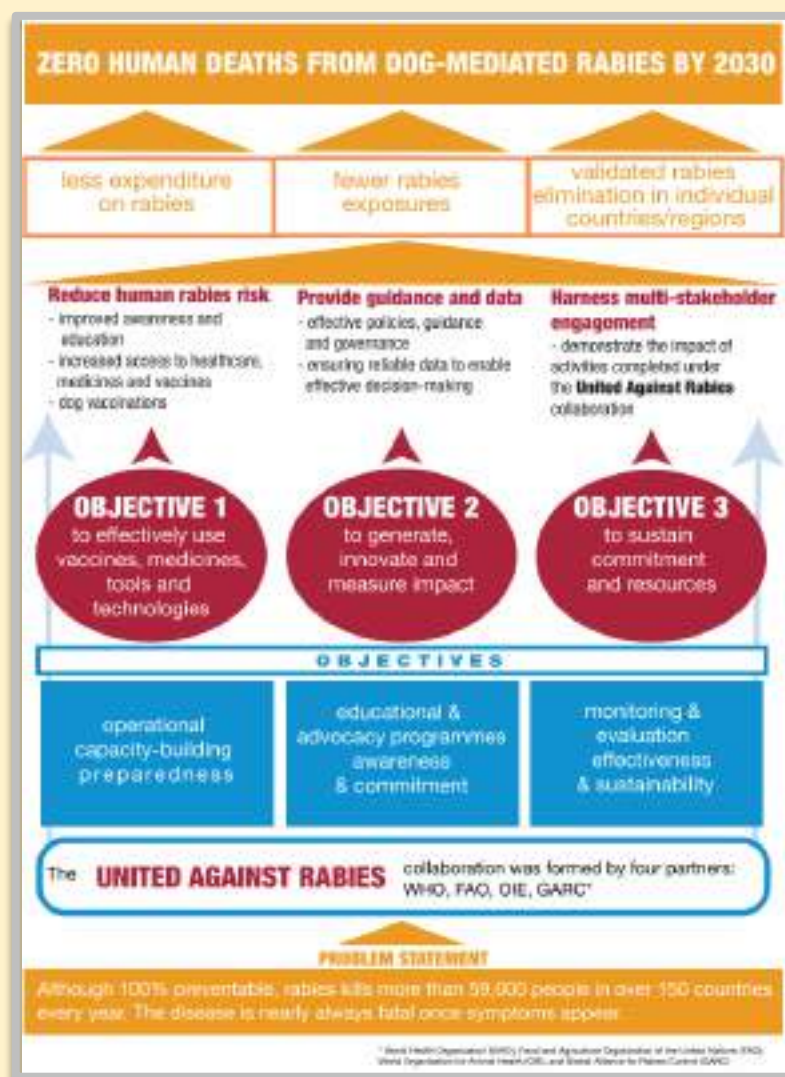


Figure 20. Global Strategic Plan Prioritizes the Objectives
Source: <https://www.who.int/publications/i/item/9789241513838>

Global support structures will catalyse action, ensuring national successes contribute to wider regional and global efforts (WHO, 2018). By aligning with

national goals and offering practical tools and resources, the plan aims to accelerate progress and achieve zero human deaths from rabies by 2030.

Control Measures in ASEAN Member States

The ASEAN Rabies Elimination Strategy (ARES) serves as the regional framework to eliminate human deaths from dog-mediated rabies by 2030 (WOAH, 2025a). Initially developed in 2013 through collaboration between the ASEAN Sectoral Working Group on Livestock (ASWGL) and the ASEAN Experts Group on Communicable Diseases (AEGCD), ARES was officially adopted in 2014.

In February 2025, the ARES Implementation Plan was reviewed and updated during the ASEAN Rabies Meeting in Thailand, supported by the WOA (WOAH, 2025). The revision aimed to align ARES with the Global Strategic Plan for rabies elimination by 2030. This initiative reinforces WOA's continued support for ASEAN in strengthening the control of animal diseases and zoonoses, in line with the ASEAN-OIE Memorandum of Understanding signed in May 2021.

