



APLMA | Asia Pacific Leaders
Malaria Alliance

The Asia Pacific Leaders' Malaria Elimination Roadmap: A 10-year Review of Progress (2015–2024)

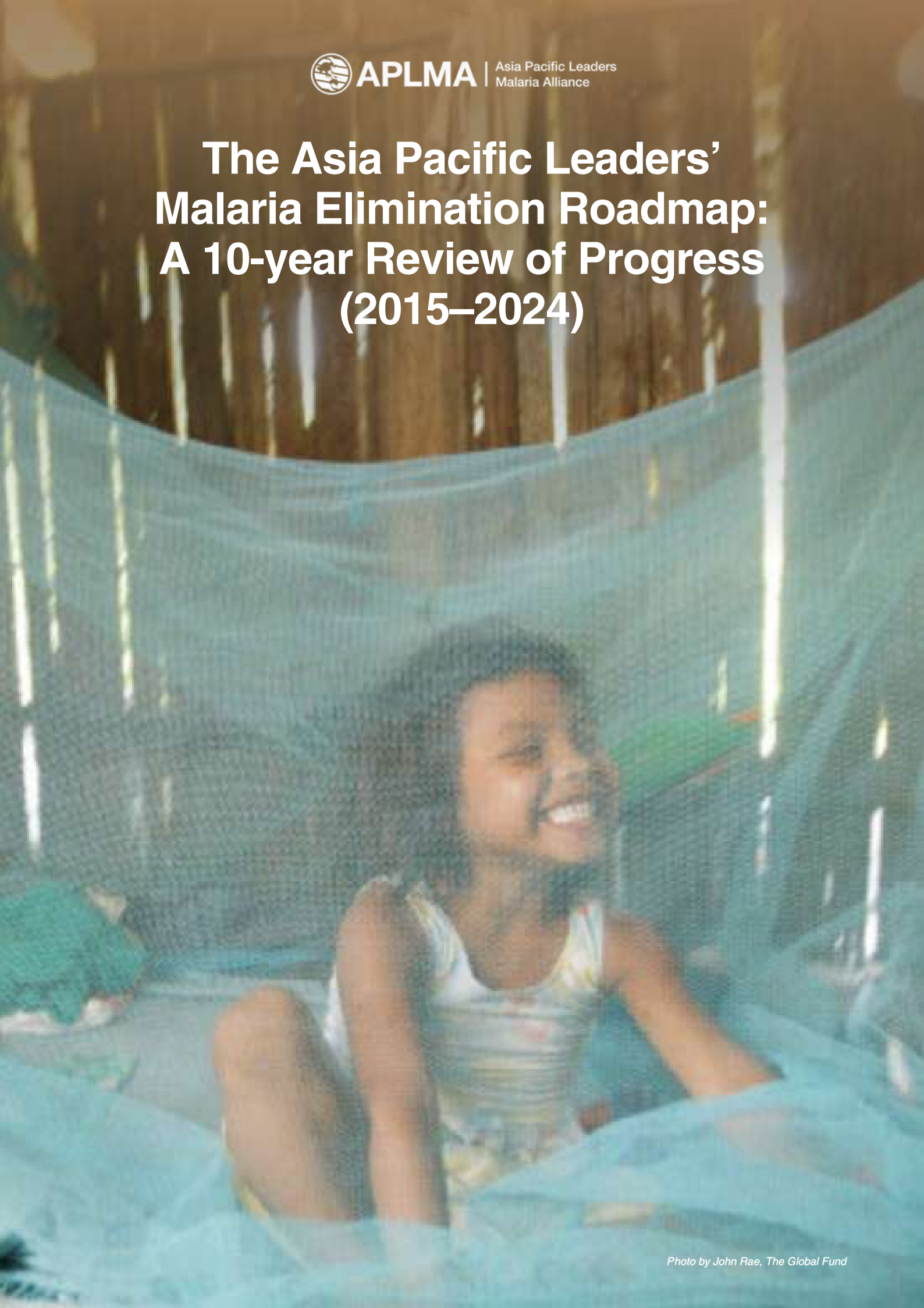


Photo by John Rae, The Global Fund

About the Asia Pacific Leaders Malaria Alliance

Uniting the Heads of Government across Asia Pacific to achieve malaria elimination by 2030, the Asia Pacific Leaders Malaria Alliance (APLMA) was formed at the behest of the Prime Ministers of Australia and Viet Nam at the 8th East Asia Summit in 2013. APLMA serves as a regional mechanism for technical advocacy, health diplomacy, and high-level convenings that build and sustain momentum towards the elimination goal.

Since 2017, APLMA hosts the Asia Pacific Malaria Elimination Network (APMEN), a network which works through partnerships with governments, national malaria programmes, research institutes, and civil society to generate local evidence and building capacity. Through working groups focused on vector control, *P. vivax*, and surveillance and response, APMEN delivers technical malaria expertise to identify and ratify evidence-based practices on disease elimination, while also facilitating technical exchange across stakeholders.

APLMA unites 22 governments in Asia Pacific – across WHO regions Eastern Mediterranean Region (EMR), South-East Asia Region (SEAR), and Western Pacific Region (WPR) – who have committed to eliminating malaria in the region by 2030. APLMA defines Asia Pacific as: Afghanistan, Bangladesh, Bhutan, Cambodia, China, the Democratic People's Republic of Korea, India, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, Nepal, Pakistan, Papua New Guinea, Philippines, the Republic of Korea, Solomon Islands, Sri Lanka, Thailand, Timor-Leste, Vanuatu, Viet Nam.



Foreword by Special Advisor to APLMA



**His Excellency,
Former President**
Susilo Bambang Yudhoyono,
Special Advisor to APLMA

Asia Pacific stands at a defining crossroads in the fight against malaria. Across nine countries, significant progress has been achieved, most notably in Cambodia, Lao PDR, and Viet Nam, where steep reductions in malaria cases have brought these nations to the cusp of elimination. Yet, the 10-year review reveals a troubling countercurrent; an upward trajectory in malaria cases, reflecting a broader resurgence in countries like Papua New Guinea, Indonesia, Afghanistan, Myanmar, and the Solomon Islands. Together with Pakistan, India, and Bangladesh, these countries now account for 99% of the regional malaria burden. This reality underscores both the scale of our task and the urgency of our response.

Here, the challenge is further compounded by the transnational dimensions of malaria transmission. In many parts of the region, especially conflict-affected and border areas, malaria spreads across boundaries with ease – making national efforts alone insufficient. Asia Pacific includes five critical zones with shared land borders and interconnected transmission patterns, making formal partnerships our strongest framework for tackling these shared threats.

A standout example is the Joint Action Plan between Indonesia and Papua New Guinea, signed in 2025 and running through 2030. This strategic agreement acknowledges the fact that 93% of Indonesia's malaria burden is concentrated in the Papua region, while Papua New Guinea continues to face widespread transmission. This dynamic makes one thing clear: malaria elimination is a collective mission – no country can succeed alone.

In charting a path forward, our focus on reducing malaria cases in high-burden countries will not only pave the way for collective regional progress, but also allows us to allocate resources where they are needed most, and our region is uniquely equipped to do so. Technical expertise, innovation, and momentum are on our side. Sri Lanka, China, Timor-Leste, Bhutan, and Malaysia have either achieved malaria-free certification or sustained zero indigenous cases, demonstrating that elimination is achievable in every setting.

Completing the task of malaria elimination in Asia Pacific must be more than a regional ambition – it is an essential pursuit for the wellbeing of our communities and future generations. Strengthening partnerships, investing in communities, and holding ourselves accountable to the promise of a malaria-free Asia Pacific must remain at the heart of our efforts. With unity, sustained financing, and unwavering commitment, Asia Pacific can make history as the first region outside Europe to eliminate malaria. The challenge is formidable, but the goal is within reach.



Preface by Chief Executive Officer of APLMA



Dr. Sarthak Das,
Chief Executive Officer of APLMA

A decade ago, Asia Pacific Leaders were united by a bold and historic vision: to eliminate malaria in Asia Pacific by 2030 through the formation of the APLMA Leaders' Malaria Elimination Roadmap. Since then, three countries have achieved elimination, while seven are on course to achieve 75% reduction in cases by this year. In spite of these triumphs, our journey stands before an uncompromising reality – despite our efforts, much of the region is severely off track, depicting a future streaked with both light and shadow.

The data we have gathered reveals a significant increase in confirmed indigenous malaria cases across Asia Pacific – rising from approximately 2.5 million in 2015 to about 4.4 million in 2024. This escalation, coupled with epidemiological trends and resource constraints, have compelled several countries to shift their elimination targets, stretching between 2032 and 2038. As much as this move is important to maintain cadence, it could potentially dissipate political resolve and public confidence, granting malaria greater opportunity to embed itself within the very communities that are most at risk.

Our current case numbers demand an urgent and strategic refocus. The next five years will be a defining period for leadership and lasting impact. Near elimination countries must sustain momentum at the last-mile and push decisively for zero cases. And together, we must move beyond conventional practices – strengthening technical advocacy, mobilizing domestic resources, and building bridges across disease silos and sectors. Equally crucial is early planning for donor transition to safeguard long-term programmatic gains – an ambition best realized by blending proven methods with innovative technologies, deployed with precision and purpose. Cross-border collaboration remains key. Equity, too, must evolve from mere recognition to deliberate, structured action, so that every community benefits as we advance towards the final stages of malaria elimination.

Despite these challenges, a malaria free Asia Pacific is a reality we can manifest. We have the evidence to prove it. With intensified support to high-burden countries, smarter financing and systematic strategies to reach the most vulnerable, countries can still achieve their respective goals.

Every dollar spent on elimination yields a sixfold payoff, saving on healthcare expenses, boosting productivity and fortifying the region's economic resilience. Beyond these tangible gains, investments in elimination will also reinforce broader health security, climate change resilience, and pandemic preparedness. In stark contrast, continued resurgence will exact a heavy toll on countries.

The urgency is now. We have the capacity to respond. It is a question of our political resolve to serve the most vulnerable among us. Let this moment serve as a call to action and let us not waver from the goal.



Executive Summary

In 2014, the Asia Pacific Heads of Government endorsed the vision of a malaria-free Asia Pacific by 2030 at the East Asia Summit (EAS). This bold and historic commitment recognized malaria not only as a public health challenge but also as a barrier to economic growth, human development, and regional security. To translate this ambition into action, Heads of Governments endorsed the Asia Pacific Leaders' Malaria Elimination Roadmap ('Roadmap') in 2015, setting out six strategic priorities to guide coordinated national and regional action. This 10-year progress report, prepared for submission to the 20th EAS, assesses regional progress between 2015 and 2024. It provides a comprehensive picture of the region's elimination journey – highlighting achievements, recognizing setbacks, and identifying critical opportunities that must be seized in the final stretch to 2030.

The Case for Elimination

The rationale for malaria elimination is compelling. Regional modelling shows that achieving elimination between 2017 and 2030 would avert an estimated 123 million cases and save 386,000 lives, while generating nearly US\$88 billion in economic benefits, or an average of US\$6.7 billion annually. Every dollar invested in elimination would return sixfold in avoided treatment costs, improved productivity, and strengthened economic resilience. Beyond these economic dividends, investments in elimination would strengthen surveillance systems, supply chains, and community-based health networks that also reinforce broader health security, climate change resilience, and pandemic preparedness. In contrast, resurgence carries devastating costs. As seen recently in Pakistan, the Philippines, Afghanistan, Myanmar, and Vanuatu, progress remains vulnerable to rapid reversals, with far higher costs to regain lost ground.

Mixed Progress Across the Region

Regional progress over the past decade has been uneven, with genuine breakthroughs alongside troubling resurgences. Several countries have demonstrated unequivocally that elimination is achievable: Sri Lanka, China, Timor-Leste, Bhutan, and Malaysia have either been certified malaria-free or have sustained zero indigenous cases of human malaria for several consecutive years. Their trajectories show the power of high-level political leadership, disciplined programme management, robust surveillance, and strong community delivery systems.

At the regional level, however, overall cases increased by 75%, from approximately 2.5 million reported indigenous cases in 2015 to 4.4 million in 2024. The surge in cases has been driven primarily by elevated levels of malaria transmission in Pakistan following catastrophic flooding in 2022, resulting in 2.1 million reported cases in 2024. However, the increase also reflects a broader resurgence across other high-burden settings, including Papua New Guinea, Indonesia, Afghanistan, Myanmar, and the Solomon Islands. Together with Pakistan, India, and Bangladesh, these countries now account for 99% of the regional malaria burden. Pakistan's post-flood surge, persistent transmission in Papua New Guinea and in Indonesia's eastern Papua region, entrenched high transmission in the Solomon Islands, and conflict-related reversals in Afghanistan and Myanmar collectively explain much of the regional headwind. Sustained progress in these contexts will determine whether the 2030 goal is ultimately met.

Between these poles sit nine lower burden Asia Pacific countries – Cambodia, the Democratic People's Republic of Korea, the Lao People's Democratic Republic (Lao PDR), Nepal, the Philippines, the Republic of Korea, Thailand, Vanuatu, and Viet Nam – that have made strides toward elimination but remain vulnerable to resurgence due to climate shocks, population movement, and porous borders. Cambodia, Lao PDR, Viet Nam, and Nepal have achieved steep declines in cases and are approaching last-mile elimination, yet require vigilant surveillance and flexible, equity-focused delivery models to prevent backsliding. The Democratic People's Republic of Korea, Thailand, the Philippines, the Republic of Korea, and Vanuatu continue to maintain relatively low numbers of cases; however, each of these countries has experienced a recent increase in cases after recording an overall declining trend for much of the decade.



Delivering on the Roadmap Priorities

The Roadmap's six strategic priorities are central to guiding action across the region, as tracked by the APLMA's Leaders' Dashboard. Most countries have established national malaria elimination taskforces, often chaired at central agency or Cabinet level, embedding malaria as a leadership priority – most recently in Papua New Guinea, Indonesia, and the Solomon Islands. Community health workers have extended testing and treatment into remote villages, border zones, and migrant corridors, becoming the backbone of service delivery in settings such as Cambodia, Myanmar, and parts of Indonesia. Quality assurance has improved via routine therapeutic efficacy monitoring, routine vector surveillance, insecticide resistance monitoring, stronger laboratory and entomological capacity, and more reliable supply chains, reducing stock-outs, improving rapid diagnosis, and minimizing treatment failure.

Subnational stratification has sharpened targeting, as seen in Lao PDR and Nepal. Engagement of the private sector has expanded service coverage while also improving service quality. Domestic financing has grown, and countries are exploring innovative mechanisms to diversify resources. Meanwhile, the region continues to incubate and adopt innovation, including improved radical cures for *Plasmodium vivax*.

Persistent Challenges

Serious challenges hinder momentum. Resistance to antimalarials and insecticides, changing vector behaviours, and substandard and poor-quality tools pose a fundamental threat to malaria control and elimination. Deep inequities persist, leaving forest-goers, indigenous communities, migrants, and people in conflict-affected areas disproportionately exposed and underserved. Financing gaps are at risk of increasing as donor funding declines and mobilization of domestic resources fall short, exposing programmes to shocks and discontinuities. Climate change alters transmission patterns and magnifies outbreak risk, as demonstrated by the catastrophic flooding in Pakistan, while projections suggest that far larger populations may be at risk of malaria in the coming decades due to climate impacts. Health system fragility and conflicts, as seen in Afghanistan and Myanmar, challenge service delivery and surveillance, driving displacement affecting surrounding countries. An added complication is zoonotic malaria, which poses control challenges and certification complexity.

Counting Down to 2030

The next five years represent a decisive window. It is well understood that malaria elimination is both an operational and technical challenge. Hence, the key lies in implementing time-tested strategies in conjunction with robust accountability frameworks, coupled with innovative approaches where appropriate. Alongside evidence-based technical advocacy, the priorities must be to intensify efforts in high-burden countries, close financing gaps through domestic resource mobilization and innovative financing mechanisms, ensure systematic approaches to equity, and accelerate the adoption of new tools, such as high-dose primaquine or tafenoquine.

The region now stands at a crossroads: elimination by 2030 remains achievable, but only if Leaders act with urgency, unity, and innovation to bring the region back on track. With renewed commitment, Asia Pacific can still make history as the first malaria-free region outside Europe, delivering lasting health, economic, and security dividends for generations to come.

The next five years represent a decisive window. The region must intensify efforts in high-burden countries, close financing gaps, ensure systematic approaches to equity, accelerate the adoption of time-tested and proven strategies as well as new tools, as well as strengthen regional collaboration.



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List of Abbreviations

ACT	Artemisinin-based Combination Therapy
ADB	Asian Development Bank
AI	Artificial Intelligence
API	Annual parasite incidence
APLMA	Asia Pacific Leaders Malaria Alliance
APMEN	Asia Pacific Malaria Elimination Network
ASEAN	Association of Southeast Asian Nations
COVID-19	Coronavirus disease 2019
CQ	Chloroquine
DDT	Dichlorodiphenyltrichloroethane
DFAT	Department of Foreign Affairs and Trade, Australia
DMZ	Demilitarized zone
DPRK	Democratic People's Republic of Korea
EAS	East Asia Summit
EDEN	Eliminating Malaria and other Vector Borne Diseases through Enhanced Regional Partnerships
EFFORT	Effectiveness of Novel Approaches to Radical Cure with Tafenoquine and Primaquine Clinical Trial
G6PD	Glucose-6-phosphate dehydrogenase deficiency
GEDSI	Gender Equality, Disability and Social Inclusion
Global Fund	The Global Fund to Fight AIDS, Tuberculosis and Malaria
GEMS/GEMS+	Greater Mekong Subregional Elimination of Malaria through Surveillance
GMS	Greater Mekong Subregion
HIV	Human Immunodeficiency Virus
IPTp	Intermittent preventive treatment in pregnancy
IRS	Indoor Residual Spraying
Lao PDR	Lao People's Democratic Republic
LAO	Local Administrative Organization, Thailand
Leaders	Asia Pacific Heads of Government
LLIN	Long-lasting insecticidal net
MBA	Malaria Budget Advocacy
MMPs	Mobile migrant populations
NMP	National malaria programme
NSP	National Strategic Plan
OAP	Local Papuans (Orang Asli Papua)
PIAM-NET	Pakistan, Iran & Afghanistan Malaria Network
<i>P. falciparum</i>	<i>Plasmodium falciparum</i>
<i>P. knowlesi</i>	<i>Plasmodium knowlesi</i>
<i>P. vivax</i>	<i>Plasmodium vivax</i>
PMI	President's Malaria Initiative
POR	Prevention of re-establishment
PPR	Pandemic Preparedness Response
RAI RSC	Regional Artemisinin-Resistance Initiative Regional Steering Committee
RDT	Rapid Diagnostic Test
Roadmap	Asia Pacific Leaders' Malaria Elimination Roadmap
SBCC	Social and behaviour change communication
SRCMF	South-East Asia Regional Coordination Mechanism Forum
TQ	Tafenoquine
UHC	Universal Health Coverage
USAID	United States Agency for International Development
VMW	Village malaria worker
WHO	World Health Organization



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Chapter 1

Introduction

Malaria elimination unequivocally represents one of the 'best buys' in global public health. The disease's dual characteristics – being both highly debilitating and readily transmissible – create cascading economic burdens that extend far beyond immediate healthcare costs. Malaria acts as a persistent brake on development, discouraging tourism, agriculture, and industry in affected regions. The disease disproportionately impacts the poorest and most vulnerable populations in remote areas, perpetuating cycles of poverty and limiting economic growth potential. With approximately 5 million cases recorded across the region in 2024, malaria continues to pose a significant public health threat and impose a substantial burden throughout Asia Pacific.

The numbers tell a compelling story. A 2019 regional analysis covering all 22 Asia Pacific countries estimated that malaria elimination between 2017-2030 would yield extraordinary economic benefits of US\$87.73 billion.¹ This investment would prevent over 123 million malaria cases and save 386,167 lives across the region, delivering a robust US\$6 return for every US\$1 invested. The economic benefits encompass multiple dimensions: reduced healthcare system costs from avoided diagnosis and treatment expenses, decreased household out-of-pocket expenditures for seeking care, and substantial productivity gains from preventing premature deaths and illness-related work disruptions.¹

Country-specific analyses further validate this regional case. Thailand's comprehensive cost-benefit analysis demonstrates that every US\$1 invested generates between US\$2-15 in returns.² A 2017 analysis of the Philippines showed over 13:1 return on investment – likely substantially higher when accounting for indirect benefits, including improved educational outcomes and increased tourism potential.³ Sri Lanka offers a sobering perspective on the costs of inaction. Analysis shows potential resurgence would cost 13 times more than maintaining prevention activities, yielding remarkable US\$21 returns for every US\$1 invested in sustaining malaria-free status.⁴ These estimates likely undervalue true resurgence costs, excluding broader macroeconomic impacts like productivity losses and tourism disruption.

As the Lancet Commission on Malaria Eradication noted in 2019, the Asia Pacific region remains the test case for regional elimination – success here is a prerequisite for global eradication.⁵ Without elimination, maintaining intensive surveillance and response systems requires substantial ongoing investment to prevent resurgence. When malaria is eliminated, most of these specific costs are eliminated for good, creating permanent economic dividends.

The economic case is unambiguous: malaria elimination represents one of the most compelling investment opportunities in global health. It delivers extraordinary returns while protecting the region's most vulnerable populations and unlocking sustainable economic growth.

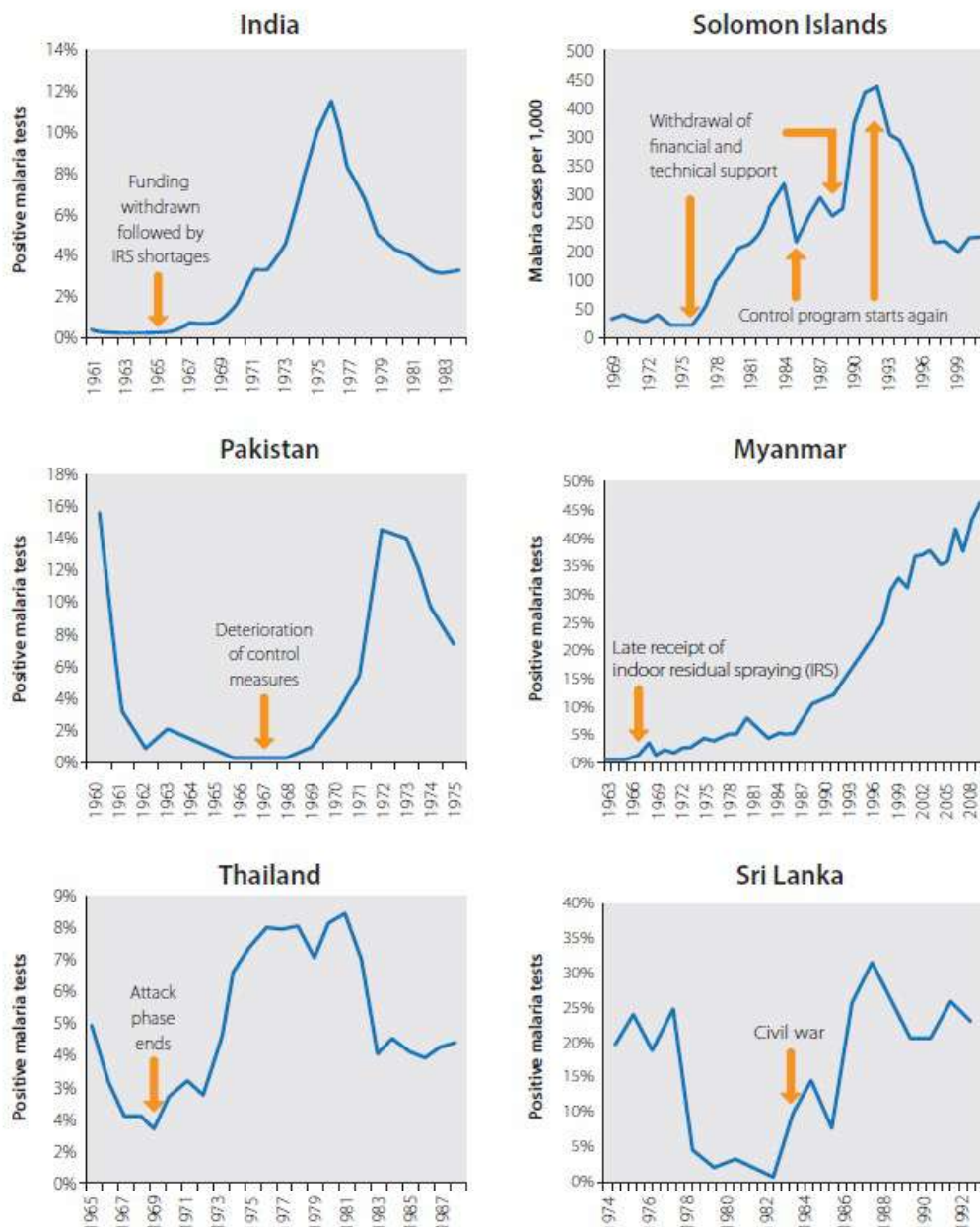
Malaria elimination between 2017-2030 would yield extraordinary economic benefits of US\$87.73 billion.¹ This investment would prevent over 123 million malaria cases and save 386,167 lives across the region, delivering a robust US\$6 return for every US\$1 invested.



Risk of Resurgence

The economic benefits of malaria elimination must be weighed against the costs of resurgence. History provides sobering evidence that success in malaria control can be dangerously fragile, and that even countries making substantial progress remain vulnerable to rapid reversals. Malaria is a volatile and fast-moving disease – if allowed to gain a foothold, it will rapidly increase. Since the 1930s, there have been 75 resurgences of malaria in 61 countries worldwide, predominantly linked to reduced funding or waning political commitment.⁶ The region's own experience demonstrates this vulnerability.

Figure 1. Historical malaria resurgence within Asia Pacific.



Note: From Justin M. Cohen et al., "Malaria Resurgence: A Systematic Review and Assessment of Its Causes," *Malaria Journal* 11, no. 1 (2012): 122, <https://doi.org/10.1186/1475-2875-11-122>.



As a prominent example, Sri Lanka's journey illustrates both the promise and perils of elimination efforts. Intense indoor residual spraying with dichlorodiphenyltrichloroethane (DDT) throughout the 1950s achieved remarkable success, reducing cases to just 17 by 1963, with 11 of these imported. When the campaign was subsequently scaled back, malaria resurged catastrophically, with over 1.5 million cases reported between 1967–1970. It took Sri Lanka approximately five decades to return to elimination levels, finally achieving zero local transmission in 2012. This experience underscores a critical lesson: the elimination journey is rarely linear and involves inevitable fluctuations. Occasional spikes in cases or transmission hotspots will emerge as countries progress toward elimination – this is not a sign of failure, but a signal that intensified surveillance and immediate interventions are needed to get back on track.

A Catalyst for Health System Strengthening

Malaria elimination and health system strengthening are complementary strategies. While strong health systems are crucial for sustainability, they require time to develop. Disease-specific programmes have proven their value by eradicating smallpox and accelerating progress against human immunodeficiency virus (HIV), tuberculosis, and malaria. The strategic opportunity lies in designing malaria elimination investments to strengthen the broader health system. Investing in malaria elimination, therefore, can extend impact beyond malaria to encompass health system resilience, pandemic preparedness, and Universal Health Coverage (UHC) goals.

The infrastructure requirements for elimination – surveillance networks, laboratory capacity, supply chain management, and community health platforms – create durable assets serving broader health objectives. Personnel trained for malaria case detection can become permanent primary healthcare workers. Surveillance systems developed for tracking every malaria case evolve into foundations for monitoring other communicable diseases and health emergencies. Cross-sectoral coordination mechanisms spanning immigration, military, and private sectors establish governance frameworks that also strengthen overall health security preparedness. As malaria burden decreases and country efforts shift from control to elimination, integration of a vertical malaria programme into overall health systems operations will be needed to find, test, treat, and track every single case. In turn, this enhances overall health system resilience.

Asia Pacific stands at the forefront of this global movement, where malaria elimination serves as a pathway to strengthened health systems across the region. In doing so, the region will be far better positioned to respond to future health security threats, including emerging infectious diseases, creating lasting dividends that extend well beyond malaria control.



About This Report

In accordance with its mandate, Asia Pacific Leaders Malaria Alliance (APLMA) has produced this 10-year progress report on the Asia Pacific region's advancement toward malaria elimination for the 20th East Asia Summit (EAS). This assessment examines the region's progress against the APLMA Leaders' Malaria Elimination Roadmap ('Roadmap') over the decade spanning 2015-2024, providing a detailed analysis of achievements, setbacks, and the opportunities required to be seized to achieve the 2030 regional elimination goal.

This report serves dual purposes as both an accountability mechanism to the highest levels of political leadership who endorsed the regional commitment and a strategic planning tool for navigating the critical final phase toward 2030. It is structured around five core analytical components that provide insight into the region's elimination efforts in the past decade:

Chapter 2: Overview of Regional Progress Towards Elimination provides an overview of malaria across Asia Pacific over the past decade. It highlights mixed national trajectories, with some countries achieving malaria-free certification while others face resurgence. It demonstrates both progress and setbacks, and underscores the urgent need for tailored, intensified interventions.

Chapter 3: APLMA Leaders' Malaria Elimination Roadmap reviews regional progress against the six priorities outlined in the Leaders' Roadmap. It covers coordinated national responses, service delivery improvements, quality assurance measures, strategic resource allocation, financing mechanisms, and innovation adoption. Country examples demonstrate successes, showcasing how regional cooperation and political commitment have translated into tangible elimination progress.

Chapter 4: Key Challenges examines the key challenges threatening elimination progress, including the dual threat of drug-resistant parasites and insecticide-resistant vectors, persistent inequities in service access for marginalized populations, inherently intense transmission in the island of Papua and in the Solomon Islands, critical financing gaps across the region, climate change impacts that are reshaping transmission patterns, and the destabilizing effects of conflict in fragile states.

Chapter 5: Looking Ahead – Counting Down to 2030 identifies seven strategic opportunity areas for accelerating progress during the crucial countdown to 2030. It emphasizes the need for political will, additional complementary interventions in high-burden countries, sustainable financing, and adoption of new tools and strategies. It also highlights opportunities for innovation and regional collaboration.

Annex: Country Profiles covers individual country progress profiles of the 22 countries APLMA supports, providing insights into diverse national elimination journeys, highlighting respective responses to key challenges and strategies toward achieving the 2030 target.

This report integrates multiple data streams to provide the most comprehensive regional assessment possible. Primary epidemiological data draws from country-provided surveillance data for 2024, complemented by historical data from the World Health Organization (WHO) World Malaria Report series through 2023. The report is further supplemented by peer-reviewed publications, annual APLMA country surveys, official country documents such as National Strategic Plans (NSPs), as well as historical Funding Requests to The Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund).



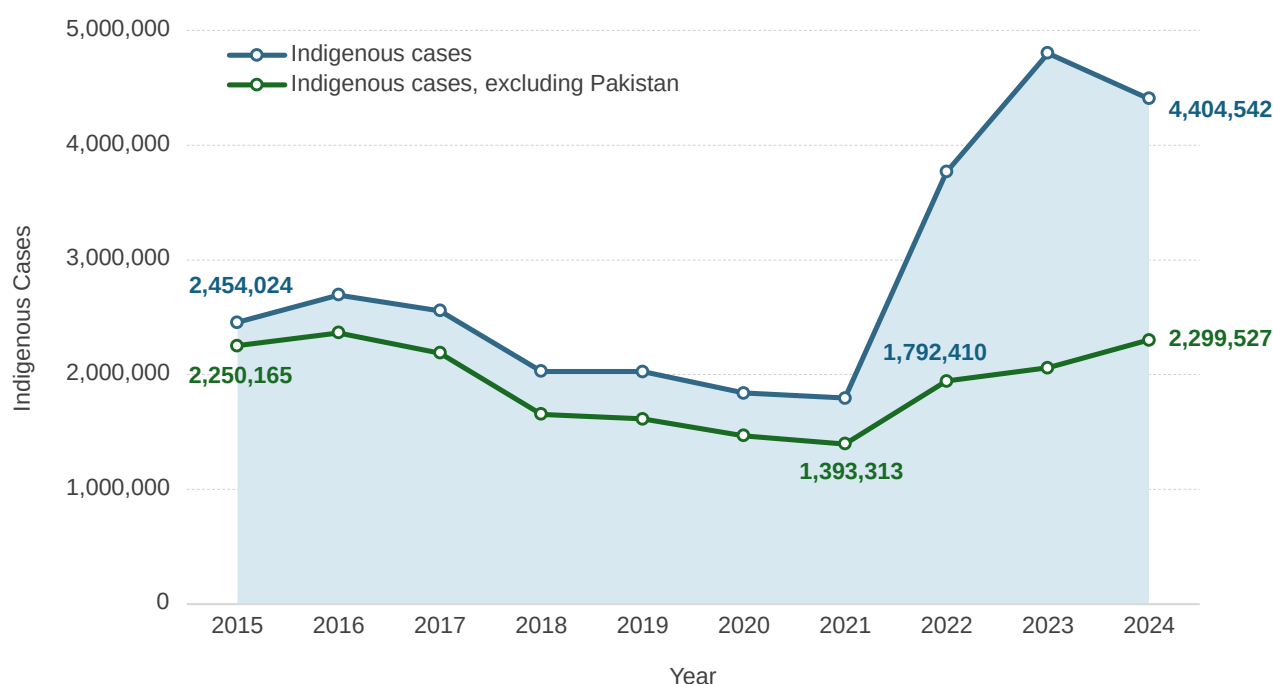
Chapter 2

Overview of Regional Progress Towards Malaria Elimination

Asia Pacific features a complex and heterogeneous epidemiological landscape for malaria, with marked variations in disease burden trends across and within the 22 countries APLMA supports. While several nations achieved remarkable progress toward elimination, others faced substantial increases in malaria cases, resulting in an overall regional increase in malaria burden. Based on available data from national malaria programmes (NMPs), the total number of confirmed indigenous malaria cases across the region in 2024 is approximately 4.4 million cases,^a representing a 75% increase from 2015 levels (Figure 2). The surge in cases has been driven primarily by elevated levels of malaria transmission in Pakistan following catastrophic flooding in 2022, but it also reflects a broader resurgence across the region since 2022.

Based on available data from national malaria programmes (NMPs), the total number of confirmed indigenous malaria cases across the region in 2024 is approximately 4.4 million cases,^a representing a 75% increase from 2015 levels.

Figure 2. Total Reported Indigenous Cases in Asia Pacific, 2015-2024.



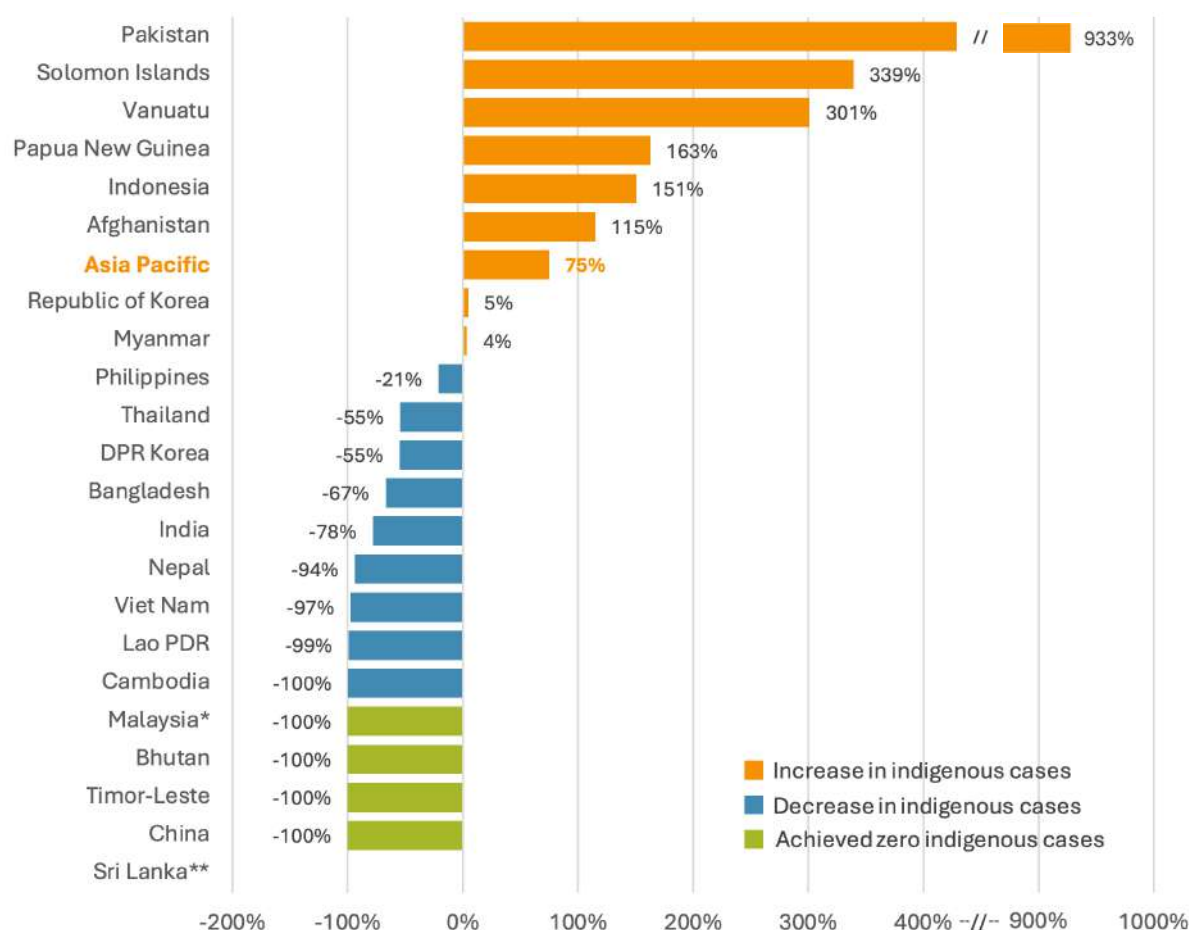
Note: 2015-2023 data from the WHO World Malaria Report 2024. 2024 data sources from respective national malaria programmes. 2024 data from the Democratic People's Republic of Korea (DPRK) unavailable; 2023 data used as a stand-in.

^a Countries usually submit their malaria case data to the WHO, who publishes the compiled data in the annual World Malaria Report the following December (i.e. World Malaria Report 2024 would contain 2023 figures). For this report, APLMA Secretariat requested for countries to share their 2024 malaria case and death data. This data has not been verified, and the Democratic People's Republic of Korea (DPRK) did not respond to requests for data; 2023 data for DPRK used as a stand-in. The World Malaria Report 2025, expected at the end of 2024, will provide the official, verified figures for 2024.



Malaria cases increased most significantly across six countries – Pakistan, the Solomon Islands, Vanuatu, Papua New Guinea, Indonesia, and Afghanistan, while the Republic of Korea and Myanmar experienced a minor net increase in cases (Figure 3). Nine countries – the Philippines, Thailand, Democratic People's Republic of Korea (DPRK), Bangladesh, India, Nepal, Viet Nam, Lao People's Democratic Republic (Lao PDR), and Cambodia – all advanced closer to elimination by achieving a net decrease in cases. Three countries in the region – Sri Lanka, China, and Timor-Leste – have been certified malaria-free by the WHO, while two other countries – Bhutan and Malaysia – have reported zero indigenous cases of human malaria for at least three consecutive years. As of 2023, in addition to the certified malaria-free countries, seven countries – Bhutan, Cambodia, India, Lao PDR, Malaysia, Nepal, and Viet Nam – were on track to meet the WHO 2015 Global Technical Strategy's milestone of a 75% reduction in cases by 2025.⁷

Figure 3. Percentage Change in Reported Indigenous Cases in Asia Pacific Between 2015–2024.



* Zero indigenous cases in Malaysia refers to non-zoonotic malaria.

** Sri Lanka maintained zero indigenous cases between 2014–2024.

Note: 2015 and 2024 data sources used for calculations can be found in the Annex, within individual country profiles. 2024 data for DPRK unavailable; 2023 data used as a stand-in. Indigenous malaria cases are presented as the unit of analysis to align with WHO certification criteria, which assess elimination based on local transmission, and with how APLMA tracks country progress toward elimination. However, we recognize that many countries not yet near elimination do not consistently distinguish between indigenous and imported cases.

The mixed regional trajectory reflects considerable heterogeneity that can be understood through three distinct groupings. Five countries – Sri Lanka, China, Timor-Leste, Bhutan, and Malaysia – report zero indigenous non-zoonotic malaria cases or have been WHO-certified malaria-free. Eight countries – Pakistan, India, Papua New Guinea, Indonesia, Afghanistan, Myanmar, the Solomon Islands, and Bangladesh – have high burden regions that contribute 99% of the non-zoonotic malaria burden in Asia Pacific, requiring intensified focus and advocacy efforts, with further stratification based on transmission intensity.



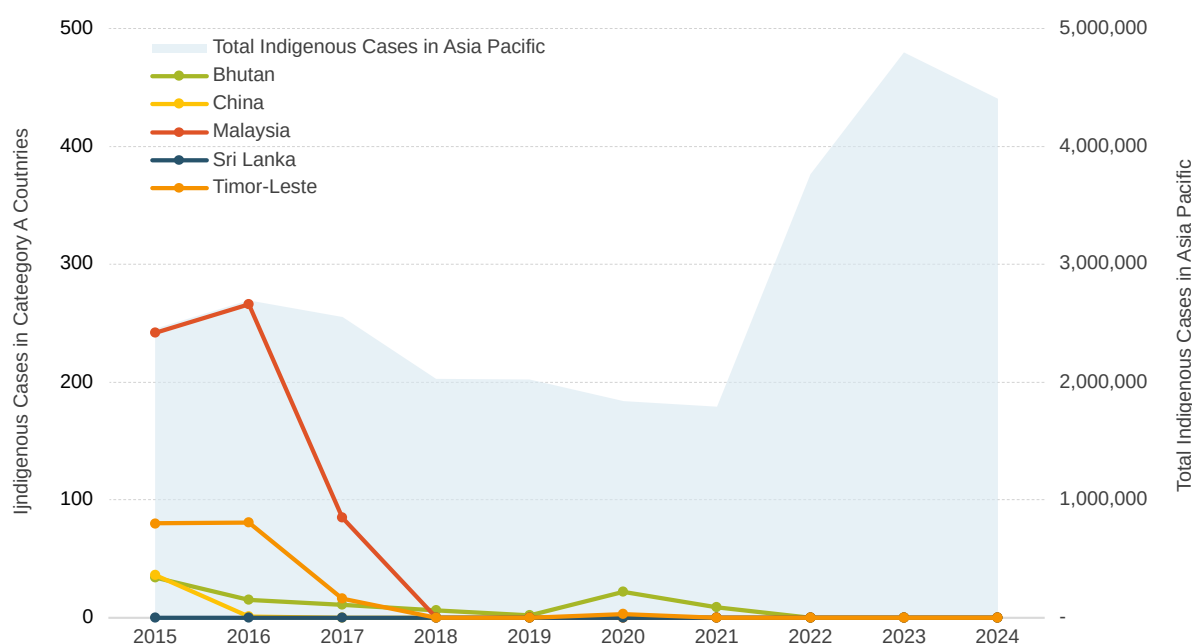
Nine countries – Cambodia, DPRK, Lao PDR, Nepal, the Philippines, the Republic of Korea, Thailand, Vanuatu, and Viet Nam – are relatively low burden, with some countries nearing elimination and others experiencing recent increases in cases. The following sections in this chapter describe the epidemiological landscape in the past decade in each of these three groupings. Comprehensive profiles of each country can be found in the **Annex**.

The mixed regional trajectory has important implications for achieving the 2030 elimination target. High-burden countries like Papua New Guinea, Indonesia (primarily the Papua region), the Solomon Islands, and Pakistan require intensified interventions and potentially different strategic approaches to reverse current trends.

Countries With Zero Indigenous *Plasmodium falciparum* (*P. falciparum*)/*Plasmodium vivax* (*P. vivax*) Cases or WHO-Certified Malaria-Free Countries

Five countries in Asia Pacific have eliminated indigenous human malaria transmission and are either maintaining WHO malaria-free certification or positioning themselves for certification. These countries – Sri Lanka, China, Timor-Leste, Bhutan, and Malaysia – represent diverse geographic, economic, and epidemiological contexts that collectively demonstrate that malaria elimination is possible across varied settings. All five countries have successfully interrupted indigenous transmission of human malaria parasites through sustained, comprehensive elimination efforts spanning multiple decades, with certification dates ranging from Sri Lanka's 2016 achievement to Timor-Leste's recent 2025 certification and Bhutan's certification request applied in 2025.

Figure 4. Reported Indigenous Cases in Bhutan, China, Malaysia, Sri Lanka, and Timor-Leste, 2015–2024.



Note: 2015–2024 data sources can be found in the Annex, within individual country profiles.

What distinguishes these countries is their sustained political commitment, robust surveillance systems, and adaptive programme management that enabled them to achieve and maintain elimination despite diverse challenges, including tropical climates, cross-border transmission risks, and varying economic contexts. Today, all five countries maintain comprehensive surveillance systems focused on the prevention of re-establishment, with imported cases managed through enhanced border screening, case investigation, and rapid response mechanisms.



In the past decade, **Sri Lanka** became the second country in the region to achieve malaria-free status, receiving WHO malaria-free certification in 2016.^b To date, Sri Lanka's robust prevention of re-establishment (POR) programme has successfully prevented re-establishment of local transmission, demonstrating that sustained elimination is possible even in highly receptive tropical environments with significant importation pressure.

In June 2021, **China** became the third Asia Pacific country to be certified malaria-free by the WHO. The country has maintained zero indigenous transmission since 2017. China's POR programme manages imported cases, mainly reported from Yunnan Province bordering malaria-endemic Myanmar, through a sensitive surveillance system and cross-border collaboration.

Timor-Leste was certified as malaria-free by the WHO in July 2025 after reporting zero indigenous cases for three consecutive years (2021-2023). Much of the country's success has been driven by confirming 100% of suspected cases through quality diagnosis, ensuring high coverage of interventions, and extending service delivery coverage to high-burden and remote areas through a strong network of community health volunteers. Now in the POR phase, Timor-Leste focuses on sustaining its malaria-free status while managing periodic imported cases from Indonesia.

Bhutan reported three consecutive years with zero indigenous cases as of 2024 and has applied for WHO certification after completing an external review in early 2025. The country's path to elimination demonstrates exceptional domestic resource mobilization capacity, with strong domestic ownership, strategic external partnerships, and efficient resource utilization creating a sustainable financing model that positions Bhutan to achieve a smooth transition.

Malaysia has successfully maintained zero indigenous human malaria species since 2018. However, Malaysia faces the brunt of the regional challenge of zoonotic *P. knowlesi* transmission, accounting for 87% of all reported *P. knowlesi* cases globally. Most infections are concentrated in the Malaysian Borneo states of Sabah and Sarawak. In 2024, Malaysia reported more than 1,800 *P. knowlesi* cases and 3 deaths nationwide. The high level of zoonotic transmission poses particular control challenges and has implications for malaria-free certification from the WHO.

Countries That Make Up 99% of the *P. falciparum*/*P. vivax* Malaria Burden

Most of the regional malaria burden is concentrated in a few high-burden countries that account for approximately 99% of the Asia Pacific region's malaria cases, namely: Pakistan, India, Papua New Guinea, Indonesia, Afghanistan, Myanmar, the Solomon Islands, and Bangladesh. In particular, Pakistan reported 49% of total indigenous cases in 2024. Papua New Guinea, Indonesia, and the Solomon Islands experience exceptionally high levels of transmission due to the prevalence of efficient malaria vectors in this subregion. Of these countries, only India and Bangladesh have reported a decrease in malaria cases over the past decade.

These high-burden areas share common characteristics, including geographic isolation, difficult terrain, diverse vector species – some of which are the most efficient vectors in Asia Pacific – year-round transmission patterns, and populations with high occupational exposure risks. The countries in this category have experienced either sustained high transmission or dramatic increases in malaria burden during the 2015-2024 period, with APIs often exceeding regional averages by orders of magnitude and some areas reporting APIs over 400 per 1,000 population, creating significant challenges for service delivery, vector control, and case management that require a different strategic approach compared to lower-burden settings. In particular, high burden areas require a greater emphasis on vector control compared to low burden areas, where the emphasis is on surveillance and rapid response.

^b The Maldives received malaria-free certification by the WHO in 2015. Prior to that, Australia received malaria-free certification in 1981; Singapore in 1982; and Brunei in 1987.



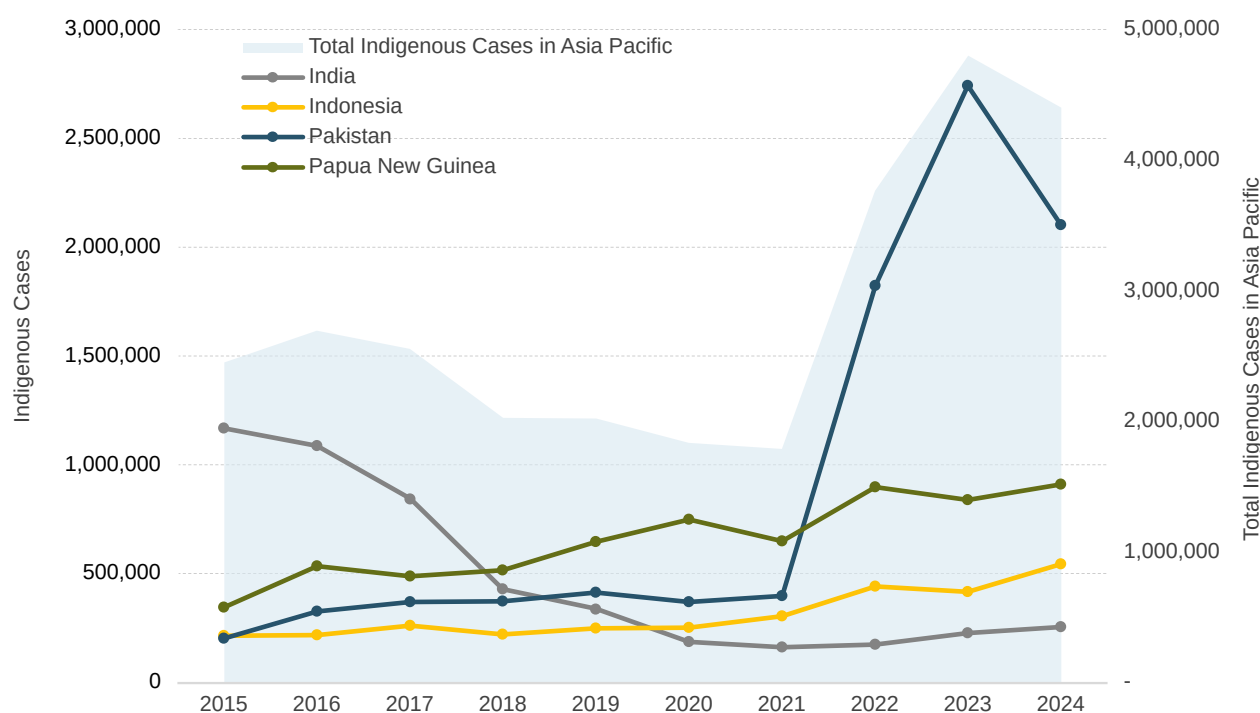
Pakistan's malaria trajectory has undergone explosive growth in recent years. In 2024, the country reported about 2.11 million indigenous cases, representing a 933% rise over the 2015 baseline of approximately 204,000 indigenous cases. The rise in cases is largely attributed to catastrophic floods in 2022. The geographic distribution reveals stark regional disparities, with Sindh remaining the highest-burden province accounting for 49.4% of cases, followed by Balochistan at 37.9%.

While **India** has recorded one of the fastest malaria declines in the region, with annual indigenous cases dropping from 1.17 million in 2015 to 255,500 in 2024, this reduction occurs against a backdrop of enduring heterogeneity in malaria risk. Roughly 80% of India's cases are reported from five eastern and central region states – Chhattisgarh, Jharkhand, Odisha, Madhya Pradesh and Maharashtra, and the North-east states of Arunachal Pradesh, Manipur, Mizoram, and Nagaland, with transmission remaining focal and persistent especially in hard-to-reach, forested tribal regions.

Indonesia reached a decade high of 543,965 indigenous cases in 2024, representing a 151% increase from 217,017 cases in 2015, with this surge driven primarily by high transmission and improved reporting in the Papua region. By 2023, 86% of cases in the Papua region were concentrated in 14 lowland districts or municipalities, some of which reported API exceeding 400 per 1,000 population.

Papua New Guinea remains one of the most heavily burdened countries by malaria outside of Sub-Saharan Africa, experiencing a 163% increase in indigenous malaria cases from 346,431 cases in 2015 to 910,747 cases in 2024. About 94% of the country's population is considered at risk of malaria. Transmission is perennial in northern coastal and lowland regions, seasonal on the south coast, with 12 of the 15 coastal provinces being high-burden provinces, while malaria transmission has been historically unstable in seven highland provinces.

Figure 5. Reported Indigenous Cases in Pakistan, Papua New Guinea, Indonesia, and India, 2015–2024.



Note: 2015–2024 data sources can be found in the Annex, within individual country profiles.



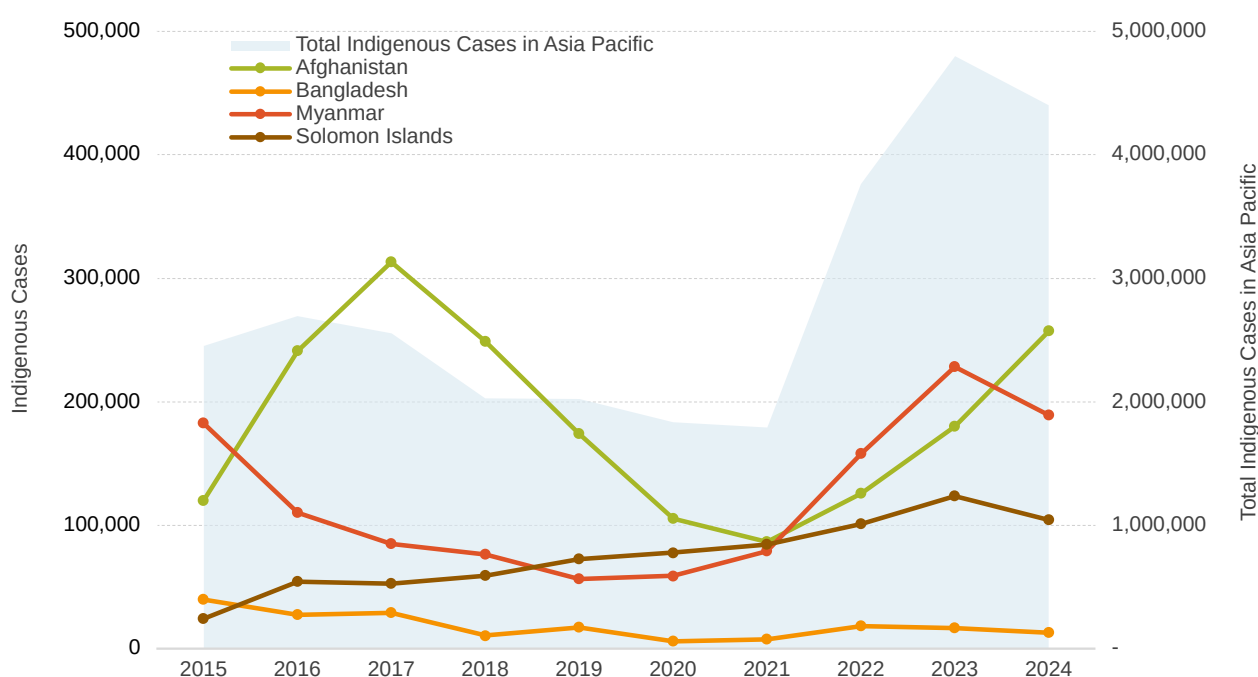
In Afghanistan and Myanmar, civil conflict and humanitarian crises have precipitated a resurgence in cases. Malaria cases in **Afghanistan** increased 115%, from 119,859 in 2015 to 257,524 in 2024. Over 76% of Afghans live in at-risk areas, with 123 districts at high risk and eastern Afghanistan bearing the highest burden. The epidemiological profile is dominated by 95% *P. vivax* and 5% *P. falciparum*, with six provinces – Nangarhar, Laghman, Kunar, Nuristan, Khost and Paktika – accounting for 91% of confirmed *P. falciparum* and 89% of *P. vivax* cases in 2017.

Myanmar initially made substantial progress toward its goal of malaria elimination by 2030 by reducing indigenous malaria cases by 69% from 182,465 in 2015 to 56,414 in 2019. This progress reversed beginning in 2019 due to the COVID-19 pandemic and was exacerbated by civil conflict since 2021. In 2024, close to 190,000 indigenous cases were reported. Transmission is highly concentrated, with just 20 of Myanmar's 330 townships accounting for 77% of the national burden.

Following Pakistan, the **Solomon Islands** has seen the most pronounced increase in cases over the past decade, reporting a 339% increase in indigenous malaria cases and an API of 136.6 per 1,000 population by 2024. Almost 100% of the population is at risk of malaria. The recent surge in cases has primarily been driven by *P. vivax* infections, though *P. falciparum* has historically been the primary malaria parasite. In 2024, five of ten provinces, including the capital territory of Honiara, contributed to 80% of the malaria burden in the country.

Of the Asia Pacific's high burden countries, **Bangladesh** reported the lowest number of cases in 2024 and achieved an overall 67% decrease in cases. The country has been prone to intermittent upsurges with cases rising by 64% between 2018 and 2019 before dropping to a decade low of 6,128 cases in 2020, followed by another surge of 162% between 2021 and 2022 before declining again. Three districts sharing borders with India and Myanmar – Bandarban, Rangamati, and Khagrachari, collectively referred to as the Chittagong Hill Tracts – are classified as high-burden control districts, accounting for over 93% of malaria cases.

Figure 6. Reported Indigenous Cases in Afghanistan, Myanmar, Solomon Islands, and Bangladesh, 2015–2024.



Note: 2015–2024 data sources can be found in the Annex, within individual country profiles.



Lower Burden Asia Pacific Countries

Nine countries in the Asia Pacific region – Cambodia, DPRK, Lao PDR, Nepal, the Philippines, Republic of Korea, Thailand, Vanuatu, and Viet Nam – have all made substantial progress toward malaria elimination, with some countries reducing case burdens by more than 90% during the 2015-2024 period. Only the Republic of Korea experienced an increase in cases, from 629 cases in 2015 to 659 cases in 2024. These countries collectively demonstrate that significant progress toward elimination is achievable through sustained political commitment and effective programme implementation. In the Greater Mekong Subregion (GMS), Cambodia, Lao PDR and Viet Nam have all reduced cases down to approximately 300 indigenous cases in 2024. Nepal accomplished a 94% decline to 37 indigenous cases in 2024, positioning these four countries as near-term elimination candidates.

While most countries in the group have reduced cases, some have experienced recent setbacks. Cases increased from 2,426 in 2021 to 7,954 in 2024 in Thailand due to COVID-19 impacts and cross-border migration from Myanmar, while the Philippines saw cases rebound from 3,211 in 2022 to 8,952 in 2024 due to climate change effects and increased mobility post-pandemic. Vanuatu faced a seven-fold increase from 312 cases in 2021 to 2,291 in 2024, and DPRK reported increases from 2,136 cases in 2022 to 3,160 in 2023.

Countries Nearing Elimination

Cambodia achieved one of the region's most dramatic reductions, with indigenous cases plunging over 99% from more than 68,000 in 2015 to 322 in 2024, with zero deaths since 2018. Transmission remains concentrated in seven northeastern provinces, with Stung Treng leading (42% of cases) and Monduliri following (21%), primarily in forested areas bordering Viet Nam and Lao PDR.

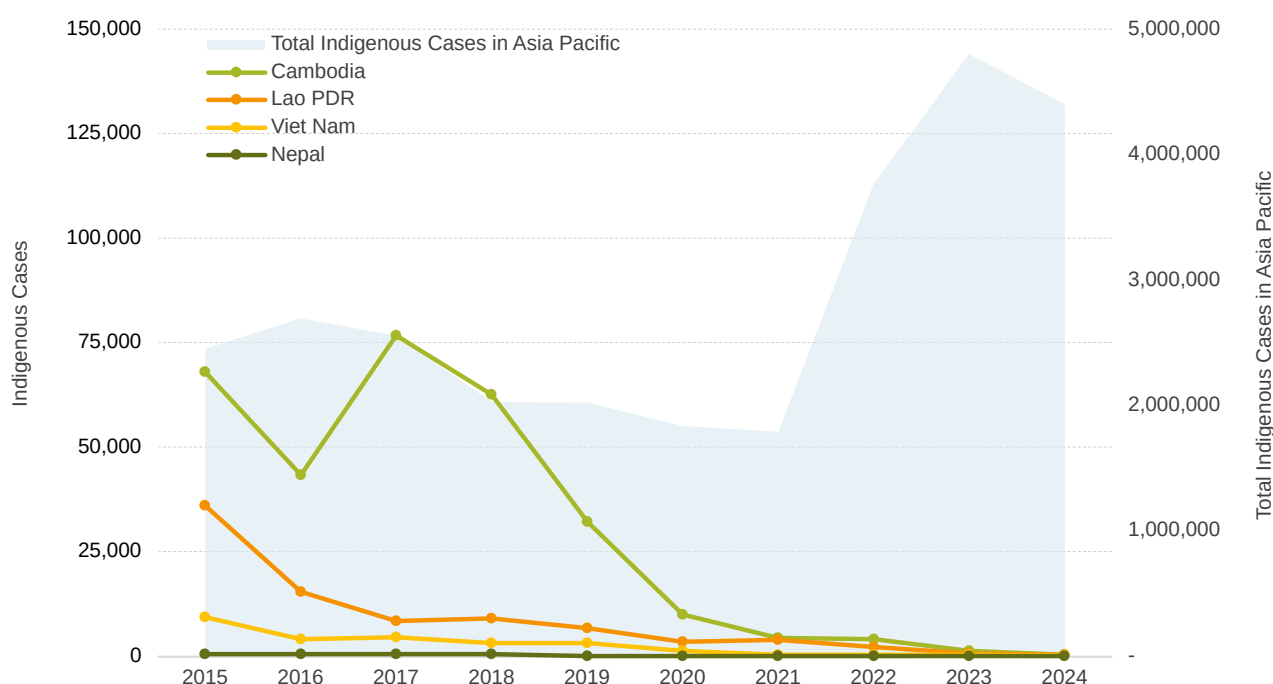
Lao PDR achieved a remarkable 99% reduction from 36,078 cases in 2015 to 342 in 2024, on track for elimination by 2030. Focal transmission persists in five southern provinces – Savannakhet, Saravane, Sekong, Champasack, and Attapeu, with cases in Sekong and Attapeu districts remaining unchanged since 2019.

Viet Nam reduced cases from nearly 10,000 in 2015 to under 300 in 2024 with zero deaths since 2019. Viet Nam is poised for elimination of malaria by 2030, with an intermediate goal of *P. falciparum* elimination by 2025. Cases consistently remain around 300 annually since 2021, with 97% of cases concentrated in the central and southern regions, particularly Lai Châu, Khánh Hòa, Gia Lai, Đắk Lắk, and Đắk Nông provinces.^c

Nepal achieved a 94% decline from 591 cases in 2015 to 37 indigenous infections in 2024, with no deaths since 2021. Micro-stratification shows only 22 high-risk and 69 moderate-risk wards clustered in forested Sudur Paschim and Karnali Provinces, while small hotspots persist in far-western border areas.

^c Province names are as of 2024, before 63 provinces were merged into 34 provinces in 2025.



Figure 7. Reported Indigenous Cases in Cambodia, Lao PDR, Viet Nam, and Nepal, 2015-2024.

Note: 2015-2024 data sources can be found in the Annex, within individual country profiles.

Lower Burden Countries Experiencing Recent Increases in Cases

Thailand achieved significant case reduction from 2015 to 2021 but experienced major setbacks due to COVID-19 and cross-border migration from Myanmar, with cases surging 228% from 2,426 in 2021 to 7,954 in 2024. Geographic concentration is pronounced: 87% of cases occur in six provinces bordering Myanmar, while 51 of 77 provinces are malaria-free.

Democratic People's Republic of Korea reduced cases from 7,022 in 2015 to 3,160 in 2023 despite a 48% increase from 2022. Transmission is confined to eight endemic provinces, with 71.6% of cases concentrated in three southern border provinces: North Hwanghae, South Hwanghae, and Kangwon, while three northern provinces have achieved malaria-free status.

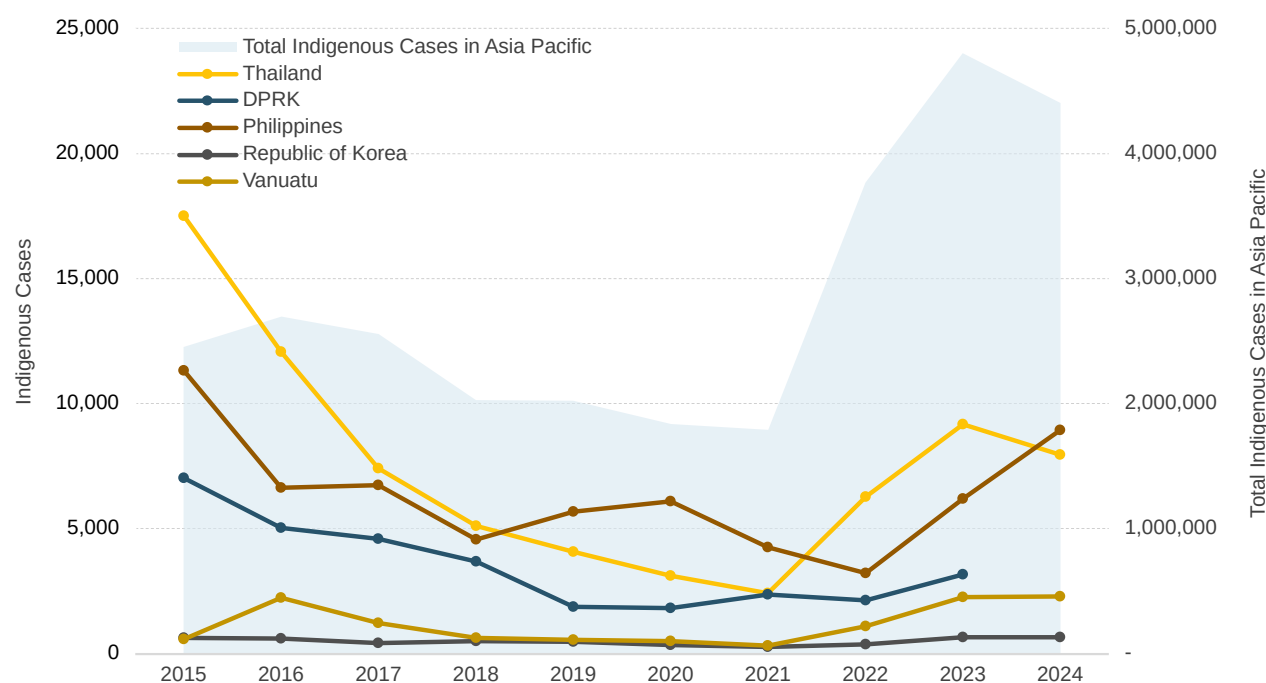
The Philippines experienced non-linear progress with cases dropping 72% from 11,325 in 2015 to 3,211 in 2022, then rebounding to 8,952 in 2024. Transmission is confined to four municipalities – Rizal, Brooke's Point, Bataraza, Sofronio Española – in Palawan province. The other 81 of 82 provinces in the Philippines report zero indigenous cases.

Republic of Korea maintained low levels of transmission albeit with a 5% increase in cases between 2015-2024. Most cases occur in areas bordering the demilitarized zone (DMZ) with DPRK, particularly Seoul, Incheon, Gyeonggi, and northern Gangwon provinces. Males comprise 83.4% of cases, notably civilian males in their 20s and active duty and discharged military personnel. The majority of cases are caused by *P. vivax*.

Vanuatu had a low of 312 cases in 2021 before a seven-fold increase to 2,291 cases in 2024 attributed to COVID-19 disruptions. In 2024, northern provinces Sanma and Torba accounted for 84% of cases with APIs of 21.5 and 39.3 respectively, while southern Tafea remains malaria-free since 2017.



Figure 8. Reported Indigenous Cases in Thailand, Democratic People's Republic of Korea, the Philippines, Republic of Korea, and Vanuatu, 2015–2024.



Note: 2015–2024 data sources can be found in the Annex, within individual country profiles. 2024 data for DPRK unavailable.

We Need to Get Back on Track

The regional picture is mixed: there is progress and success underpinned by good management, resurgence related to civil unrest and climate change, and stagnation due to inherently robust transmission in the southern tier of the region. While some externalities are beyond the influence of malaria control programmes, others can be overcome via solid management, leveraging of additional financing, and, especially in the island of Papua and its environs, additional strategically targeted interventions.

The region is off track from its original elimination timeline. Several countries have delayed their elimination targets: Papua New Guinea has extended its target to 2035, previously targeting 2030;⁸ The Solomon Islands has revised its timeline to 2038, previously aiming for 2030;^{9,10} Vanuatu has adjusted its goal to 2032, previously targeting 2029;¹¹ and Nepal has shifted its target to 2030, previously 2026.¹²

While these revised timelines are more realistic given current epidemiological challenges and resource constraints, the postponement of elimination targets risks creating a dangerous precedent of moving goalposts. This potentially erodes political commitment and public trust and allows the disease to further entrench itself in vulnerable communities, making future elimination efforts even more challenging and costly.

Figure 9. Latest National Malaria Elimination Goals as of August 2025

2025 – Bhutan, DPRK, Timor-Leste, Cambodia, Malaysia
2026 – Thailand
2027 – India, Nepal, Viet Nam
2030 – Bangladesh, Lao PDR, Indonesia, Myanmar, the Philippines, Republic of Korea
2032 – Vanuatu
2035 – Afghanistan, Pakistan, Papua New Guinea
2038 – Solomon Islands

Note: Data from respective NMPs





Chapter 3

Asia Pacific Leaders' Malaria Elimination Roadmap

The EAS has demonstrated sustained leadership on malaria elimination since 2012, when Asia Pacific Heads of Government ('Leaders') adopted the Declaration on Regional Responses to Malaria Control and Addressing Resistance to Antimalarial Medicines in response to the emerging threat of drug-resistant malaria across the region. Recognizing its public health, economic, and security implications, this commitment facilitated the establishment of APLMA in 2013. In November 2014, Leaders agreed to the goal of an Asia Pacific free of malaria by 2030. With the mandate to accelerate regional progress against malaria and achieve elimination by 2030, 18 EAS Leaders tasked APLMA with creating and implementing a Roadmap for attaining this goal.

In 2015, Leaders of the 18 countries endorsed the Asia Pacific Leaders' Elimination Roadmap ('Roadmap'). Since then, four more Asia Pacific governments have endorsed the Roadmap, bringing the total number of APLMA countries to 22. Supported by the APLMA Secretariat, this Roadmap was developed through extensive consultation with experts and officials from across the region. It identifies six essential priorities Leaders will need to support to realize the 2030 goal, tracked on the APLMA's Leaders' Dashboard. By benchmarking progress against these priorities, the Roadmap plays a crucial role in APLMA's work of coordinating regional action, supporting effective country leadership and brokering policy, technical and financing solutions to regional and national challenges.

Priority 1. Unite national efforts and regional actions

Malaria elimination requires comprehensive and integrated strategies for each malaria-endemic country, necessitating fully costed, Leader-endorsed plans backed by multi-agency coordination. Success depends on Leaders empowering agencies across government to work in unison, with Ministries of Health designing elimination activities, Ministries of Public Works ensuring technically sound environmental interventions, Ministries of Home Affairs ensuring accountability, Ministries of Finance ensuring sustained funding including during declining malaria burden, and Ministries of Foreign Affairs coordinating cross-border efforts for mobile populations.



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The Roadmap calls for establishing National Malaria Elimination Task Forces chaired by senior officials in each endemic country. These task forces ensure follow-through on priority actions, harmonize policy across government agencies, coordinate multisectoral partnerships, and identify bilateral and regional cooperation opportunities. The approach recognizes that while plans are prerequisites, successful implementation requires deliberate multisectoral effort with active Head of Government support. Regional coordination complements national efforts, addressing transmission near and across borders and ensuring mobile populations access prevention and treatment services regardless of location within the Asia Pacific region.

Progress at 10 Years

As of 2024, **19 out of the 22 APLMA-supported countries** reported that they have established functional National Malaria Elimination Task Forces or equivalent coordinating bodies. Two countries – the Solomon Islands and Papua New Guinea – reported that they had not established a functional elimination task force, while DPRK did not respond to the APLMA survey. These task forces exemplify the multi-agency coordination envisioned in the Roadmap, with countries like China demonstrating whole-of-government approaches through 13-ministry coordination mechanisms, while India's comprehensive federal model spans multiple administrative tiers with systematic inter-ministerial partnerships. Thailand's Cabinet-approved National Malaria Elimination Strategy showcases high-level political commitment.

As an example, **Bhutan's National Committee for Disease Elimination**, established in 2019, provides high-level oversight and policy guidance for all elimination programmes within a compact national framework.¹³ The Committee operates through a structured hierarchy with policy-level strategic oversight, technical guidance through the Technical Advisory Group for Malaria Elimination, and implementation coordination through the Vector-borne Disease Control Programme. The Committee integrates a whole-of-government approach across eight major ministries, including the Ministry of Education, the Ministry of Agriculture, the Ministry of Works and Human Settlement, and the Ministry of Labour and Human Resources. The Armed Forces participate in medical professional training and United Nations peacekeeping returnee screening, while the Ministry of Home and Cultural Affairs facilitates cross-border coordination and district-level meeting integration.

Since 2024, recognizing the escalating challenge and urgency of eliminating malaria in their high burden contexts, the Governments of Papua New Guinea, the Solomons Islands, and Indonesia have each demonstrated renewed commitment and leadership by driving multisectoral responses toward elimination. Though Papua New Guinea has not yet established a national taskforce, in 2024, the country leveraged subnational engagement and provincial leadership to form the **Governors Ending Malaria (GEM) Coalition**, uniting provincial governors in the highest burden provinces to drive coordinated local action. Oro Province, under the leadership of Governor Gary Juffa, is collaborating with the National Department of Health to support the establishment of the Coalition.





H.E. President Yudhoyono presents certificates to malaria-free districts at the 9th Asia Pacific Leaders' Summit on Malaria Elimination in Bali, Indonesia

In 2025, under the leadership of His Excellency, Prime Minister Jeremiah Manele of the Solomon Islands, the Solomon Islands has initiated a unified, whole-of-government approach to elimination by establishing a **National Malaria Elimination Taskforce (NMET)**, co-chaired by the Office of the Prime Minister and Cabinet (OPMC) and the Ministry of Health and Medical Services (MHMS), and comprising 13 ministries. The Committee, formally endorsed through a Cabinet Paper in August 2025, will guide the development, implementation, and monitoring of a National Roadmap for Malaria Elimination 2026-2038.

And, in Indonesia, the Government has catalysed both national and subnational multisectoral engagement to accelerate malaria elimination. In 2025, the Government of Indonesia launched the **Indonesia's Call to End Malaria Initiative (ICMI)** marking a significant milestone in the nation's strategy to eliminate malaria by 2030. To strengthen this commitment, a Presidential Instruction on Accelerating Malaria Elimination (*Instruksi Presiden Percepatan Eliminasi Malaria*) has been drafted, consolidating the roles and responsibilities of ministries, institutions, local government, state-owned enterprises, international partners, the private sector, and civil society organizations within a robust collaborative framework. Under the ICMI, the Ministry of Health leads a multisectoral national committee to strengthen governance, financing, and partner mobilization, while the Coordinating Ministry of Human Development and Cultural Affairs, supported by the Ministry of Health, reports progress to the President at least every six months or as needed.

To complement this national drive, stakeholders in Papua have formed the **Konsorsium Malaria Papua (Papua Malaria Consortium)**, a collaborative platform uniting the six provinces of Papua – *Papua, Papua Tengah, Papua Selatan, Papua Pegunungan, Papua Barat, and Papua Barat Daya* – in a concerted effort to tackle the region's disproportionate malaria burden. Announced at the 9th Asia Pacific Leaders' Summit on Malaria Elimination, the Consortium was conceived during a high-level meeting between the six governors of Papua, the Minister of Health, the Vice Minister of Home Affairs, and His Excellency, Former President Susilo Bambang Yudhoyono, Special Advisor to APLMA.



The Consortium emphasizes cross-sectoral collaboration, including infrastructure development, education, and environmental management, to address the social determinants of malaria transmission. Operationally, it prioritizes the harmonization of legal and regulatory frameworks across provinces and districts, regular coordination meetings (monthly at the technical level and quarterly at the leadership level), and the establishment of joint execution teams with reporting lines from the village to the ministerial level. The Ministry of Health leads the coordination, supported by the Ministry of Home Affairs, ensuring that malaria elimination remains a national priority with strong subnational ownership.

The near-universal adoption of national coordination mechanisms represents substantial progress from 2015, when such structures were largely absent across the region, demonstrating how political commitment at the Leaders' level has translated into operational frameworks that harmonize policies across government ministries, engage private sector and civil society partners, and facilitate regional cooperation essential for sustainable elimination progress.

Priority 2. Map, prevent, test and treat the disease everywhere

The Roadmap calls for universal access to quality-assured malaria prevention, diagnosis, and treatment products, particularly for underserved communities in remote regions, border areas, mobile populations, and minority groups. The approach requires a substantial shift from traditional malaria programming targeting village level transmission toward comprehensive coverage that includes previously neglected populations. Success demands robust real-time information systems for disease reporting and supply chain management of medicines, bed nets, and test kits.

Leaders must empower and resource Ministries of Health to staff and supply anti-malaria efforts comprehensively, map all at-risk populations to identify programmatic gaps, and work directly with underserved communities to ensure uninterrupted service delivery. The priority emphasizes rapid outbreak response through ongoing transmission tracking and cross-border coordination with neighbouring countries through Ministry of Foreign Affairs partnerships. Malaria elimination requires reaching every case and treating every infected individual to break transmission cycles and prevent resurgence in previously cleared areas.

Progress at 10 Years

The region has expanded universal access to quality-assured malaria services, particularly for underserved populations. **Community health worker networks have emerged as the backbone of service delivery** in remote areas across the region. Viet Nam's three-tier^d health system is supported by specialized mobile outreach teams for forest-going populations and community malaria action teams in 86 vulnerable communities. Cambodia has deployed specialized Mobile Malaria Workers in 354 remote villages, achieving 98% testing coverage and 91% appropriate treatment rates through mobile teams between 2018-2020.¹⁴ In Myanmar, Integrated Community Malaria Volunteers play an outsized role in testing and treatment efforts, contributing to 71% of all malaria testing and 79% of all confirmed cases in 2022.¹⁵ Neighbouring Myanmar, Thailand has established specialized Migrant Health Volunteer programmes that trained over 4,000 volunteers to serve Myanmar migrants, who account for 46% of confirmed malaria cases.¹⁶ Cultural bridges through language-appropriate services and trust-building demonstrate the shift from traditional programming toward comprehensive coverage of previously neglected groups.

Indonesia formally authorized trained community malaria workers to test and treat for malaria in 2018. As of 2024, Indonesia has trained over 5,600 community malaria workers (76% women), contributing to 53% of national testing and 21% of national case detection.¹⁷ Papua New Guinea launched the Home-based Management of Malaria Programme in 2021, allowing for trained community malaria volunteers to provide Rapid Diagnostic Test (RDT)-based diagnosis and administer ACTs in 12 of 22 provinces.¹⁸ In Timor-Leste, over half of detected malaria cases were diagnosed by 33 community health volunteers located in border regions in 2020.¹³

^d As of 2025, this has been changed to a two-tier health system; Viet Nam underwent administrative reforms in 2025, and district-level health administration were removed.



Real-time information systems have also revolutionized surveillance capabilities across the region. Malaysia's real time reporting system was crucial for the success of its elimination efforts and supports ongoing efforts to control zoonotic malaria. The Philippines developed the Online Malaria Information System in 2017, enabling their 1-3-5 elimination strategy through case notification within one day, investigation within three days, and foci response within five days.¹⁹ Cambodia's specialized Malaria Information System captures individual-level case data crucial for contact tracing and outbreak investigation.²⁰ Nepal's digital Malaria Disease Information System provides real-time dashboards accessible at district and provincial levels, supporting their three-tier surveillance structure that ensures no case goes untracked.²¹ India is rapidly adopting the WHO-backed Integrated Health Information Platform that serves as comprehensive surveillance system recording cases notification and tracking the response in the public as well as the extensive private healthcare system.

Priority 3. Ensure high-quality malaria services, tests, medicines, nets and insecticides

The effectiveness of malaria elimination critically depends on high-quality products and skilled personnel. This priority addresses the need for inexpensive, effective, and reliable diagnostic, treatment, and mosquito control products, supported by well-trained health professionals capable of managing supplies, identifying inferior products, and dispensing appropriate treatments. Strong regulatory systems must maintain quality standards even in hard-to-reach populations.

The Roadmap calls for Ministries of Health and National Regulatory Authorities to collaborate with Ministries of Industry, Commerce, and Trade to strengthen regulatory and supply systems ensuring exclusive use of high-quality products. This includes better private sector regulation to promote effective medicines in retail outlets and health clinics, plus regular health worker training across communicable disease priorities. Quality assurance encompasses enforcement, monitoring, capacity building, and comprehensive regulation of the entire malaria commodity and service delivery chain.

Progress at 10 Years

Asia Pacific has made substantial investments in strengthening quality assurance systems and building skilled health workforces to ensure high-quality malaria services. For example, **drug efficacy monitoring systems have been established to combat antimalarial resistance**. Thailand launched integrated Drug Efficacy Surveillance in 2018 to track patients and confirm parasite clearance, monitoring antimalarial drug efficacy particularly against multidrug resistance. This comprehensive monitoring enabled evidence-based policy changes, including the 2019 approval of pyronaridine-artesunate as first-line treatment in provinces with documented piperazine resistance, demonstrating how technological integration directly informs clinical and programmatic decisions to maintain therapeutic effectiveness.^{22,23}

Robust supply chain management systems prevent commodity shortages across multiple countries. Sri Lanka operates with zero tolerance for stock-outs, maintaining arrangements to deliver any malaria commodity within hours and ensuring IV artesunate availability within two hours anywhere in the country upon request.^{24,25} China has established coordinated procurement through its National Medical Products Administration, working with provincial authorities to maintain consistent antimalarial supplies nationwide.

Laboratory capabilities have been significantly expanded with quality control mechanisms. The DPR Korea distributed 235 additional microscopes to village-level health facilities in 2015, increasing cluster-based microscopic laboratories from 859 to 1,094, while improving case confirmatory rates through systematic technical training and External Quality Assurance activities.²⁶ Afghanistan's Community-Based Malaria Management programme demonstrated quality improvements by increasing malaria confirmation rates from 14% to 99% through trained community health worker networks.²⁷



Private healthcare sector regulation and professional coordination have strengthened service quality.

India's comprehensive framework engages private providers through mapping and registering private clinics and laboratories, integrating them into state surveillance systems, and coordinating with professional associations including the Indian Medical Association and Indian Academy of Paediatrics. The country's mandatory notification system across 35 states strengthens legal mandates for case reporting, while performance-based incentive schemes motivate frontline workers and provide special recognition for districts achieving zero transmission. Across the GMS, the GEMS/GEMS+ initiative (Greater Mekong Subregional Elimination of Malaria through Surveillance) systematically engaged private providers across Cambodia, Lao PDR, Myanmar, and Viet Nam to raise the quality of malaria case management between 2016–2022. The initiative supplied training, diagnostics (RDTs), quality-assured medicines, reporting tools, and incentives, enabling private outlets to provide high-quality testing and treatment and contribute to a more robust national surveillance system. By 2019, private providers had contributed 16% of the total reported cases across the countries (25% in Cambodia, 5% in Lao PDR, 12% in Myanmar, and 8% in Viet Nam), demonstrating that private providers can provide quality malaria case management and achieve high reporting rates.²⁸ In Cambodia, however, testing and treatment in the private sector began to be phased out in 2018. Suspected cases in the private sector must now be referred and treated through the public sector.²⁹ In recent years, Bangladesh has also made private sector engagement a strategic priority, recognizing that private providers represent over 97% of healthcare provision in some endemic areas.

Priority 4. Improve targeting and efficiency to maximize impact

Intensifying anti-malaria actions requires additional resources, but maximising efficiency from existing investments is the crucial first step. Programmatic efficiency supports the case for external support, if needed. Priority four emphasizes four key efficiency actions: tailoring product and service supply to local conditions while identifying and reducing wastage; using existing national planning, procurement, and reporting systems wherever possible; engaging stakeholders including private sector and community representatives; and encouraging large enterprises to support elimination in their operational areas.

Targeted approaches can deliver substantial savings. Efficiency gains come through strategic resource allocation, leveraging business logistics capacity for distribution, promoting private sector involvement, and encouraging corporate social responsibility in malaria elimination. This priority ensures maximum impact from available resources while building sustainable, locally appropriate implementation models that can be maintained long-term while minimizing external dependence.

Progress at 10 Years

The Asia Pacific region has shown good progress in improving targeting and efficiency to maximize malaria elimination impact through strategic resource allocation and innovative service delivery models.

Private sector engagement has expanded service coverage by working with provincial malaria programmes. Papua New Guinea cultivated innovative public-private partnerships, notably the Lihir Malaria Elimination Programme launched in 2015 through collaboration between Newcrest Mining Ltd and Medicines for Malaria Venture, demonstrating how corporate involvement can support comprehensive malaria control in operational areas.³⁰ In Indonesia, PT Freeport supports malaria control in selected areas, while BP has provided effective in-kind support in Teluk Bintuni district in West Papua province. Between 2021–2023, the private sector in Indonesia contributed approximately US\$3.1 million to the national malaria response.³¹



In the Philippines, Shell Philippines has provided financing and in-kind support to the Movement Against Malaria programme operated by the Pilipinas Shell Foundation in Palawan province.³² These engagements are typically confined to the operational zones of company sites, and primarily aim to protect the company workforce. However, without wider community interventions, even the operational zones will continue to face risk of importation. To achieve population-level impact and ensure the sustainability of elimination efforts, private sector interventions must extend beyond operational zones, align more closely with broader national malaria programme strategies, and be anchored in longer term commitments.

Risk stratification has enabled countries to tailor interventions and strategically allocate resources.

Based on village-level analysis, Lao PDR has implemented innovative "accelerator strategies" focusing on remote, forested communities, combining targeted drug administration, monthly preventive treatment for forest-goers, and intensive community engagement. In Vanuatu, health zone stratification was introduced in 2015 to better target interventions, and this approach has since evolved into an island-based elimination strategy that now serves as a model for malaria elimination in the Pacific.³³ Separately, in Nepal, ward-level malaria risk mapping was completed in 2022, identifying only 22 wards (0.9%) as high-risk and 69 (2.7%) as moderate-risk.³⁴ This data-driven approach has enabled precise resource allocation through focal indoor residual spraying (IRS), long-lasting insecticidal net (LLIN) top-ups, and targeted behaviour change campaigns, while strategically deploying female Community Health Volunteers to high-risk areas.