The main goal of ARES is to achieve zero human deaths from dog-mediated rabies in the ASEAN region by 2030 (WOAH, 2025b). To achieve this, the strategy focuses on coordinated efforts across sectors and levels of government, emphasizing prevention, control, and regional cooperation.

1. Reiterate that rabies is a priority zoonotic health threat in AMS.
2. Increase efforts and resources to eliminate rabies as a public health problem and maintain rabies-free

status in rabies-free areas of ASEAN, principally by:

- a. Increasing dog vaccination coverage to interrupt rabies transmission and prevent rabies transmission to humans.
 - b. Ensuring the universal and timely access to and uptake of post-exposure prophylaxis in humans through improved community engagement and increased availability and accessibility of treatment.
3. Strengthen the capacities of the veterinary services and human health services to conduct surveillance activities that support rabies prevention, control, and elimination.
 4. Obtain and sustain high-level government engagement at national, provincial/state and local levels, providing an enabling political environment in support of rabies elimination initiatives that involve the community, civil society, government and non-government sectors and international partners.
 5. Strengthen ASEAN cooperation for rabies elimination through formation of an ASEAN rabies coordination group, with goals including knowledge sharing, data and information sharing and analysis, and advocacy to accelerate progress towards rabies elimination in all ASEAN Member States.

Brunei Darussalam

Brunei Darussalam has made significant progress in rabies prevention and control from 2023 to the present by implementing robust policies, enhancing surveillance, and fostering multisectoral collaboration (WOAH, 2025d). These efforts align with regional and international frameworks to ensure effective disease management and public health protection:

1. Enforcement of the Animal (Disease and Quarantine) Act, 2021, and the Dog Act supports rabies control.
2. The Rabies Surveillance Plan (2014) guides efforts aligned with the ASEAN Rabies Elimination Strategy (ARES). The National Joint Taskforce for Zoonotic Diseases, formed in 2018 with representatives from the Ministry of Health (MOH), Ministry of Primary Resources and Tourism (MPRT), and Ministry of Home Affairs (MOHA), held its most recent meeting on 11 September 2024.
3. Multi-agency rabies tabletop simulations have been conducted to identify gaps. Collaboration with MOHA and national dog shelters has enhanced expertise sharing.
4. A Rabies Vaccination Drive-Through for cats and dogs has been conducted

across all four districts since December 2022.

5. Public events during World Rabies Day and World Antimicrobial Awareness Week in November 2024 included the distribution of educational leaflets promoting rabies awareness and responsible pet ownership.

Despite significant progress in rabies prevention and control in Brunei Darussalam, several challenges remain (WOAH, 2025d). Among the public, cultural taboos, fear, and distrust contribute to difficulties in managing the increasing stray dog population. Animal volunteer groups face challenges related to distrust and misinformation spread through social media, while government agencies struggle with a silo effect that hinders coordinated action. To address these issues, the Ministry of Home Affairs will review legislation, and neutering programs will continue despite funding and religious constraints. Strengthening collaboration through the Joint Taskforce and raising public awareness via veterinary services are key strategies to sustain progress toward rabies elimination.

Cambodia

Cambodia has made notable progress in rabies prevention through strong collaboration between human and animal health sectors, notably the Centers for Disease Control and Prevention – Global Disease Detection and Health Protection (CDC-GDAH) and Ministry of Agriculture, Forestry and Fisheries (MAFF) (WOAH, 2025e). Key interventions and achievements of the Inter-Ministerial Coordination Committee (IMCC) for One Health provides a multisectoral platform for coordination are:

1. Following a rabies assessment by WPRO, Cambodia updated its National Strategy Plan to eliminate rabies by 2030, which has been submitted for official IMCC endorsement.
2. National guidelines for rabies surveillance, prevention, and control have been revised.
3. Integrated Bite Case Management (IBCM) was implemented in several provinces, supported by developed standard operating procedures (SOPs) for IBCM, PEP, and mass dog vaccination (MDV).