Subnational elimination strategies were also key. The Philippines implemented a province-by-province elimination approach that leverages geographic compartmentalisation, allowing systematic certification of provinces as malaria-free while creating expanding zones of protection that reduce overall transmission pressure and enable efficient resource allocation tailored to local contexts. Indonesia has implemented a malaria elimination certification system for districts, provinces, and regions. This subnational approach has also been done in China, India, and Thailand.³⁵

Priority 5. Mobilize domestic financing and leverage external support

Even with greater efficiency, elimination requires increased short-to-medium term resources. For most countries, except the most resource-constrained, the major financing share must come domestically. Other countries may transition from dependence on grants to soft loans to eventual entirely domestic funding. Future growth must come predominantly from within the region to mobilize complementary external financing. Countries need fully costed national elimination plans built from bottom-up analysis, considering front-loaded investment and innovative technology introduction for acceleration and significant long-term savings.

The Roadmap calls for Leaders to support financing through encouraging Health Ministries to re-prioritize existing resources reflecting drug-resistant malaria threats; substantially increasing domestic budget allocations for time-limited periods; making cases for increased external support through demonstrated domestic commitment and efficiency; and mobilizing in-kind contributions and cross-regional financing. Innovative financing options include hypothecated taxes (tobacco, alcohol, tourism levies), national lottery earmarking, increased private sector involvement, and innovative debt mechanisms like malaria bonds.

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Progress at 10 Years

The Asia Pacific region has demonstrated significant progress in mobilizing domestic financing for malaria elimination, with countries increasingly taking ownership of their national responses. **China exemplifies complete domestic commitment**, having fully financed its malaria programme since 2014 when Global Fund support ended. The government mandates malaria-related funds as routine budget items across central and provincial levels, with central funds alone maintaining around US\$10 million annually, demonstrating sustained political commitment essential for preventing resurgence. Malaysia has also achieved 79% domestic funding coverage by 2023, with the Ministry of Health investing US\$36.70 per person at risk – the highest rate in the WHO Western Pacific Region.⁷

Investment cases and costed national elimination plans have proven crucial for securing domestic resources. Thailand has developed comprehensive economic analyses to support its elimination strategy,² with the country increasing its domestic co-financing share from minimal levels to 57% of national programmatic needs by 2022,¹⁵ demonstrating the value of sustained investment in malaria elimination through evidence-based resource mobilization. Similarly, Indonesia developed a comprehensive Roadmap for Malaria Elimination 2025-2045, projecting total elimination costs at US\$399 million.³⁶ Economic modelling furthermore suggests that elimination between 2017-2030 in Indonesia would result in over US\$18 billion in benefits, averting more than 25 million cases and 41,000 deaths – representing a tenfold return on investment.³⁷

Innovative financing mechanisms have expanded resource mobilization options across the region. The Philippines pioneered the Sin Tax Reform Law, imposing increased excise taxes on tobacco and alcohol products and channelling proceeds into public health programmes. This approach generated US\$2.3 billion in incremental revenues during its first two years of implementation, enabling the government to subsidize health insurance premiums for nearly 15 million vulnerable citizens.³⁸ Debt swap arrangements, exemplified by Germany and Indonesia's landmark €75 million Debt2Health agreement in 2024, demonstrate how debt relief can be redirected towards transformative investment for Indonesia's malaria and tuberculosis programmes. Such innovative financing mechanisms offer win-win solutions for both creditor and debtor nations while advancing elimination objectives.³⁹

Sustainability planning has advanced significantly across the GMS, with Cambodia, Lao PDR, Thailand, and Viet Nam developing their respective National Sustainability and Transition Roadmaps in 2024. These strategic frameworks outline phased approaches to domestic resource mobilization, reduced dependency on external financing, and systematic capacity building to ensure programmatic continuity and long-term sustainability beyond traditional donor support.

Priority 6. Innovate for elimination

The Roadmap calls for Leaders to support innovation for elimination by requesting Finance and Health Ministries to invest in new technologies and encourage fast-track adoption of innovative approaches as they become available. All countries in the region, including non-endemic ones, can contribute to innovation by supporting development and rollout of new approaches and technologies in financing and implementation. When artemisinin combination therapies and long-lasting insecticide bed nets were introduced, they represented breakthrough technologies producing striking results. Similarly, new powerful technologies can be game changers but require sponsorship and pioneering introduction.

Priority innovations address rapidly emerging insecticide-resistant mosquitoes and multidrug-resistant malaria parasites. The region needs new approaches for early and outdoor-biting mosquito species not countered by treated nets, plus improved surveillance technologies. Hyper-sensitive rapid diagnostic tests would enable better mapping and quicker, more efficient responses. Complete-cure treatments for different malaria strains could be revolutionary.



Cross-sectoral and community-based measures to reduce mosquito larval habitat, originally pioneered in Asia, can be revived, supported by modern mapping and cell phone technology. The current global research pipeline includes impressive new technologies, but few are tailored toward addressing specific Asia Pacific challenges.

Progress at 10 Years

In the past decade, the Asia Pacific region has witnessed and participated in important advances in the development and evaluation of tools to address persistent challenges on the path to malaria elimination. These innovations have focused on tackling outdoor and early-evening transmission and the operational complex treatment regimens for *P. vivax*, one of the dominant malaria parasites in the Asia Pacific.

In Asia Pacific, many malaria vectors bite and rest outdoors, causing conventional vector control tools that are used indoors, such as LLINs and IRS, to have limited effectiveness. Between 2016–2018, the region hosted the first large cluster-randomized controlled trial of **spatial emanators for malaria prevention**. Conducted in Sumba, Indonesia (2016–2018), this trial demonstrated that spatial emanators could have protective efficacy against malaria, providing evidence for a new strategy to target residual transmission that eludes LLINs and IRS.⁴⁰

Furthermore, major progress was made in delivering a safe and scalable **radical cure for *P. vivax***. Beginning in 2014, studies in Indonesia, Viet Nam, and Thailand have demonstrated that a 7-day high-dose primaquine regimen is as effective as the standard 14-day course, improving adherence prospects.^{41,42} In 2019, Cambodia piloted point-of-care quantitative testing of glucose-6-phosphate dehydrogenase deficiency (G6PD), alongside supervised 14-day primaquine administration, demonstrating high radical-cure initiation among G6PD-normal patients, good adherence, and signals of reduced relapse burden, offering a concrete, Asia Pacific example of radical cure moving from evidence to practice.⁴³ More recently, the introduction of tafenoquine (TQ), a single-dose radical cure requiring co-administration with chloroquine (CQ), has shown comparable efficacy to primaquine in clinical trials in Cambodia, Viet Nam, Thailand, and the Philippines.^{44,45} Recent programme and study updates from Pakistan support the introduction of TQ co-administered with CQ for *P. vivax* radical cure. In Cambodia, early site findings from the “Effectiveness of Novel Approaches to Radical Cure with Tafenoquine and Primaquine” (EFFORT) clinical trial report that using TQ with artesunate–pyronaridine (Pyramax) show high effectiveness, but these data are not yet reflected in WHO guidance.⁴⁶ By contrast, a randomized trial in Indonesia found TQ combined with dihydroartemisinin–piperaquine provided only a modest, clinically non-meaningful benefit versus DHA/PQP alone and was inferior to DHA/PQP plus 14-day primaquine.⁴⁶ Current recommendations therefore continue to limit TQ co-administration to CQ, and any scale-up depends on access to reliable quantitative G6PD testing.

Lastly, WHO recommendations for **RTS,S (2021)** and **R21/Matrix-M (2023)** for *P. falciparum* marked historic milestones for malaria vaccination globally. While these vaccines have only been approved for use in African children, Asia contributed significantly to vaccine manufacturing, with India positioned as a key production hub for R21.⁴⁷



Chapter 4

Key Challenges

The Asia Pacific region's effort to eliminate malaria by 2030 illustrates the diversity of challenges across this diverse region. Stalled progress and setbacks have occurred. While the region achieved remarkable reductions in malaria burden during the early years of the elimination campaign, with the region recording a 27% reduction in indigenous cases between 2015 and 2021 (2.45 million to 1.79 million cases),⁴⁸ there was a discouraging rise by 146% in 2024 to 4.4 million cases.^e The reversal of these gains threaten to derail the ambitious 2030 elimination goal and risks undoing decades of hard-won progress.

Based upon estimated rather than reported cases, the World Malaria Report shows that the Asia Pacific region witnessed an increase from 8.8 million in 2022 to approximately 10.4 million malaria cases in 2023.⁷ This regional increase occurred despite eight of twenty endemic countries reporting case reductions, highlighting the uneven and fragile nature of progress across different countries and contexts.

Several countries have experienced reversals that exemplify the broader challenge of stalled progress. Papua New Guinea, which remains one of the most heavily burdened countries outside Sub-Saharan Africa, recorded a 163% increase in indigenous malaria cases between 2015 and 2024, with the country alone accounting for approximately 90% of all malaria cases in the WHO Western Pacific Region in 2023.^{7,f} Indonesia has similarly struggled, with national progress plateauing between 2015 and 2020 before cases began increasing in 2021, ultimately reaching a decade-high of 543,965 indigenous cases by 2024 – a 151% increase from 2015 levels. The Philippines provides another stark example of progress fragility. After achieving a 72% reduction in cases between 2015 and 2022, the country experienced a resurgence to 8,952 cases in 2024 – a nine-year high that nearly tripled the 2022 numbers. Similarly, Vanuatu saw malaria cases increase more than seven-fold between 2021 and 2024, demonstrating how quickly elimination gains can be reversed.

The regional drivers of this stalled progress are various. The COVID-19 pandemic disrupted public health programmes broadly, including malaria. Vanuatu explicitly attributes their malaria resurgence to disruptions caused by the COVID-19 pandemic. Indonesia similarly experienced increasing malaria cases in 2021, triggered by service disruptions caused by the pandemic. The pandemic's impact extended beyond direct service disruptions to include delayed procurement and distribution of essential commodities, reduced community engagement due to movement restrictions, diverted health worker attention to COVID-19 responses, and postponed mass intervention campaigns that are critical for maintaining elimination momentum.

^e Countries usually submit their malaria case data to the WHO, who publishes the compiled data in the annual World Malaria Report the following December (i.e. World Malaria Report 2024 would contain 2023 figures). For this report, APLMA Secretariat requested for countries to share their 2024 malaria case and death data. This data has not been verified, and the Democratic People's Republic of Korea (DPRK) did not respond to requests for data; 2023 data for DPRK used as a stand-in. The World Malaria Report 2025, expected at the end of 2024, will provide the official, verified figures for 2024.

^f In 2025, Indonesia formally left WHO's South-East Asia Region and joined the Western Pacific Region. Given that Indonesia reports one of the highest burdens of malaria in the Asia Pacific Region, the proportion of cases reported by Papua New Guinea in the Western Pacific Region will meaningfully decrease in subsequent reporting periods.



This chapter explores the major challenges the region continues to face in its fight against malaria. Drug-resistant parasites and insecticide-resistant mosquitoes threaten to undermine treatment effectiveness and reduce the impact of LLINs. At the same time, many marginalized groups, such as indigenous peoples, migrant workers, and forest communities struggle with persistent barriers to accessing essential services. Funding is another critical issue: fragmented partnerships and significant financing gaps put the long-term sustainability of programmes at risk. Climate change adds further pressure, with shifting weather patterns altering malaria transmission dynamics. The region also faces the unique burden of zoonotic *Plasmodium knowlesi* (*P. knowlesi*), which requires approaches beyond conventional elimination strategies. Finally, conflict and political instability in fragile states can quickly undo years of hard-won progress, leaving populations vulnerable once again.

Resistance and Potent Vectors

Over the past decade, the Asia Pacific region has confronted a dual threat that has significantly complicated malaria elimination efforts: the emergence of partial artemisinin resistance and the spread of insecticide-resistant mosquito vectors. This challenge has been most pronounced in the GMS, where multidrug-resistant *P. falciparum* emerged alongside pyrethroid-resistant *Anopheles* mosquitoes, threatening to undermine decades of progress toward elimination.

Threat of Artemisinin Partial Resistance

Artemisinin partial resistance was first reported in western Cambodia in 2007–2008, and the GMS soon became the global epicentre of multidrug-resistant *P. falciparum* malaria, including resistance to both artemisinin and the key partner drugs piperazine and mefloquine. In response, national malaria programmes, partners, and the WHO mobilized a widescale effort to eliminate malaria and improve monitoring of efficacy and resistance in Cambodia, Lao PDR, Myanmar, Thailand, and Viet Nam. The Global Fund established the Regional Artemisinin-resistance Initiative (RAI) in 2014, bringing together technical assistance and over US\$731 million in resources over the last decade to eliminate *P. falciparum*,⁴⁹ while the WHO launched the Mekong Malaria Elimination (MME) programme in 2017 to facilitate coordination and dialogue among partners and across borders. With decisive action, there has been a 74% decrease in *P. falciparum* mono-infection between 2015 and 2023, from 150,346 cases to 39,529 cases.⁷ The majority (99%) of reported cases from the region are now reported from Myanmar. Thailand, Lao PDR, Cambodia, and Viet Nam reported a total of just 350 cases of *P. falciparum* in 2023,⁷ and Lao PDR, Cambodia, and Viet Nam are now on the brink of *P. falciparum* elimination. However, the recent rise in cases in Myanmar, additionally leading to cross-border spillover into Thailand, requires action to ensure that multidrug-resistant malaria does not resurge in the region.

Artemisinin partial resistance has now been independently identified in parts of Africa. Countries across the region have recognized that eliminating malaria in the Mekong is the only viable strategy to contain this threat locally, while sustained surveillance and rapid policy responses, leveraging lessons learned from RAI and the coordinated response in GMS, are essential to preserve the efficacy of artemisinin-based combination therapies globally.

Vector Resistance and Behavioural Challenges

Alongside drug resistance, the region has grappled with increasingly complex vector challenges. Pyrethroid resistance among *Anopheles* mosquitoes has been documented in several settings and is rising, though generally less pervasive than in Africa. The effectiveness of LLINs is further limited by outdoor and early biting behaviours, as well as episodes of reduced LLIN bio-efficacy documented in Papua New Guinea.



The challenge extends beyond resistance to the sheer potency and adaptability of regional vectors. East of the Wallace Line – in Papua, Papua New Guinea, and surrounding islands – highly anthropophilic vectors within the *An. punctulatus* group sustain transmission despite high LLIN coverage. Their outdoor and early evening biting patterns partly circumvent indoor-focused interventions like LLINs and IRS. In Vanuatu, *An. farauti*, a member of the punctulatus group, shows a strong preference for brackish water breeding sites, further complicating control, linking transmission to coastal environments and making elimination in island settings particularly challenging. Of note, however, is Indonesia's success in implementing measures to control *An. farauti* via the opening of brackish lagoons to the sea in North Maluku Province.

Suboptimal Tools and Counterfeit Drugs

The resistance challenge has been compounded by concerns about substandard or poor-quality tools. Diagnosis, treatment, and vector control tools of unknown quality remain common in many health systems, creating substantial risks where ineffective or expired drugs can contribute to resistance development. Papua New Guinea's experience with LLIN effectiveness illustrates these challenges. Research found that manufacturing changes involving chemical coating of nets led to significantly decreased performance in killing mosquitoes and reduced community protection, with effects continuing and likely contributing to increased malaria burden since that time. These experiences underscore the critical importance of rigorous quality assurance throughout the supply chain, particularly for vector control products.

Unequal Access

As countries across the Asia Pacific region move closer to malaria elimination, a stark reality has emerged: the populations at highest risk are often those with the least access to services. Remote communities, forest-goers, migrants, tribal populations, and other vulnerable groups face profound inequities created by mobility, distance, social exclusion, and weak service delivery models. Unless these inequities are addressed, they risk undermining elimination goals.

Geographic and Occupational Barriers

The challenge of reaching mobile and migrant populations is exemplified across multiple countries in the region. In Cambodia, forest workers, mobile and migrant populations, and border communities account for over 90% of remaining malaria transmission, highlighting how occupational and geographic mobility creates access challenges. These groups' constant movement between high-risk areas and limited interaction with formal health systems make them particularly vulnerable to both infection and delayed treatment.

Indonesia faces similar challenges with mobile migrant populations (MMPs) representing the highest malaria risk in low-endemic areas of western Indonesia. These populations include both formal workers such as military personnel and police, and informal workers including miners, loggers, plantation workers, and indigenous communities, some engaged in unsanctioned forest-related activities. With over 3.9 million people working in the forestry sector and approximately 500,000 individuals belonging to isolated indigenous communities across 205 districts, the scale of the challenge is enormous.⁵⁰ Critically, outreach to these populations remains inadequate – while 353 of Indonesia's 514 districts reported MMPs presence in 2023, only 43.3% of districts met targets for providing outreach malaria services, falling far short of the 60% goal.⁵⁰



Myanmar's ethnic minorities, estimated to comprise roughly one-third of the total population and inhabiting half the country's land area primarily in border and upland regions, face heightened malaria risk due to their residence in conflict-sensitive areas where access to quality public health services is severely limited.⁵¹ These populations experience vulnerabilities from population movement, social marginalization, challenging ecological conditions, poor transportation infrastructure, and restricted healthcare access.

Tribal and Indigenous Community Challenges

Indigenous populations face compounded access barriers that extend beyond geographic isolation to encompass cultural, linguistic, and social dimensions. In the Philippines, indigenous populations, particularly the Palawan tribe, remain at highest risk of malaria infection due to cultural and livelihood practices requiring travel to remote mountainous areas with high vector exposure. In 2022, over 80% of all malaria cases in the Philippines occurred among indigenous populations.⁵²

Bangladesh's Chittagong Hill Tracts reflect similar patterns: during the 2022 malaria surge, more than 95% of cases occurred among Jhum cultivators – predominantly tribal communities practicing shifting agriculture – and forest-goers, most from the Mro ethnic group.⁵³ These communities' agricultural practices and forest-based livelihoods are associated with sustained exposure to malaria vectors while their remote locations limit access to health services.

In India, nearly 80% of the national malaria burden is largely concentrated in tribal districts, which account for only about 8% of the country's population. This confluence reflects how structural inequities, ecological conditions, and service delivery gaps interact to leave tribal communities disproportionately exposed to malaria risk.

Gender-Specific Vulnerabilities

Women and girls face distinct barriers, particularly in pregnancy. In Indonesia, villages with API exceeding 100 require implementation of intermittent preventive treatment in pregnancy (IPTp) from the second trimester.³⁶ Gender inequities are compounded by difficulties in access in some communities.

Pakistan's post-flood response demonstrated both the challenges and potential for addressing gender-specific access barriers. Female staff were specifically recruited to ensure mobile services were culturally accessible to women, while integrated community case management programmes utilized Lady Health Workers and Community Midwives to provide door-to-door services.⁵⁴ Yet, these efforts remain limited in scale, highlighting the broader need for gender-sensitive, community-based service delivery.



Service Delivery and Health System Barriers

Unequal access reflects deeper systemic constraints. In Papua New Guinea, more than 30% of the population resides in villages more than two hours' walk from a health facility.⁵⁵ Only 40% of individuals with symptomatic malaria seek care at formal health facilities, and an estimated less than 20% of symptomatic malaria cases receive effective treatment,¹⁸ demonstrating how geographic isolation compounds access challenges. Operational research in the Solomon Islands' Isabel Province revealed the scale of underreporting and access challenges – over four months, 835 malaria cases were reported by researchers via good surveillance, exceeding the total annual cases reported via routine systems in the province in 2024.⁵⁶ Approximately 70% of patients indicated they did not sleep under mosquito nets, while frequent stockouts of ACTs and poor adherence meant only half received appropriate treatment regimens.⁵⁶ These findings suggest that malaria burden in the Solomon Islands is far greater than current data reflect, indicating systematic underreporting and inadequate service coverage. Similarly, the observed increase in cases in Indonesian Papua is attributed mostly to increased testing and case finding in that region, highlighting the previous degree of underreporting there.³⁶

These findings highlight widespread underreporting and inadequate service coverage among hard-to-reach populations. The challenge extends beyond individual service delivery to encompass broader health system capacity: limited human resources, weak surveillance, and insufficient community engagement. As countries approach elimination, these inequities become increasingly visible and represent critical obstacles to achieving the final goal of zero transmission. Without targeted interventions that address the specific barriers faced by hard-to-reach populations, these groups risk being left behind in elimination efforts, potentially serving as reservoirs for continued transmission and resurgence.

Critical Financing Challenges

Countries across the region face declining donor funding, inadequate domestic resource mobilization, resulting in substantial funding gaps that jeopardize decades of hard-won gains. The region's heavy dependence on external financing has created dangerous vulnerabilities, as demonstrated by recent aid suspensions and donor transitions that have left NMPs scrambling for alternative resources.

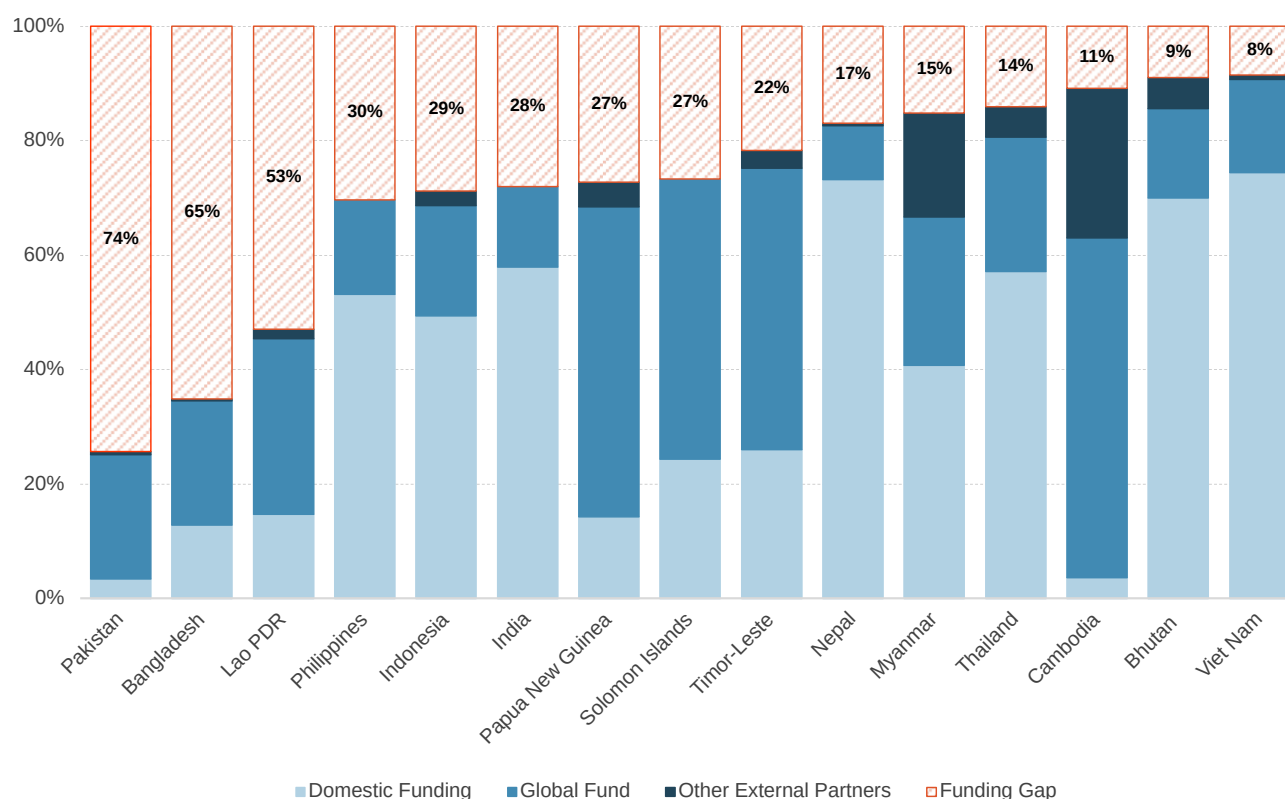
Significant Funding Gaps

NMPs within Asia Pacific typically depend on three funding streams: 1) the Global Fund, which serves as the largest external financier of malaria activities across the region; 2) diverse international partnerships including the WHO and bilateral government donors; and 3) domestic funding from national budgets. However, these funding streams often do not meet the needs of NMPs, resulting in funding gaps.

According to APLMA's analysis, the malaria funding landscape has deteriorated in recent years, with the latest Global Fund grant cycle (2023-2025) delivering a devastating 20% reduction in malaria funding compared to the previous cycle.⁵⁷ This decline comes at a time when many countries continue to depend heavily on external support, with the Global Fund contributing up to 90% of malaria-related funding in several lower- and middle-income countries. The consequences are stark: a collective US\$478.1 million funding gap – representing approximately 32% of total programmatic needs⁹ – now confronts NMPs across the region. High-burden countries like Pakistan and Bangladesh show especially large deficits.

⁹ Programmatic needs are identified and costed in respective country National Strategic Plans.



Figure 10. Funding Gap for Global Fund Cycle 2023 – 2025 (%).

Note: Data retrieved from respective country Funding Requests (2023 – 2025 Funding Cycle) to The Global Fund to Fight AIDS, Tuberculosis and Malaria, available from “Data Explorer” (<https://data.theglobalfund.org/>). Funding gaps are determined by comparing available domestic and external funding against costed programme needs in respective National Strategic Plans. China, Malaysia, Republic of Korea and Sri Lanka do not qualify for Global Fund support and do not report their financing data publicly. Data for Afghanistan, DPRK and Vanuatu were not publicly reported. All figures are based on existing submissions and do not reflect ongoing changes.

Reliance on Donor Funding

The region's dependence on external funding has created vulnerabilities that became starkly apparent in February 2025 when the United States Agency for International Development (USAID) received a stop-work order for the President's Malaria Initiative (PMI) and other humanitarian programmes. Since 2006, PMI had partnered with governments and local communities to deliver life-saving interventions, distributing over 750 million mosquito nets, 610 million rapid diagnostic tests, and 715 million fast-acting malaria treatments globally.⁵⁸ Between 2018 and 2023, PMI provided approximately US\$100 million to Cambodia, Lao PDR, Myanmar, and Thailand.¹⁵ The abrupt cessation left countries scrambling to develop contingency plans, with over 2 million mosquito nets stacked in warehouses instead of being dispatched to vulnerable populations. Cambodia exemplifies this vulnerability. PMI had contributed funding equivalent to 26% of the country's malaria programmatic needs until the February 2025 suspension, resulting in a serious shortfall of needed resources.¹⁵



Limited Domestic Financing

Domestic resources remain critically constrained across the region, with many countries allocating insufficient national budget resources to meet malaria elimination needs. Even among countries making progress in domestic resource mobilization, funding remains inadequate. The Philippines, despite innovative approaches like the Sin Tax Reform Law that directs tobacco and alcohol excise taxes toward public health programmes,³⁸ still faces a 30% funding gap. In Pakistan, national contributions cover merely 3% of the programmatic needs,⁵⁹ causing reliance on external support. Without increases in domestic financing, malaria will not be eliminated.

Fragmented Partnerships

Beyond funding gaps, the region has struggled with the proliferation of parallel systems that strain limited administrative capacity. The Solomon Islands illustrates the operational complexity of fragmented funding partnerships. Since 2015, the Global Fund has implemented a Cash on Delivery modality requiring the government to pre-finance activities and await reimbursement based on performance targets. However, the government's limited fiscal capacity hindered its ability to frontload costs, and the Australian Department of Foreign Affairs and Trade (DFAT) stepped in to do so in 2021 and 2022.⁶⁰ This workaround complicated disbursement processes, often delaying fund flows to provincial levels and resulting in postponed or cancelled activities. When external support was unavailable, implementation stalled entirely.

Multiple donor requirements create additional coordination challenges. For example, Vanuatu manages funding from the Global Fund, DFAT, WHO, Rotarians Against Malaria, and James Cook University, each with different reporting requirements, procurement processes, and implementation timelines. This multiplicity of partnerships, while potentially beneficial in terms of resource diversification, creates significant administrative burden for NMPs diverting limited personnel away from programmatic implementation.

Future Funding Uncertainty

2025 has seen rapid changes to global health architecture that significantly threaten financing stability and partnership continuity. Asia Pacific faces multiple sources of uncertainty that compound existing fragmentation challenges. Development assistance for health has declined since its peak in 2010, creating pressure for domestic financing that many countries struggle to meet. With grant aid declining and traditional donor support becoming less predictable, countries with domestic health financing challenges may need to explore alternative funding options, including borrowing, for time-limited, targeted health programmes. This shift represents a fundamental change from the grant-based model that has supported regional progress, potentially creating additional financial burdens for already resource-constrained health systems, but also representing a step forward towards self-financing of health programmes.

Environmental Impact

Climate change is widely recognized as a threat to global health. Nowhere is this crisis more acute than in the Asia Pacific region, which is warming faster than the global average and is the most disaster-impacted region globally.⁶¹ According to the Notre Dame Global Adaptation Initiative Index, which assesses countries' climate vulnerability across various sectors, including health: 15 of the 22 countries APLMA supports rank among the world's 50% most vulnerable in terms of how susceptible their health sector is to the negative impacts of climate change.



Furthermore, Southeast Asia and the GMS have been identified as hotspots for emerging zoonotic diseases.⁶² Several factors combine to create this heightened risk: rapid population growth, high biodiversity, accelerated rates of deforestation, expanding wildlife trade, and extensive land-use change, which increases the contact between humans, livestock, and wildlife. These ecological disruptions heighten the risk of disease spillover. While the rise in reported zoonotic malaria in Malaysia is likely due to better case detection, some is related to population movement and forest fragmentation.

Climate Change Impacts on Malaria Transmission

In Asia Pacific, climate models predict highly localized changes in malaria risk. The length of the malaria transmission season is projected to increase in areas of Nepal, northeast India, northern Myanmar, and southwestern China, but decline in some lowland areas of Southeast Asia due to heat stress.^{63–65} Nevertheless, projections estimate that up to 704 million additional people in Southeast Asia could be at risk of malaria by 2070, driven by increasing climate suitability for malaria transmission.⁶⁶

In Nepal, evidence suggests climate change is expanding malaria suitability to higher altitudes, threatening populations outside current control zones,⁶⁷ while in Odisha, India, malaria transmission is anticipated to intensify at higher elevations even as malaria overall may become less widespread.⁶⁸ Similarly, the Eastern Highlands of Papua New Guinea are experiencing increasing malaria transmission and outbreaks at higher elevations due to warming.⁶⁹ Conservative climate change models predict that the population at risk of malaria in Papua New Guinea will double by 2040 to 13.4 million people, including 2.8 million people at risk due to temperature increases in the highlands.⁷⁰ Prior to achieving elimination, rising temperatures in China's Hainan province resulted in shifts in timing of peak transmission and the extension of malaria risk into the dry season.⁷¹

While gradual warming may reduce the environmental suitability of malaria in some lowland regions, the increasing frequency of extreme weather complicates projections of reduced malaria risk. The 1997–98 El Niño drought in Papua, Indonesia triggered a deadly outbreak at high elevations, exacerbated by low immunity, food shortages, population movement, and a predominance of *P. falciparum*.⁷² Following the 2004 tsunami in the Andaman and Nicobar Islands of India, environmental changes led to five years of elevated malaria transmission due to *An. sundaicus* proliferation in permanently waterlogged areas.⁷³ Pakistan's 2022 floods caused a fivefold increase in malaria cases, which was the worst outbreak since 1973, driven by widespread population displacement, stagnant water, damaged infrastructure, limited access to treatment, and the emergence of *An. pulcherrimus* as a primary vector.⁷⁴

These examples underscore that climate models may very well underestimate risk by excluding extreme weather. In Africa, 92% of projected malaria deaths for 2030–2049 are attributed not to gradual climate shifts but to extreme weather events.⁷⁵ Asia Pacific countries, increasingly vulnerable to tropical storms and El Niño,⁷⁶ require adaptive strategies to understand and manage the evolving malaria landscape under climate stress.

Zoonotic Malaria

While many countries in the Asia Pacific region have interrupted transmission of the major human malaria parasite species, the persistence of zoonotic *P. knowlesi* malaria poses a challenge to elimination. Unlike human-only malaria parasites, *P. knowlesi* is primarily maintained in macaque populations. This wildlife reservoir maintains a source of parasites that cannot be eliminated using conventional malaria control strategies that target human-to-human transmission. Rural and forest-fringe populations, particularly those engaged in agriculture, hunting, or forest-based livelihoods, are disproportionately affected.



The experience of Malaysia illustrates the challenge of zoonotic malaria. In 2024, Malaysia reported zero indigenous cases and deaths by human *Plasmodium* species for the seventh consecutive year.⁷ At the same time, Malaysia accounts for the majority of reported *P. knowlesi* cases globally, reporting 81.1% of all cases and 3 indigenous deaths due to *P. knowlesi* in 2024. *P. knowlesi* cases have risen from 1,640 cases in 2015 to 1,821 cases in 2024, with most infections and deaths concentrated in the Malaysian Borneo states of Sabah and Sarawak. Importantly, this is not a challenge unique to Malaysia. All other countries in Southeast Asia, excluding Timor-Leste, harbour both macaque populations and competent vector species, raising the risk of zoonotic malaria across much of the region.

Zoonotic malaria likely can be reduced but not completely eliminated. This has implications for malaria-free certification, as WHO's current certification framework has traditionally been awarded only to countries that have eliminated transmission of the four main human *Plasmodium* species. Previous WHO guidelines defined malaria elimination as the interruption of transmission of the four non-zoonotic malaria parasites and specifically excluded zoonotic *P. knowlesi*, but revised certification guidance in 2022 require that risks from other non-human *Plasmodium* species be considered 'negligible'. This term will require definition at a level achievable by a competent programme, such as Malaysia's.

Although there is currently no evidence of sustained human-to-human transmission of *P. knowlesi*, the risk of spill over human infections from host non-human primates remains a threat and continued vigilance is critical; should human to human transmission emerge, it would create a sustained malaria reservoir that would fundamentally derail global elimination efforts. Malaysia's experience demonstrates the inadequacy of conventional tools against wildlife reservoirs, highlights the ecological drivers of risk, and points to the need for new strategies and adaptive policy approaches that balance scientific realities with elimination ambitions.

Fragile and Conflict States

Political instability weakened health systems and compromised access to essential services create ideal conditions for malaria transmission to flourish. Myanmar and Afghanistan exemplify how conflict can rapidly reverse years of malaria control progress, threatening not only national elimination goals but regional health security more broadly.

Myanmar: From Progress to Crisis

Myanmar's trajectory illustrates the impact conflict can have on malaria elimination efforts. Between 2015 and 2019, the country reduced malaria cases by 69% from 182,465 to 56,414 cases. However, the dual crises of COVID-19 and escalating civil conflict since 2021 triggered a reversal of these gains. By 2023, malaria cases had surged to 228,554 – a 305% increase from 2019 levels. The actual burden is estimated to be even higher, with projections suggesting up to 847,000 cases in 2023, nearly four times the reported figure.⁷

The conflict has systematically dismantled Myanmar's malaria response infrastructure. Over three million people have been internally displaced since the civil conflict began,⁷⁷ with much of the displaced urban population moving to border regions with high malaria transmission, triggering outbreaks across the country. Testing conducted by the National Malaria Control Programme plummeted by 71% between 2020 and 2021, from 1,928,777 to 551,916 tests. While testing volumes partially recovered to 1,270,952 in 2024, this remains 34% below pre-conflict levels.⁷⁸ Vector control efforts have been equally compromised. Myanmar's primary malaria intervention – mass distribution of LLINs has collapsed. After distributing approximately 5.5 million and 6 million nets in 2017 and 2019, respectively, distribution fell to just 315,874 nets in 2021, 553,019 in 2022, and 837,377 in 2023. In 2024, only approximately 120,000 nets were distributed.⁷⁸



Afghanistan: Persistent Challenges in Conflict Settings

Afghanistan presents a parallel narrative of how prolonged conflict undermines malaria control. Between 2015 and 2024, indigenous cases increased from 119,859 to 257,524, with over 76% of the population living in at-risk areas. The epidemiological landscape is dominated by *P. vivax* (95% of all cases) with eastern Afghanistan bearing the highest burden.⁷⁹ Multiple overlapping crises have compounded Afghanistan's malaria challenges. Civil conflict, healthcare service disruptions during COVID-19, and political transitions have created a complex emergency scenario. Stock-outs of anti-malarial drugs and diagnostic supplies in high-endemic areas have increased outbreak risks, while protracted procurement processes and border closures have further complicated commodity availability. The country's funding landscape reflects these constraints, with financing per person at risk amounting to just US\$0.11 – the lowest in the WHO Eastern Mediterranean Region.⁷

Cross-Border Transmission Hotspots Fuelled by Conflict

The transnational nature of malaria transmission in conflict settings creates additional complexities. Malaria in Afghanistan is primarily concentrated in the eastern provinces bordering Pakistan. This border is highly porous, facilitating uncontrolled movement of populations at risk, and studies show high incidence of malaria across the border regions.⁸⁰

The Thai-Myanmar border presents comparable challenges, with Thailand reporting that approximately 46% of confirmed cases are imported,⁸¹ largely linked to increased cross-border migration following civil unrest in Myanmar. The scale is substantial, with about four million migrants residing in Thailand, 75% originating from Myanmar.⁸² Just 20 of Myanmar's 330 townships account for 77% of the national burden,⁷⁸ with many of these townships located in conflict-areas and along international borders with Thailand and China. This geographic concentration, combined with ongoing displacement and weakened surveillance systems, creates conditions where malaria can persist and potentially spread beyond national boundaries, threatening elimination gains achieved by neighbouring countries.

On Myanmar's western border, Rohingya refugees have sought asylum in Bangladesh, forming the world's largest refugee settlement in Cox's Bazar district, a malaria-endemic area. Although the risk of importation of malaria from this group is low,⁸³ this population is highly vulnerable to malaria within Bangladesh, due to living in a district bordering the high-burden Chittagong Hill Tract districts, their high population density, poor housing conditions, limited access to formal health systems, and language barriers.

NGOs and partners play a large role in delivering malaria services to this population; however, significant gaps persist in areas such as LLIN coverage and utilization compared to the host Bangladeshi population.⁸⁴ Ensuring that this displaced population is free from malaria will continue to be a challenge, as their liminal status often results in fragmented financing and accountability. Though these groups do not currently drive transmission in Bangladesh, their marginalization, mobility, and limited healthcare access create vulnerability that can undermine elimination if overlooked.

These cross-border dynamics demonstrate how malaria elimination cannot be achieved in isolation. Instability or conflict in one country inevitably compromises neighbouring nations' elimination efforts. Unless fragile settings make sustained progress, regional elimination targets will remain out of reach. On the current trajectory, elimination by 2030 risks bypassing the very populations most in need of protection – leaving behind pockets of persistent transmission that could jeopardise wider regional gains.



Chapter 5

Looking Ahead – Counting Down to 2030

Asia Pacific stands at a critical crossroads in its malaria elimination journey. Despite the ambitious commitment made by Leaders in 2014 to achieve a malaria-free region by 2030, current trends reveal a sobering reality: the region is off track to meet this goal. Case numbers are now above 2015 levels, with several countries experiencing surging transmission after years of progress. This reversal underscores the complexity of challenges and the urgent need for renewed strategic focus.

Yet within this setback lies opportunities. The region possesses advantages that position it to reverse current trends and accelerate toward elimination. Political leadership remains committed, with malaria elimination embedded in high-level regional frameworks, including the EAS. Technical capacity has expanded, with countries now equipped with sophisticated surveillance systems, experienced elimination programmes, and deeper understanding of transmission dynamics. Most importantly, the region has a foundation of proven success. China and Sri Lanka have demonstrated that elimination is achievable across diverse epidemiological contexts. Timor-Leste's recent certification in 2025 proves that progress can continue even amid regional challenges. These country successes provide evidence and tested strategies that can be adapted and scaled across the region.

The next five years represent a decisive window. Current case numbers create both urgency and clarity about what must be done differently. Countries can no longer stick to the status quo. They must leverage technical advocacy more strategically, improve domestic resource mobilization and diversify financing streams, begin early transition planning to ensure programmatic sustainability, and harness both time-tested strategies and emerging technologies more effectively. Cross-border collaboration becomes even more essential as last-mile elimination is often localized in border areas, while equity considerations must move from recognition to systematic action.

This chapter identifies the most promising opportunities across seven domains. Each represents an area where the region can build on existing strengths while addressing current gaps. These are not theoretical possibilities, but actionable opportunities grounded in regional experience and global evidence. The question is not whether elimination remains achievable, but whether the region will seize these opportunities with the urgency and coordination required to get back on track for 2030.

The Role of Technical Advocacy

Technical advocacy has proven indispensable to malaria elimination success in the Asia Pacific region through its sophisticated integration of scientific evidence, economic analysis, and strategic political engagement. This evidence-based approach becomes particularly critical as the region approaches the 2030 elimination goal, where political commitment must be maintained and strengthened.



Evidence-Based Frameworks Shape Policy Decisions

Technical advocacy in malaria elimination operates by transforming research findings into actionable policy recommendations. The development of the Roadmap offers an illustration: when APLMA was tasked with creating a roadmap for attaining the 2030 malaria elimination goal in 2014, the Secretariat undertook a needs assessment with government, donor, and partner representatives. The findings were then developed into a triangulated evidence base through a systematic document review of key analyses, national plans, and reports, complemented by interviews with government experts, as well as regional and international experts in malaria elimination. The resulting draft Roadmap was subsequently validated during the APLMA Senior Officials Meeting in 2015, before being endorsed by EAS Leaders.

Furthermore, the WHO remains a key partner in the development of global technical guidance through an evidence-based approach. APLMA's technical advocacy, and the Roadmap itself, is guided by the WHO Global Technical Strategy for Malaria, 2016-2030.⁸⁵ Another exemplary framework is the Malaria Budget Advocacy (MBA) approach, developed by the Malaria Elimination Initiative at the University of California, San Francisco. Developed based on real-world experiences and consultation with experts, the framework provides NMPs with a five-module approach to build political support and develop fit-for-purpose budget advocacy strategies. This framework has successfully contributed to significant policy changes, including the Philippines increasing domestic malaria funding by US\$2 million in 2017, and Thailand achieving a 102.7% increase in subnational funding in 2020.⁸⁶

Looking ahead, the next five years present critical opportunities to leverage these evidence-based frameworks for renewed momentum toward elimination. The APLMA Roadmap methodology can be adapted to conduct updated needs assessments that specifically address current challenges, generating fresh evidence bases to support revised national strategies. Similarly, the MBA framework can be deployed to develop targeted advocacy campaigns that demonstrate the economic costs of rising transmission, helping countries make compelling cases to Ministries of Finance for increased domestic resource allocation.

Bringing Technical Experts and Policymakers Together

Another powerful approach to integrating technical evidence with policy engagement involves convening platforms that bring experts and decision-makers together. APLMA Senior Official Meetings ('Summits') exemplify this approach by gathering senior officials from countries supported by APLMA, National Malaria Programmes, leading regional malaria experts, and key partners. These gatherings create opportunities for policymakers and technical experts to exchange ideas and share experiences in collaborative settings. As of 2024, eight of these convenings have been held across the region, such as in Thailand, Myanmar and India. In 2024, the 8th Asia Pacific Leaders' Summit on Malaria Elimination, hosted by the Government of Papua New Guinea in partnership with APLMA, attracted participation from over 60 international representatives across the region and globally, alongside more than 100 Papua New Guinea government officials, health professionals, and partners. Senior officials in attendance included the Hon. Prime Minister James Marape of Papua New Guinea, Ministers of Health from Papua New Guinea, the Solomon Islands and Timor-Leste, and the Regional Director of the WHO Western Pacific Region.⁸⁷

The Asia Pacific Malaria Elimination Network (APMEN), comprising 22 countries across the Asia Pacific region and 54 Partner Institutions worldwide, serves as vital platform for technical-policy integration. Hosted by APLMA, APMEN brings together country programme directors/managers with diverse stakeholders, including representatives from development agencies, scientific and academic institutions, the private sector, United Nations agencies, and global experts. Through annual meetings, workshops, trainings, webinars, study tours, and evidence generation, APMEN facilitates technical exchange and peer-to-peer collaboration among country policymakers and technical experts.