4. Rabies case investigations and responses are routinely conducted.
5. Mass canine vaccination campaigns reached approximately 185,000 dogs (70% coverage) in 2023 and aim for 230,000 dogs (85% coverage) in 2024 across Phnom Penh, Kandal, and Battambang provinces.
6. World Rabies Day activities engaged over 2,200 school participants between 2022 and 2023, promoting awareness and prevention.

Cambodia faces challenges such as limited data on dog populations, rabies not being a notifiable disease, and difficulties in providing PEP and vaccinations in remote areas (WOAH, 2025e). To address these issues, it is recommended to expand PEP, IBCM, and MDV programs to additional provinces. There are also plans to implement strong awareness and education initiatives that focus especially on schools and vulnerable groups. Full cooperation from project partners and the private sector is essential to strengthen rabies prevention and control efforts across the country.



Indonesia

As stated in the National Masterplan for Rabies Eradication in Indonesia, Indonesia aims to achieve rabies-free status by 2030 through the *gradual rabies eradication* program (Ministry of Agriculture, FAO, and WAP, 2019). The national strategy integrates a zonal approach, reflecting the country's archipelagic geography, and the Stepwise Approach towards Rabies Elimination (SARE) that guides provinces from endemic to rabies-free status. The implementation focuses on strengthening coordination under the One Health framework, combining both general and technical strategies to ensure progressive elimination.

General Strategies

1. IBCM: Strengthen coordination between animal and human health sectors to ensure timely investigation, diagnosis, and post-exposure management of bite cases.
2. Communication, Information, and Education: Raise public awareness on responsible dog ownership, vaccination importance, and proper bite management.
3. Regulatory Support: Enforce animal movement control, local regulations, and legal frameworks to sustain rabies-free zones.
4. Community and Stakeholder Engagement: Encourage collaboration

among government agencies, private sectors, Non-Governmental Organizations, and communities under the One Health approach.

Technical Strategies

1. MDV: Achieve at least 70% vaccination coverage of the dog population using quality vaccines to interrupt virus transmission.
2. Surveillance and Epidemiological Analysis: Strengthen active and passive surveillance systems to detect, confirm, and map rabies cases in both animals and humans.
3. Diagnostic Confirmation: Improve laboratory capacity for rabies testing (e.g., FAT, DRIT, PCR) and ensure reliable sample submission from the field.
4. Rapid Response and Case Investigation: Conduct immediate field investigation, sample collection, and vaccination around detected cases.
5. Animal Movement Control: Regulate inter-island and inter-district movement of dogs and other rabies vectors through animal health certification and quarantine measures.
6. Dog Population Management: Implement humane dog population control through sterilization, vaccination, and community engagement.

Lao People's Democratic Republic

From 2023 to the present, Lao People's Democratic Republic has intensified its rabies prevention and control efforts through a comprehensive national strategy, multisectoral collaboration, and strengthened surveillance systems (WOAH, 2025f). These coordinated activities aim to reduce rabies incidence in humans and animals, in line with regional and global health security objectives.

1. The National Strategic Plan on Rabies Prevention and Control (2020–2024) includes key activities under the “Zoonosis” focus area, aligned with the national workplan on Emerging Infectious Diseases (EID), Public Health Emergencies (PHE), and health security (2016–2020).
2. Human and animal health surveillance systems have been in place since 2009.
3. A Technical Working Group Rabies Committee was established in 2021 to guide rabies control efforts.
4. A pilot community-based surveillance program was launched in Xayabouly province in 2023.
5. The National Animal Health Laboratory provides rabies diagnostic services.
6. Annual dog vaccination campaigns are conducted during World Rabies Day and Lao National Vaccine Day every November.

7. Human rabies vaccines are supplied from central stores to district health facilities nationwide.
8. Strong collaboration exists among the MOH, Ministry of Agriculture and Forestry (MOAF), and Ministry of Education and Sport (MOES) to coordinate rabies prevention and control activities.

Despite notable progress in rabies prevention since 2023, Lao PDR continues to face several challenges. Laboratory confirmation for dog bite cases remains limited, with diagnostic capacity only available at the central level (WOAH, 2025f). Dog population data and wildlife surveillance are lacking, while public awareness and vaccine accessibility, particularly in rural areas are still insufficient. To strengthen national efforts, Lao PDR is working to expand mass dog vaccination, improve access to human post-exposure prophylaxis, enhance laboratory and surveillance systems, and increase awareness through school and community outreach. Continued advocacy and funding support remain essential to sustain these rabies control and elimination activities.

Malaysia

Malaysia has implemented comprehensive national strategies to control and prevent rabies through multi-sectoral collaboration and capacity building (WOAH, 2025g). Key actions include the Annual Interagency Meeting on Zoonotic Diseases and a Joint Risk Assessment for Rabies conducted in 2024. The National Strategic Plan (NSP) for Zoonotic Diseases (2022–2026) is currently under review, with the development of a dedicated National Strategic Plan for Rabies Elimination (MyRES) underway. High-risk personnel are provided with pre-exposure prophylaxis (PrEP). Capacity building is ongoing through simulation exercises and training, supported by a National Rabies Animal Vaccine Bank.

IBCM is guided by updated national guidelines (2022), alongside structured reporting of animal bites (WOAH, 2025g). Access to PEP is ensured at government hospitals, clinics, and selected private facilities. National awareness campaigns are conducted annually, including World

Rabies Day events. Cross-border control measures include the maintenance of an “immune belt” in four northern states of Peninsular Malaysia and bilateral coordination with Thai provinces.

Malaysia continues to face persistent challenges that hinder the effective control and prevention of rabies, particularly in high-risk and hard-to-reach areas (WOAH, 2025g). Key issues include:

1. Limited access to veterinary and medical services in rural and remote regions.
2. Growing stray dog populations, increasing the risk of transmission.
3. Low vaccination compliance among pet owners, despite free vaccine availability.
4. Cross-border animal movement, requiring continuous monitoring.
5. Limited public awareness of rabies risks and preventive measures.
6. Financial and human resource constraints, affecting response capacity.



Myanmar

Myanmar has made notable progress in rabies prevention and control through coordinated efforts across the animal and human health sectors (WOAH, 2025h). In the animal health sector, rabies is designated as a notifiable infectious disease under the Animal Health and Livestock Development Law, which mandates that dog owners report suspected cases and participate in control measures. A National Action Plan for Rabies Elimination in Dogs (2028–2030) has been developed, structured around five strategic pillars: sociocultural, technical, organizational, political, and resource-related. This plan supports key interventions including surveillance, dog vaccination, and population management through enhanced communication, collaboration, and coordination among stakeholders.

In the human health sector, rabies is included in the national surveillance system, with routine weekly and monthly reporting, and immediate notification of rabies-related deaths to enable rapid local response (WOAH, 2025h). PrEP and PEP

are available at designated Dog Bite Treatment Centers and public hospitals. At the central level, coordination meetings and national workshops are conducted, while state and regional authorities focus on clinical advocacy for zoonotic diseases using a One Health approach. At the township level, refresher training is provided for healthcare workers on rabies prevention and control measures.

Myanmar also faces key challenges in rabies control, including limited funding for vaccines, a shortage of skilled vaccinators, and restricted mass dog vaccination coverage (WOAH, 2025h). Surveillance data quality and laboratory capacity remain low, while managing free-roaming dogs and enforcing responsible pet ownership is difficult. Recommended solutions include stronger political commitment, enforcement of regulations, expanding oral rabies vaccination (ORV), improving One Health collaboration, and enhancing public education and awareness to support rabies elimination efforts.



Philippines

Through the integrated efforts, the government and the private sector developed national program activities for the prevention and control of rabies in animals and humans (Department of Health Philippines, 2019). The program is implemented using a comprehensive and collaborative framework that consolidates and harmonizes initiatives aimed at preventing and controlling rabies in both human and animal populations.