APMEN's technical working groups and special interest groups demonstrate how regional networks effectively translate expertise into policy impact. The Surveillance & Response Working Group enhances malaria surveillance systems by establishing minimum essential indicators and ensuring data quality and reliability. The Vector Control Working Group drives innovation in vector control strategies, strengthens entomology networks, and builds robust vector surveillance capacities across the region. Meanwhile, the Vivax Working Group targets *P. vivax* malaria, advancing improved diagnosis, effective radical cure treatments, and comprehensive relapse prevention strategies. Together with Working Groups, the Interest Groups address cross-cutting issues such as the impacts of climate and environmental change on malaria transmission, cross-border malaria control, and outdoor transmission dynamics.

Looking ahead, the next five years offer opportunities to strengthen these convening mechanisms as countries grapple with shared challenges of reversing increasing transmission trends. Enhanced technical exchange through virtual platforms, peer-to-peer learning networks, and joint problem-solving initiatives will become essential for addressing complex elimination challenges that require coordinated regional responses, particularly in areas of drug resistance, strengthened vector control, improved diagnosis, and POR.

Financing the Response

In the years ahead, closing the funding gap is essential. Traditional donor support is decreasing. However, within this challenge lies opportunity: countries across the region can leverage diverse financing opportunities – from strengthening domestic resource mobilization to exploring innovative mechanisms, including concessional, or soft, loans, and harnessing the power of regional platforms.

Domestic Resource Mobilization Remains Foundational

The transition from donor support to a fully domestically financed malaria programme represents both the greatest challenge and most promising opportunity for sustainable elimination success. At the national level, this requires sustained dialogue with Ministries of Finance and Ministry of Health to ensure sufficient allocated funding for malaria. Concurrently, countries can benefit from integrating malaria programming needs into broader health system financing frameworks, particularly through UHC mechanisms that can provide sustainable funding streams.

Engagement with subnational leadership can also offer particularly rich opportunities in the region's increasingly decentralized governance landscapes. Cambodia's Commune Investment Plans exemplify this potential, with the social services budget ceiling rising from 18% to 31% by 2028, coinciding with doubled overall budgets reaching US\$200,000 per commune.⁸⁸ This expansion creates substantial new opportunities for malaria financing at the community level. In Thailand, the NMP's engagement with subnational government units, known as Local Administrative Organizations (LAOs), resulted in financing backing from LAO budgets for malaria-related activities. In doing so, Thailand successfully doubled LAO funding support between 2018 and 2020, culminating in US\$1.37 million in LAO investments for malaria elimination in 2024.⁸⁹ Similarly, in Indonesia, village development funds and district level resources supported malaria elimination in North Maluku Province.

Private sector engagement represents another critical frontier for domestic resource mobilization. Cambodia's Prudential Foundation commitment of US\$2 million through its Climate & Health Resilience Fund demonstrates corporate recognition of the intersection between climate change and vector-borne diseases.⁹⁰ In Indonesia, PT Freeport Indonesia's Corporate Social Responsibility programme invests in malaria programming to protect its workforce and surrounding communities. With 2,000-3,000 annual malaria cases resulting in over 6,000 lost productivity days among its employees, malaria control targeting its workforce results in production gains for the company,⁹¹ though broader community impact is still lagging.



Innovative Financing Offer Potential Opportunities

Beyond traditional funding sources, innovative financing mechanisms present unprecedented opportunities to unlock new financial streams and leverage existing resources. Some of these opportunities include, but are not limited to:

- Debt swap arrangements, such as through the Global Fund's Debt2Health initiative, allow creditor nations to forgive debt in exchange for debtor nations investing in Global Fund supported healthcare programmes. In 2024, a landmark agreement between Germany and Indonesia generated €75 million of Indonesia's debt into investment in its malaria and tuberculosis programmes.³⁹
- Blended financing approaches show promise for malaria elimination contexts. For example, the Regional Malaria Elimination Initiative – a partnership between the Inter-American Development Bank, the Gates Foundation, and the Carlos Slim Foundation – has successfully brought together US\$100 million for Central America and the Caribbean through a results-based financing model.⁹² By strategically combining public, philanthropic, and private capital, blended financing can de-risk investments and attract larger-scale private sector participation than traditional funding approaches allow, serving as a model for the Asia Pacific region.
- Concessional, or soft, loans offer additional opportunities for countries to strengthen health services and secure resources for malaria by borrowing on terms more favourable than standard loans. For example, the Global Financing Facility (GFF) offers small catalytic grants as an incentive to unlock much larger volumes of World Bank concessional loans for health. As of 2020, the GFF Trust Fund has raised over US\$1 billion in grants and has leveraged an additional US\$4.7 billion in zero to low-interest domestic loans.⁹³ The GFF is thus a promising opportunity for leveraging additional resources, particularly cross-cutting issues and costs not covered by donors.
- Framing malaria elimination within cross-cutting agendas, such as climate change and One Health, represents an increasingly viable avenue. The Asian Development Bank (ADB)'s US\$9.8 billion climate finance commitment in 2023, including its specialized Ending Climate-Vulnerable Infectious and Tropical Diseases initiative, offers strategic opportunities for NMPs to tap into expanding climate finance portfolios, especially where disease vulnerability intersects with climate risk.^{94,95}
- Pandemic Preparedness Response (PPR) funding, such as the Pandemic Fund's US\$338 million first-round allocation in 2023, also demonstrates growing recognition of the interconnections between pandemic preparedness and endemic disease elimination. The Fund provides dedicated financing to strengthen PPR capabilities in lower-income countries.⁹⁶



Regional Approach to Resource Mobilization

Regional cooperation platforms offer opportunities to pool resources, share costs, and achieve collective impact beyond individual country capacities. Conceptualized and hosted by APLMA, the Eliminating Malaria and other Vector Borne Diseases through Enhanced Regional Partnerships (EDEN) Initiative exemplifies this potential. Launched by Indonesia, Papua New Guinea, the Solomon Islands, Vanuatu, and Timor-Leste, EDEN represents a country-led approach for coordinated resource mobilization.⁹⁷ This includes exploration of blended loan mechanisms specifically designed for multi-country malaria elimination efforts. This regional approach enables smaller countries to access financing mechanisms typically available only to larger economies.

By adopting a regional approach, EDEN also creates opportunities for risk-sharing and mutual accountability that can attract both traditional donors and innovative financing partners. By demonstrating collective commitment and coordinated action, regional initiatives can access larger-scale funding opportunities while reducing individual country financing burdens through shared technical assistance, procurement, and operational costs.

Programmatic Sustainability

As the Asia Pacific region advances toward malaria elimination, programmatic sustainability has become increasingly urgent amid accelerated donor transitions. The abrupt withdrawal of traditional funding sources and earlier-than-expected reductions in Global Fund allocations both underscore the need for early transition planning. Countries need to develop self-sustaining malaria programmes that can maintain elimination gains and prevent resurgence without relying on external support, requiring comprehensive strategies to ensure long-term programmatic viability.

Aspects of Sustainability and Possible Opportunities

- Strong leadership structures and governance mechanisms represent the foundational elements of sustainable malaria programmes. Key opportunities may include leveraging existing high-level political commitment to establish permanent institutional frameworks, securing renewed commitment from the Prime Minister's Office and defining clear leadership for transition processes. Countries can strengthen coordination mechanisms through regular national-subnational meetings that improve strategic oversight alignment. The integration of malaria oversight into broader health governance structures, such as Public Health Emergency Operations Centres, ensures sustained attention even as disease burden declines.
- Systematic integration of malaria services into broader health systems offers the most viable pathway for programmatic sustainability while reducing operational costs and avoiding duplication. Integration opportunities span multiple operational levels, from service delivery through health information systems. Countries can develop detailed, costed integration workplans that specify roles, responsibilities, and timelines for transitioning vertical malaria functions into horizontal health systems. Critical success factors include maintaining specialized malaria surveillance capabilities within integrated systems, ensuring adequate capacity building for non-malaria health workers assuming malaria responsibilities, and establishing clear accountability mechanisms that prevent malaria from becoming neglected as integration progresses.
- Human resource sustainability requires careful planning for workforce transitions that maintain essential malaria competencies while avoiding redundant structures. The challenge lies in preserving specialized malaria knowledge and rapid response capabilities within integrated health systems that may lack experience managing elimination-phase requirements.



Strategic opportunities exist in expanding the scope of VMWs to include other vector-borne diseases, while integration with broader community health volunteer networks offers cost-effective sustainability pathways. These workers also need to be supported by updated curricula and training programmes that maintain malaria competencies. Key interventions include conducting overlap assessments between VMWs and general health volunteers and establishing performance monitoring systems that ensure continued malaria surveillance effectiveness.

- Maintaining essential malaria commodities requires transitioning from donor-supported procurement and distribution systems to domestically managed supply chains. Key opportunities focus on creating interoperability between malaria-specific information systems and national health management platforms. Countries can assess feasibility for pooled procurement mechanisms that reduce costs while maintaining quality standards, develop Standard Operating Procedures, and establish clear financing forecasts for post-elimination malaria commodity needs. Critical interventions include strengthening capacity building for government procurement staff, creating mechanisms to include essential malaria commodities under National Health Insurance Schemes, and developing emergency procurement protocols that ensure rapid response capabilities for potential outbreak scenarios.

The transition from donor-supported programmes to domestically sustained systems represents a complex undertaking that requires comprehensive multisectoral planning, strategic decision-making, and coordinated institutional change. Conducting thorough sustainability assessments will serve as a critical foundational step, particularly for countries approaching the final phases of their elimination journey, such as Nepal. Through early and proactive planning for transition and long-term sustainability, countries can safeguard the enduring success of their malaria elimination efforts while simultaneously strengthening their broader health system.

Time-Tested and Proven Strategies

One of the strengths of the malaria elimination agenda is that we are not starting from scratch. The world already has a set of tools and strategies that have been tested, refined, and proven effective across diverse settings. From LLINs and IRS that reduce transmission via attacking adult mosquitoes, mitigation of mosquito breeding via attacking larval habitats, to early diagnosis and effective treatment that save lives, to community engagement and strong accountability frameworks that sustain progress - these approaches have delivered results time and again. The challenge now is not about invention, but about ensuring that these strategies are implemented consistently, adapted locally, and scaled to reach every community at risk.

Malaria Prevention Strategies

Preventing mosquito bites remains the most powerful way to stop malaria before it begins. WHO identifies two vector control tools: LLINs and IRS as the core interventions for malaria prevention, and recommends that every person at risk should be protected by at least one of them.⁹⁸ Scaled-up LLIN distribution in India and Papua New Guinea has markedly reduced infection risk, while targeted IRS has proven valuable in epidemic-prone tribal districts. For Africa and high transmission areas of Asia, many experts now argue that larval source management should be recognized as a core intervention.⁹⁹ Originally pioneered in Malaysia and Indonesia, this intervention is cost effective and sustainable, and will likely be essential in areas of high transmission given the limitations of LLINs and IRS.

Country successes underscore the value of prevention. Sri Lanka, certified malaria-free in 2016, relied on sustained LLIN and IRS coverage as well as LSM,¹⁰⁰ while Timor-Leste achieved certification in 2025 by combining universal nets with strong outreach in remote areas.¹⁰¹ These experiences affirm that when households consistently receive proven prevention tools, malaria transmission can be driven to zero.



Early Diagnosis and Treatment

The ability to detect malaria quickly and provide the right treatment has been one of the strongest levers in driving down deaths and transmission. WHO recommends that every suspected case be confirmed by microscopy or a RDT before treatment, ensuring accuracy and protecting against drug resistance.¹⁰² Across the Asia Pacific, countries have translated this into practice. In Afghanistan, more than 30,000 community health workers raised confirmation rates from 14% to 99%, virtually eliminating malaria deaths.²⁷ Myanmar's Integrated Community Malaria Volunteers now conduct most testing and treatment in hard-to-reach areas, sustaining services during conflict. China pioneered the '1-3-7 strategy': case reporting within one day, investigation within three, and targeted response within seven, which became a cornerstone of its malaria elimination success and is now adapted in several other countries.¹⁰³ WHO recommends ACTs for *P. falciparum* and primaquine or tafenoquine for *P. vivax*. Shorter regimens and single-dose cures will improve adherence, though challenges in rolling out point of care G6PD screening remain.

Community Engagement

Community engagement transforms malaria elimination into a people's movement. In Thailand, migrant health volunteers trained to serve cross-border workers have bridged cultural and linguistic barriers, ensuring timely testing and treatment for populations often missed. In the Philippines, indigenous leaders in Palawan have partnered with local malaria teams to drive net use and encourage early care-seeking in tribal communities that account for most remaining cases.⁵² Nepal's Female Community Health Volunteers, a backbone of the health system, now play a key role in malaria surveillance and awareness at the ward level. Importantly, when malaria cases decline, programme funding often shrinks. Indonesia's community volunteers provide diagnosis and treatment and mobilize communities to destroy larval habitats. Continued investment in community engagement sustains demand, builds local ownership, and ensures that elimination gains become self-reliant and lasting.

Monitoring and Evaluation

Monitoring and evaluation in malaria elimination is not a side activity: it is what keeps every part of the programme honest and effective. It spans prevention, diagnosis, treatment, supply chains, capacity building, and community engagement, tying them together into one system of accountability. Sri Lanka led by example with monthly multisectoral reviews that ensured political leaders and programme managers jointly owned progress.¹⁰⁴ Similarly, the Malaria Elimination Demonstration Project in Mandla, India, showed how this can work in practice. Weekly Activity Reports captured village-to-district progress, while training assessments and a structured 30-point monitoring checklist kept frontline workers and supervisors aligned. Data gathered from the field on IRS coverage, LLIN use, case detection, or SBCC activities was used to course-correct, with senior officials answerable for results under a public-private partnership. Such frameworks ensure that malaria elimination is not left to chance – every actor, from village to capital, is answerable for results.

Integration into Health Systems and Adaptive Approaches

The path ahead will require more than relying on familiar tools. Malaria services must be woven into the fabric of primary health care, so that testing, treatment, and prevention are not seen as vertical add-ons but as part of everyday care. Local realities also matter: subnational stratification allows programmes to match interventions to the unique mix of risks in each district, rather than applying a one-size-fits-all approach. And because no setting is static, operational research becomes the compass helping countries fine-tune strategies, test new combinations, and keep policies rooted in evidence. WHO now places these priorities at the centre for high-burden contexts.



Emerging Technologies

Emerging technologies offer the ability to make the time-tested tools and strategies work smarter, faster, and more efficiently. Digital platforms allow data to flow in real time, artificial intelligence (AI) strengthens prediction and planning, single-dose cures simplify adherence, vaccines add an extra layer of protection, and novel vector tools address stubborn gaps. Together, these innovations act as force multipliers.

Digital Health Innovations

Digital health tools have shown some of the most immediate impact on malaria elimination. Mobile technology is transforming frontline work: health workers can now record and transmit case data from the most remote villages, ensuring it reaches district and national dashboards in real time. AI is adding predictive power to these systems. By analysing weather patterns, satellite images, and historical case data, AI models are beginning to forecast potential hotspots, guiding where prevention and treatment resources should be directed.¹⁰⁵ Similarly, digital supply chain platforms use predictive analytics to anticipate demand and prevent shortages of diagnostics or medicines - problems that often undermine elimination efforts. Digital technology allows mapping of malaria foci to guide response and mapping of larval habitats in relation to these foci, allowing targeted LSM in conjunction with community action.

Beyond data and logistics, digital platforms are enhancing accountability and community engagement. Supervisors can track coverage of LLINs, IRS quality, or training completion through cloud-based systems, while SMS reminders and mobile counselling have supported treatment adherence and built trust with patients.

Tafenoquine

Tafenoquine and high-dose short course primaquine (PQ) have emerged as game-changers in the radical cure of *P. vivax* malaria. These shorter treatments require G6PD screening, but where this is possible, prevention of relapse becomes more likely. Clinical trials show that chloroquine plus tafenoquine reduces six-month relapse rates by approximately 70% compared to placebo, matching the efficacy of traditional primaquine regimens.⁴⁴ Additionally, tafenoquine is WHO pre-qualified and is included in updated malaria treatment guidelines.¹⁰⁶

Real-world implementation is proving feasible with promising results from a pilot programme in Brazil.¹⁰⁷ In Asia Pacific, countries are beginning to move from generating evidence on tafenoquine to adopting new policies. In 2020, Thailand became the first malaria-endemic country in Asia Pacific to approve use of tafenoquine. In March 2025, tafenoquine was officially included in the updated National Malaria Treatment Guidelines, a significant step toward malaria elimination.¹⁰⁸ The recent EFFORT clinical trial, led by the Menzies School of Health Research and supported by the APMEN Vivax Working Group, concluded in 2024 and generated evidence of tafenoquine's effectiveness and safety in Pakistan and Cambodia, though results from Indonesia were less conclusive.⁴⁶

In Pakistan, a separate pilot of G6PD testing in 2024 further demonstrated that routine G6PD testing is both feasible and safe within the public sector, with strong support at the provincial level.¹⁰⁹ Together, the EFFORT findings and operational experience with G6PD testing has moved Pakistan's national Technical Working Group on malaria case management to recommend incorporating G6PD testing and single-dose tafenoquine for adults aged 16 years and above into the National Treatment Guidelines, marking a pivotal shift in the national strategy.



In addition, a dossier for a dispersible paediatric tafenoquine for children 2 years and above (10–34 kg) is under consideration at the Drug Regulatory Authority of Pakistan for future registration.¹⁰⁹ These advances in tafenoquine adoption and routine G6PD testing not only accelerate Pakistan and Thailand's elimination goals but also provide a model for other Asia Pacific countries to integrate radical cure into their national strategies.

However, in other Asia Pacific countries, scaling tafenoquine still faces challenges. A qualitative study in Cambodia found that village malaria workers (VMWs) could reliably perform G6PD testing with training and support, but barriers such as cost, regulatory approval, and heat sensitivity of tests remain.¹¹⁰ In Viet Nam, a 2023 study showed that healthcare providers correctly used point-of-care tests and adhered to protocols, though declining malaria cases increased the per-patient cost, raising sustainability concerns.¹¹¹ In Lao PDR, coverage reached about 93% of vivax cases overall, yet gaps persisted in remote communities.¹¹² Together, these findings highlight progress but also underline the challenges of equitable, sustainable G6PD testing needed for rollout of both tafenoquine and high-dose PQ.

Vaccines

The advent of malaria vaccines marks one of the most exciting advances in the elimination toolkit. WHO has now recommended two vaccines: RTS,S and the newer R21/Matrix-M, as safe and effective for preventing *P. falciparum* in children, offering roughly 75% protection from malaria morbidity in African children when administered seasonally alongside other interventions.¹¹³ Vaccines in development for *P. vivax* may help reduce burden in the medium term, but, notably, the vaccines in development do not block transmission.

Additional Vector Control Tools

For decades, malaria vector control relied almost entirely on two pillars – LLINs and IRS. In August 2025, the WHO endorsed a new class of tools: Spatial Emanators. These lightweight devices release chemicals such as transfluthrin into the surrounding air, deterring or killing mosquitoes without electricity or user action. Large trials, including the landmark study in Sumba, Indonesia, showed reductions in malaria transmission when emanators were used alongside LLINs. WHO has since prequalified two products, Mosquito Shield and Guardian, making them immediately available for NMPs.¹¹⁴ However, as evidence from trials have largely focused on enclosed or semi-enclosed spaces, further efforts evidence will be needed on outdoor protection, which accounts for a substantial share of transmission in the region.

Gene Drive and Biotechnology Approaches

Biotechnology is ushering in bold innovations like gene drive systems that could alter mosquito populations in ways previously unimaginable. To date, most efforts have focused on African vectors where formidable regulatory issues hamper progress. Nonetheless, breakthroughs are possible, and perhaps such technologies will become available before malaria in Asia Pacific is eliminated via more conventional means.



Gender Equality, Disability and Social Inclusion (GEDSI) Considerations

Over the past decade, malaria-endemic countries have increasingly recognized that gender, social, and economic inequities shape who becomes infected and who receives timely treatment. This understanding led to the development of resources such as the Malaria Matchbox Tool, published in 2020 - an equity assessment toolkit designed to help programmes identify vulnerable populations and the barriers they face.¹¹⁵

India, Thailand, and Papua New Guinea have already implemented the Malaria Matchbox, while other countries have introduced similar equity-focused reviews of their malaria programming, such as Indonesia's 2023 Community, Rights, and Gender Assessment as well as the Solomon Islands' 2024 Malaria and TB Gender Analysis. There is increasing visibility and knowledge exchange around approaches to mainstream GEDSI into NMPs. This includes GEDSI workshops held at both the 2023 and 2024 Asia Pacific Leaders' Summit on Malaria Elimination, hosted by the Government of Papua New Guinea and the Government of Indonesia, respectively, in partnership with APLMA. These efforts reflect a growing acknowledgment by NMPs and partners across the region that malaria elimination requires strategies tailored to those most at risk, rather than relying on a one-size-fits-all approach.

APLMA recognizes GEDSI as a core guiding principle of malaria programming in the region and has prioritized building a strong evidence base and providing catalytic support for countries to mainstream GEDSI within their malaria responses. In 2024, APLMA conducted a baseline assessment of GEDSI approaches across 15 National Malaria Programmes in the Asia Pacific region. This initiative aimed to support countries identify gaps and opportunities in fully integrating GEDSI into their malaria programming. The assessment found that all countries specify targeted interventions for women or pregnant women in either their Global Fund funding proposals or national strategic plans, while some countries have outlined specific interventions targeted towards children, migrant or outdoor workers, displaced persons, tribal groups, and rural or remote groups.¹¹⁶ Cambodia and Lao PDR, for example, are collecting malaria prevalence data among forest workers, a group historically underserved by health systems. India's national strategy prioritizes tribal districts, which account for nearly half of reported malaria cases despite representing only 5% of the population. Indonesia has integrated malaria screening into antenatal care visits and launched targeted drug administration for forest-goers and mobile migrant populations. Pakistan has deployed mobile clinics for flood-displaced populations and mapped brick kiln workers to deliver malaria services in response to climate-related emergencies.

Furthermore, APLMA is supporting country-led initiatives aimed at catalysing a fundamental shift in national systems and strategies to improve the health and wellbeing of the most marginalized communities. Most recently, APLMA supported the Oxford University Clinical Research Unit Indonesia to undertake a mixed-methods study evaluating the malaria burden among local Papuans (Orang Asli Papua, OAP) in the Papua region of Indonesia, where 93% of the malaria burden in Indonesia is concentrated. The project involved retrospectively analysing national case data to differentiate malaria burden between OAP and non-OAP populations. Preliminary results show clear differences in malaria burden by age and ethnicity, with the pattern of differences varying markedly by district. The results suggest that ethnicity shapes vulnerability in ways that are highly context-specific, providing compelling evidence and an impetus to systemically collect and disaggregate malaria data by ethnicity, and use such data to design locally appropriate and equitable programming in Indonesia.

These research initiatives represent important early steps towards embedding GEDSI considerations into NMPs, as they generate valuable data on who is being left behind and elevate the visibility of equity in elimination discussions. However, our region must now be intentional in integrating findings into national programmes, rather than limiting GEDSI initiatives within pilot or isolated projects.



Routine surveillance still rarely captures comprehensive disaggregated data across key social stratifiers such as disability, ethnicity, or mobility status, making it difficult to identify and respond to persistent coverage gaps. As such, there is still much we don't know about who is most at risk. For instance, data on persons with disabilities is almost entirely absent from the malaria response across the region.¹¹⁶ These challenges contribute to malaria's continued concentration in populations that have benefited least from broader health systems improvements, such as indigenous communities in India, rural Papuans in Indonesia, displaced populations in Pakistan and Myanmar, and mobile workers in the GMS.

At the 9th Asia Pacific Leaders' Summit on Malaria Elimination, countries recognized that embedding GEDSI principles into the core of malaria strategies calls for institutional commitments, clear accountability frameworks, and dedicated financing. To that end, countries have requested guidance and support to fully operationalize GEDSI considerations within their programming. NMPs and partners shared that their priority support needs are in developing data collection and analysis tools that are GEDSI-sensitive, institutionalizing community engagement and feedback mechanisms for participatory planning, and providing effective training for health workers on GEDSI-responsive and culturally appropriate service delivery. In response, APLMA is developing a GEDSI Implementation Toolkit to provide operational guidance to mainstream GEDSI into policies, budgets, data, and service delivery, with the objective of supporting countries advance toward their elimination targets.

Equity in malaria elimination is both a moral and strategic imperative. It must be further noted that an elimination imperative is inherently GEDSI compliant, requiring parasite-free status of all residents. As countries work toward universal health coverage and resilient health systems, investing in inclusive, GEDSI-oriented malaria interventions is a must to not only accelerate elimination but also strengthen equity across health programmes. Without deliberate and sustained efforts to reach those most at risk, malaria transmission will persist in the very communities that have been historically underserved.

Cross-Border Collaborations and Regional Partnerships

As malaria transmission increasingly concentrates in border areas, the Asia Pacific region must strengthen collaborative approaches to address shared challenges. Cross-border transmission patterns and mobile populations create vulnerabilities that individual countries cannot address alone, while regional coordination mechanisms offer proven pathways for accelerating progress toward the 2030 elimination goal. United, the region demonstrates greater capacity to overcome complex elimination challenges than any individual country pursuing isolated strategies.

Cross-Border Collaborations

The Asia Pacific region encompasses five main areas where cross-border collaborations are especially critical given shared land borders and transmission patterns: the Pakistan-Iran-Afghanistan triangle; the GMS; the Indonesia-Timor-Leste-Papua New Guinea corridor; the island of Borneo, shared by Malaysia, Brunei, and Indonesia; and the Bangladesh-India-Nepal-Bhutan cluster. Each region presents distinct challenges requiring tailored collaborative approaches, from addressing conflict-affected populations to managing mobile forest workers and cross-border economic migration.

Formal cross-border partnerships provide the strongest foundation for addressing shared malaria challenges. The landmark Joint Action Plan between Indonesia and Papua New Guinea, signed in 2025 and running through 2030, exemplifies strategic bilateral cooperation. This agreement addresses the reality that 93% of Indonesia's malaria burden concentrates in Papua Region while Papua New Guinea faces substantial nationwide challenges.



Grounded in the Health Cooperation Memorandum of Understanding signed in July 2024, the Joint Action Plan focuses on three priority areas: collaborative financing and resource mobilization, information sharing and capacity building, and deployment of new tools and innovative approaches including cross-country patient pathways and standardized laboratory networks. The next five years present opportunities to expand similar bilateral agreements beyond current partnerships, particularly within the four main regional clusters where shared epidemiological patterns create natural collaboration zones.

The China-Myanmar border collaboration demonstrates quantifiable success through their innovative "3+1 Strategy." Following their 2016 memorandum of understanding, the countries achieved an 89% reduction in annual parasite incidence in Myanmar's border area and a 100% reduction in microscopic parasite prevalence.¹¹⁷ This success contributed directly to China achieving malaria-free certification in 2021, showcasing how sustained cross-border investment produces measurable elimination outcomes. Countries can leverage this successful framework to develop standardized approaches for border area management.

Border areas require specialized approaches due to mobile populations, weaker health systems, and constant reintroduction risks. Task forces between countries like Indonesia and Timor-Leste provide institutional frameworks for sustained cooperation, while informal collaborations through direct communication channels between NMPs enable rapid information sharing and coordinated responses to emerging threats. Establishing harmonized surveillance systems that enable real-time cross-border data sharing and creating joint emergency response protocols for outbreak containment represent immediate opportunities for strengthening collaborative effectiveness.

Regional Partnerships

Regional institutions provide essential coordination architecture combining political commitment with technical expertise. For example, WHO Regional Offices provide operational coordination across Eastern Mediterranean, South-East Asia, Western Pacific jurisdictions. The Mekong Malaria Elimination programme achieved a 77% reduction in cases across the GMS, demonstrating how regional platforms can address specific challenges like artemisinin resistance containment through coordinated multi-country interventions.

Academic partnerships create research networks spanning the region that bridge technical expertise with operational implementation. Academic networks enable rapid translation of research findings into policy recommendations and operational guidance for elimination programmes. The APMEN network hosted by APLMA is a prime example of such networks in action. Enhanced technical exchange through these academic partnerships can accelerate innovation transfer and support countries facing similar elimination challenges, particularly in developing region-specific solutions for the four main cross-border collaboration areas.

Regional platforms including Regional Artemisinin-Resistance Initiative Regional Steering Committee (RAI RSC), Pakistan, Iran & Afghanistan Malaria Network (PIAM-NET), and the South-East Asia Regional Coordination Mechanism Forum (SRCMF) facilitate multi-country coordination and knowledge sharing, though sustaining funding for these platforms remains challenging. Regional political mechanisms such as Association of Southeast Asian Nations (ASEAN) and EAS continue playing important roles in ensuring malaria remains on political agendas, with APLMA's ASEAN Health Cluster 2 recognition creating new advocacy opportunities. This ASEAN partnership creates immediate opportunities to integrate malaria elimination into broader regional health security frameworks and ensure inclusion in the Cluster's next five-year strategic plan.



Conclusion

When Asia Pacific Leaders first committed to a malaria-free region by 2030, the goal was rightly viewed as both ambitious and transformative – an investment in health, equity, and development with multi-fold returns. The last ten years have demonstrated what is possible through high-level political commitment, coordinated regional action, and the relentless work of NMPs, communities, and partners. Several countries – Sri Lanka, China, Timor-Leste, Bhutan, and Malaysia – have either achieved malaria-free certification or sustained zero indigenous cases, proving that elimination is feasible across diverse settings.

Yet, progress has been uneven and fragile. The overall malaria burden in Asia Pacific today is twice that of 2015, with high-burden countries experiencing major setbacks from climate shocks, COVID-19, and conflict. The lesson is clear: momentum alone will not deliver elimination; it demands sustained vigilance, adaptable strategies, and decisive leadership.

The Roadmap, endorsed by Leaders in 2015, has provided a common framework for action across six priorities. It has driven meaningful reforms: nearly all member states now have national taskforces; community health workers have extended services to hard-to-reach groups; supply chains and labs are stronger; domestic financing is growing; and the region is piloting radical cures, new diagnostics, and vector-control tools.

Looking ahead, the next five years are decisive. On the current trajectory, the region will miss the 2030 target, but this is not inevitable. With intensified support to high-burden countries, smarter financing including domestic and innovative models, and systematic strategies to reach the most vulnerable, elimination remains achievable.

The opportunity now is to integrate malaria efforts more strongly into health systems, leaving legacies for universal health coverage and pandemic preparedness. Emerging tools and better application of existing ones – real time surveillance, better mapping community engagement to attack larval habitats, spatial emanators, improved adherence to radical cures for *P. vivax* – can shift the curve of transmission if sound management principles are applied.

In 2014, the Leaders chose to aim high, committing to a malaria-free Asia Pacific by 2030. A decade later, the path remains open, though narrowing. The achievement of malaria-free countries proves what is possible; the setbacks remind us of what is at stake. The coming years will determine whether Asia Pacific becomes the first region outside Europe to eliminate malaria, or whether the disease resurges with devastating human and economic costs.

The choice is clear. Elimination remains within reach, but only if Leaders, partners, and communities act with urgency, unity, and innovation. The 2030 goal is not just about ending a disease. It is about protecting the most vulnerable, strengthening health systems, and demonstrating that regional solidarity can deliver historic results. The time to act is now.



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Annex: Country Profiles

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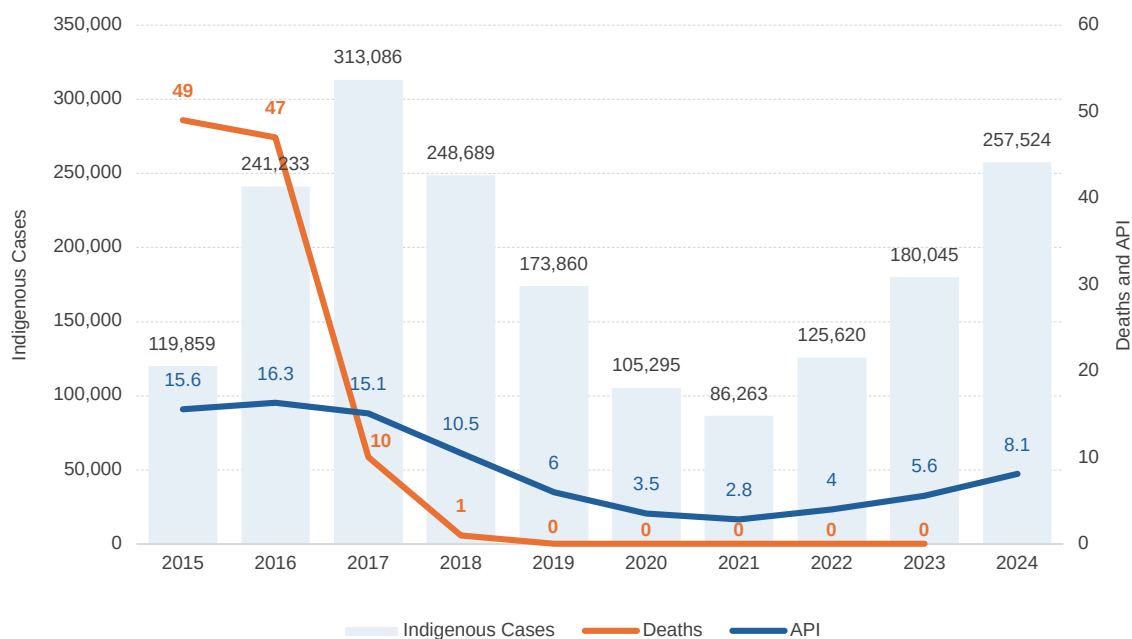
Photo: Kabul, Afghanistan

ISLAMIC EMIRATE OF AFGHANISTAN



Islamic Emirate of Afghanistan

Figure 1. Indigenous Cases, Deaths, and API in Afghanistan, 2015-2024.



Source: 2015-2023 data from the WHO World Malaria Report 2024. 2024 data from the National Malaria and Other Vector Borne Diseases Programme. 2024 data on number of deaths unavailable.

**115%
Increase**

**in indigenous malaria cases
between 2015 and 2024**

Key Message

Afghanistan is off-track to eliminate malaria by 2030, and requires health system strengthening, expanding community management, improving surveillance systems, building staff capacity, addressing supply shortages, enhancing security considerations, improving community engagement, and bridging funding gap to meet programmatic needs.

Epidemiological Context

The Islamic Emirate of Afghanistan (Afghanistan) remains among the countries with the highest malaria burden globally, ranking third worldwide after African nations. Between 2015 and 2024, Afghanistan experienced significant epidemiological challenges in malaria control, with the number of indigenous cases increasing from 119,859 to 257,524. Over 76% of Afghans live in at-risk areas, with 123 districts at high risk and 213 districts at low risk of malaria, with eastern Afghanistan having the highest burden.¹ The epidemiological profile is dominated by 95% to *Plasmodium vivax* (*Pv*) and 5% of malaria cases attributed to *Plasmodium falciparum* (*Pf*), representing a shift from historical patterns. In 2017, 91% of confirmed *Pf* and 89% of *Pv* cases were reported from six provinces: Nangahar, Laghman, Kunar, Nuristan, Khost and Paktika.

The country's malaria burden has been exacerbated multiple challenges, including civil conflict, lack of healthcare services, and disruptions due to the COVID-19 pandemic. Furthermore, increased refugee shuttling and fluctuating environmental conditions have facilitated the proliferation of malaria vectors, with restricted access to treatment impeding elimination of malaria.² Together, these challenges have led to a three-fold increase of malaria incidence in the between 2021 and 2024, despite control efforts through community-based malaria management programmes, malaria cases have increased over the past 3 years, reflecting the fragility of malaria control in conflict-affected settings.



The National Response

The delivery of health services in Afghanistan operates under the stewardship of the Malaria and other Vector Borne Diseases Programme (MVDP) under the Ministry of Public Health (MoPH), largely through humanitarian funding mechanisms supporting the Basic Package of Health Services (BPHS) at community-based facilities and the hospital Essential Package of Health Services (EPHS). Implementation of BPHS remains primarily 'contracted out' to local and international NGOs⁸. Following the regime change in August 2021, the Global Fund implemented Additional Safeguards Policy (ASP) for the Afghanistan portfolio and designated Afghanistan as a non-Country Coordinating Mechanism (CCM) country. Since 2015, the United Nations Development Programme (UNDP) has served as the Principal Recipient for the consolidated Global Fund grant supporting HIV/AIDS, tuberculosis, and malaria programmes in Afghanistan.

According to the *2023-2026 National Strategic Plan to Control Malaria* in Afghanistan, the MVDP aims to reduce malaria burden by 95% by 2030 and eliminate malaria by 2035.³

Long-Lasting Insecticidal Nets (LLIN) Distribution

Afghanistan prioritized scaling up LLIN coverage as a core vector control intervention. Ensuring effective coverage by Long Lasting Insecticidal Nets (LLINs) in high-risk provinces was identified as a key programmatic priority.⁴ However, coverage remained suboptimal throughout much of the study period, as according to 2015 AfDHS, while 26% of households own at least one insecticide-treated bed net (ITN), only 3% of households have enough nets to cover all household members (assuming 1 ITN per 2 people).² The programme achieved significant scale-up by 2016 – 2017, when around 2.8 million ITNs were distributed.⁴ However, during the 2021-2023 period, some districts in high-risk provinces, as well as hot spot districts in medium-risk provinces, were not covered by ITNs, likely contributing to the surge in cases.

Surveillance Systems

The Malaria and Leishmaniasis Information System (MLIS) in Afghanistan serves as a specialized surveillance platform designed to capture comprehensive malaria data beyond the standard Health Management Information System (HMIS) indicators. Operating under the MVDP, the MLIS routinely captures both confirmed and unconfirmed malaria cases and deaths, complementing the broader HMIS framework that only includes 2 malaria-related indicators.³

By 2022, the MLIS has undergone significant modernization through integration into the DHIS2 platform,³ representing a technological advancement that streamlines data management while maintaining the system's specialized focus on vector-borne disease surveillance. This integration positions the MLIS as a critical component of Afghanistan's integrated health information architecture, enabling more comprehensive monitoring and analysis of malaria trends while supporting evidence-based programme management and decision-making at both facility and national levels.

Community-Based Malaria Management (CBMM)

A cornerstone of Afghanistan's malaria control strategy was the implementation of Community-Based Malaria Management (CBMM). The Community-Based Malaria Management (CBMM) strategy, introduced in 2013 and expanded to all health facilities and health posts in Afghanistan by 2016, aimed to deliver rapid diagnostic testing and more timely treatment to all communities nationwide.⁵ The CBMM strategy was scaled up nationwide in 2016 with support from the UNDP and the Global Fund,⁶ representing a major shift towards decentralized diagnosis and treatment capabilities that continued through the 2015 – 2024 period.



The CBMM strategy incorporated several key components designed to improve malaria case management at the community level. Since 2013, the focus of the CBMM in Afghanistan has changed to specifically increase access to rapid diagnostic testing (RDT) and timely treatment at the community level in all malaria endemic and non-endemic areas of Afghanistan. The programme consists of two key modules; case management, vector control.⁶ Since 2016, a network of 30,000 CHWs has been trained in malaria case management and RDT. Other malaria commodities such as medicine were supplied to all health posts and health facilities without laboratory services.⁶

The implementation of CBMM yielded significant improvements in malaria control. The overall malaria incidence rate declined from 15.4 to 5.5 per 1,000 per year, and the malaria confirmation rate increased from 14% to 99%. The number of malaria cases that were confirmed by testing rose from 54,840 to 173,859, and clinical cases declined from 336,525 to 1034. The malaria death rate fell from 0.14 to 0 per 100,000 per year.⁵ In the period since the expansion of CBMM (2016–2019), overall malaria incidence rate declined by 19% each year and the malaria death rate declined by 85% each year.⁵

Challenges

Afghanistan's national response faced significant programmatic challenges that threatened sustainability throughout 2015 – 2024. Limited financial support to cover all components of the National Strategy, specifically lack of support for the implementation of the *Pf* elimination programme in recommended provinces, constrained the scope and effectiveness of intervention delivery.⁴ The programme was further hampered by limited skilled staff at service delivery and programme management levels,⁶ which affected both the quality and coverage of malaria control activities. Surveillance systems remained inadequate due to weakness of the monitoring system, undermining accurate disease tracking and response capabilities.⁶ Community engagement presented additional obstacles, as poor health seeking behaviour in communities limited the uptake of available malaria prevention and treatment services.⁴

Supply chain fragility represented one of the most critical operational bottlenecks over this period. Following the regime change in August 2021, external financing from the World Bank halted for more than three months, leading to a gap in service delivery. Funding initially resumed through an emergency fund mechanism, which did not include antimalarials and diagnostics on the list of essential medicines, precipitating stock outs. Procurement processes were hindered by protracted international procurement procedures, long delivery timeframes, border closures, limited flight availability and cancellations, and complex pre-import approvals. These issues led to shortages and stockouts of antimalarials and consumables, particularly in malaria-high endemic areas (Nangarhar, Kunar, Laghman, and Nuristan), increasing the risk of malaria outbreaks.⁷

The National Strategic Plan for Malaria 2018–22 also acknowledged that security problems may continue to pose challenges to malaria control, particularly in 12 provinces (Khost, Nooristan, Paktika, Paktya, Ghazni, Helmand, Kandahar, Zabul, Wardak, Nangarhar, Kunar and Laghman).⁸ These issues have since subsided; however, vigilance is required given the past impact of conflict fundamentally compromising malaria elimination efforts in the country's highest burden areas.

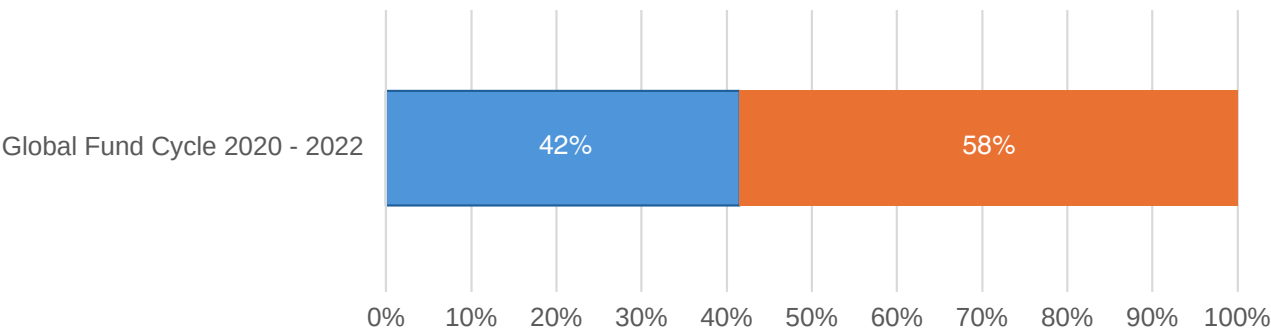


Financing the Response

Afghanistan's national malaria programme has been primarily supported through Global Fund, reflecting both the organization's commitment to malaria control in the country and the current limitations in diversified funding sources. According to the latest available Global Fund data, the organization provided US\$20 million towards the programme during the 2020 - 2022 Grant Cycle (corresponding to the three year period from 2021 – 2023), covering 42% of identified programmatic needs.⁹

While this contribution demonstrates significant international support for Afghanistan's malaria control efforts, it also highlights the considerable resource mobilization challenges facing the programme, with a funding gap of 58% remaining over the three-year period from 2021 – 2023. The financing landscape presents constraints for programme implementation, limiting the scope and intensity of interventions that can be implemented across all high-risk areas. Over a three-year average, funding per person at risk amounted to US\$0.11 in Afghanistan, the lowest in the WHO Eastern Mediterranean Region.¹⁰

Figure 2. Malaria funding (USD) by funding source, Afghanistan.



	Global Fund Cycle 2020-2022
Domestic	\$0
Global Fund	\$20,083,338
Other External Partners	\$0
Funding Gap	\$28,296,287

Source: The Global Fund Data Explorer – Afghanistan: Southern Asia, Access to Funding.
Data unavailable for Global Fund Cycle 2023-2025.