The National Rabies Prevention and Control Program Strategic Plan 2020–2025 serves as a roadmap toward eliminating rabies in the country. Its vision is to achieve a Rabies-Free Philippines by 2030, with the goal of ending human deaths from dog-mediated rabies by 2027. The National Program contains strategic plans framework that includes the following (Department of Health Philippines, 2019) :

1. Overall Goal of Rabies Free Philippines achieved by the Year 2030.
2. The goal of the Program, aimed to be achieved by 2025, defines the over-all outcome in terms of the rabies situation in the country.
3. The Strategic Goals refer to the targeted rabies situation in terms of incidence of rabies in humans and in animals.

4. The Strategic Objectives refer to the Program Outcomes under the key focus areas
5. The Strategies will include actions that will be employed to reach the intermediate goals.

Since 2023, the Philippines has made significant progress in rabies control. The Bureau of Animal Industry renovated its national rabies laboratory, improving diagnostics and surveillance. In partnership with Breakthrough Action, the Basta Wais, Iwas Rabies campaign enhanced public awareness through targeted Information, Education, and Communication (IEC) materials (WOAH, 2025i). To support dog vaccination, over 104,000 vaccine vials were procured nationally. Diagnostic skills were strengthened through training with JAPOHR. Additionally, more than 900 Animal Bite Treatment Centers now operate nationwide, increasing access to Post-Exposure Prophylaxis. Despite these advances, challenges remain, including limited awareness among pet owners, shortages in personnel and funding, and restricted local government capacity for sample collection and diagnostics. Addressing these gaps is essential to sustaining progress toward the country's One Health and rabies elimination goals.

Singapore

Singapore has been rabies-free since 1953 (National Parks Board, 2025). However, neighbouring countries continue to report cases, and Singapore remains vigilant by implementing precautionary measures to prevent the disease's entry. The Animal and Veterinary Service (AVS) works closely with border control agencies, such as the Immigration and Checkpoints Authority and the Police Coast Guard, to enforce strict import controls and dog licensing.

To further safeguard against rabies incursion, AVS identifies dog populations in high-risk areas, such as coastal fish farms and selected offshore islands, and conducts vaccination and serology testing. Vaccinating at least 70% of dogs in these areas helps reduce the risk of rabies spreading to mainland Singapore.

Pet owners are advised to prevent their dogs from straying or interacting with animals of unknown origin. All dogs should be licensed with AVS for traceability, and pets should only be obtained from legal and reputable sources, such as AVS-licensed pet farms or shops. An import permit from AVS is required before bringing live animals into Singapore, and owners are urged to avoid purchasing pets from online sources or supporting the illegal pet trade.

If a pet shows signs of illness, owners should consult a veterinarian immediately (Singapore Veterinary Association, 2020). While rabies vaccination is not mandatory for pets in Singapore, it is strongly encouraged. Those travelling abroad with their pets should note that some countries require rabies vaccination and should seek advice from their veterinarian beforehand.

Since 2023, key interventions in animal health and rabies control have focused on enhanced bio surveillance of dogs, cats, and wildlife, supported by notifiable disease reporting, horizon scanning, and alert systems (WOAH, 2025j). Import and quarantine measures were improved, including contingency planning and smart collars for home-quarantined animals. Over 4,300 dogs were managed under the Trap-Neuter-Rehome/Release-Manage (TNRM) program, with 65% rehomed and 80% sterilized. More than 91,000 dogs and 24,000 cats were licensed. High-risk dogs were vaccinated, an ORV bait study was completed, and the Cat Management Framework was finalized. These actions were strengthened through partnerships with animal welfare groups and community caregivers.

Thailand

To eliminate rabies, the government of Thailand launched the “Saving Animals and Human Lives from Rabies Project” in 2017, involving key agencies such as the Department of Livestock Development, Department of Disease Control, and Kasetsart University. The initiative aims for sustainable prevention of human and animal rabies deaths, aligning with WHO’s 2030 elimination goal (European Commission, 2023). The project is now in its second phase (2021–2025), guided by eight strategic objectives:

1. Surveillance, prevention, and control of rabies in animals.
2. Management of animal shelter systems.
3. Surveillance, prevention, control, and treatment of rabies in humans.
4. Driving the project activities at the local level.
5. Public relations and awareness campaigns.
6. Integration and management of rabies data.
7. Monitoring and evaluation of outcomes.
8. Development of innovations and technology transfer.

The second phase focuses on comprehensive pet population management, establishment of rabies-free zones, strengthened monitoring and prevention, particularly in border areas shared with neighboring countries, and enhanced community participation across all sectors. The establishment of rabies-free zones follows the official rabies-free

area criteria (Department of Disease Control, 2025):

1. **Rabies in humans:** There must be no fatalities in the area for at least two consecutive years, and any deaths caused by encephalitis of unknown origin must be thoroughly diagnosed. All suspected human cases should be confirmed and contact tracing must verify that 100% of individuals exposed to potentially rabid animals have received vaccination.
2. **Rabies in animals:** Both reactive and proactive surveillance systems must be in place, and no animals should test positive for the rabies virus for at least two consecutive years.
3. **Comprehensive survey of dogs and cats,** including the management of ownerless or stray animals within the area.
4. **Animal vaccination:** At least 80% of dogs and cats in the area must be vaccinated.
5. **Animal population control:** Dogs should be sterilized, more than 80% must be registered, and measures must exist to manage homeless dogs and cats, alongside a clear plan to monitor animal movement.
6. **Sustainability of rabies-free status:** there must be integration of operations among relevant departments, effective risk communication and public relations, and continuous community education to strengthen public knowledge about rabies prevention and control.

Thailand faces challenges in managing free-roaming and wild dogs, which are often inaccessible or hide from capture (WOAH, 2025k). Transboundary issues, such as maintaining an immune belt and

ensuring effective risk communication, require stronger collaboration for rabies surveillance, prevention, and control in border areas.

Viet Nam

On December 21, 2021, the Vietnamese Government issued Decision No. 2151/QĐ-TTg approving the National Program on Rabies Prevention and Control (2022–2030). The program aims to eliminate human deaths from rabies by 2030 through strengthened rabies control in animals and enhanced public health measures (Ministry of Health Viet Nam, 2025). The Key objectives of the National Program include (Prime Minister of Viet Nam, 2021):

1. Animal Rabies Control:

- a. Register and manage 70% of dog and cat-owning households by 2025 and over 90% by 2030.
- b. Vaccinate 70% of dogs and cats between 2022–2025, increasing to 80% by 2030.
- c. Enable over 70% of provinces to monitor rabies-suspected animals by 2025 and over 90% by 2030.
- d. Establish at least 10 new rabies-safe zones and 10 safety-certified facilities, while maintaining all previously recognized safe areas.

2. Human Rabies Prevention:

- a. Ensure all districts have rabies vaccination and serum supply points.

- b. Implement nationwide communication and education campaigns on rabies prevention.
- c. Guarantee 100% reporting of vaccinated individuals through the national system.
- d. Provide PEP to at least 90% of exposed individuals.
- e. Eliminate high-risk areas by 2025 and medium-risk areas by 2027.
- f. Reduce rabies deaths by 50% by 2025 (compared to 2017–2021) and achieve zero human deaths by 2030.

Since 2023, Viet Nam has strengthened rabies prevention through increased local budget allocation in high-risk provinces, free vaccines for the poor and ethnic minorities, and real-time surveillance in both human and animal health (WOAH, 2025l). IBCM and Event-Based Surveillance (EBS) have expanded, and rabies-free zones have been established in five provinces. Dog population management, One Health training, and public awareness campaigns, including school programs, have also improved. However, challenges remain, including limited funding, low awareness, difficult dog vaccination in mountainous areas, poor vaccine access, and inadequate local collaboration between human and animal health sectors.