Towards 2030 - Challenges and Opportunities

Afghanistan's malaria control efforts toward 2030 present both significant challenges and promising opportunities that will require comprehensive strategic action, building upon lessons learned from the programmatic difficulties experienced during 2015-2024. Even amidst challenges, the programme achieved a key milestone of expanding malaria case management to the private sector since June 2023, ensuring that private sector data is now reported within the national system. Achieving universal coverage remains a critical priority, and it will be important to strengthen health facility capacity and expand community-based management programmes to ensure effective malaria diagnosis and case management reach all populations, while addressing the persistent shortage of skilled staff at both service delivery and programme management levels that has historically constrained intervention quality and coverage. The country would also benefit from prioritizing effective coverage with LLINs in high-risk provinces, particularly in malaria-endemic areas where shortage and stockouts of anti-malarial drugs and consumables continue to pose significant risks. A key area for improvement lies in strengthening surveillance systems, as well as laboratory quality assurance.

Efforts to improve community engagement and health-seeking behaviours remain crucial for service uptake. It will be essential to establish regular monitoring mechanisms for malaria drug efficacy and insecticide resistance,⁴ and there is a critical need to diversify financial support beyond the Global Fund to ensure comprehensive coverage of all National Strategy components, including the Pf elimination programme, creating a more resilient foundation for achieving the country's 2030 malaria elimination goals.

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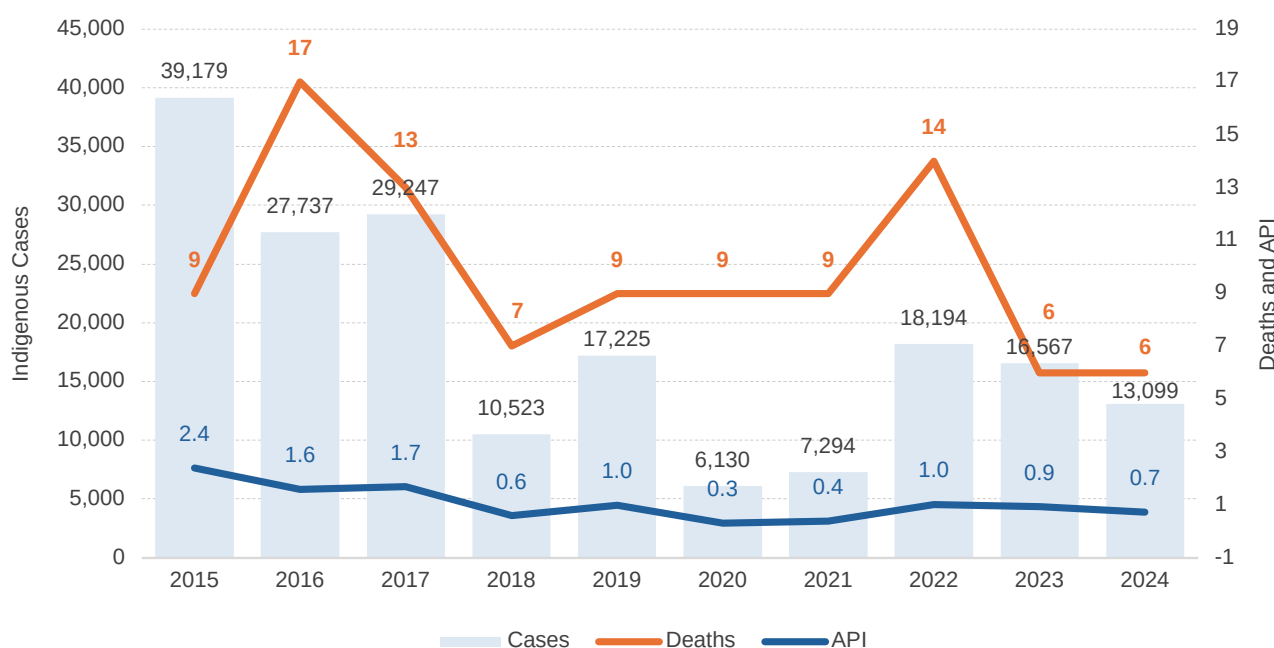
Photo: Dhaka, Bangladesh

PEOPLE'S REPUBLIC OF BANGLADESH



People's Republic of Bangladesh

Figure 1. Indigenous Cases and Deaths in Bangladesh, 2015–2024.



Source: 2015–2024 data from the National Malaria Elimination Programme, Bangladesh.

67% Decrease

in indigenous malaria cases
between 2015 and 2024

Key Message

Bangladesh has made significant progress in maintaining an overall declining trend in caseload over the past decade, supported by comprehensive LLIN coverage and a strong community-based health worker and volunteer network. However, the country has faced intermittent upsurges, including in 2017 and 2022. 93% of the country's cases are concentrated in the three Chittagong Hill Tract districts bordering India and Myanmar.

Epidemiological Context

Over the past decade, the People's Republic of Bangladesh (Bangladesh) has maintained an overall declining trend in malaria incidence, with indigenous cases falling from a peak of 39,179 in 2015 to 13,099 in 2024. However, the country has been prone to intermittent upsurges. Between 2018 and 2019, cases rose by 64% before dropping to a decade low of 6,130 cases in 2020. Another surge occurred between 2021 and 2022, with cases increasing by 149% before declining once again (See Figure 1).

Of Bangladesh's 64 districts, 51 are considered non-endemic, 10 are considered to be in the malaria elimination phase, and three districts—Bandarban, Rangamati, and Khagrachari, collectively referred to as the Chittagong Hill Tracts (CHT) districts—are classified as high-burden control districts.¹ These three districts, located in the hilly southeastern region of Bangladesh and sharing international borders with India and Myanmar, account for over 93% of malaria transmission.¹ Bandarban district, the epicentre of the 2022 upsurge, accounted for 58% of cases in 2024, while Rangamati district accounted for 29%. While the national API per 1,000 population in 2024 was 0.7 per 1,000 population, Bandarban district had an API of 15.6 per 1,000 population, while Rangamati district had an API of 5.7 per 1,000 population.



Populations at highest risk of malaria include those in hard-to-reach areas of the CHT districts, which is home to multiple ethnic groups and mobile and migrant populations (MMPs). These include *Jhum* cultivators, or predominantly tribal communities in CHT who practice shifting or slash-and-burn agriculture. During the 2022 upsurge, more than 95% of cases occurred among *Jhum* cultivators and forest goers, most of whom were from the Mro ethnic group.¹

Historically, *Plasmodium falciparum* has been the predominant parasite species, accounting for 93% of cases (including mixed infections) in 2015.¹ Over the years, the proportion of cases caused by *P. falciparum* has decreased. By 2024, the distribution between *P. falciparum* and *P. vivax* had shifted to approximately 50% each.² The primary vectors in Bangladesh—*An. dirus* species complex, *An. minimus*, and *An. philippinensis*—exhibit early outdoor biting behaviour, posing challenges to the effectiveness of conventional vector control and personal protection measures.

The National Response

The national malaria response in Bangladesh is led by the National Malaria Elimination Programme (NMEP), which operates under the Communicable Disease Control Unit of the Directorate General of Health Services (DGHS), Ministry of Health and Family Welfare (MoHFW). The NMEP provides oversight and direction for malaria strategy and policy development, as well as implementation of malaria control and elimination measures. Bangladesh receives Global Fund Grant under two Principal Recipients (PRs). PR1 is the Economic Relation Division of the Ministry of Finance, where the NMEP is the lead implementer. PR2 is BRAC, which leads an NGO consortium as the implementer of activities at the community level. WHO provide technical support. The BRAC-led NGO consortium primarily provide support in the three CHT districts and neighbouring Chattogram and Cox's Bazar districts. Additionally, the Armed Forces and Border Guard Bangladesh contribute to malaria surveillance and service delivery in their respective areas, while the International Organization for Migration (IOM) provides tailored services for Rohingya refugees, or Forcibly Displaced Myanmar Nationals (FDMNs), in Cox's Bazar district.

Malaria services are delivered through the national health system structure, including Medical College Hospitals at the national level, District Hospitals at the district level, Upazila Health Complexes at the subdistrict level, Union Health and Family Welfare Centres (UHFWC) at the union level, and Community Clinics (CCs) at ward/community level. At the community level, partner NGOs train and manage an extensive network of female health volunteers (*Shasthya Shebikas*, SS) and health workers (*Shasthya Kormis*), who play pivotal roles in case detection, diagnosis, and treatment. Government health workers at the community level also provide support in diagnosis, treatment, referral, and reporting of testing and treatment.

The national response is currently guided by the *National Strategic Plan for Malaria Elimination and Prevention of Re-establishment of Malaria Transmission in Bangladesh 2024-2030*, aligned with the sector-wide Health, Nutrition and Population Sector Programme (HNPPSP). The National Strategic Plan targets zero mortality from indigenous malaria by 2027, and the elimination of indigenous malaria by 2030.¹ Key to this strategy is taking a micro-stratification approach at village level to facilitate effective and efficient burden reduction in the three CHT districts, ensuring comprehensive diagnostic and treatment services for MMPs and FDMNs through community-based services, and improving multi-sectoral collaboration with government and non-governmental actors, including private sector providers.

Reaching Hard-to-Reach Communities in the Chittagong Hill Tracts

Bangladesh's national malaria response prioritizes burden reduction and elimination in the CHT districts, adopting a granular tailoring of strategies down to the high-endemic village or hot spot level. The programme



and partners remain highly attentive to the sociocultural, economic, political, and geographical specificities of the most affected populations and areas, especially in Bandarban district.

To expand access to prompt diagnosis and treatment, the NMEP and the BRAC-led NGO Consortium deploys an extensive network of community health workers and volunteers to the CHT districts. As mentioned above, the government deploys health workers (Health Assistants, HAs) at the ward level and in CCs. Assistant Health Inspectors (AHI) are deployed at the Union level to work and supervise HAs. At the upazila level, and sometimes at Union level, Health Inspectors provide supervisory services for diagnosis, treatment and referral of malaria along with other primary healthcare services in the community. They work in coordination with the Health Workers and volunteers deployed by the BRAC-led NGO consortium in the CHT districts, Cox's Bazar, and Chattogram. Locally recruited special health workers provide outreach services in the most hard-to-reach and remote hilly, forested, and border areas.³ Community health volunteers provide malaria services within a single village, while community health workers manage a cluster of villages and supervise volunteers.

Community-based testing remains the cornerstone of case detection, with 80% of malaria infections detected by Government and BRAC-managed field cadres.⁴ Total testing volume has risen from 823,336 in 2021 to 2,147,000 in 2023,⁵ reflecting expanded access and improved coverage. The programme aims to strengthen community-based testing services at CCs and among the community health worker and volunteer networks to optimize case detection.

Ensuring Comprehensive LLIN Coverage

Bangladesh has achieved and sustained exceptionally high levels of LLIN coverage and utilization among its population, with distribution and use monitored regularly. Distribution performance has remained relatively strong, with 78.2% of planned LLINs distributed in 2021, 66.8% in 2022, and 100% in 2023.⁵ In 2023, a survey of households in the CHT districts, Cox's Bazar, and Chattogram found that 97.6% of households surveyed owned at least one LLIN, and 96.4% of individuals surveyed reported sleeping under an LLIN the previous night.⁶ Utilization was found to be substantially lower among FDMNs (65.7%). Surveys are conducted every two years, with the next survey scheduled for 2025.

While coverage and utilization of LLINs are high, a review of the 2022 malaria upsurge revealed that over 95% of cases occurred among Jhum cultivators, many of the Mro ethnic group, who demonstrated low LLIN use despite adequate coverage and availability.¹ This highlights the need for appropriate messaging and tailored interventions for mobile and migrant populations to ensure proper and consistent use.

To sustain progress in CHT districts, the programme aims to maintain universal coverage of LLINs in Bandarban, Rangamati, and Khagrachari districts. Mass campaigns in FDMN camps are contingent on securing additional funding.

Private Sector Engagement

Although malaria has been a notifiable disease in Bangladesh since 2018, engagement of the private healthcare sector in elimination efforts has remained limited. The private healthcare sector is extensive, with 5,054 registered private hospitals and clinics in recorded in 2019, not including informal providers.⁷ In some endemic areas, data suggests that the private sector represents over 97% of available healthcare provision, and the NMEP estimates that around 20% of malaria patients seek care from the private sector.⁴

A 2019 assessment conducted by the NMEP and WHO found that only approximately 60% of private healthcare facilities could carry out parasitological examinations using both RDT and microscopy.³ In 2022,



the NMEP, Communicable Disease Control Unit of the DGHS, the WHO, and the International Centre for Diarrhoeal Disease Research, Bangladesh (icddr, b) mapped private for-profit healthcare facilities in 15 Upazilas across eight districts, including the CHT.⁷ The study found that while 80.8% of private healthcare facilities offered malaria testing services (56.2% in the CHT), only 18.3% of facilities offered treatment services. Both assessments showed that few private sector providers collaborate with NMEP or have received training, that knowledge of national treatment guidelines was variable, and that most diagnosed and treated cases were not reported to the national programme. However, many private providers expressed interest in working with the NMEP.

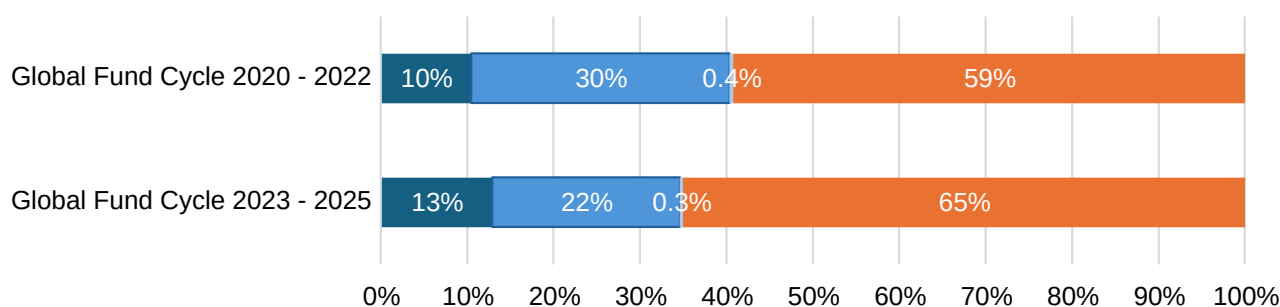
Private sector engagement is now a strategic priority for the NMEP. The programme aims to expand facility mapping; train identified private sector laboratories, diagnostic centres, and clinics in the 13 endemic and control districts on the use of quality-assured diagnostic services and on referring cases to the public sector; and undertake advocacy efforts to raise awareness of malaria as a notifiable disease to improve reporting.³ In 2025, all private hospitals and clinics in Bandarban have been engaged to test suspected malaria cases and refer positive cases to nearby health facilities for treatment.

Financing the Response

Domestic financing for the national response is provided through government revenues, including through loans from the a consortium of donors, including the World Bank, under the Health, Nutrition and Population Sector Programme (HNPSPP).³ External financing for the malaria programme is primarily provided by The Global Fund, with some additional contributions from the WHO. Over the past two Global Fund allocation cycles, Global Fund contributions have decreased, both in absolute terms (from US\$24 million to US\$20 million) and as a share of total financing (from 30% to 22%). Meanwhile, domestic contributions have increased, from 10% (US\$8.4 million) to 13% (US\$12 million) of total financing.

Despite this increase, domestic spending remains low. The National Strategic Plan 2024-2030 advocates for the overall public health expenditure to increase from its current level of less than 1% of Gross Domestic Product.³ This will be necessary to help ameliorate the programme's substantial funding gaps, which stood at 59% between 2021-2023 and is anticipated to increase to 65% (US\$60 million) between 2024 and 2026. In total, the resource requirements to implement the 2024-2030 national strategy is estimated at US\$265,370,127.¹

Figure 2. Malaria funding (USD) by funding source, Bangladesh.



	Global Fund Cycle 2020-2022	Global Fund Cycle 2023-2025
Domestic	\$8,390,975	\$11,905,614
Global Fund	\$24,099,999	\$20,091,193
Other External Partners	\$300,000	\$300,000
Funding Gap	\$47,696,535	\$60,151,359

Source: The Global Fund Data Explorer – Bangladesh: Southern Asia, Access to Funding



Towards 2030 - Challenges and Opportunities

Bangladesh's NMEP has fostered strong partnerships and ensured effective programme implementation, allowing the country to maintain a steady decline in malaria incidence over the past decade and preventing periodic upsurges from escalating into full resurgences. As the country approaches elimination, Bangladesh will need to increasingly consider what resources and systems must be sustained to ensure a smooth transition from external support.

While 51 districts are now considered non-endemic, a subnational verification system will need to be established to certify their malaria-free status, alongside mechanisms to ensure prevention of re-establishment. In the high-burden Bandarban district, partner NGO support is expected to continue until 2030; however, in other districts supported by partner NGOs, the public sector is expected to assume full responsibility for the malaria response from 2027 onwards.¹ Careful planning will be essential to maintain service quality in regions where support is withdrawn, particularly in highly receptive and vulnerable areas.

A fully domestically owned and sustained programme will require increased domestic resources and clear prioritization of malaria within national health strategies. The programme is undertaking several strategies to support the transition from the Global Fund to Government of Bangladesh resource, including by advocating for integrating malaria indicators into the HNPS.³ Undertaking a strategic focus toward broader health system strengthening activities, including engaging the underutilized private healthcare sector, will be key to ensuring the progress toward malaria elimination achieved thus far.

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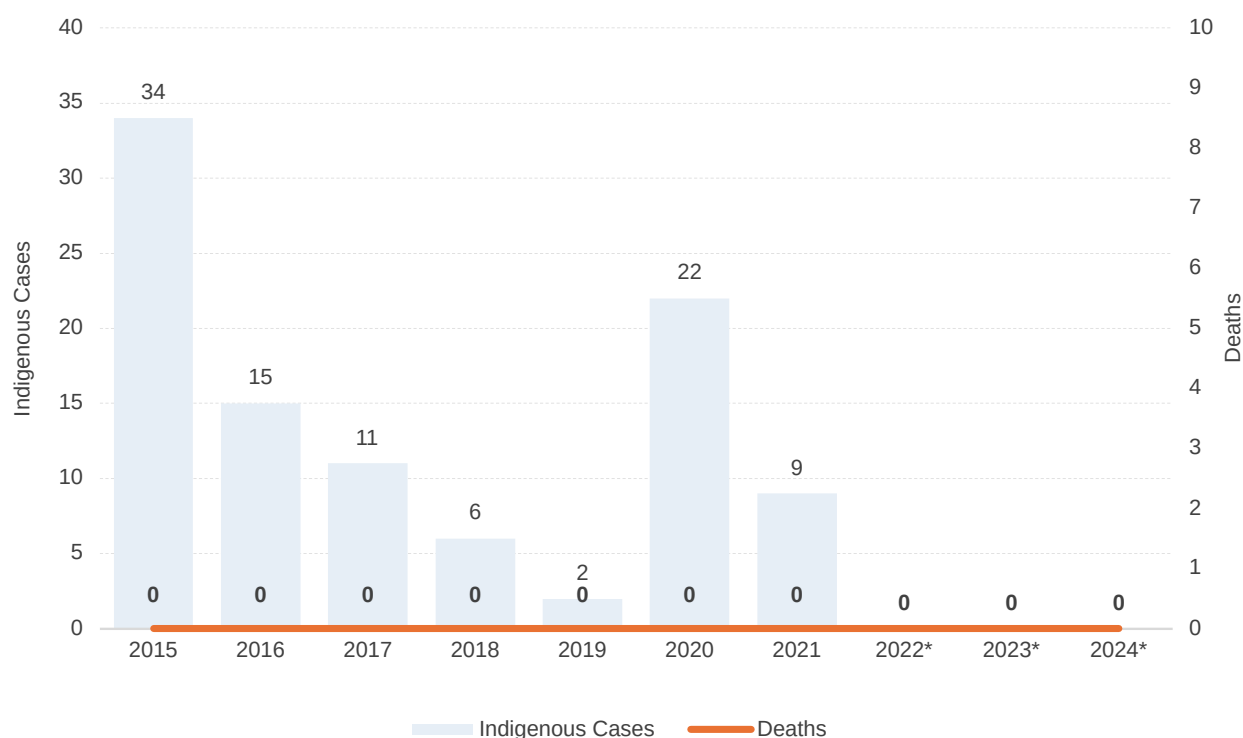
Photo: Thimphu, Bhutan

KINGDOM OF BHUTAN



Kingdom of Bhutan

Figure 1. Indigenous Cases and Deaths in Bhutan, 2015-2024.



*Data for 2022, 2023, and 2024 indicate both 0 indigenous cases and deaths.

Source: 2015-2023 data from the World Malaria Report 2024. 2024 data from the National Programme.

**100%
Decrease**

**in indigenous malaria cases
between 2015 and 2024**

Key Message

Bhutan recorded its last indigenous case of malaria in 2021, marking 3 consecutive years without any cases of human malaria. With strong cross-border measures and a case-based tracking system in place, Bhutan remains on track to achieve its target of elimination in 2025.

Epidemiological Context

The Kingdom of Bhutan (Bhutan) has now achieved three consecutive years (2022 to 2024), without any indigenous malaria cases, a powerful testament to the effectiveness of its elimination efforts. This milestone not only reinforces the nation's progress but places it firmly in the regional vanguard of malaria elimination.

Micro-stratification in 2022 confirmed that no districts maintain active foci, though residual non-active foci persist in Sarpang and Samdrup Jongkhar along the Assam border. Bhutan's malaria transmission follows two peaks: April–May with the onset of the monsoon, and August–September before the cool dry season. Historically, farmers and students bore disproportionate risk due to evening and nighttime exposure without protection, while population mobility between the malaria-free highlands and receptive southern districts sustained vulnerability.

The country's epidemiology is now dominated by importation. Increasing cross-border movement for trade, labour migration, and hydropower development brings sustained risk of reintroduction, particularly from neighbouring Indian states that remain malaria endemic. In 2023, Bhutan detected eight imported cases, most among non-Bhutanese travellers, a pattern consistent since 2014.



Plasmodium vivax remains the most common parasite detected, though sporadic *P. falciparum* and mixed infections occur. Vector receptivity in the southern foothills is high, with densities of *Anopheles minimus* and *An. dirus* is capable of sustaining transmission if parasites are reintroduced. Climate change compounds these risks: Bhutan's fragile Himalayan ecosystem is warming, potentially extending vector ranges northward into previously inhospitable areas.

Taken together, Bhutan's epidemiological reality is one of success but continued vigilance. The elimination goal of 2025 is within reach, yet the country remains acutely dependent on sustained surveillance, timely cross-border coordination, and rigorous prevention of re-establishment in its southern belt.

The National Response

The Bhutanese Vector-Borne Disease Control Programme (VDCP) falls under the purview of the Communicable Diseases Division, Department of Public Health, Ministry of Health of Bhutan.

Prior to 2020, Bhutan targeted implementation of preventive interventions, strengthened technical and managerial capacity, the development of a case-based malaria surveillance and response system, and the continued provision of early diagnosis and treatment, all in accordance with their prevailing national approach towards malaria elimination.

Published that same year, the Strategic Plan for Elimination of Malaria and Prevention of Re-introduction in Bhutan 2020-2025 built on progress made in the years prior.¹ It emphasizes:

- The need for tailored, evidence-based strategies that conform to WHO recommendations
- Universal access to quality diagnosis, treatment, and prevention, particularly among vulnerable populations
- The establishment of a Malaria Elimination Commission
- Collaboration mechanisms with governmental bodies as well as organisations in the private sector
- Empowering districts to take responsibility for malaria elimination and promoting community-led efforts for malaria elimination activities
- Collaboration with institutions, local and foreign, and neighbouring countries
- The usage of modern technology and tools in support of malaria elimination

Bhutan's National Strategic Plan is currently implemented by the VDCP, through the provision of technical and financial support to the 20 districts of Bhutan. In line with the country's push towards decentralising malaria policy implementation, it is envisioned that health sectors within districts will provide funds and human resources for elimination activities.

Catalytic Technical Support

Bhutan's success in reducing its malaria burden has been attributed to insecticide-based interventions, specifically bed nets treated with insecticide, as well as indoor residual spraying. In 2021, data from the World Health Organisation indicated susceptibility to insecticide resistance along the borders of Sarpang District, itself a border district with India. That same year, Bhutan put in place a National Insecticide Resistance Monitoring and Management Plan, in line with its goal of preventing the re-introduction of malaria.

Together with the Asia Pacific Malaria Elimination Network (APMEN), the Insecticide Resistance Monitoring (IRM) plan² was developed through extensive consultation, taking into consideration the country's epidemiology and policy mechanisms. This translated to a detailed workplan containing resource and financial requirements, that was approved by the Ministry of Health. Today, that document is the blueprint that guides Bhutan's vector control programme in its monitoring and management of insecticide resistance.



Cross Border Collaboration

Bhutan's shared borders with the Indian states of West Bengal and Assam in the south are of significant concern, given their malaria endemicity and high rates of border crossings.³ Between 2021 and 2023, the bulk of cases reported in Bhutan were imported from Assam, part of a larger trend starting in 2014 in which imported cases from India have outnumbered indigenous cases.

In November 2019, a road map was developed for cross-border collaboration between India and Bhutan, with a focus on:

- Strengthened surveillance via real-time data
- Screening of populations at border districts
- Diagnosis and treatment
- Reporting of private sector data

Regular cross-border meetings and data sharing have since taken place as a result of the road map's implementation.

The World Health Organization South East Asia Regional Office (WHO SEARO) and the Southeast Asia Regional Coordination Mechanism Forum (SRCMF) have played an active role in strengthening cross-border collaboration by facilitating bilateral meetings involving national and sub-national stakeholders from Bhutan and India. These meetings have deepened collaboration, allowing for formal and informal communication over WhatsApp, for instance, for improved response times. Bhutan has additionally mapped its health facilities along a five-kilometre epidemiological zone along its border with India, to synchronize vector control, diagnosis, and treatment for malaria.

Bhutan has a sizeable mobile and migrant population within their existing labour force, hailing from areas with differing intervention policies, strategies, and health infrastructure. On its part, the Government of Bhutan has made it mandatory for all migrant labourers to undergo malaria testing at hospitals in border districts or private diagnostic centres, as part of their medical screening. Targeted, proactive surveillance is carried out on a regular basis as well, with screening programmes detecting cases of *P. falciparum* and *P. vivax* among migrant labourers in high-risk areas.¹

Financing the Response

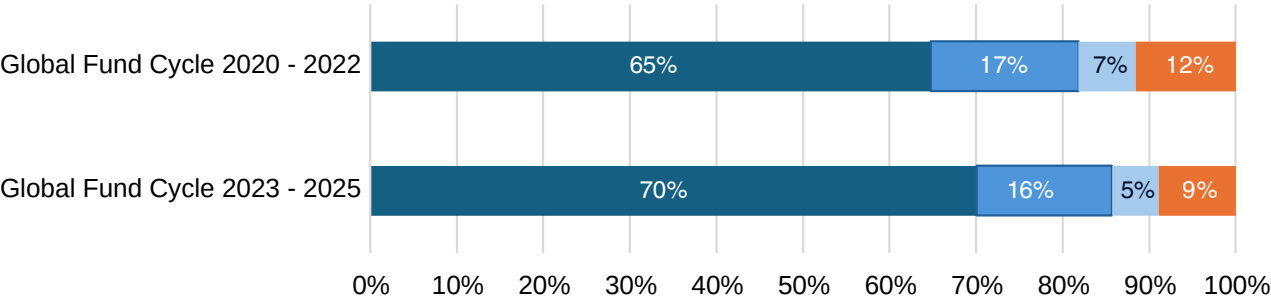
Bhutan demonstrates exceptional commitment to domestic ownership of its malaria programme, with the majority of malaria financing sourced from domestic resources. During the current Global Fund 2023-2025 grant cycle, domestic financing accounts for 70% of the country's total malaria programmatic needs, representing a notable increase from 65% in the previous grant cycle.⁴ This upward trajectory reflects Bhutan's sustained political commitment and growing fiscal capacity to maintain malaria gains independently. Domestic funding is primarily channelled through the Ministry of Health's annual budget allocations, which cover essential programme components including surveillance activities, case management, vector control operations, and health system strengthening initiatives.

The Global Fund serves as a strategic partner rather than the primary financier, contributing approximately 16% of Bhutan's malaria programmatic requirements. This proportionally smaller but targeted support focuses on technical assistance, capacity building, and specialized interventions that complement domestic investments. Additional external support from the World Health Organisation and the Government of India collectively provides around 5% of the total programme needs. These partnerships offer valuable technical expertise and cross-border collaboration mechanisms.



Remarkably, Bhutan maintains one of the region's smallest funding gaps at approximately 9% of total programmatic needs. The combination of strong domestic ownership, strategic external partnerships, and efficient resource utilisation creates a sustainable financing model that supports Bhutan's continued progress toward malaria elimination while building resilience against potential changes to the funding landscape. This robust financial foundation proves particularly strategic as Bhutan has been earmarked for transition out of Global Fund support by 2028 due to its decreasing malaria burden.⁵ Fortunately, Bhutan's exceptional domestic resource mobilization capacity positions it to achieve a smooth transition, while serving as an exemplary model for other countries in the region to follow.

Figure 2. Malaria funding (USD) by funding source, Bhutan.



	Global Fund Cycle 2020-2022	Global Fund Cycle 2023-2025
Domestic	\$5,212,063	\$6,142,107
Global Fund	\$1,374,353	\$1,373,076
Other External Partners	\$531,650	\$473,109
Funding Gap	\$930,708	\$782,908

Source: The Global Fund Data Explorer – Bhutan: Southern Asia, Access to Funding



Towards 2030 - Challenges and Opportunities

Three consecutive years with zero indigenous cases suggests Bhutan's main challenge lies in the prevention of re-introduction.⁶ To that end, the Bhutanese government has put in place measures in relation to cross-border malaria, while identifying key issues within the country.

Where cross-border malaria is concerned, a lack of standardisation remains a problem on both sides of the Bhutan-India border. While communication between the countries has improved over the years, a lack of common indicators concerning epidemiological data, vector-related data, and patient clinical information remains a gap in existing efforts.

Domestically, Bhutan has identified declining levels of community participation as a growing concern, with preventive and control measures neglected, while health-seeking behaviour among some communities is poor.⁶ To combat the growing sense of complacency among health workers, the VDCP has put into place a plan to revitalise and revamp Community Action Groups – groups formed to carry out social mobilisation activities including Integrated Vector Management and awareness campaigns, while reinforcing preventive and control measures through constant reminders and inspections. High-risk groups will continue to be identified, while Primary Health Units will conduct regular surveillance.

Bhutan's immediate plans are dominated by its push towards certification. The Technical Advisory Group for Malaria Elimination verified its 2024 case figures - its third consecutive year without any indigenous cases, with visits to case sites in early 2025. An external review by the WHO followed in March 2025, with Bhutan's official application shortly after.

On the cross-border front, the VDCP has identified the need for mutually agreeable cross border collaborative activities with malaria-endemic bordering districts of India, to address the potential problem of re-introduction. Networks are also being set up to share information on malaria across borders, while special intervention zones are simultaneously being set up to implement intervention packages.

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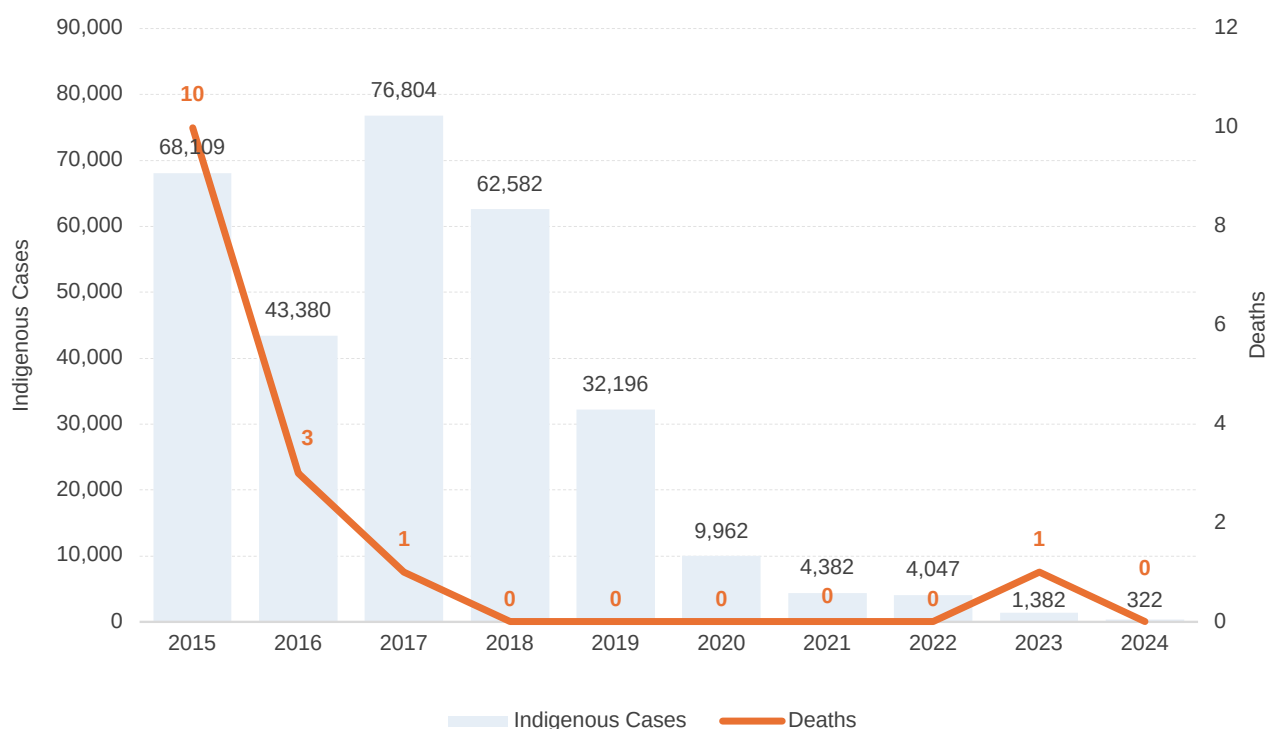
Photo: Phnom Penh, Cambodia

KINGDOM OF CAMBODIA



Kingdom of Cambodia

Figure 1. Indigenous Cases and Deaths in Cambodia, 2015–2024.



Source: 2015–2023 data from the WHO World Malaria Report 2024. 2024 data from the WHO Mekong Malaria Elimination Programme Epidemiology Summary, Volume 29, January–March 2025.

**>99%
Decrease**

**in indigenous malaria cases
between 2015 and 2024**

Key Message

On track to eliminate malaria by 2025, Cambodia achieved remarkable success towards malaria elimination through an innovative Intensification Plan, strong community-based networks and targeted strategies for hard-to-reach populations. Sustaining these gains requires robust transition planning and health system integration.

Epidemiological Context

The Kingdom of Cambodia (Cambodia) has achieved one of the world's most dramatic malaria reductions between 2015 and 2024, with indigenous malaria cases plunging from over 68,000 in the mid-2010s to just 322 a decade later^{1,2} – a reduction exceeding 99%. Since 2018, the country has also reported zero malaria deaths,¹ positioning Cambodia to achieve complete malaria elimination by 2025, a goal set out in 2011 in the National Strategic Plan for Elimination of Malaria in Cambodia 2011–2025.³

Geographically, the last remaining pockets of malaria cases remain concentrated in four provinces, which together accounted for approximately 80% of the national caseload in 2024. These include Stung Treng Province with 42% of reported cases, followed by Monduliri with 21%, Kampong Speu with 12%, and Pursat with 5%. The remaining burden clusters predominantly in forested border regions along Thailand's western border and the northeastern borders with Viet Nam and Lao PDR, particularly in areas with dense evergreen and semi-evergreen forests. Demographically, over three quarters of all malaria cases occur among adult men as of 2020.⁴ The highest-risk populations include among hard-to-reach, forest-exposed communities with occupational or economic ties to high-transmission forest environments.



These include mobile and migrant workers (estimated 80,000 individuals), forest workers engaged in agricultural labourers in rubber plantations, security personnel conducting forest patrols, as well as informal sector workers including small-scale miners and forest product gatherers.⁵

The National Response

Cambodia's malaria response operates through a coordinated multi-tiered organizational structure led by the National Centre for Parasitology, Entomology and Malaria Control (CNM) under the Ministry of Health. CNM serves as the government agency responsible for directing and supervising vector-borne disease control nationwide, creating health education programmes, and managing scientific research projects. On the other hand, the United Nations Office for Project Services (UNOPS) serves as Principal Recipient for Global Fund malaria grants. Cambodia's malaria programme is therefore implemented through partnerships between CNM, WHO, UNOPS, and civil society organizations (CSOs). Key civil society organizations include Malaria Consortium, Catholic Relief Services, Clinton Health Access Initiative (CHAI), Population Services International (PSI), Health and Social Development, and University Research Co. (URC), each providing technical support and geographic area-specific implementation.⁶ WHO staff, including deployed epidemiologists in malaria-endemic provinces, provide technical supervision and evidence-based guidance through monthly epidemiological analyses.⁴

The national malaria response is guided by several key national documents including the *National Strategic Plan for Elimination of Malaria in Cambodia 2011–2025*.³ The Malaria Elimination Action Framework (MEAF) provides implementation guidance, with MEAF 2016-2020 outlining a stratified approach for *P. falciparum* elimination by 2020,⁷ and MEAF 2021-2025 shifting to a whole-country elimination strategy for all malaria species by 2025.⁸

The Malaria Intensification Plan (2018 – 2020)

Cambodia's Malaria Intensification Plan (IP) was initiated as a critical emergency response to a sharp rise in *Plasmodium falciparum* cases and the escalating threat of multidrug-resistant *P. falciparum* parasites, both nationally and across the region.⁶ This alarming surge prompted CNM, in collaboration with the Ministry of Health and WHO, to develop an intensive intervention strategy implemented from October 2018 to December 2020. The IP operated in two phases targeting the highest-burden areas: Phase 1 (October 2018 - October 2019) focused on 30 health facility catchment areas (HFCAs) across seven provinces and nine operational districts, accounting for 75% of all malaria cases nationally. Phase 2 (November 2019 - December 2020) shifted focus to village-based in 36 HFCAs in 12 operational districts representing 77% of *P. falciparum* cases.

The plan's core strategy involved deploying 141 mobile malaria workers (MMWs) - one per village hotspot – to reach forest-goers and mobile migrant populations in high-transmission areas. MMWs provided comprehensive services including rapid diagnostic testing, antimalarial treatment with single low-dose primaquine, weekly active case detection to forest hotspots, distribution of forest packs containing hammock nets and educational materials and extended 24-hour accessibility for forest workers.

The IP achieved remarkable results with *P. falciparum* / mixed cases declining by 97.4% from 1,029 to 27 cases between 2018 and 2020. Testing increased dramatically by over 100% between phases, while overall malaria cases nationwide declined by over 90%. The intervention also demonstrated spillover effects, with neighbouring non-intervention areas experiencing greater declines than distant provinces, likely due to targeting mobile populations who might carry malaria. This intensive approach provided critical lessons for Cambodia's final elimination push and established the foundation for subsequent 'last-mile' elimination activities.



Village Malaria Worker (VMW) and Mobile Malaria Worker (MMW) Networks

Cambodia's Village Malaria Worker (VMW) and MMW networks represent cornerstone interventions in the country's malaria elimination strategy. VMWs operate in 3,164 villages as of 2023 performing multiple critical functions in remote communities located more than 5km from health facilities.⁹ These include directly observed treatment (DOT) for first doses, active and passive case detection, health education on prevention measures, and monthly reporting through the Malaria Information System.¹⁰ MMWs target mobile populations in forested areas, conducting active case detection among forest workers and migrant populations, distributing preventive interventions, and implementing bimonthly active fever screening in transmission foci.⁶

VMWs play a pivotal role in malaria case management and have contributed significantly to the reduction in disease incidence. In 2019, VMWs conducted 72% of all public sector malaria diagnostic tests and managed 54% of confirmed malaria cases in the public sector.¹¹ The network was also highly cost-effective while the malaria burden was high: a 2008 cost-effectiveness analysis showed that the VMW scheme cost US\$5.14 per *falciparum* patient treated, significantly more efficient than alternative outreach models at US\$12.74 per patient.¹² However, as caseload decreases, the cost to treat per patient increases, necessitating a rethink on long-term sustainability.

Cambodia has therefore developed a comprehensive roadmap for the integration of 3,760 VMWs by the year 2025, beginning with low-risk provinces.¹¹ The integration of VMWs is part of Cambodian government's strategy to transition from a vertically funded programmatic approach to a sustainable whole-of-health system approach. At the same time, the Cambodian government is reviewing the role of VMWs and exploring the potential to expand the services they provide. To date, CNM has issued guidance allowing VMWs to provide mebendazole for soil-transmitted helminths and provide health education for dengue. By integrating VMWs, they can provide an extended array of services including health education, referral systems, surveillance, and preventive as well as curative interventions for other vector-borne diseases.

Surveillance and information systems

Cambodia currently operates two complementary information systems: the specialized Malaria Information System (MIS) and the broader Health Management Information System (HMIS),¹³ with the latter transitioning to DHIS2 by 2026.¹⁴ The MIS, developed in 2009 and upgraded to a web-based platform in 2016, serves as the backbone of malaria surveillance by capturing individual-level case data – a level of detail crucial for contact tracing, outbreak investigation, and targeted interventions. The MIS also enables real-time case notification and automated data quality validation that standard health information systems cannot provide. In other words, while HMIS captures aggregate facility data suitable for routine health programme monitoring, the granular case-based surveillance offered by MIS remains indispensable until elimination is achieved. Post-elimination, the plan is for malaria surveillance to transition to the national HMIS system. Although the current MIS and HMIS platforms share some overlapping variables, both systems rely on a single data source. This means that malaria data entered into the MIS is automatically transferred to HMIS, eliminating the need for duplicate entry by health workers.

Interventions for hard-to-reach populations

Cambodia's interventions for hard-to-reach populations target forest workers, mobile and migrant populations, and border communities who account for over 90% of remaining malaria transmission. Targeted interventions include specialized MMW deployment in 354 remote villages, with 100 locally recruited MMWs conducting active case detection across six northern provinces. Strategic screening points at transportation hubs target mobile populations, while Intermittent Preventive Treatment for Forest Goers (IPTf) provides monthly artesunate-pyronaridine prophylaxis.



Operational strategies focus on forested border areas in Battambang, Pursat, Pailin, Stung Treng, Monduliri, Rattanakiri, and Kampong Speu provinces. Cross-border coordination includes the Laos-Thailand-Viet Nam-Cambodia Development Cooperation Programme and joint surveillance systems with harmonized messaging. Critical implementation approaches involve recruiting VMWs and MMWs from local communities who speak indigenous languages, providing transportation equipment, and establishing trust through village chiefs and community networks.

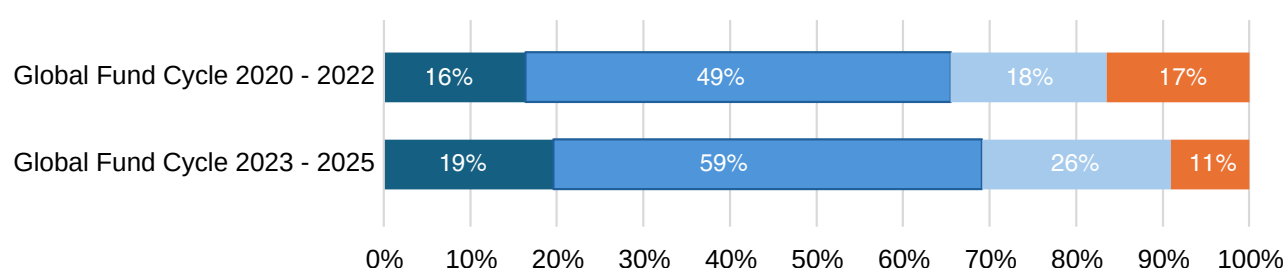
Effectiveness outcomes show substantial impact, with mobile teams reaching 169,859 people and VMWs 157,048 between 2018-2020. Cross-border screening identified 5.4% infection rates among border-crossers, with highest rates at the Laos border. The comprehensive approach achieved 98% testing coverage of suspected cases and 91% appropriate treatment rates.

Financing the Response

Cambodia's malaria programme faces mounting financial sustainability challenges as donor funding contracts. The Global Fund remains the largest financier of malaria activities, providing approximately 60% of programmatic needs in the current grant cycle, a figure that is expected to decrease in tandem with the disease burden. On the other hand, the United States Agency for International Development (USAID)'s President's Malaria Initiative (PMI) has, until recently, contributed funding equivalent to 26% of malaria programmatic needs. However, PMI's suspension in February 2025 has created a significant funding gap,¹⁵ with most pledged resources unable to reach Cambodia's national programme. This convergence of declining funding and donor withdrawal underscores the critical importance of transition planning to preserve elimination gains and prevent resurgence of malaria transmission.

In 2024, CNM, in partnership with the Clinton Health Access Initiative and the Asia Pacific Leaders Malaria Alliance, conducted a comprehensive transition assessment to assess Cambodia's capacity for an independently managed malaria response.¹⁶ This assessment serves as a timely update to the 2021 assessment conducted by the University of California, San Francisco Malaria Elimination Initiative.¹⁷ The assessment underscored the critical need for increased domestic resource mobilization – whether through national level resource allocation or leveraging commune-level investments – to sustain Cambodia's malaria elimination efforts in the long term. Findings from the 2024 assessment have directly informed Cambodia's *Malaria Transition Roadmap 2026-2035*, and will also inform the forthcoming *National Strategic Plan for Malaria Elimination 2026-2035*.

Figure 2. Malaria funding (USD) by funding source, Cambodia.



	Global Fund Cycle 2020-2022	Global Fund Cycle 2023-2025
Domestic	\$12,002,040	\$12,095,589
Global Fund	\$36,026,215	\$30,614,061
Other External Partners	\$13,200,571	\$13,500,000
Funding Gap	\$12,125,153	\$5,586,637

Source: The Global Fund Data Explorer – Multicountry East Asia and Pacific RAI, Access to Funding. Data for domestic funding for the Global Fund Cycle 2023-2025 provided by the National Centre for Parasitology, Entomology and Malaria Control.



Towards 2030 - Challenges and Opportunities

In 2024, CNM partnered with the Clinton Health Access Initiative and the Asia Pacific Leaders Malaria Alliance to conduct a comprehensive transition assessment, evaluating Cambodia's capacity for an independently managed malaria response and steps that need to be taken to improve readiness.¹⁷ This critical evaluation revealed both formidable challenges and promising opportunities that will shape the country's path toward sustainable elimination beyond 2025.

Cambodia faces significant obstacles in integrating its community health workforce into the broader health system. While 84% of VMWs have expanded their scope to address other vector-borne diseases within CNM's jurisdiction, integration beyond CNM remains elusive due to complex institutional structures and inadequate inter-ministerial coordination. Paradoxically, the programme's success has created new challenges, as declining malaria burden has reduced VMW activities and incentives, threatening workforce retention when vigilance remains essential.

Strategic opportunities exist through developing a sustainable post-2025 VMW integration roadmap aligned with the forthcoming *National Strategic Plan for Malaria Elimination 2026–2035*, while engaging non-health stakeholders like the Ministry of Economy and Finance to ensure robust surveillance capacity that serves both elimination maintenance and broader public health objectives.

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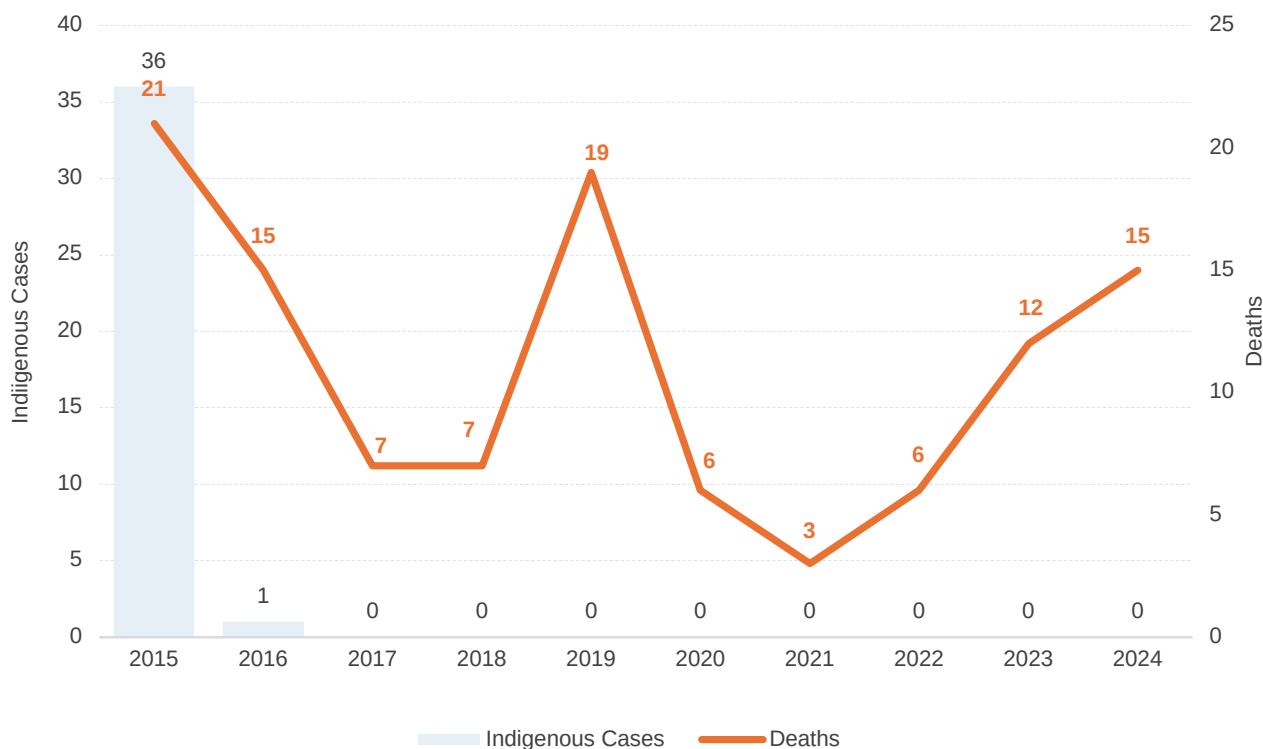
Photo: Beijing, China

PEOPLE'S REPUBLIC OF CHINA



People's Republic of China

Figure 1. Indigenous Cases and Deaths in China, 2015–2024.



Source: 2015–2024 data from the National Institute of Parasitic Diseases, China Centre for Disease Control and Prevention.

**100%
Decrease**

**in indigenous malaria cases
between 2015 and 2024**

Key Message.

China's remarkable success in achieving and sustaining malaria-free status provides valuable learning experience for the region, including strategies such as the whole-of-government approach, '1-3-7' surveillance and response, and '3+1' approach for POR in border areas. Continued vigilance and sustained investment will be key for China to remain malaria-free.

Epidemiological Context

From a devastating burden of more than 30 million cases annually in the 1940s, when malaria was epidemic in nearly 80% of the counties in the country,¹ the People's Republic of China's (China's) elimination of malaria represents a remarkable transformation and historic public health triumph. From 2010, the successful launch of the National Malaria Elimination Action Plan (2010–2020)² accelerated dramatic case reductions, leading to the systematic elimination of indigenous transmission by species. In 2015, the last indigenous case infected with *P. malariae* was reported in Sanya in Hainan Province, and the last indigenous case of *P. falciparum* was reported in Cangyuan County in Yunnan Province.

In 2016, the last indigenous case of *P. vivax* malaria was reported in Yingjiang County in Yunnan Province.³ China has maintained zero indigenous transmission since 2017. This extraordinary accomplishment was formally recognized when China was certified malaria-free by WHO in June 2021,¹ marking the successful completion of a 70-year elimination journey.



Today, China's robust prevention of reestablishment (POR) programme effectively manages imported cases through enhanced surveillance. Imported cases are mainly reported in Yunnan province, with comprehensive surveillance systems successfully preventing any reestablishment of local transmission while maintaining China's malaria-free status.

The National Response

The national malaria programme functions through a hierarchical four-level system within the disease control framework: With the administrative leadership from all levels, the National Institute of Parasitic Diseases (NIPD), Chinese Centre for Disease Control and Prevention (China CDC) serves as the national technical guidance centre; Provincial and prefectural disease control agencies are responsible for their regional management; and County CDCs implement surveillance and response activities locally.^{3,8} In other words, malaria control has been included in the work of the whole country CDC system (National, Provincial, Prefecture, and County), extending to the grassroots level to ensure the effective implementation of control measures.³

Enhanced '1-3-7' Surveillance and Response System

The '1-3-7' surveillance and response approach, developed in 2011 and fully implemented nationally from 2012–2020, was China's core elimination approach for malaria. This innovative approach required case reporting within 1 day, investigation within 3 days, and foci response within 7 days,² fundamentally transforming China's malaria surveillance from periodic reporting to real-time case-based tracking, and further serving as a model for global adaptations.⁹ In the POR phase (2021 onwards), China adapted its '1-3-7' approach by maintaining the same rigorous reporting standards, but emphasized surveillance of at-risk populations, particularly returning travellers from malaria-endemic regions and border populations.¹⁰

This enhanced approach has proven to be effective: Between 2013–2022, China reported 24,758 malaria cases (>99.2% imported), achieving 100% case reporting within 24 hours, with over 94% of cases investigated within 3 days and 93% of foci responses completed within 7 days.⁹ With no indigenous cases reported since 2017, the successful POR phase adaptation represents a fundamental evolution from elimination-focused to prevention-focused surveillance, emphasizing traveller-centered proactive healthcare, enhanced border surveillance, and maintaining diagnostic capacity.

Whole-of-Government Approach

China has undertaken a whole-of-government approach to malaria elimination and POR. Since 2010, malaria elimination and POR has been a joint effort by 13 ministries in China, including the Ministry of Health and General Administration of Customs.¹ This multisectoral coordination mechanism represents a fundamental shift from health-sector-only approaches to whole-of-government engagement. To realize the national goal of eliminating malaria by 2020, the ministries jointly issued the *National Malaria Elimination Action Plan (2010–2020)*,² which detailed malaria surveillance requirements for different levels of government, as well as the roles and responsibilities of different agencies.

Even after elimination, the ministries continue to collaborate and jointly issued the *Management Measures for Preventing Re-establishment of Malaria Transmission* document in 2020,¹¹ to reinforce efforts to prevent re-establishment.¹⁰ Table 1 below summarizes the POR portfolio under each ministry and illustrates how ministries closely coordinate and collaborate with one another to carry out necessary POR activities. Such a whole-of-government approach ensures large-scale, sustained, and concerted efforts to ensure China's malaria-free status.



Table 1. China's whole-of-government approach to prevent re-establishment of malaria.¹⁰

Ministry in China	Role in malaria POR
National Health Commission / National Disease Control and Prevention Administration	- To establish technical taskforce to undertake clinical reviews, identify sources of infection, instruct case detections and foci investigations, manage outbreaks, conduct technical training and evaluations. - To convene expert committee for treatment of severe malaria. - To regularly update provincial health authorities the latest national malaria epidemiology and coordinate necessary work.
Ministry of Education	- To educate foreign students, as well as teachers and students travelling to malaria-endemic regions about malaria prevention. - To screen foreign students from endemic regions for malaria.
Ministry of Industry and Information Technology	Upon request, to support provincial health authorities by using big data methods to conduct epidemiological investigations.
Ministry of Public Security	To assist provincial health authorities with case detections and foci investigations, as well as management of outbreaks.
Ministry of Justice	To assist relevant health authority with case investigations and management for prison/detention centre cases.
Ministry of Finance	- To include malaria surveillance in central government's budget. - To reimburse malaria diagnosis and treatment as per basic medical insurance package coverage
Ministry of Commerce	To educate Chinese labors in endemic regions on malaria prevention, and to provide them with necessary protective measures.
Ministry of Culture and Tourism	- To educate tour guides on malaria prevention. - To educate travellers to endemic regions on malaria prevention.
General Administration of Customs	- To educate travellers to endemic regions on malaria prevention. - To screen symptomatic travellers from endemic regions. - To coordinate with health authorities on investigations and management of POR cases.
National Healthcare Security Administration	To ensure adequate supply of antimalarials and prevent stockouts.
National Immigration Administration	- To collaborate with local health authorities of endemic regions on malaria prevention campaigns. - To enforce border control measures when deemed necessary. - To coordinate and assist provincial health authorities and customs on investigations of cases when necessary.
National Medical Products Administration	To coordinate with provincial health authorities and Ministry of Finance to centrally procure, stock and supply antimalarials.
Logistic Support Department of the Central Military Commission	To report to National Health Commission annually on malaria cases. Any local transmission or outbreaks are to be reported immediately.



Integrated COVID-19 and Malaria Surveillance System

During the 2020 - 2021 COVID-19 pandemic, China demonstrated remarkable adaptability by integrating malaria prevention measures into existing COVID-19 infrastructure, particularly for international travellers and quarantine protocols. This strategic approach leveraged China's closed-loop management strategy for international arrivals, integrating '1-3-7' surveillance timelines with mandatory 14-day quarantine periods.¹² The system enabled dual screening of malaria alongside SARS-CoV-2 for travellers from endemic areas, maximizing health security benefits during the pandemic. Implementation involved multi-agency coordination between customs, immigration, health bureaus, and other departments, exemplifying whole-of-government collaboration in practice. This adaptive integration also demonstrated how malaria surveillance can be effectively integrated into broader health security measures.

3+1 Approach for Border Areas

Following a high-level signing of bilateral memorandum of understanding (MOU) with Myanmar in 2005, the implementation of '3+1' strategy established multiple layers to prevent malaria reintroduction through China's longest international border.¹³ '3+1' created three preventive lines within China plus one buffer zone in Myanmar's border areas. Implementation involves systematic multi-layered surveillance: enhanced surveillance in Chinese border counties (Line 1), intensive monitoring in high-risk townships (Line 2), focused screening in specific villages (Line 3), plus integrated malaria control measures in Myanmar's Kachin Special Region II (+1 area). 68 border malaria posts were also set up at informal crossing points. This POR strategy has proven successful: results showed that Yingjiang County, China, has maintained zero indigenous cases since 2017.

Enhanced Malaria Diagnostic Laboratory Network for Imported Case Management

The malaria diagnostic laboratory network, originally established during the elimination phase (2011-2016) and systematically enhanced for POR phase requirements starting in 2021, maintains comprehensive diagnostic capacity spanning all 24 former malaria-endemic and the other non-malaria provinces.^{11,14} Consisting of the national and provincial reference laboratories and all-level testing facilities, the network ensures accurate diagnosis through microscopy, rapid diagnostic tests, and PCR confirmation. Hospital samples are sent to county-level facilities for confirmation and sent for further confirmation by provincial reference laboratories.¹⁰ Such workflow ensures accurate diagnosis of imported cases while preventing diagnostic capability erosion in the post-elimination environment where clinical malaria exposure is minimal.

Financing the Response

The Chinese Government has been domestically funding its malaria programme in full since 2014, when Global Fund support for the country ended.¹⁵ Understanding that malaria can rebound at any time if funding and interventions are interrupted, the Chinese Government has to date continued to mandate making malaria-related funds a routine budget – a longstanding policy that has been in place for more than a decade.¹⁶ Even in post-elimination phase, the central funds alone remain at around UDS \$10 million per year in the essential public health services specifically purposed for malaria.¹⁷ This strong financial support ensures programmatic sustainability and to keep China malaria-free. Malaria is also enshrined in high-level government plans and law, such as the *Law of the People's Republic of China on the Prevention and Control of Infectious Diseases*, *China's Malaria Elimination Action Plan (2010-2020)*, *Healthy China 2030 Planning Outline* and *Healthy China Action Plan*.¹⁰ This demonstrates and ensures sustained political focus and efforts towards POR.



Towards 2030 - Challenges and Opportunities

China's remarkable success in achieving and sustaining malaria-free status thus far demonstrates the critical importance of strong commitment towards domestic resource mobilization, systematic institutional coordination, innovative surveillance strategies, and adaptive management. The '1-3-7' surveillance and response approach, whole-of-government approach, and '3+1' POR experience further provide valuable models for other programmes in the region. China's experience further emphasizes that sustained malaria-free status requires continued investment and political commitment. With such robust institutional foundation and proven adaptive capacity, China is well-positioned to maintain its malaria-free status, serving as a beacon of hope for regional malaria elimination efforts.

The risk of malaria resurgence remains an ever-constant challenge even after successful elimination, as demonstrated by China's own experience in the Huai River Basin. Early success in the 1980s led to reduced surveillance and funding, resulting in malaria resurgence in the early 2000s that required reintroduction of mass drug administration, robust vector control, and community mobilization to restore control.¹⁸ This sobering lesson underscores that continued vigilance and sustained investment are non-negotiable prerequisites for maintaining malaria-free status.

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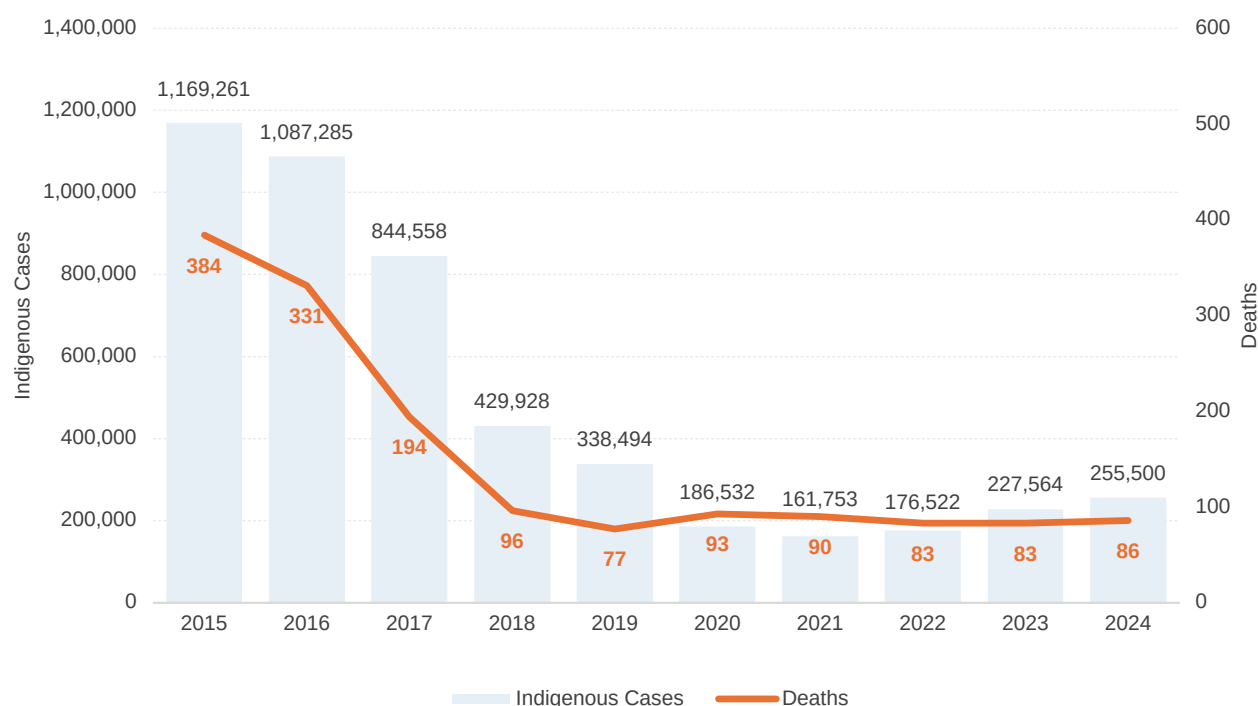
Photo: New Delhi, India

REPUBLIC OF INDIA



Republic of India

Figure 1. Indigenous Cases and Deaths in India, 2015–2024.



Source: 2015–2023 data from the World Malaria Report 2024. 2024 data from the National Center for Vector Borne Diseases Control.

78% Decrease

in indigenous malaria cases
between 2015 and 2024

Key Message

India is progressing toward malaria elimination by 2030, but success depends on robust state-level engagement, expansion of SNMEV, and sustainable domestic financing. Challenges include persistent transmission in tribal areas, limited private sector reporting, and reduced external funding. Strengthening subnational ownership is critical for achieving and sustaining elimination.

Epidemiological Context

Since 2015, the Republic of India (India) has recorded one of the fastest malaria declines in the Asia–Pacific region. Annual reported cases dropped from 1.17 million (2015) to 255,500 (2024), while deaths declined from 384 to 86, representing parallel 77.6 % reductions.¹ The nation-wide Annual Parasite Incidence (API) has declined from 0.92 in 2015 to 0.18 in 2024. The number of high-burden districts (API > 1) has also significantly reduced from 155 in 2015 to 37 in 2024.¹

This reduction is set against a backdrop of enduring heterogeneity in malaria risk. About 95 % of the population lives in malarious zones, but just 20 % of the population accounts for 80 % of reported cases, largely those in tribal, forested or hard-to-reach districts. Five states, namely Chhattisgarh, Jharkhand, Odisha, Madhya Pradesh and Maharashtra, along with the Northeast, now shoulder roughly 80 % of India's cases. Transmission is focal and persistent, especially in hard-to-reach, forest-edged tribal regions where *P. falciparum* predominates (~60 %), while *P. vivax* continues to persist at concerning levels, contributing to around 40 % of cases, particularly in peri-urban areas and districts across the northern plains.¹



Vector control remains vital: *Anopheles culicifacies*, the dominant rural vector, drives central India's malaria burden, while the urban-adapted *An. stephensi* threatens resurgence in cities. Efforts to combat insecticide resistance and urban vector proliferation continue to be critical. Climate variability, forest-goer mobility, insecticide and drug resistance, urban expansion of *An. stephensi*, and intermittent conflicts underscore ongoing resurgence risks.

However, thanks to sustained political commitment, enhanced surveillance, vector management, and community integration, India appears on course to eliminate indigenous malaria cases by 2027–2030 - though elimination will require maintaining momentum in focal hotspots.¹

The National Response

India's journey toward malaria elimination is being led by a robust and adaptive national response, coordinated through the National Center for Vector Borne Disease Control (NCVBDC) under the Ministry of Health and Family Welfare. NCVBDC is the apex technical body responsible for formulating policies, implementing programmes, and monitoring progress across all states and union territories. It oversees six vector-borne diseases, with malaria being a primary focus.

A robust policy and strategic framework underpins India's achievements. The 2016 National Framework for Malaria Elimination (NFME), bolstered by the 2023–2027 National Strategic Plan, emphasizes strengthened surveillance ("test-treat-track"), real-time data via Integrated Health Information Platform, expanded bed-net distribution and targeted Indoor Residual Spraying (IRS). The Surveillance capacity has improved markedly - Annual Blood Examination Rate (ABER) rose from 9.58% in 2015 to 12.78% in 2024 - ensuring early detection and rapid response. The National Center for Vector Borne Diseases Control (NCVBDC) leads district-specific strategies,¹ especially in tribal and forested zones, supported by National Reference Laboratories for quality diagnostics.

National Strategic Plan (NSP) for Malaria Elimination 2023–2027

To operationalize India's malaria elimination vision, NCVBDC developed the National Strategic Plan (NSP) for Malaria Elimination 2023–2027, in line with the National Framework for Malaria Elimination (NFME) 2016–2030 and the WHO Global Technical Strategy for Malaria 2016–2030.

The NSP aims to achieve zero indigenous malaria cases by 2027 and prevent re-establishment by 2030.² The strategy is structured around five key pillars:

1. Transforming malaria surveillance into a core intervention with real-time case- and foci-based tracking via the Integrated Health Information Platform (IHIP);
2. Ensuring universal access to malaria diagnosis and treatment following a "Test, Treat, Track" approach, with emphasis on hard-to-reach tribal and forested areas;
3. Optimizing vector control, including IRS, LLIN distribution, and entomological surveillance;
4. Accelerating elimination efforts in high-burden geographies and cross-border settings; and
5. Promoting research and innovation, particularly on drug resistance, surveillance tools, and integrated strategies.

¹The NCVBDC has identified high-burden 37 districts for targeted response and enhanced monitoring: Alluri Sitharama Raju, Bastar, Bijapur, Boudh, Chirang, Dakshin Bastar Dantewada, Dhalai, East Singhbhum, Gadchiroli, Gajapati, Godda, Gomati, Kabeerdham, Kalahandi, Khairagarh-Chhuikhadan-Gandai, Khunti, Khowai, Kolkata, Kondagaon, Koraput, Lawngtlai, Lunglei, Malkangiri, Mamit, Narayanpur, Nicobars, Pakur, Parvathipuram Manyam, Rayagada, South Garo Hills, South Tripura, Sukma, Siaha, Uttar Bastar Kanker, West Singhbhum.



Sub-National Malaria Elimination Verification (SNMEV)

One of the notable components of India's elimination strategy is the SNMEV initiative. It enables districts, states, and union territories to be independently verified as malaria-free if they report zero indigenous cases for three consecutive years. An Expert Committee (Sub-National Malaria Assessment Committee) chaired by the Director General of Health Services (DGHS), comprising representatives from NCVBDC, ICMR-National Institute of Malaria Research, State Programme Officers, Regional Directors, and WHO, has been established to evaluate applications. This committee oversees dossier reviews, field verification missions, and assessment of surveillance and vector control systems. As of 2024, several districts have undergone SNMEV, reinforcing accountability and stimulating local competition to reach zero case status.

Private Sector Engagement

In recognition of the private sector's critical role in healthcare delivery, the NSP includes a comprehensive framework for engaging private providers in malaria surveillance and treatment. This involves mapping and registering private clinics and laboratories, integrating them into the state surveillance system, and providing training on malaria case management and mandatory notification. The private sector is reporting through the real-time digital portal - the Integrated Health Information Platform (IHIP), and as of 2024, 26 States/UTs have fully onboarded to the portal. The NSP (annexure 6) outlines a detailed plan for Private Sector Engagement, including coordination with professional associations such as the Indian Medical Association (IMA) and Indian Academy of Pediatrics (IAP). The ultimate goal is to ensure that every diagnosed case, regardless of sector is reported into IHIP, allowing timely action to prevent onward transmission.²

Institutional and Policy Approaches

Institutionally, malaria has been designated a notifiable disease in 35 states and union territories, strengthening the legal mandate for case reporting.

The NSP also introduces cross-cutting enablers such as the "1-3-7" strategy (reporting within 1 day, investigation within 3 days, response within 7 days), entomological surveillance protocols, and emphasis on gender and equity considerations in programming. A performance-based incentivization scheme has been instituted for frontline workers like ASHAs, and special incentives are available for districts achieving zero indigenous transmission. Notably, a National Reference Laboratory for Malaria has been established to support diagnostic quality assurance and capacity building.²

India has emerged as a regional leader in the fight against malaria, being a signatory to the APLMA Malaria Elimination Roadmap and having formally endorsed it at the East Asia Summit (EAS) 2014. These high-level commitments demonstrate India's sustained political resolve and alignment with regional malaria elimination goals. This leadership was further cemented when India hosted the Asia-Pacific Leaders' Conclave on Malaria Elimination in New Delhi on April 24, 2023, in partnership with APLMA. The conclave, convened under the guidance of Health Minister Dr. Mansukh Mandaviya, brought together countries from across the region to reaffirm collective goals for a malaria-free Asia-Pacific by 2030. Adding to this momentum, Prime Minister Narendra Modi, in the 117th episode of Mann Ki Baat, personally endorsed the national malaria elimination mission. He called on citizens and institutions to intensify testing, treatment, and vigilance - highlighting malaria as not just a public health goal, but a national development priority.³

As a result of these sustained efforts, India has exited the High Burden to High Impact (HBHI) group. Strengthening of digital platforms such as the Drug and Vaccine Distribution Management System (DVDMS) has further enhanced stock-related monitoring and supply chain efficiency.



Additionally, malaria has been integrated as one of the 12 essential health services under the Ayushman Arogya Mandir (AAM) initiative, with services being delivered at the community level through Community Health Officers (CHOs).

Financing the Response

The Government of India finances the malaria control and elimination activities through the National Health Mission (NHM). States are expected to co-finance through matching contributions.

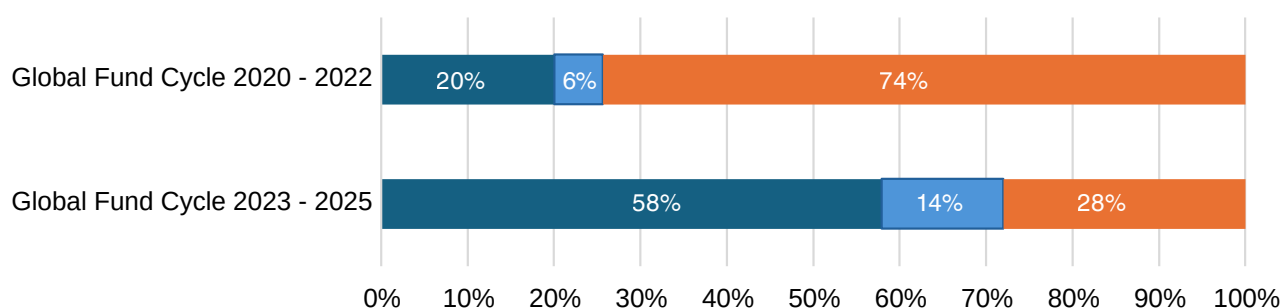
The Global Fund is the largest external donor supporting India's malaria response, providing resources through catalytic investments and targeted grants to support elimination strategies, including surveillance strengthening, innovation, and cross-border collaboration. Under the current grant cycle (2024–2025), India received approximately US\$65 million for malaria.⁴

Despite this, the NSP 2023–2027 identifies persistent financing gaps, particularly in under-resourced tribal and forested regions. Surveillance, monitoring, and entomological capacity remain unevenly funded. Moreover, private sector engagement, operational research, and digital infrastructure require new streams of investment.²

The NSP calls for a blended financing strategy that leverages both public and private sector contributions, alongside innovative financing mechanisms such as CSR funding, performance-based grants, and convergence with other programmes like nutrition, tribal welfare, and urban health. Cross-programme integration and domestic resource mobilization will be key to bridging gaps post-2024, when existing donor support may decline.

Given India's ambitious goal of malaria elimination by 2027 and certification by 2030, a long-term and sustainable financing roadmap is essential. Strategic planning at national and state levels must focus on resource optimization, alignment with global funding cycles, and embedding malaria within broader universal health coverage and climate resilience frameworks.

Figure 2. Malaria funding (USD) by funding source, India



	Global Fund Cycle 2020-2022	Global Fund Cycle 2023-2025
Domestic	\$230,372,172	\$266,470,830
Global Fund	\$65,000,000	\$65,000,000
Other External Partners	–	–
Funding Gap	\$855,527,378	\$128,839,349

Source: The Global Fund Data Explorer – India: Southern Asia, Access to Funding



Towards 2030 - Challenges and Opportunities

Achieving malaria elimination by 2030 demands a strategic strengthening of policy and operational dimensions across all levels of the health system. Transforming surveillance into a core intervention is fundamental along with universal and equitable access to effective prevention, diagnosis, and treatment services through well-coordinated and responsive case management systems. As elimination gains momentum, the Sub-National Malaria Elimination Verification framework provides a structured pathway to recognize and sustain progress, fostering accountability and continuous improvement and driving localized accountability and sustained action.

Central to all these efforts is the need for strong, high-level advocacy and political commitment to ensure malaria elimination remains a national priority, to secure long-term investments, and to foster intersectoral collaboration. Together, these actions will build a resilient and responsive system capable of not only reaching elimination targets but also sustaining them in the long term.

Accelerating progress towards disease elimination goals requires strengthened institutional mechanisms for multi-sectoral coordination and the effective implementation of context-specific operational strategies across all regions. Urban settings demand focused attention through improved collaboration between public health agencies and local governance bodies. Engagement with the private sector for timely reporting and integration into public health information systems is equally vital. Community participation and behaviour change communication efforts need to be consistent, culturally sensitive, and supported by capacity-building at all levels. Ensuring adherence to complete treatment protocols is essential to break transmission cycles. With evolving funding landscapes, there is an increasing need for sustainable domestic financing and alignment with broader development agendas such as urban health, social equity, and environmental resilience.

Despite these challenges, India's investments in technological and digital initiatives, stratified planning, and SNMEV offer a strong foundation. To reach and sustain zero malaria, India must now prioritize political commitment, targeted technical support, and co-financing arrangements, alongside national stewardship and accountability. Success will ultimately rest on empowering states to drive the last mile of elimination.

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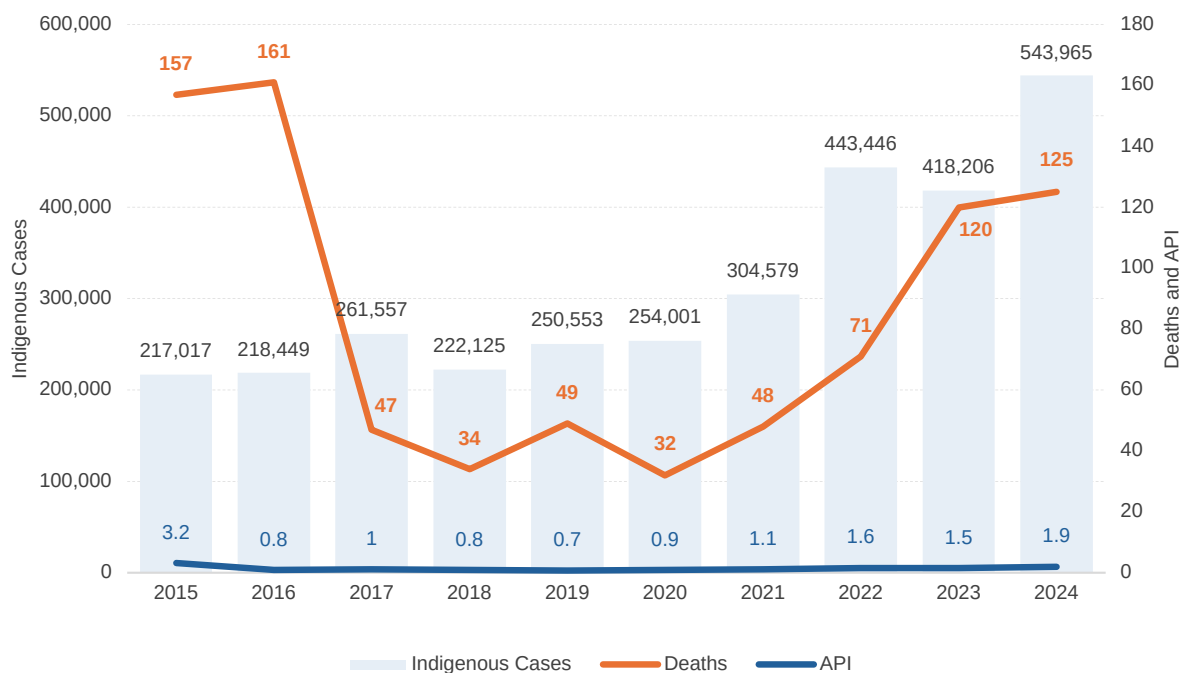


REPUBLIC OF INDONESIA



Republic of Indonesia

Figure 1. Indigenous Cases, Deaths, and API in the Republic of Indonesia, 2015–2024.



Source: 2015–2023 data from the WHO World Malaria Report 2024. 2024 data from H. Dewi, “National Programme Updates,” presented at the EDEN Regional Coordination Meeting, Port Moresby, Papua New Guinea, May 6, 2025.

**151%
Increase**

**in indigenous malaria cases
between 2015 and 2024**

Key Message

The Republic of Indonesia is off target to eliminate malaria by 2030 due to ecological challenges in the Papua region, which contributes 93% of Indonesia's malaria cases. Increased community engagement and improved vector control will be key to achieving elimination. Outside of Papua, progress has been excellent, with 407 of 514 districts and municipalities verified as having no indigenous transmission for at least three years.

Epidemiological Context

Over the past decade, the Republic of Indonesia (Indonesia) has made important strides toward malaria elimination, though progress has differed significantly across its diverse geographic regions. The number of districts certified as malaria-free has steadily increased from 55% of the country's 514 districts in 2018¹ to 77% by 2024². However, national progress in reducing the overall malaria caseload plateaued between 2015 and 2020 (See Figure 1). Malaria cases began to increase in 2021, triggered by service disruptions caused by the COVID-19 pandemic. By 2024, Indonesia recorded a decade high of 543,965 indigenous cases, representing a 151% increase from 217,017 cases in 2015.

This surge has been driven primarily by rising transmission and improved reporting in highly endemic eastern Indonesia, which bears a disproportionate share of the national burden. By 2023, the Papua region, occupying the western half of the island of New Guinea, accounted for 93% of all malaria cases, despite being home to only 2% of the national population.² Furthermore, 86% of cases in the Papua region were concentrated in 14 lowland districts or cities, some of which reported an annual parasite incidence exceeding 400 per 1,000 population.²



Persistent malaria transmission in Papua is largely due to a combination of climate and ecological factors that render it highly suitable for vector activity and malaria transmission. Unlike much of Indonesia, Papua experiences year-round rainfall, ensuring sustained conditions for mosquito breeding. The region is situated east of the Wallace Line, a biogeographic boundary that separates the Asian and the Australasian ecozone, and is therefore home to distinct Australasian vector species not found in western Indonesia—particularly highly anthropophilic vectors in the *An. farauti* and *An. punctulatus* group.³ The region's climate enables uninterrupted breeding of these vectors, contributing to high levels of sustained transmission.⁴

Demographically, males and working-age adults (15–64 years) are at highest risk of malaria, reflecting increased occupational exposure in agriculture and mining sectors, and in forested regions. The dominant *Plasmodium* species vary by region: *P. vivax* is more common in elimination and low-endemic areas, while *P. falciparum* remains prevalent in high-endemic areas. In 2023, 47.9% of reported cases were caused by *P. falciparum* and 38.3% by *P. vivax*.² Additionally, Indonesia also sees zoonotic *P. knowlesi* infections, mainly detected from Kalimantan and Sumatra.⁴

The National Response

Indonesia's malaria response is led by the Ministry of Health's Directorate General of Disease Prevention and Control, specifically through the Malaria Working Team under the Directorate of Communicable Disease Prevention and Control. Implementation is supported by civil society partners such as PERDHAKI (the Association of Voluntary Health Services of Indonesia); development partners including the World Health Organization (WHO), United Nations Children's Fund (UNICEF), and United Nations Development Programme (UNDP); and private sector partners such as PT Freeport Indonesia. Research efforts are supported by institutions including the Oxford University Clinical Research Unit Indonesia (OUCRU-ID). The Ministry of Health and PERDHAKI serve as Principal Recipients of Global Fund grants to the country. Malaria services are delivered through more than 10,000 community health centres and a network of community malaria workers, complemented by a network of hospitals at the national, provincial, and district levels.

The national strategy is guided by the *National Action Plan for the Acceleration of Malaria Elimination (NAP-AME) 2020–2026*, a revised version of the 2020–2024 plan. In 2024, Indonesia launched the *Roadmap for Malaria Elimination and Prevention of Re-establishment 2025–2045*, a long-term, multisectoral framework to achieve and sustain malaria elimination. Both the NAP-AME 2020–2026 and the Roadmap set the goal of national malaria elimination by 2030.

Channelling Political Will and Collaboration to End Malaria in Indonesia

The Government of Indonesia (GOI) has affirmed its commitment to malaria elimination, most recently by hosting the 9th Asia Pacific Leaders' Summit on Malaria Elimination in June 2025, in partnership with APLMA. At the Summit, the GOI launched the *Indonesia Call to End Malaria Initiative (ICMI)*, forming a national multisectoral committee to improve governance, planning, financing, and coordination across ministries and partners at all levels to accelerate progress toward malaria elimination by 2030. This has led to the drafting of a Presidential Instruction to support multisectoral cooperation.

To specifically address the high malaria burden in the Papua region, the GOI also launched the Papua Malaria Consortium, bringing together the Ministry of Health and the governors of Papua's six provinces to coordinate regional efforts and monitor progress. The Consortium aims to foster subnational ownership of the malaria response and align malaria interventions with broader health and multisectoral development priorities. In support of this initiative, the Papuan Provincial Governors have drafted Governor's Regulations to ensure multisectoral cooperation.



In parallel, Indonesia has signed a Joint Action Plan with Papua New Guinea to implement their 2024 Memorandum of Understanding on cross-border health collaboration. Recognizing the shared epidemiological landscape and challenges of malaria elimination on the island of New Guinea, the plan outlines commitments to joint resource mobilization, information sharing, capacity building, vaccine development, and collaborative research and pilot projects.

Establishing Malaria Cadres in Eastern Indonesia

In the past decade, Indonesia has established and scaled up a community-based approach to expand detection, diagnosis, and treatment of malaria cases, particularly in the Papua region where physical infrastructure is poor and access to healthcare facilities remains challenging compared to western Indonesia. In 2018, the promulgation of Ministerial Decree No. 41/2018 formally authorized trained community malaria workers (CMWs, or malaria cadres) to detect and treat malaria in special settings, defined as those lacking accessible healthcare facilities or medical workers.⁴

In 2019, the MOH began collaborating with PERDHAKI to train and deploy village malaria cadres. In addition to supporting malaria surveillance and treatment, malaria cadres assist with mapping larval habitats, distributing LLINs, and undertaking health education and behaviour change campaigns at village level. As of 2024, over 5,600 cadres (76% women) had been trained,⁵ contributing to increased testing across Papua.⁶ Cadres contributed to 58% of testing in 2022, and 53% of testing in both 2023 and 2024. Over time, expansion of the cadre network has resulted in improved surveillance outcomes: between 2021 and 2024, the positivity rate from malaria cadre testing declined from 19% to 8%, and cadres accounted for an increasing share of national case detection, from 17% in 2021 to 21% in 2024.⁵

Village malaria cadres are supported through a blend of Global Fund and domestic financing. Global Fund support is channelled through PERDHAKI and its local partners, while the national budget (APBN) and provincial and district budgets (APBD) support some training costs.⁵ A key achievement of the village malaria cadre programme has been securing policy support and access to budget allocations from local village funds (ADD); however, access to these funds is locally dependent and uneven.^{4,7} Collectively, these funds support operational allowance for transportation costs as well as performance-based incentives for conducting malaria testing.

Accelerating Malaria Elimination in Papua

The Roadmap for Malaria Elimination and Prevention of Re-establishment Indonesia 2025-2045 outlines a targeted strategy for accelerating malaria elimination in the Papua region through the Detect, Treat and Control (Temukan, Obati, dan Kendalikan - TOKEN) framework. Central to this approach is the comprehensive strengthening and expansion of the malaria cadre network to all lowland villages, enabling the targeted delivery of a differentiated package of interventions based on API.

An accelerated programme for malaria control in Papua will prioritize the highest endemic districts/cities before roll-out across the region. The strategy calls for achieving total coverage of LLINs and the intensification of malaria cadre activities, including conducting home visits to perform screenings and rapid diagnostic tests, administer treatments, monitor medication and risk factors within the community, and contact tracing positive cases. In villages with API > 100, the programme will roll out intermittent preventive treatment in pregnancy (IPTp) from the second trimester, alongside integrated vector control measures. These include community-based larval source management, including mapping breeding sites and draining, filling, or larviciding those located near residences, as previously implemented successfully in South Halmahera Regency, North Maluku Province.