References

- Department of Health Philippines (2019) National Rabies Prevention and Control Program. Available at: https://rr-asia.woah.org/app/uploads/2020/03/final-mtp-rabies_philippines.pdf (Accessed: 17 September 2025).
- Department of Disease Control Thailand (2025) Rabies Guideline (2566). Available at: https://region7.dld.go.th/webnew/images/budget2566/preventive/Rabies2566/Rabies_Guideline.pdf (Accessed: 22 September 2025).
- European Commission (2023) Keynote Address Rabies Eradication Project In Thailand by Professor Dr. HRH Princess Chulabhorn Mahidol at The One Health for All, All for One Health Conference. Available at: https://health.ec.europa.eu/document/download/b5748ffb-fef5-4801-b2af-7915bb3d1ac4_en?filename=onehealth_20231113_co01_en.pdf (Accessed: 4 October 2025).
- Ministry of Agriculture, FAO, and WAP (2019) Masterplan Nasional Pemberantasan Rabies di Indonesia. Available at: https://rr-asia.woah.org/app/uploads/2020/03/roadmap-rabies-v05_indonesia.pdf (Accessed: 9 October 2025).
- Ministry of Health, Vietnam (2025) Thông tin báo chí về bệnh dại. Available at: https://moh.gov.vn/tin-tong-hop/-/asset_publisher/k206Q9qkZOqn/content/thong-tin-bao-chi-ve-benh-dai (Accessed: 28 September 2025).
- National Parks Board, Singapore (2025) Animal Diseases and Antimicrobial Resistance: Rabies. Available at: <https://www.nparks.gov.sg/avs/animals/animal-health-and-veterinarians/animal-diseases-and-antimicrobial-resistance/rabies> (Accessed: 2 October 2025).
- Government of Viet Nam (2021) Quyết định 2151/QĐ-TTg 2021: Chương trình quốc gia phòng chống bệnh Dại 2022-2030. Available at: <https://thuvienphapluat.vn/van-ban/Linh-vuc-khac/Quyết-dinh-2151-QĐ-TTg-2021-Chuong-trinh-quoc-gia-phong-chong-benh-Dai-2022-2030-498190.aspx> (Accessed: 25 September 2025).
- Singapore Veterinary Association (SVA) (2020) Singapore Vax Guidelines. Available at: https://sva.org.sg/wp-content/uploads/2020/11/Singapore-Vax-Guidelines-version-final_FINAL.pdf (Accessed: 19 September 2025).
- World Health Organization (WHO) (2018a) Rabies General Public FAQs. Available at: <https://www.who.int/docs/default-source/ntds/rabies/rabies-general-public-faqs.pdf> (Accessed: 3 October 2025).
- World Health Organization (WHO) (2018b) Zero by 30: the global strategic plan to end human deaths from dog-mediated rabies by 2030. Available at: <https://www.who.int/publications/i/item/9789241513838> (Accessed: 27 September 2025).
- World Health Organization (WHO) (2024a) Rabies: Fact sheet. Available at: <https://www.who.int/news-room/fact-sheets/detail/rabies> (Accessed: 21 September 2025).
- World Health Organization (WHO) (2024b) Rabies Post-Exposure Prophylaxis Decision Tree – Decide with Confidence. Available at: <https://www.who.int/southeastasia/news/detail/28-02-2024-rabies-post-exposure-prophylaxis-decision-tree--decide-with-confidence> (Accessed: 2 October 2025).
- World Health Organization (WHO) (2025a) Routine health information system and health facility data for neglected tropical diseases: Rabies. Available at: <https://www.who.int/publications/i/item/9789240107304> (Accessed: 28 September 2025).
- World Health Organization (WHO) (2025b) Reported number of human rabies deaths. Available at: <https://www.who.int/data/gho/data/indicators/indicator-details/GHO/reported-number-of-human-rabies-deaths> (Accessed: 7 October 2025).
- World Health Organization (WHO) (2025c) Rabies deaths in humans, reported, number. Available at: <https://www.who.int/data/gho/data/themes/topics/rabies> (Accessed: 24 September 2025).
- WOAH (2025a) ASEAN Rabies Elimination Strategy (ARES) Endorsement Process and Revision. Available at: <https://rr-asia.woah.org/app/uploads/2025/02/2-ARES-endorsement-process-and-revision.pdf> (Accessed: 5 October 2025).
- WOAH (2025b) ASEAN-WOAH Rabies Meeting. Available at: <https://rr-asia.woah.org/en/events/asean-woah-rabies-meeting/> (Accessed: 19 September 2025).