The success of the Papua acceleration plan is closely tied to broader national development priorities for Papua, as outlined in the Presidential Regulation No. 24/2023 on the Papua Development Acceleration Master Plan (RIPPP) 2022-2041. Malaria elimination is a key health indicator in the plan, with malaria elimination across all districts/cities targeted by 2041.²

Measures to Reach Mobile Migrant Populations

Mobile migrant populations (MMPs) are at the highest risk of malaria in low-endemic areas of western Indonesia. MMPs encompass both formal workers, such as military personnel and police, and informal workers, such as miners, loggers, plantation workers, and tribal communities, some of whom may be engaged in unsanctioned forest-related activities. These populations are substantial in size, with over 3.9 million people working in the forestry sector, and approximately 500,000 individuals belonging to isolated tribal communities across 205 districts.⁴

In 2023, 353 of Indonesia's 514 districts reported the presence of MMPs.⁴ However, outreach to these populations remains incomplete. The NAP-AME 2020–2026 aimed for 60% of districts with MMPs to provide outreach malaria services in 2022, but only 43.3% (153 districts) met this target. MMPs' high mobility, frequent forest exposure, and limited access to healthcare services make reducing malaria burden among these populations especially difficult, especially as malaria cadres are often not present in areas where MMPs work and reside.

To address gaps in reaching MMPs, targeted interventions are being prioritized in East Kalimantan, where the new national capital, *Ibu Kota Negara (IKN)* is located, as well as selected districts in Sumatra and Java. These include twice weekly fever screenings by malaria cadres, distribution of "forest packs" containing LLINs, repellents, and intermittent preventive treatment for forest-goers (IPTf). These efforts are supplemented with occasional targeted drug administration (TDA) to MMPs.

Financing the Response

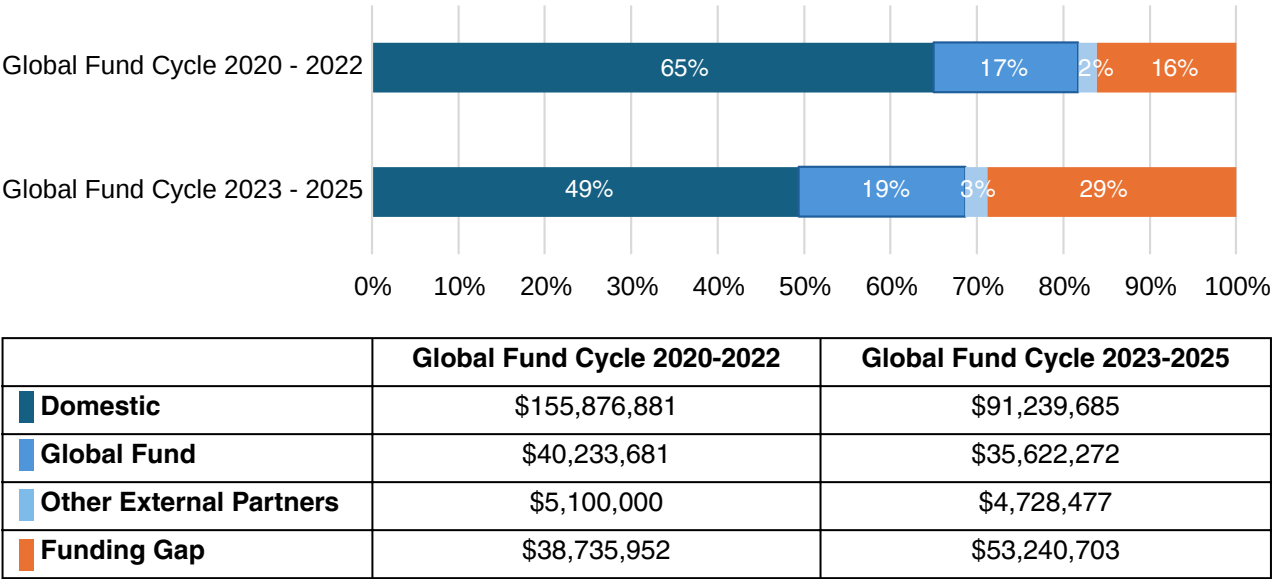
The national malaria response in Indonesia is supported by a wide array of external and domestic financing. The Global Fund remains the predominant source of financing for the malaria programme, with other external financing support coming from the World Health Organization (WHO), the United Nations Children's Fund (UNICEF), and the World Bank. Domestically, financing for malaria comes from the national health insurance scheme (JKN) and the national budget (APBN), which channels central funds to subnational levels through deconcentration (DEKON) funds, special allocation (DAK) funds, and health operational assistance (BOK) for primary health centres (puskesmas). Special autonomy funds for Papua and Aceh (OTSUS), village funds, and private sector contributions—notably US\$3.1 million between 2021–2023,⁹ much of which was contributed by PT Freeport Indonesia for operational malaria control in its catchment areas—provide additional resources.⁷ However, decreases in domestic, Global Fund, and private sector financing for malaria has left a 29% funding gap for 2024–2026.

In recent years, funding challenges have intensified dramatically, revealing a critical gap between estimated and actual programmatic needs. During the 2020–2022 Global Fund cycle, estimated programmatic needs were US\$240 million, dropping to US\$185 million for the 2023–2025 cycle.⁹ These official estimates significantly underestimate true programmatic needs, in part because the operational costs to implement some drug-based interventions were not fully captured. The newly published Roadmap for Malaria Elimination 2025–2045 reveals the scale of actual requirements: annual funding must peak at approximately US\$105 million in both 2024 and 2025—over 70% above current spending levels—before tapering to US\$53 million in 2026 and US\$33 million annually between 2027–2030. The total cost to achieve elimination by 2030 is projected at US\$399 million, followed by US\$16.5 million annually for prevention of re-establishment.²



Despite opportunities to mobilize additional domestic resources through increased private sector engagement and expanded fund allocations in Papua, achieving elimination will require unprecedented investment.

Figure 2. Malaria funding (USD) by funding source, Republic of Indonesia.



Source: The Global Fund Data Explorer – Indonesia: South-Eastern Asia, Access to Funding



Towards 2030 - Challenges and Opportunities

As Indonesia reaffirms its commitment to achieving national malaria elimination by 2030, the country faces both significant challenges and strategic opportunities. Progress is hindered by the complex geographical and epidemiological landscape of Papua, where transmission remains intense and health systems are under-resourced. The emergence and increasing detection of zoonotic *P. knowlesi* in western Indonesia, particularly among MMPs threatens to hinder certification of malaria elimination. A handful of districts certified as malaria-free face possible re-establishment of transmission. Systemic and behavioural barriers compound these challenges. Delays in care-seeking, suboptimal treatment adherence, and the persistent perception of malaria as a low-priority illness contribute to ongoing transmission, especially within high-burden and hard-to-reach communities.

Sustaining and accelerating Indonesia's progress towards elimination will require increased domestic and innovative financing. Despite strong political commitment, recent years have seen reduced national budget allocations for malaria. Current funding levels are insufficient to deliver the scale and quality of intervention required. Achieving national elimination by 2030, as outlined in the 2025–2045 Roadmap, will require an estimated investment of \$399 million over six years. Economic modelling demonstrates the value of this investment: a fully funded and implemented elimination programme from 2016–2030 was projected to yield over \$18 billion in economic benefits, averting more than 25 million cases and 41,000 deaths—a tenfold return¹⁰. These gains would be realized through reduced healthcare expenditure, increased workforce productivity, and prevention of costly malaria resurgences.

Accelerating progress will require scaling up surveillance and case detection, as current testing volume of fewer than 1.5 million RDTs annually¹¹ is inadequate given the estimated annual burden of 1.1 million malaria cases.¹² In response, the Ministry of Health has acknowledged the need to expand deployment of community malaria workers and strengthen the availability and use of diagnostics. These efforts must be complemented by strengthened *P. vivax* case management and the roll-out of larval source management in transmission hotspots. With strong political will and a clear national strategy already in place, Indonesia is well-positioned to get back on track toward malaria elimination, provided it secures the necessary financing and accelerates operationalization at all levels.

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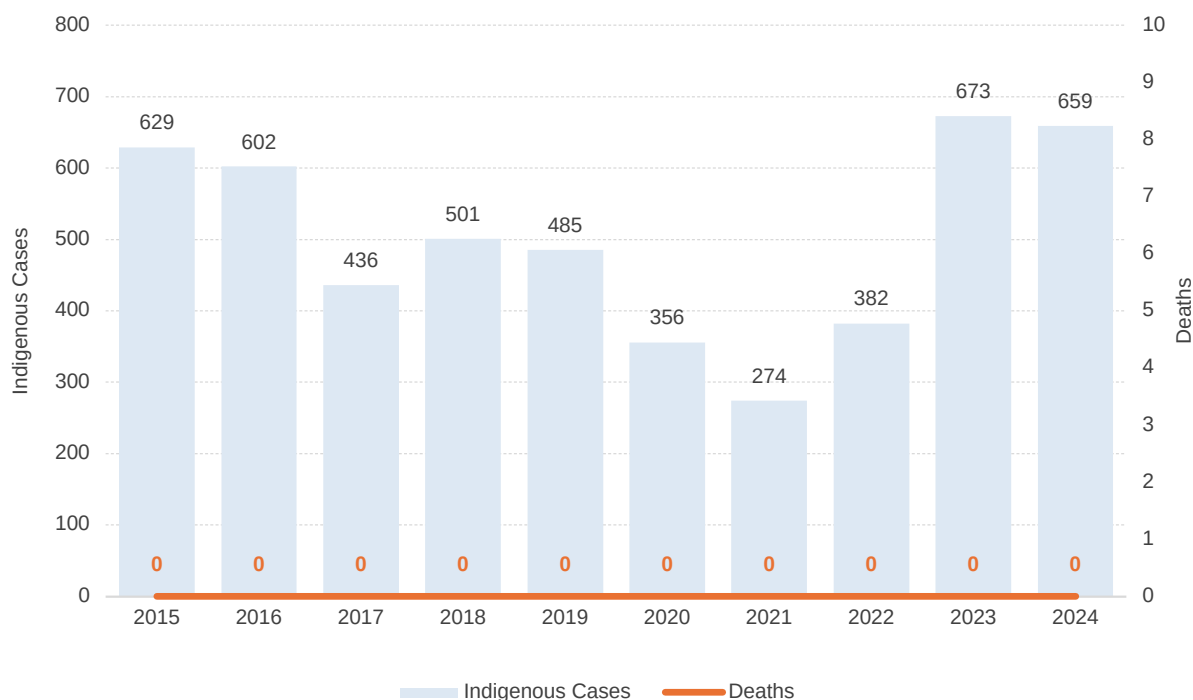
Photo: Pyongyang, DPRK

DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA



Democratic People's Republic of Korea

Figure 1. Indigenous Cases and Deaths in DPRK, 2014-2023



Source: 2014-2023 data from the WHO World Malaria Report 2024.

70% Decrease

in indigenous malaria cases
between 2015 and 2024

Key Message

DPRK achieved significant malaria reduction between 2015 and 2022 but faced a 48% increase to 3,160 cases in 2023. With transmission concentrated along the southern border, peninsula-wide elimination requires cross-border collaboration with Republic of Korea and sustained financing to address the critical 65% reduction in Global Fund support.

Epidemiological Context

The Democratic People's Republic of Korea's (DPRK's) current malaria epidemiological landscape reflects both ongoing challenges and significant progress toward elimination, with the country reporting 3,160 cases in 2023 – representing a 48% increase from the 2,136 cases documented in 2022, yet still constituting a substantial decrease from the 7,022 cases recorded in 2015 and the historic peak of 21,850 cases in 2012.¹ Malaria transmission is now geographically constrained to eight endemic provinces: North Hwanghae, South Hwanghae, Kangwon, North Pyongan, South Pyongan, South Hamgyong, Nampo city, and Pyongyang city. The three northern provinces of Jagang, Ryanggang, and North Hamgyong have achieved malaria-free status, reporting only imported cases, while transmission remains concentrated in the southern border regions, with 71.6% of all reported malaria cases in 2016 occurring in the three southern provinces of North Hwanghae, South Hwanghae, and Kangwon.²

In 2019, the country's foci classification system documented 240 active foci, 1,435 residual non-active foci, and 2,769 cleared foci,³ highlighting focal heterogeneity in transmission with varying malaria risk levels across counties. Malaria risk is concentrated among males, individuals over 50 years, and occupational groups including farmers and night workers who comprise more than 70% of annual cases.²



DPRK is among the 25 countries identified by the World Health Organization's E-2025 Initiative, launched in 2021, as a country positioned to eliminate malaria by 2025.⁴ While the country has made substantial progress in reducing malaria burden, the recent increase in cases suggests that the goal of zero indigenous transmission by the end of 2025 remains challenging.

The National Response

The National Malaria Programme (NMP) operates within the Ministry of Public Health (MoPH)'s organizational framework, maintaining central responsibility for malaria programme management while integrating specific aspects of malaria programming into broader health services through 23 specialized agencies including the Central Hygiene and Anti-Epidemic Institute (HAEI), Central Medical Warehouse, and The Institute of Parasitology under The Academy of Medical Science, each with defined terms of reference supporting NMP operations. The NMP holds comprehensive authority for policymaking, planning, budget development, sectoral cooperation, and international collaboration, with implementation support provided by health officers in provincial health bureaus and city/county health departments.

The National Malaria Elimination Strategy (NMES) 2018-2022 has previously been developed with view to targeting interruption of malaria transmission by the end of 2022, i.e., to have zero indigenous malaria cases nationwide in 2022 and beyond, and for the DPRK to be certified as malaria-free by the WHO in 2025.⁵ The strategy for malaria elimination was built on two pillars (Ensure Universal Access to Malaria Prevention, Diagnosis & Treatment; and Accelerate Efforts Towards Elimination and Attainment of Malaria-Free Status and Transform Malaria Surveillance into a Core Intervention) and two supporting elements (harnessing innovation and expanding research; and strengthening the enabling environment).⁶ MoPH has finalized and endorsed the National Strategic Plan for Malaria (2023-2027), with technical support provided remotely by two international consultants hired by UNICEF to assist in completing the strategic planning process.⁵ The 2023 – 2027 document however, has not been made publicly available.

Mass Primaquine Preventive Treatment (MPPT)

During 2013-2017, the NMP strategically prioritized re-initiation and systematic expansion of Mass Primaquine Preventive Treatment (MPPT), building on its demonstrated high-impact effectiveness and established safety profile. This intervention was particularly well-suited to DPRK's epidemiological context, given the predominance of *P. vivax* and the population's favourable low G6PD deficiency prevalence, enabling safe large-scale primaquine administration. MPPT focused on higher-risk transmission areas accounting for a disproportionate share of the country's malaria burden, maximizing epidemiological impact through targeted deployment. The programme achieved remarkable operational scaling, expanding coverage from 411,726 individuals in 2013 to 1,116,981 in 2016. Throughout this period, the programme achieved greater than 95% coverage of the target population – individuals over 5 years of age who were not pregnant.²

DPRK's existing household doctor network system proved instrumental to MPPT success, enabling the high coverage levels required to eliminate infection reservoirs and prevent relapse infections in subsequent transmission seasons. Despite low G6PD deficiency prevalence, maintaining vigilance during large-scale primaquine administration remained essential, with the household doctor network providing critical infrastructure for routine adverse event monitoring – a capacity that would have been difficult to achieve without this established healthcare delivery framework.⁶

Universal access to risk-stratified vector control measures

Universal access to risk-stratified vector control measures – Long-Lasting Insecticidal Nets for high-risk areas and Indoor Residual Spraying for medium-risk areas – constituted a core priority for preventing malaria case increases, with distribution and delivery strategically timed to coincide with transmission seasons and supported by technical training and supervision to maximize intervention effectiveness and impact.



LLIN population coverage achieved universal coverage of 99.9% in 2015, reaching the target ratio of 1 LLIN per 2 persons, while high coverage rates translated into substantial utilization with 68.7% of individuals with LLIN access using them the previous night according to a 2015 KAP Survey report.²

Higher-risk transmission settings: Insecticide-Treated Clothing was strategically deployed to address residual transmission among night workers facing occupational malaria risk, with coverage expanding from 98,035 persons in 2012 to 150,793 in 2015 and 151,359 in 2016, while enhanced protection was achieved through 3-cycle impregnation throughout peak malaria transmission seasons in 2015 and 2016, compared to the 2-cycle impregnation implemented in previous years.²

Medium-risk transmission settings: IRS coverage demonstrated consistent annual scaling from 56.2% of targeted households in 2013 to 98.2% in 2016, with the NMP implementing a mosaic spraying approach using two unrelated insecticide classes (pyrethroid and carbamate) under the National Insecticide Resistance Management Strategy at village level during 2015 and 2016 to address emerging pyrethroid resistance, deploying deltamethrin in one village and bendiocarb in neighbouring villages at a 6:4 household coverage ratio reflecting funding constraints for the more expensive carbamate insecticide.²

Low-risk transmission settings: The NMP piloted reactive-based case detection using RDT kits along with foci investigation and response in selected low transmission areas with potential for complete interruption of local transmission and prevention of re-introduction, subsequently scaling these interventions to all targeted areas from 2016.²

Laboratory Capabilities

The National Malaria Programme expanded laboratory testing capabilities through the distribution of an additional 235 microscopes to village-level health facilities in 2015, increasing the total number of village-level cluster-based microscopic laboratories from 859 in 2013 to 1,094 in 2016. This expansion of laboratory infrastructure yielded improvements in diagnostic quality, with case confirmatory rates increasing from 88.9% in 2013 to 97.9% in 2016. These achievements were supported by systematic technical training programmes for laboratory technicians and the implementation of External Quality Assurance activities at the village-level, which collectively contributed to improved laboratory testing accuracy among peripheral health system facilities.²

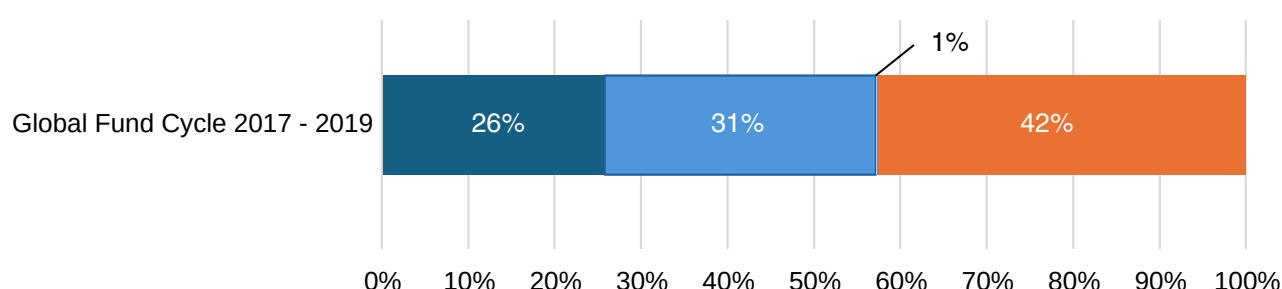
Case Management

The responsibility of malaria case management is assigned to household doctors at the Primary Health Care level, with the Directly Observed Treatment Strategy (DOTS) – universally applied in national tuberculosis programmes globally – having been successfully adapted for malaria treatment in North Korea.² Reports indicate that DOTS implementation has achieved a 100% radical treatment rate for malaria cases using chloroquine and primaquine combination therapy.² DOTS plays a vital role in ensuring that all *P. vivax* cases receive complete radical treatment while enabling close monitoring and management of potential adverse events linked to G6PD deficiency following primaquine administration.

Financing the Response

Prior to 2024, the programme had received external support from the Global Fund, operating through a coordinated mechanism where UNICEF served as Principal Recipient providing financial and management support while WHO functioned as Sub-Recipient delivering technical assistance. A dedicated Programme Management Unit within the MoPH facilitated effective utilization of Global Fund grants for malaria elimination efforts at the national level, while providing support to the national malaria programme manager in coordinating all malaria-related activities across the country's health system.² Figure 2 illustrates the malaria funding for DPRK by different funding sources, based on latest available data.



Figure 2. Malaria funding (USD) by funding source, DPRK.

	Global Fund Cycle 2017-2019
■ Domestic	\$6,645,000
■ Global Fund	\$8,083,882
■ Other External Partners	\$45,000
■ Funding Gap	\$10,977,935

Source: The Global Fund Data Explorer – Korea (Democratic Peoples Republic): Eastern Asia, Access to Funding. Data for later funding requests is not available.

Towards 2030 - Challenges and Opportunities

DPRK faces significant challenges in achieving malaria elimination by 2030, primarily the 48% increase in cases in 2023 and a critical 65% reduction in Global Fund support, creating substantial resource gaps that threaten essential testing and treatment services. However, considerable opportunities exist to accelerate progress. The country's robust household doctor network system and proven track record with high-impact interventions like Mass Primaquine Preventive Treatment provide strong foundations. With three northern provinces already malaria-free and transmission geographically constrained to eight southern provinces, targeted elimination efforts remain feasible.

Critically, cross-border collaboration with the Republic of Korea will be essential, given that 71.6% of cases concentrate along the southern border regions near the demilitarized zone (DMZ). Peninsula-wide malaria elimination cannot be achieved without coordinated surveillance and response mechanisms across the Korean border. The newly finalized National Strategic Plan (2023-2027) offers a strategic framework, while DPRK's continued inclusion in WHO's E-2025 Initiative demonstrates international recognition of its elimination potential.

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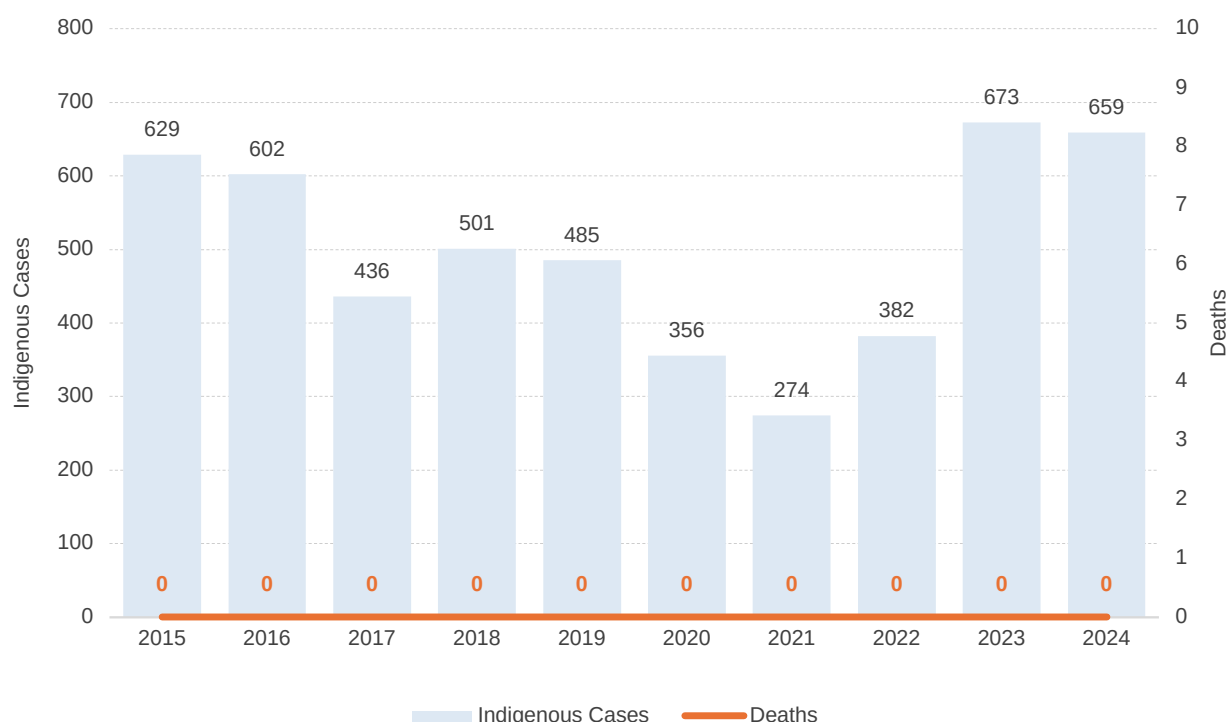
Photo: Seoul, ROK

REPUBLIC OF KOREA



Republic of Korea

Figure 1. Indigenous Cases and Deaths in Republic of Korea, 2015-2024.



Source: 2014-2023 data from the WHO World Malaria Report 2024.

**5%
Increase**

**in indigenous malaria cases
between 2015 and 2024**

Key Message

The Republic of Korea has seen a recent increase in cases since 2021. Recent efforts to regain momentum include enhancing surveillance, military-specific measures, and multisectoral collaboration. Ongoing transmission along the border with the Democratic People's Republic of Korea remains the most pressing challenge to achieving national elimination goals.

Epidemiological Context

Over the past decade, the Republic of Korea (ROK) has reported a small but persistent number of vivax malaria cases. Since 2015, the number of domestic malaria cases has gradually declined, decreasing 628 cases in 2015 to 274 in 2021. However, occasional increases have been observed, such as the recent rise in cases from 274 cases in 2021 to 659 cases in 2024.

In ROK, malaria incidence peaking between June and September in parallel with peak mosquito activity. Geographically, most cases occur in areas bordering the Democratic People's Republic of Korea, particularly Seoul, Incheon, Gyeonggi, and northern Gangwon province. Demographically, males constitute 83.4% of total cases, with civilian males in their 20s comprising 35.4%, and active duty and discharged military personnel accounting for 18% and 11%, respectively.

Although malaria is no longer a major cause of morbidity or mortality, ROK remains one of the few OECD countries where malaria transmission continues, highlighting a unique geopolitical epidemiological profile.¹ Under the Global Technical Strategy for Malaria 2016-2030, the World Health Organization (WHO) included the ROK among the candidate countries for malaria elimination certification.



In response, ROK implemented its 1st National Strategic Plan for Malaria Re-elimination (2019–2023) and subsequently launched the 2nd National Strategic Plan for Malaria Re-elimination (2024–2028), with the goal of achieving WHO malaria elimination certification by 2030.

The National Response

The Korea Disease Control and Prevention Agency (KDCA) leads the malaria elimination strategy. In 2014, the Korea Disease Control and Prevention Agency (KDCA) designated malaria high-risk areas along the Demilitarized Zone (DMZ) border (Gyeonggi, Incheon, and northern Gangwon), strengthening training for local public health centre malaria coordinators on diagnosis, testing, and vector control. Surveillance networks were expanded, and technical guidance was provided to build local response capacities. KDCA also enhanced military-civilian cooperation for case detection and prevention among soldiers stationed near the DMZ. Educational campaigns targeting local clinics and residents were launched to shorten diagnostic delay, complemented by epidemiological training and a web-based case reporting system.

In 2019, KDCA launched the 1st National Strategic Plan for Malaria Re-elimination (2019–2023) under the goal of achieving a “malaria-free and healthy nation.” The plan focused on four pillars: (1) strengthened case management, (2) intensified vector surveillance and control, (3) expanded Research and Development (R&D), and (4) enhanced multisectoral coordination. This strategic plan prioritized the enhancement of early case detection and treatment. Accordingly, to ensure the safety and reliability of early diagnosis and therapeutic interventions, insurance coverage was expanded to include Rapid diagnostic tests (RDTs) in 2019 and glucose- 6 -phosphate Dehydrogenase (G6PD) testing in 2020.

In 2023, KDCA launched a malaria alert system, which is activated when clusters of *P. vivax* cases are detected or mosquito vector thresholds are exceeded. This system aims to warn local populations of malaria risk and promote timely public health responses.²

2nd National Strategic Plan for Malaria Re-elimination (2024–2028)

In 2024, the ROK established the 2nd National Strategic Plan for Malaria Re-elimination (2024–2028), which outlines strengthened efforts to accelerate elimination by 2030, focusing on strengthened surveillance and risk management, tailored measures for military personnel, and multisectoral governance involving government, military, academia, and civil society.

Enhancing Patient Surveillance and Risk Management

To strengthen patient surveillance and risk management, KDCA implemented active case detection and genotyping of clustered cases to interrupt transmission chains. Awareness campaigns and perception surveys were conducted among border residents and healthcare providers. Between April and July 2024, KDCA piloted an early diagnosis program involving public health centres, private clinics, military hospitals, and referral labs. Preliminary results showed that 20% of screened individuals tested positive for malaria, emphasizing the importance of proactive detection.³

RDTs are now used to test febrile patients presenting at medical facilities during the transmission season. While high-risk areas achieve diagnosis within five days on average, delays persist in adjacent and newly affected regions (e.g., southern Gyeonggi and Seoul).⁴ In response, KDCA expanded designated high-risk areas from 30 to 53 cities/counties, improving surveillance coverage and case management.²

Strengthening diagnostic method management

To strengthen diagnostic method management, KDCA established standard operating procedures for microscopy, antigen tests, and PCR-based diagnosis, while also operating the national reference laboratory and participating in international (e.g., WHO) proficiency programs.



Local government diagnostic capacity has been expanded from 11 labs in 2021 to 26 labs by 2024, with continuous technical training and proficiency assessments. Molecular epidemiology has been applied to identify species, relapse, reinfection, imported cases, and potential drug resistance. Since 2024, infected red blood cells (iRBC) screening has been implemented in endemic regions, identifying 1,359 positive samples across participating facilities, of which 49% were confirmed as malaria.³

Vector Surveillance and Control

From April to October each year, KDCA collaborates with the Ministry of National Defense and regional public health laboratories to conduct vector density and parasite rate surveillance in endemic regions. In accordance with the 2nd National Strategic Plan for Malaria Re-elimination (2024–2028), surveillance coverage expanded from 18 counties in 2023 to 31 counties in 2024. In 2024, mosquito density was higher than both the previous year and the 2020–2023 average. Vector control activities include larval habitat management, adult mosquito trapping with UV light traps, and residual spraying in and around livestock facilities in affected areas.

Military-Specific Measures

To strengthen malaria surveillance and case management among military personnel, KDCA provides technical support to the Ministry of National Defense (MND), including in early case diagnosis, epidemiological investigations, and vector control. As part of this collaboration, soldiers presenting with febrile symptoms undergo RDTs and are proactively referred to military hospitals for confirmatory diagnosis and appropriate treatment.² In addition, to support the management of malaria cases among military personnel, the KDCA and the MND regularly share case incidence data and findings from epidemiological investigations.

Recognizing the risk that discharged soldiers may develop symptoms after leaving service, due to the long incubation period of *P. vivax*, and potentially introduce malaria into non-endemic areas, KDCA implemented a proactive surveillance policy targeting malaria cases among discharged military personnel. All discharged soldiers are eligible for free malaria diagnostic testing and treatment prescriptions for one-year post-discharge at 14 designated military hospitals nationwide. In addition, free malaria diagnostic testing is available for up to two years post-discharge at public health centres.^{2,5}

Multisectoral Coordination and Governance

The KDCA has established a Central Malaria Control Unit to build a cooperative framework between the public, private, and academic sectors in order to efficiently and systematically implement malaria control projects by central and local governments. It promotes policies through continuous consultation and project evaluation.²

In high-risk areas, local governments will designate dedicated institutions and personnel responsible for malaria response, enhancing technical capacity, continuity, and accountability at the subnational level. Each city and province have established a malaria elimination task force to oversee implementation of local elimination plans, monitor progress at the city/county/district-level, and evaluate performance against national targets.

Furthermore, KDCA also plans to strengthen regional and global partnerships by enhancing collaboration with the WHO Global Malaria Programme (GMP), the Asia Pacific Leaders Malaria Alliance (APLMA), and the Asia Pacific Malaria Elimination Network (APMEN), leveraging technical support and knowledge-sharing platforms to accelerate progress toward elimination.



Financing the Response

The Republic of Korea relies on government resources to support malaria prevention and control activities and does not receive external funding from the Global Fund. The budget is approximately allocated as follows: 25% for case management, 15% for workforce capacity and training, 42% for vector control, 7% for diagnostics, and 11% for communication and advocacy.

Towards 2030 - Challenges and Opportunities

In response to rising malaria incidence between 2022 and 2024, KDCA launched the 2nd National Strategic Plan for Malaria Re-elimination (2024-2028), which lays the foundation for eliminating indigenous malaria by 2030. The program leverages multisectoral coordination, including enhanced military interventions, to address the geographic spread of cases beyond traditional high-risk areas and to target persistent *P. vivax* transmission among military personnel and border communities. High-incidence regions and geographic patterns have been analyzed to designate 49 risk areas across 4 provinces. Among them, 7 districts with high patient density have received newly assigned malaria officers and implemented micro-planning strategies for focused surveillance and management.

Cross-border transmission remains the principal challenge to malaria elimination, with malaria endemicity persisting in the DPRK and vector control efforts difficult to undertake in the DMZ. The ecological connectivity of the region—and the free movement of *Anopheles* mosquitoes—calls for parallel progress in elimination in DPRK as well as cross-border surveillance and interventions. However, coordinating such efforts remains a significant challenge.

A risk stratification framework based on environmental and epidemiological factors is under development to guide localized interventions at the township level. In addition, a National Elimination Certification Committee will be established to monitor progress and strengthen accountability. With political commitment and rigorous implementation of the 2nd National Strategic Plan for Malaria Re-elimination (2024-2028), the ROK remains firmly on track to achieve malaria elimination by 2030.

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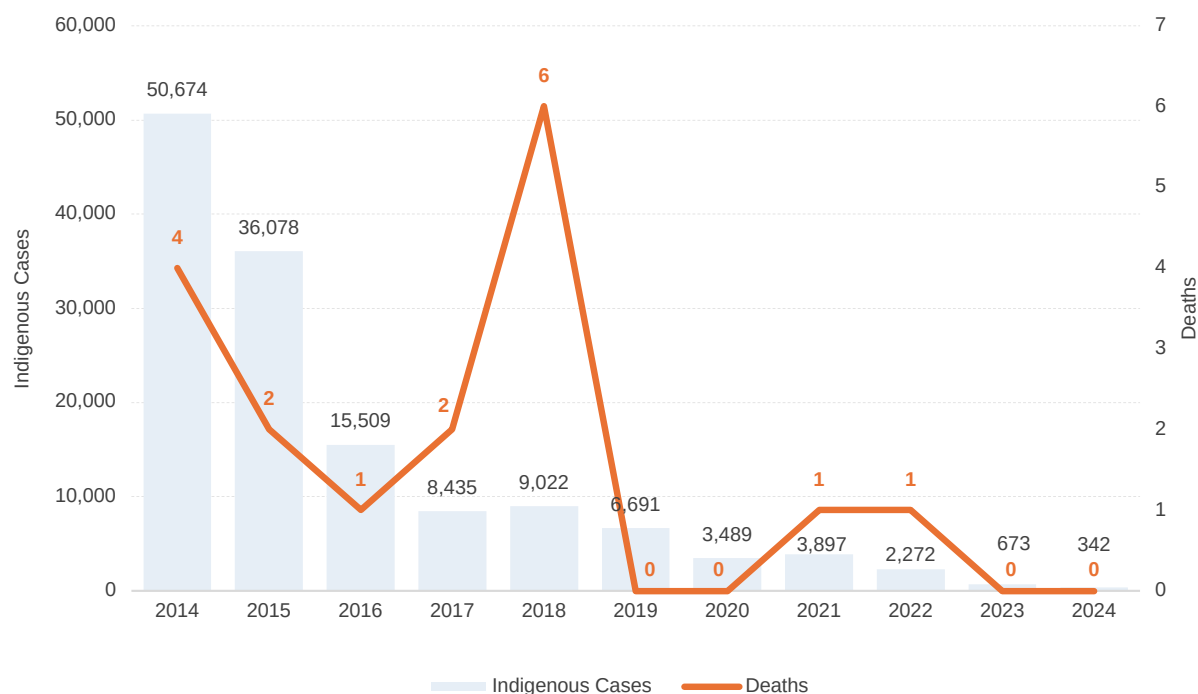
Photo: Vientiane, Lao PDR

LAO PEOPLE'S DEMOCRATIC REPUBLIC



Lao People's Democratic Republic

Figure 1. Indigenous Cases and Deaths in Lao PDR, 2014–2023



Source: 2015–2023 data from the WHO World Malaria Report 2024. 2024 data from the WHO Mekong Malaria Elimination Programme Epidemiology Summary, Volume 29, January–March 2025.

**99%
Decrease**

**in indigenous malaria cases
between 2015 and 2024**

Key Message

Lao PDR is on track to eliminate malaria by 2030. Transmission persists in southern areas, with resurgence risks. As donor funding declines, full implementation of sustainability plans is crucial amid challenges such as limited domestic financing, financial instability since 2020, and weak private sector engagement.

Epidemiological Context

The Lao People's Democratic Republic (Lao PDR) has achieved remarkable progress in controlling and eliminating malaria, achieving a 99% reduction in indigenous cases over the past decade—from 36,078 cases in 2015 to just 342 cases in 2024 (See Figure 1).^{1,2} While focal malaria transmission remains in the five southern provinces – Savannakhet, Saravane, Sekong, Champasack, and Attapeu – Lao PDR is on track to reach national malaria-free status by 2030. The number of deaths from malaria has also decreased, with 2019 marking the first time Lao PDR saw zero malaria deaths, with the number of deaths remaining between 0 and 1 since then. Despite these successes, stubborn remaining cases in burden reduction districts in Sekong and Attapeu have not declined since 2019. The malaria burden is unequally distributed geographically, with significantly higher risks in rural, forested areas, logging camps, and plantations. Furthermore, the threat of malaria resurgence persists, as demonstrated in 2023 by an unexpected outbreak in Nakai district in Khammouan province—an 'elimination' district^b which had not seen regular local transmission since 2017.³ This highlights the need to maintain good surveillance to prevent re-establishment of malaria.

^bThe terms 'elimination' district and 'burden reduction' district refers to classifications designated through malaria epidemiological risk stratification exercises in Lao PDR specifically. This classification is used to more effectively target resources and interventions, informing surveillance, response, and other protocols used in each district. This designation does not refer to the WHO certification of malaria elimination standard of no local transmission for three years.



The National Response

The Centre for Malariology, Parasitology, and Entomology (CMPE) leads the malaria elimination effort in collaboration with local and international partners and donors. CMPE operates in direct coordination with relevant sectors at the provincial level, district level, and community level, including health centres, the private healthcare sector through the public-private mix (PPM) programme, and Village Malaria Workers (VMWs). This collaborative approach has been instrumental in Lao PDR's remarkable progress against malaria over the past decade.

The Malaria National Strategic Plan 2021–2025 outlines strategic goals for malaria elimination.⁴ Phase one (2021–2025) aims to eliminate transmission of *Plasmodium falciparum* in the 13 northern provinces by 2021 and in the entire country by 2023. It also aims to eliminate transmission of *Plasmodium vivax* in the 13 northern provinces by 2025 and reduce the incidence of indigenous cases of *P. vivax* to less than 1 per 1,000 in the southern provinces by 2025. Phase two (2026–2030) aims to eliminate malaria transmission in the entire country by 2030 and prevent re-establishment of malaria in areas where it has been eliminated.

Success Against Drug Resistance

A key achievement has been Lao PDR's robust response to the threat of antimalarial drug resistance, particularly artemisinin resistance—a major concern in the Greater Mekong Subregion. Through participation in the Regional Artemisinin Initiative (RAI), a flagship multi-country programme supported by the Global Fund, Lao PDR has implemented intensified surveillance, rapid case detection, and targeted treatment strategies. These efforts have helped contain and reverse the spread of resistant strains, maintaining the efficacy of frontline treatments and contributing to regional and national progress.

Inclusion of Private Sector Reporting

The integration of the private sector has strengthened malaria surveillance and case management. Under the PPM programme, private pharmacies and clinics in endemic provinces are empowered to test and treat *P. falciparum* cases and refer *P. vivax* cases for G6PD testing at public health facilities. PPM providers are primarily managed by civil society organizations, with only a few directly managed by district health offices, posing a challenge to the sustainability of the private sector reporting network.

Successful Stratification Efforts and Implementation of Accelerator Strategies

Lao PDR has excelled in malaria stratification, using robust surveillance data to tailor interventions to local transmission patterns. Building on this, the country has implemented innovative “accelerator strategies”—developed with WHO and the Mekong Malaria Elimination Programme—focusing on remote, forested communities where transmission persists. These strategies combine targeted drug administration, monthly preventive treatment for forest-goers, universal distribution of insecticide-treated bed nets, and intensive community engagement to effectively reduce malaria burden.

Institutional and Policy Approaches

Since 2019, the Ministry of Health leadership has been actively pursuing long-term strategic goals for malaria sustainability and integration. This includes formally elevating malaria as the 19th notifiable disease, strengthening Public Health Emergency Operations Centre (PHEOC) mechanisms to support and sustain malaria elimination, and developing the *Roadmap to Malaria Integration in Lao PDR 2024-2030*. In parallel, CMPE has initiated a pilot programme to integrate VMWs into the broader Village Health Volunteer (VHV) framework. VMWs have been instrumental in reaching the most remote and underserved populations. However, challenges persist—particularly regarding the sustainability of integrated VHVs.



The VMW programme, including its management by civil society organizations, is currently funded entirely by the Global Fund. Stipend support for integrated VHVs may be fiscally unfeasible as donor funding declines and ownership of the integrated VHV structure remains unclear.

In 2024, with support from APLMA and Population Services International, CMPE developed the *Lao People's Democratic Republic Malaria Sustainability and Transition Readiness Assessment Report*, which offers a comprehensive analysis of the national malaria programme's current levels of sustainability⁵. Findings from this assessment have informed the development of the National Sustainability Roadmap for Malaria, which details Lao PDR's plan for transitioning from The Global Fund after the current funding phase ends in 2026.

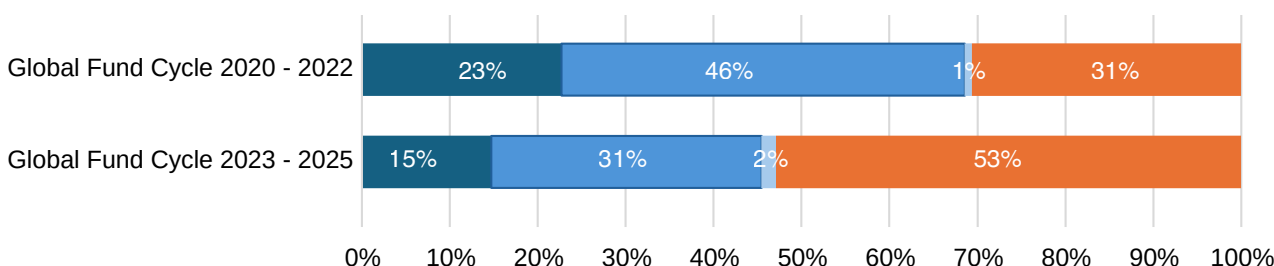
Financing the Response

The Global Fund is the largest external financier of malaria activities in Lao PDR. Between 2003 and 2026, the Global Fund allocated a total of \$108 million in support of the Lao PDR malaria programme, including four rounds of funding through the Regional Artemisinin Initiative (RAI). United Nations Office for Project Services (UNOPS) is the Principal Recipient of Global Fund grants. The most recent round of RAI4E funding (Global Fund Cycle 2023 – 2025, equivalent to calendar years 2024–2026) saw the country receive close to \$16.4 million over a three-year period, equivalent to 31% of the country's malaria programmatic needs.⁶ However, 53% of the Lao malaria programmatic needs remain unfunded for the same period, and such a funding gap will likely grow post-2026, when the current cycle of Global Fund funding ends.

Other sources of donor financing for the malaria programme – such as the U.S. Agency for International Development (USAID), Australian Department of Foreign Affairs and Trade (DFAT) and other international development partners – have also been gradually decreasing, with funding from USAID ending in 2025. Current global economic and geopolitical environments further pose significant challenges to mobilizing and accessing international development aid.

There is therefore an urgent need for the Government of Lao PDR to plan for the long-term sustainability and transition of its malaria programme by changing its approach to financing – relying less on traditional donors and seeking resources through integrated and innovative approaches. Successfully securing resources from new domestic investments and innovative financing mechanisms are critical to ensure Lao PDR's continued achievements and long-term sustainability beyond elimination.

Figure 2. Malaria funding (USD) by funding source, Lao PDR.