- WOAH (2025c) Draft ARES Implementation Plan An overview. Available at: <https://rr-asia.woah.org/app/uploads/2025/02/3-ARES-IP-Discussion.pdf> (Accessed: 1 October 2025).
- WOAH (2025d) Rabies Situation and Control Brunei Darussalam. Available at: <https://rr-asia.woah.org/app/uploads/2025/02/1-Brunei.pdf> (Accessed: 29 September 2025).
- WOAH (2025e) Cambodia Moving toward Rabies Elimination 2030. Available at: <https://rr-asia.woah.org/app/uploads/2025/02/2-Cambodia.pdf> (Accessed: 26 September 2025).
- WOAH (2025f) Lao PDR. Available at: https://rr-asia.woah.org/app/uploads/2025/02/4-Laos_rabies_update.pdf (Accessed: 3 October 2025).
- WOAH (2025g) Country Updates: Malaysia. Available at: https://rr-asia.woah.org/app/uploads/2025/03/ASEAN-WOAH_ARES_Rabies_Malaysia_Update_EDITED_for-WOAH-website.pdf (Accessed: 10 October 2025).
- WOAH (2025h) Country Updates: Myanmar. Available at: https://rr-asia.woah.org/app/uploads/2025/02/6-Myanmar_Country-Update_ARES_Feb25.pdf (Accessed: 17 September 2025).
- WOAH (2025i) Rabies Situation and Control in Philippines. Available at: [7-Philippines-Update_ARES-IP_Feb25.pdf](https://rr-asia.woah.org/app/uploads/2025/02/7-Philippines-Update_ARES-IP_Feb25.pdf) (Accessed: 5 October 2025).
- WOAH (2025j) Singapore: Rabies Prevention & Surveillance. Available at: <https://rr-asia.woah.org/app/uploads/2025/02/8-Singapore.pdf> (Accessed: 5 October 2025).
- WOAH (2025k) Country Updates: Thailand. Available at: <https://rr-asia.woah.org/app/uploads/2025/02/9-Thailand.pdf> (Accessed: 5 October 2025).
- WOAH (2025l) Country Updates: Situation of Rabies in Viet Nam. Available at: https://rr-asia.woah.org/app/uploads/2025/02/10-Vietnam_rabies_update.pdf (Accessed: 5 October 2025).
- World Health Organization (WHO) (n.d.) Human rabies prevention and management. Available at: <https://www.who.int/activities/human-rabies-prevention-and-management> (Accessed: 23 September 2025).
- WHO (nd.a) General information – Rabies. Available at: <https://www.who-rabies-bulletin.org/site-page/general-information#:~:text=Bats%20are%20the%20ancestral%20reservoir,from%20a%20few%20countries%20only> (Accessed: 29 September 2025).
- World Organisation for Animal Health (WOAH) (n.d.) Rabies. Available at: <https://www.woah.org/en/disease/rabies/> (Accessed: 1 October 2025).
- World Health Organization (WHO) (n.d.) The facts on rabies. Available at: <https://www.who.int/multi-media/details/the-facts-on-rabies> (Accessed: 5 October 2025).



ASEAN BIOLOGICAL THREATS SURVEILLANCE CENTRE

Report generated by
ASEAN Biological Threats Surveillance Centre
Email: support@aseanbiosurveillance.org
Email: data@aseanbiosurveillance.org
Facebook: [abvc.official](https://www.facebook.com/abvc.official)
Instagram: [abvc.official](https://www.instagram.com/abvc.official)