	Global Fund Cycle 2020-2022	Global Fund Cycle 2023-2025
Domestic	\$6,069,811	\$7,839,757
Global Fund	\$12,241,081	\$16,392,000
Other External Partners	\$221,100	\$888,990
Funding Gap	\$8,175,968	\$28,212,854

Source: The Global Fund Data Explorer – Multicountry East Asia and Pacific RAI, Access to Funding



Towards 2030 - Challenges and Opportunities

Lao PDR has made remarkable progress in articulating strategic approaches to a sustained malaria response; however, there are remaining challenges to fully realize these goals. A formal accountability structure or mechanism to track progress and ensure accountability for long-term sustainability planning has yet to be established, although the current Malaria Technical Working Group (TWG) has been considered as a potential forum for this purpose. There is a need to enhance private health sector reporting of malaria beyond the existing PPM programme, and for private health sector reporting beyond malaria. While the malaria programme is currently well-managed and operationally strong, there are concerns regarding the capacity and willingness of Ministry of Health counterparts and external Ministries to eventually manage and finance integrated malaria components effectively, including the VMW cadre. The ongoing fiscal challenges in Lao PDR may pose significant challenges to mobilizing domestic resources for malaria; the planned transition of Gavi, the Vaccine Alliance (Gavi) further limits domestic resources for malaria amidst other competing health priorities.⁵

However, Lao PDR's demonstrated success in drug resistance containment, private sector engagement, stratification, and accelerator strategies provides a strong foundation for overcoming these hurdles and achieving malaria elimination by 2030.

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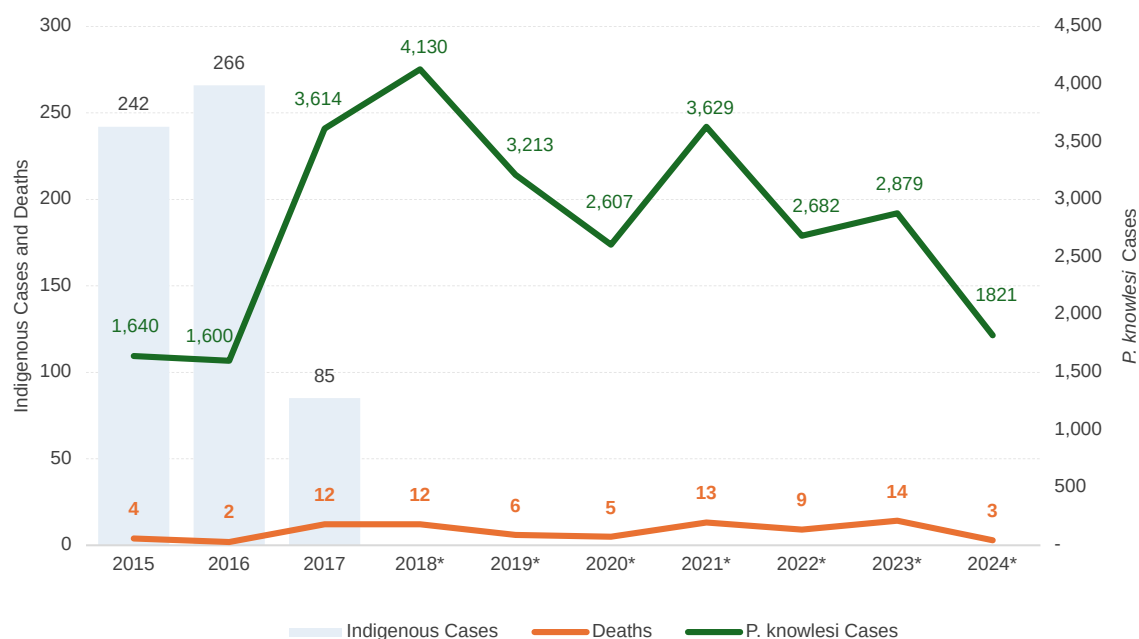


MALAYSIA



Malaysia

Figure 1. Indigenous Cases, *P. knowlesi* Cases, and Deaths in Malaysia, 2015–2024.



*Between 2018–2024, Malaysia reported 0 indigenous cases

Source: 2015–2023 data for indigenous cases and deaths from the WHO World Malaria Report (WMR) 2024. 2024 data for indigenous cases and deaths from the Vector Borne Disease Sector, Disease Control Division, Ministry of Health Malaysia. For *P. knowlesi* cases, 2015–2017 data from Abraham Zefong Chin et al., “Malaria Elimination in Malaysia and the Rising Threat of Plasmodium Knowlesi,” *Journal of Physiological Anthropology* 39 (November 2020): 36, <https://doi.org/10.1186/s40101-020-00247-5>; 2018 data from Ahmad Basyir Muhammad et al., “The Rise of Plasmodium Knowlesi Cases: Implication to Malaysia’s Malaria-Free Status,” *Asian Pacific Journal of Tropical Medicine* 15, no. 8 (2022): 337, <https://doi.org/10.4103/1995-7645.353920>; 2019–2020 data from WHO WMR 2021; and 2021–2024 data from the Vector Borne Disease Sector, Disease Control Division, Ministry of Health Malaysia.

99% Decrease

in indigenous malaria cases
between 2015 and 2024

Key Message

Malaysia has achieved elimination of human malaria species, with zero indigenous cases since 2018. However, zoonotic *P. knowlesi* malaria persists as the primary challenge. Through close WHO collaboration on evolving certification guidelines and targeted control strategies, Malaysia remains on-track for malaria-free status by 2030.

Epidemiological Context

Between 2015 and 2024, Malaysia achieved the remarkable feat of eliminating indigenous human malaria species while simultaneously confronting a surge of zoonotic *Plasmodium knowlesi* infections (Figure 1). This epidemiological shift has created significant challenges for the country’s path to WHO malaria elimination certification.

The elimination of human malaria species has been a remarkable milestone. As of 2024, Malaysia reported zero indigenous cases and deaths caused by human *Plasmodium* species for the seventh consecutive year, indicating successful elimination of *P. falciparum*, *P. vivax*, *P. ovale*, and *P. malariae* since 2018. This achievement represented the culmination of decades of sustained malaria control efforts under the National Malaria Elimination Strategic Plan, which targeted malaria elimination by 2020.

On the other hand, Malaysia has become the principal contributor of *P. knowlesi* cases globally, accounting for 81.1% of all cases and reporting 3 indigenous deaths due to *P. knowlesi* in 2024. *P. knowlesi* cases have risen from 1,640 cases in 2015 to 1,821 cases in 2024, with most infections and deaths concentrated in Sabah.



This emerging burden of zoonotic malaria presents unique challenges for malaria elimination efforts and has significant implications for malaria-free certification, as WHO's current certification framework has traditionally been awarded only to countries that have eliminated transmission of the four main human *Plasmodium* species.

The National Response

The Malaysian National Malaria Control Programme (NMCP) is led by the Vector Borne Disease Section, Disease Control Division, Ministry of Health Malaysia. The *National Strategic Plan for Elimination of Malaria (2011-2020)* served as Malaysia's comprehensive roadmap to achieve complete elimination of indigenous human malaria transmission.¹ The plan set ambitious targets to eliminate malaria in a geographically phased manner, with the goal of zero local transmission for West Malaysia by 2015, and 2020 for Sabah and Sarawak. The plan also outlined seven key strategic actions including strengthening surveillance systems through online platforms, intensifying vector control activities, ensuring prompt case investigation and treatment, and enhancing community awareness. This strategic framework guided Malaysia's coordinated national efforts that ultimately succeeded in eliminating indigenous human malaria species, though the emergence of zoonotic *P. knowlesi* presented new challenges requiring adapted approaches beyond the plan's original scope.

Following elimination of indigenous human malaria cases, a follow-up document, the *National Strategic Framework for Prevention of Malaria Re-establishment in Malaysia (2021-2025)*, was published to guide the POR efforts in the country. Moving forward, a progressive strategic plan for ALL- Malaria would bring Malaysia to new achievements into 2030.

Strengthened Malaria Surveillance System

While malaria has been a notifiable infection for decades under the Malaysian Infectious Disease Prevention and Control Act 1988, Malaysia significantly enhanced its surveillance architecture during 2015-2024, achieving comprehensive case detection and reporting capabilities. With current emphasis given by the Ministry of Health Malaysia on mandating hospital referral and admission policies for all malaria cases in both public and private sectors, mandatory referral for PCR testing of all microscopy-positive blood to be conducted by designated Public Health Laboratory, and surveillance linked to both systems, it is likely that most symptomatic malaria cases were identified.

Heighten Preparedness and Early Response to Outbreak

Malaysia's outbreak preparedness and response capabilities were thoroughly tested and refined during several outbreaks, demonstrating exceptional multi-sectoral coordination. The 2016 *P. vivax* outbreak at Pos Chemar, Perak exemplified this capability: The malaria outbreak operation was initiated on November 17, 2016 after three confirmed *P. vivax* cases were detected during an active case detection (screening of febrile individuals at areas with high risk of malaria) by the Hulu Perak district health office on 16 November in Kampung Senangit, Pos Chemar.

The response demonstrated sophisticated outbreak management:

- **Rapid detection and activation:** Although 83.5% of the vivax cases were identified through passive case detection and contact screening during the first 7 weeks, subsequent mass blood screening (combination of rapid diagnostic tests, blood films, and polymerase chain reaction [PCR]) of the entire settlement (N = 3,757) revealed another 27 *P. vivax* infections, 19 of which were asymptomatic
- **Multi-sectoral coordination:** The rapid containment of the outbreak is largely attributed to the efficient multi-sectoral effort involving the Malaysian health authorities, the army, the public health laboratories, research institutions, Department of Orang Asli Development



- **Geographic containment:** After that, contact screening (reactive case detection) within 2 km radius from the suspected site of infection was carried out

Public- Private Partnerships and Sectoral Collaboration

A distinctive feature of Malaysia's national response was the innovative development of public-private partnerships, particularly in high-risk areas. Partnerships between the NMCP and private plantations and agricultural estates have existed in Malaysia since the early 1900s, particularly in the state of Sabah, but these were significantly strengthened during the elimination phase.

To address these regional challenges, state and district level MCP offices worked with commercial palm oil, rubber and acacia plantations to provide training and supervision for surveillance and prevention activities. Partnering with the commercial sector had been an essential operational strategy to support malaria elimination in Sabah. These collaborations were particularly important given that men involved in farming or agricultural work, particularly in palm oil plantations, were high in malaria risk.

Challenges

The fundamental challenges posed by *P. knowlesi* to Malaysia's elimination efforts stem from the parasite's zoonotic nature and the consequent ineffectiveness of traditional malaria control strategies. Current malaria control measures cannot eliminate transmission from wildlife reservoirs. The evidence from Malaysia clearly demonstrates this limitation: Standard control measures, such as insecticide-treated nets and rapid detection and treatment of human cases, have successfully controlled nonzoonotic malaria but have had no appreciable impact on zoonotic malaria case incidence in Malaysia, likely due to these differences in transmission and the presence of a wildlife reservoir.

The persistence of *P. knowlesi* in natural wildlife populations represents an insurmountable barrier to traditional elimination approaches, as these reservoirs cannot be controlled through human-focused interventions. Carried by macaques and transmitted by the *Anopheles leucosphyrus* group of mosquitoes, increasing evidence suggests deforestation is driving *P. knowlesi* transmission to humans.² The wildlife reservoir ensures continuous potential for human infection regardless of human malaria control success. As a result, communities living in the forest and on the edges of forests, or those engaged in forest-related activities – such as hunting and camping, are at a higher risk of contracting zoonotic malaria due to their proximity to reservoir macaque hosts and mosquito vectors.³ Due to difference of natural host of the *Macaca sp.*, vector bionomics and much shorter response needed for cluster control in zoonotic malaria, zoonotic malaria has significant pathophysiology and disease transmission differences from human malaria.

Financing the Response

As an upper-middle-income country, Malaysia was ineligible for major international donor funding for malaria, including from the Global Fund, which meant its malaria control and elimination activities have been primarily financed through domestic government funding via the Ministry of Health's budget. While specific malaria allocations within this budget are not detailed in available sources, Malaysia's commitment to domestic financing is evident: in 2023, 79% of malaria funding came from domestic sources (excluding patient service delivery costs and out-of-pocket expenditure).¹ This strong domestic resource mobilization is further demonstrated by Malaysia's consistent financing of the programme— over a three-year average (2021-2023), the Malaysian Ministry of Health funded US\$36.70 per person at risk of malaria, the highest in the WHO Western Pacific Region.⁴ Both the substantial domestic funding proportion and the region-leading per-capita investment serve as testament to the high political commitment at the national level.



Towards 2030 - Challenges and Opportunities

WHO Certification Framework Adaptation

Previous WHO guidelines defined malaria elimination as interruption of transmission of the four nonzoonotic malaria parasites and specifically excluded zoonotic *P. knowlesi*, but 2022 revised certification guidelines now require that risk from other Plasmodium species be considered "negligible." While this term remains officially undefined, initial discussions suggested it may involve ten or fewer zoonotic cases annually, creating certification challenges for countries like Malaysia with persistent *P. knowlesi* transmission. In response, WHO convened an advisory group concluding that countries eliminating human malaria species, but reporting continued zoonotic transmission might still receive certification if human infection risk is deemed negligible. Malaysia could advocate for clear "negligible risk" definitions, separate certification pathways recognizing different transmission dynamics between human and zoonotic malaria, and technical consultations to establish country-specific thresholds based on local transmission patterns. In summary, a threshold would hamper future molecular researches interests that would affect rapid diagnostic tests researches for all forms of malaria.

Intersectoral Collaboration Framework

Malaysia can develop comprehensive intersectoral collaboration approaches recognizing that *P. knowlesi* control requires coordination across multiple sectors. The Wildlife Department may undertake screening of macaques for malaria parasites, control their populations, and assist the Ministry of Health in providing health education for hunters, while the Forestry Department can monitor forest activities by maintaining records of forest visitors and advocating mosquito bite prevention methods. The Malaysian Armed Forces can conduct staff screening and monitor chemoprophylaxis uptake, as their forest-based camps and activities place personnel at high risk for *P. knowlesi* infections. The plantation sector can ensure provision of insecticide-treated bed nets to workers for outdoor bite prevention.

Enhanced Community-Based Prevention

Current prevention and control strategies focus on domestic and peri-domestic transmissions, yet most infections occur on farms or in jungles, necessitating enhanced community self-preventive actions. Policies include targeted education programmes for high-risk occupational groups such as agriculture, plantation, and forest workers, community-based participatory research approaches like photovoice to understand local barriers and facilitators, personal protective equipment subsidies for outdoor workers in endemic areas, and modified work practice guidelines that avoid peak vector activity times.

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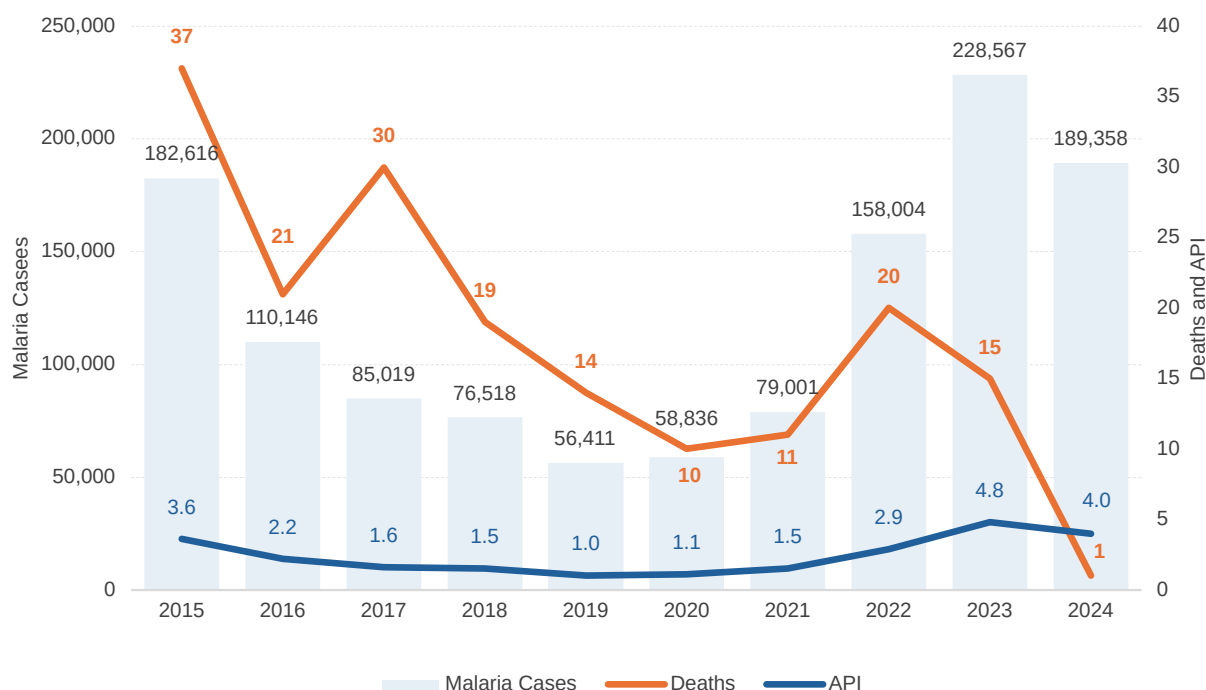
Photo: Nay Pyi Taw, Myanmar

THE REPUBLIC OF THE UNION OF MYANMAR



The Republic of the Union of Myanmar

Figure 1. Indigenous Cases, Deaths, and API in Myanmar, 2015–2024.



Source: 2015–2024 data from the National Malaria Control Programme, Myanmar.

**4%
Increase**

**in indigenous malaria cases
between 2015 and 2024**

Key Message

Myanmar is not on target to eliminate malaria by 2030, with the dual crises of COVID-19 and civil conflict converging to cause a resurgence of cases since 2021. Myanmar experiences high levels of *P. vivax* transmission, and malaria transmission is increasingly concentrated along international borders. Integrated Community Malaria Volunteers (ICMVs) play an outsized and crucial role in the malaria response.

Epidemiological Context

From 2015 to 2019, Republic of the Union of Myanmar (Myanmar) made substantial progress toward its goal of malaria elimination by 2030, reducing malaria cases by 69%, from 182,616 to 56,411 cases. However, this progress has since reversed. The dual crises of COVID-19 and escalating civil conflict since 2021 have triggered a protracted emergency, widespread population displacement, and severe disruptions to the health system and service delivery. As a result, malaria cases surged to 228,567 in 2023, or a 305% increase since 2019. The actual burden is estimated to be significantly higher, with up to 847,000 cases projected in 2023—3.7 times higher than the number of cases reported.¹ While reported cases decreased to 189,358 in 2024,² this remains above the 2015 case burden.

Transmission is highly concentrated, with just 20 of Myanmar's 330 townships comprising 77% of the national burden. Many of these townships are located along international borders, including hotspot townships along the Thai-Myanmar border in Tanintharyi region and Kayin state, and along the China-Myanmar border in Kachin state.² In addition to these hotspots, Rakhine and Chin States along the Bangladesh and India borders, respectively, also contain areas of heightened transmission.



In 2023, the 52 international border townships accounted for 67% of total cases, with only 68% reporting coverage.³ Domestically, *Plasmodium vivax* is implicated in the majority of malaria cases, contributing to around 90% of infections in 2024.⁴ The primary malaria vectors are *An. minimus* and *An. dirus*, which are present throughout the country. Myanmar bears the highest burden among the countries in the Greater Mekong Subregion (GMS), accounting for 92% of all indigenous cases and 94% of *P. falciparum* infections in 2024.⁴

The National Response

The national response to malaria is led by Myanmar's National Malaria Control Programme (NMCP), operating under the Disease Control Unit within the Department of Public Health, Ministry of Health. The Ministry of Health additionally collaborates with other sectors of government, including the Ministry of Labour, Ministry of Transport, and the Ministry of Defence, which provide medical and malaria services to military personnel. Implementation is supported by a broad ecosystem of technical and operational partners. The United Nations Office for Project Services (UNOPS) and Save the Children serve as co-Principal Recipients of the Global Fund Regional Artemisinin Initiative (RAI) grant and work alongside 20 technical and implementing partners. These include the WHO, Myanmar Medical Association (MMA), Myanmar Red Cross Society (MRCS), Myanmar Council of Churches (MCC), Medical Action Myanmar (MAM), Shoklo Malaria Research Unit (SMRU), and Myanmar Health Assistant Association (MHAA).⁵

Malaria services are primarily delivered through a nationwide network of Integrated Community Malaria Volunteers, as well as private sector providers and public health facilities. Together, these actors are working toward the national goal of malaria elimination by 2030, with an interim target to eliminate indigenous transmission of *P. falciparum* by 2026, as outlined in the *National Strategic Plan for Malaria Elimination 2021-2026*.⁶

The Impact of the Humanitarian Crisis and National Hazards on Malaria Service Delivery

The ongoing humanitarian crisis coupled with extreme weather events in Myanmar has severely disrupted malaria service delivery and the supply of essential commodities. Since the start of the civil conflict, over 3 million people have been internally displaced.³ Much of the displaced urban population have moved to border regions with high malaria transmission, triggering malaria outbreaks across the country. Extreme weather events, including cyclones, earthquakes, and flooding, have caused additional population displacement and damage to medical facilities.

Testing and treatment services have been significantly affected as a result of widespread staffing shortages in public sector health facilities and high turnover in the health workforce previously supported and trained through RAI, leading to the loss of capacity that had been strengthened.^{7,8} Between 2020 and 2021, testing conducted by the NMCP dropped by 71%, from 1,928,777 to 551,916 tests. While testing volumes partially recovered to 1,270,952 in 2024, this remains 34% below 2020 levels.²

The security situation has also hindered the implementation of routine vector control and surveillance activities. Myanmar's primary malaria intervention is mass long-lasting insecticidal net (LLIN) distribution, which is intended to occur every three years. In 2017 and 2019, approximately 5.5 million and 6 million LLINs were distributed, respectively, through mass campaigns and continuous distribution.² However, from 2020 to 2024, annual LLIN distribution has fallen significantly, with only 315,874 nets distributed in 2021, 574,138 nets distributed in 2022, and 449,207 nets distributed in 2023. In 2024, only approximately 134,731 nets were distributed.²



Reaching Underserved Ethnic Minorities and Mobile and Migrant Populations

Even prior to the ongoing civil conflict, malaria transmission in Myanmar was high in the border regions, home to large number of mobile and migrant populations (MMPs) and ethnic minorities. In Myanmar, MMPs include forest-based workers, such as miners, loggers, charcoal producers, and hunters in states and regions such as Kachin, Tanintharyi, and Kayin; seasonal labourers in palm oil and rubber plantations; conflict-displaced persons; and informal workers and migrants to Thailand, China, and Bangladesh.²

Myanmar's minority ethnic communities are estimated to make up roughly one-third of the total population and inhabit half of the country's land area.⁷ Much of this population resides in conflict sensitive areas, where access to quality public health services is difficult. Malaria risk is heightened in these areas by population movement, ecological conditions, poor transportation, and limited healthcare services.

To address these challenges, now exacerbated by the civil conflict, Myanmar has proposed to ensure coverage of core malaria interventions while launching intensified and innovative activities through the Global Fund's fourth RAI grant for 2024-2026 (RAI4E).⁶ This would involve activities including mass or targeted drug administration (MDA/TDA) and intermittent preventive treatment for forest goers (IPTf), as well as intensifying the activities of community and private sector providers, to drive down malaria burden in the highest-risk geographies.

Community- and Private Sector-Driven Service Delivery

Community-based and private sector services have played a crucial role in filling the gaps in malaria service delivery since the onset of the conflict. In particular, ICMVs have formed the backbone of the national response, supported by a network of partners and funders, including the NMCP, UNOPS, Save the Children, Defeat Malaria (U.S. President's Malaria Initiative), and Access to Health Fund.²

As of 2022, more than 19,800 ICMVs have been trained and deployed nationwide, with plans to expand the network by approximately 1,000 ICMVs between 2024 and 2026.⁶ ICMVs lead case detection, testing, and treatment efforts, particularly in hard-to-reach and conflict-affected areas and among mobile and migrant populations. In 2022, ICMVs were responsible for 71% of all malaria testing and 79% of confirmed cases, compared to 14% of testing and 18% of confirmed cases by public health facilities.⁶ A portion of ICMVs report cases through a mobile phone application-based reporting system, Malaria Case-based Reporting (MCBR), which reports cases into a malaria health information system hosted in DHIS2.

The private sector has also been engaged through Public-Private Mix (PPM) models in urban and peri-urban settings. Private general practitioners have been trained on the use of RDTs and ACTs in alignment with national guidelines. In 2022, private providers accounted for 21% of testing and 9% of confirmed cases.⁶



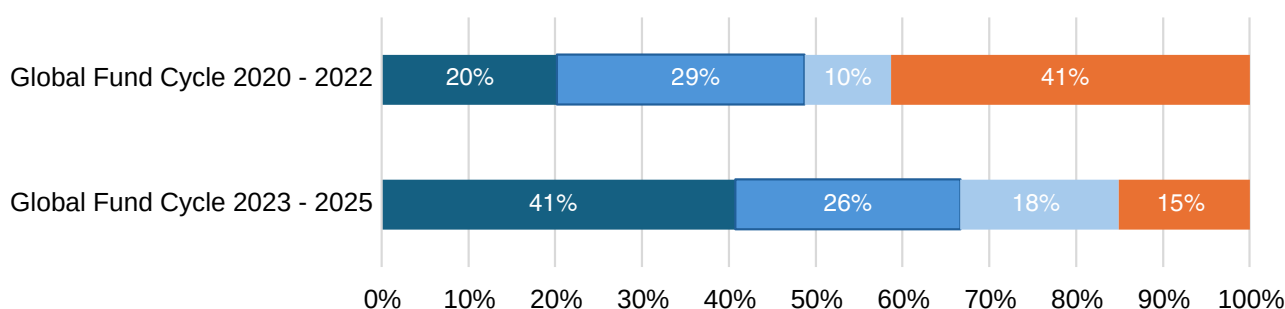
Financing the Response

Myanmar's malaria programme is supported by domestic funding, the Global Fund, and various external donors. Between the previous (2020 – 2022) and current Global Fund grant cycles (2023 –2025), domestic financing doubled proportionally to cover 41% of programmatic needs, while Global Fund contributions remained proportionally stable but fell in absolute terms from US\$90.1 million to US\$44.3 million. This apparent contradiction is explained by dramatically different total programmatic needs between the two periods: the NSP estimated that US\$315 million was required to fully meet programmatic needs in the previous grant cycle, while US\$171 million was needed in the current cycle. The changing funding proportions therefore indicate lower overall programmatic requirements, which also explains the reduced funding gap.

The programme has received support from other external donors. The U.S. President's Malaria Initiative (PMI) has historically provided significant financial and technical support that included implementation in some of the country's highest burden areas, including 10 townships in Tanintharyi Region, 4 in Kayin State, 17 in Rakhine State, and 5 in Sagaing Region.⁹ Access to Health fund has also been a consistent and significant non-governmental donor. Others have included the Asian Development Bank.

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Figure 2. Malaria funding (USD) by funding source, Myanmar.



	Global Fund Cycle 2020-2022	Global Fund Cycle 2023-2025
Domestic	\$63,539,413	\$69,709,835
Global Fund	\$90,119,602	\$44,320,999
Other External Partners	\$31,299,741	\$31,185,903
Funding Gap	\$130,398,036	\$25,845,760

Source: The Global Fund Data Explorer – Multicountry East Asia and Pacific RAI, Access to Funding



Towards 2030 - Challenges and Opportunities

As Myanmar approaches its 2030 malaria elimination target, progress will hinge on the country's ability to navigate a protracted humanitarian crisis that continues to affect multiple sectors, including health, and the delivery of core malaria testing, treatment, and prevention interventions. Between 2019 and 2022, the number of patients receiving diagnostic tests declined by 47%, while confirmed number of cases have simultaneously increased.⁷ Sustaining and expanding community- and private-sector-led surveillance and case management will be critical to identifying every case, but the future of these efforts is uncertain in part due to the challenges posed by natural disasters and a changing donor landscape. The increase in malaria cases in areas previously affected by artemisinin partial resistance is also a cause for concern.¹ Government commitment and coordination, along with adequate financing and continued engagement and flexibility among all technical and implementing partners, will be essential to reverse current trends and make progress toward the 2030 goal.

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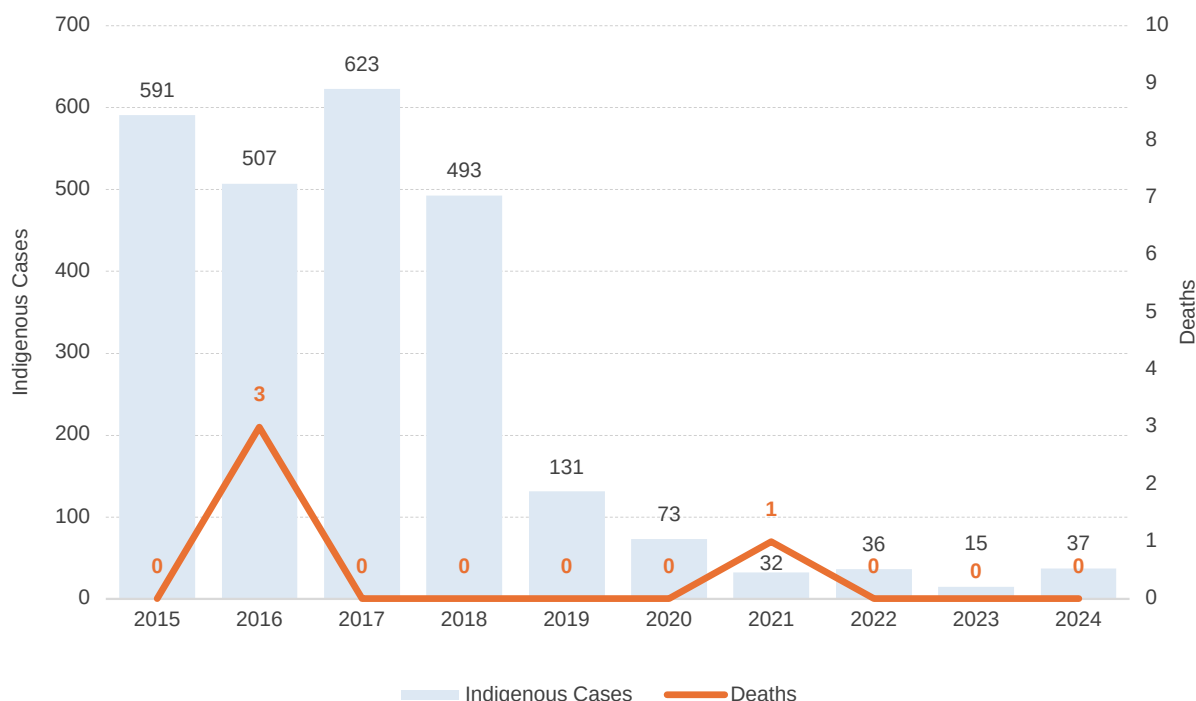
Photo: Kathmandu, Nepal

FEDERAL DEMOCRATIC REPUBLIC OF NEPAL



Federal Democratic Republic of Nepal

Figure 1. Indigenous Cases and Deaths in Nepal, 2015–2024.



Source: 2015–2023 data from the WHO World Malaria Report 2024. 2024 data from Yadu Chandra Ghimire, “Strengthening Cross-Border Malaria Elimination Efforts in Nepal and Neighboring South Asian Countries,” PowerPoint Presentation, 9th Asia Pacific Leaders’ Summit on Malaria Elimination, Bali, Indonesia, June 16, 2025.

**94%
Decrease**

**in indigenous malaria cases
between 2015 and 2024**

Key Message

Indigenous malaria in Nepal fell to 37 cases in 2024, but imported infections, mostly *P. vivax* acquired by Nepali migrant workers in India account for over 90% of the national caseload. Sustaining the 2026 elimination target demands rapid cross-border surveillance, ward-level risk-stratified interventions, and secure funding beyond the current Global Fund cycle support.

Epidemiological Context

Over the past decade, the Federal Democratic Republic of Nepal (Nepal) has travelled from 591 malaria cases to just 37 indigenous infections in 2024 and no malaria-attributed deaths since 2021, marking a cumulative 94% decline in cases since 2015.^{1,2} Surveillance data show that indigenous cases collapsed from 131 in 2019 to 36 in 2022 and 15 in 2023, with a slight increase to 37 cases in 2024, while imported cases fell more slowly, from 587 to roughly 230 over the same period.³

Micro-stratification conducted in 2022 paints an almost malaria-free national picture with just 22 wards (0.9%) remain high-risk and 69 (2.7%) moderate-risk, all clustered in the forested Sudur Paschim and Karnali Provinces; the remaining 2,462 wards are now classified as low-risk.³

At the ward level, the Annual Parasite Incidence (API) is down to 0.1 in 2021, but spatial-temporal analyses confirm that small, resilient hotspots persist in the far-western border belt and are beginning to appear in mid-hill districts that had previously been malaria-free.⁴

The driver of ongoing transmission is importation. In 2022, 93% (476/512) of laboratory-confirmed malaria cases were imported, and 87% of those imports originated in India.³ Returnees from the distant states of Maharashtra (58%) and Gujarat (25%) dominate the import



ledger, reflecting large-scale seasonal labour migration to construction and factory hubs there. Nepal's 13 formal Points of Entry, established since 2021, have so far screened 67,301 travellers with RDTs yet detected only 12 positives, highlighting both the value of border testing and the challenge of informal crossings that escape surveillance.³

Epidemiologically, the caseload is highly skewed: over 90% of patients are adult men, 70% carry *Plasmodium vivax* and 24% *P. falciparum*, a species mix that calls for greater focus on radical cure.⁵

Climate research adds a caution: a modelling study found that a 1 °C rise in minimum temperature was associated with a 27% surge in malaria incidence in low-lying districts, and projected warming could push competent *Anopheles* vectors into hill regions once considered non-receptive. These findings echo programmatic alerts of indigenous cases cropping up above 1,000m during unusually warm monsoon seasons.⁶

Together, the evidence underscores Nepal's dual reality: elimination is within reach, yet the country remains vulnerable to cross-border importation, mobile adult-male reservoirs of *P. vivax*, and climate-driven shifts in vector ecology.

The National Response

Nepal's malaria response is led by the Epidemiology and Disease Control Division (EDCD) under the Department of Health Services, Ministry of Health and Population. As the national focal body for vector-borne diseases, EDCD is mandated to develop strategic plans, coordinate programme implementation across federal, provincial, and local governments, and oversee national surveillance, monitoring, and response. EDCD serves as the country's representative in regional and global malaria elimination forums and plays a critical role in mobilizing resources, managing Global Fund grants, and coordinating with technical partners.

The backbone of Nepal's elimination efforts is the National Malaria Strategic Plan (NMSP) 2014–2025, which lays out a phased roadmap for achieving zero indigenous cases nationwide by 2025 and WHO certification by 2026. The strategy prioritizes targeted elimination in remaining transmission foci, universal coverage of preventive interventions (LLINs, IRS), strong case-based surveillance, and enhanced cross-border coordination. Importantly, the NMSP calls for integrating malaria services with the wider health system and emphasizes the use of evidence, through risk stratification and real-time surveillance to guide operations. The strategy also recognizes *P. vivax* radical cure as a key challenge and outlines the need to expand G6PD testing and improve access to primaquine and tafenoquine-based treatment.⁷

The three-tier surveillance and response structure

At the heart of Nepal's operational system is a three-tier surveillance and response structure that supports case investigation and outbreak containment at all levels. Upon confirmation of a malaria case at the health facility (Tier 1), the case is escalated within 24 hours to district rapid response teams (Tier 2) for foci investigation and intervention. At Tier 3, the provincial and central teams are notified for coordination, review, and follow-up action. This escalation framework ensures that no case goes untracked and allows for timely reactive testing ("1-7-14" approach), including among household members and neighbours of the index case. The system is powered by a digital Malaria Disease Information System (MDIS), which provides real-time dashboards accessible at district and provincial levels.⁷

Cross-border cooperation

Recognising that the final challenge lies not within its borders but across them, Nepal has made cross-border collaboration a central pillar of its elimination strategy. Since 2021, the country has formalised 13



Points-of-Entry (PoEs) along the India–Nepal border to conduct RDT screening of returning travellers, with data relayed via instant messaging to Indian surveillance counterparts. More importantly, a bilateral cross-border coordination mechanism, supported by WHO was reactivated in 2023, resulting in quarterly joint district-level review meetings, real-time exchange of line-listed data, and joint outbreak investigations. Such bilateral coordination is critical given the high proportion of imported cases with over 90% originating from India.⁸

Subnational micro-stratification

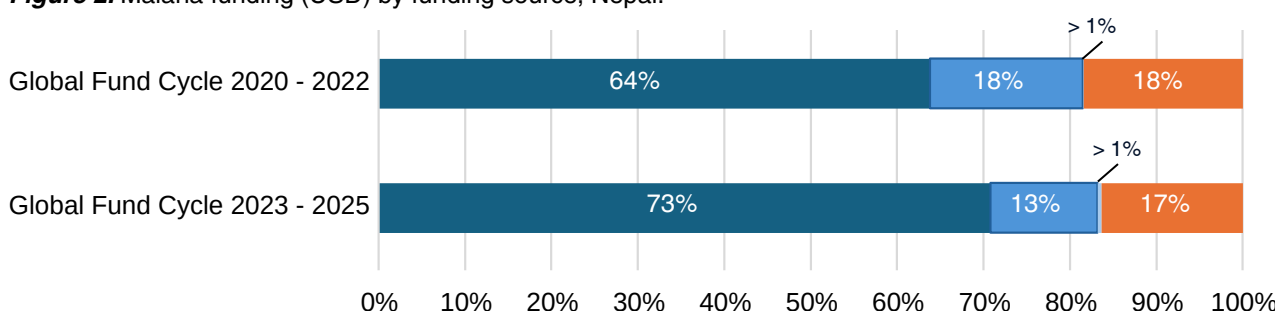
A defining strength of Nepal's programme is its use of micro-stratification to guide subnational interventions. In 2022, EDCD completed ward-level malaria risk mapping across the country's 2,553 wards. Only 22 wards (0.9%) were found to be high-risk and 69 (2.7%) moderate-risk, with the rest classified as low-risk. This data-driven approach enables the programme to focus resources where they are needed most, whether through focal IRS, LLIN top-ups, or targeted behaviour change campaigns. Micro-stratification also feeds into the strategic deployment of Female Community Health Volunteers (FCHVs), who now deliver reactive testing in most high-risk and remote areas.^{3,7}

Financing the Response

Nepal has made great efforts in mobilizing domestic resources to finance for malaria elimination. Currently, close to three quarters (73%) of Nepal's national malaria programmatic needs is domestically financed, a 9% increase from the last Global Fund grant cycle. Concurrently, while the Global Fund remains Nepal's largest external financier, reliance on Global Fund support has substantially reduced by 5% between the two latest Global Fund grant cycles. In addition, Nepal also receives support from external donors, including the United States Government and the World Health Organization.⁹

However, this still leaves a 17% funding gap, and shortfalls have already forced cut-backs in LLIN procurement and RDT stock. Domestic resources are also under pressure, due to a plunge in revenue collection: the federal budget line for vector control fell from NPR104.6million to NPR64million for FY2023/24, the lowest in a decade.¹⁰ Looking ahead, Nepal's nascent Health Fund and the Social Security Fund, recently expanded to include migrants,^{11,12} could become innovative channels for co-financing elimination commodities if earmarked appropriately.

Figure 2. Malaria funding (USD) by funding source, Nepal.



	Global Fund Cycle 2020-2022	Global Fund Cycle 2023-2025
Domestic	\$13,096,923	\$17,636,853
Global Fund	\$3,639,713	\$3,095,118
Other External Partners	\$14,169	\$120,000
Funding Gap	\$3,781,044	\$4,069,026

Source: The Global Fund Data Explorer – Nepal: Southern Asia, Access to Funding.



Towards 2030 - Challenges and Opportunities

Nepal is on track to achieve malaria elimination by 2026, but sustaining zero transmission will require targeted policy attention. Key challenges include persistent importation of cases via seasonal labour migration, low surveillance coverage in border and hill districts, limited entomological capacity, and underreporting from private providers.

Climate change is expanding vector habitats into previously non-endemic areas, demanding adaptive, data-linked vector control. Meanwhile, declining donor support alongside a shrinking domestic vector control budget raises concerns about long-term financing.

Yet, Nepal's programme architecture remains strong. It is guided by a robust strategic plan, granular risk stratification, and a functional surveillance cascade. The country has also demonstrated increasing leadership in cross-border coordination with India. With sustained investment, improved private sector engagement, and a bilateral data-sharing mechanism, Nepal is well-positioned to not only interrupt transmission but to maintain zero through 2030 and serve as a regional model for mobility and climate-sensitive elimination.

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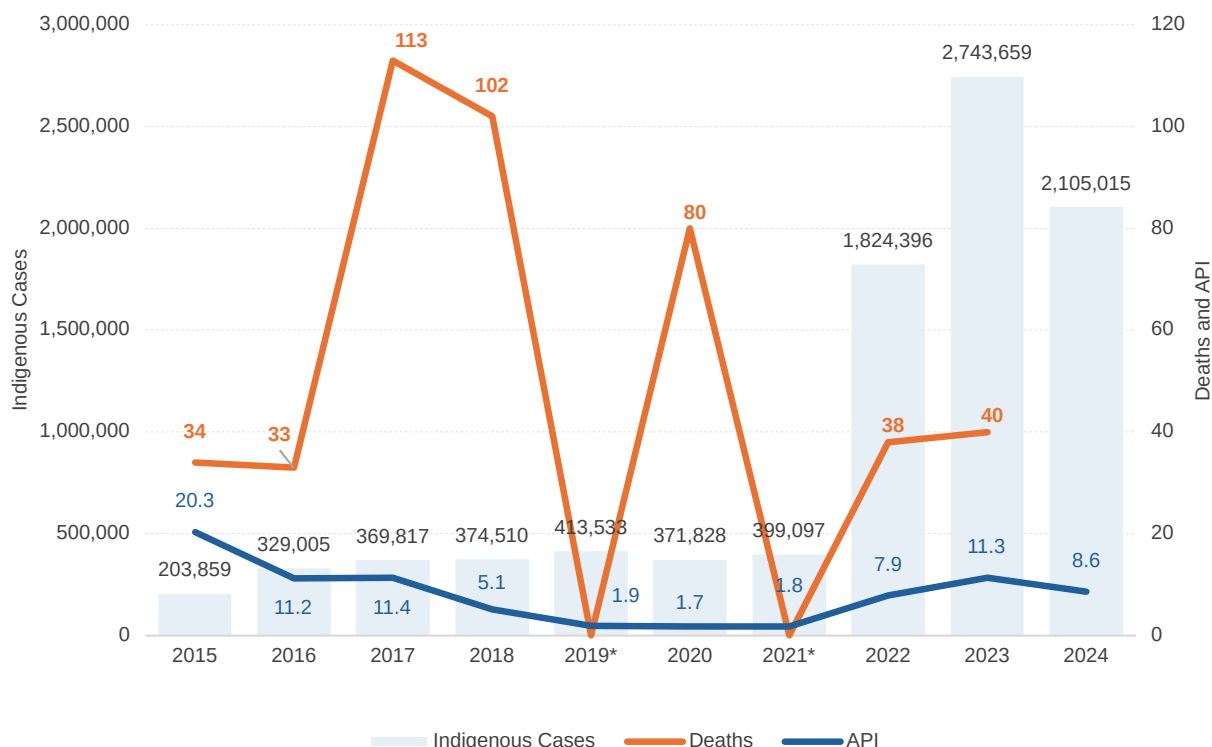
Photo: Islamabad, Pakistan

ISLAMIC REPUBLIC OF PAKISTAN



Islamic Republic of Pakistan

Figure 1. Indigenous Cases and Deaths in Pakistan, 2015–2024.



*Pakistan reported 0 deaths in 2019 and 2021.

Source: 2015–2023 data from the WHO World Malaria Report 2024. 2024 case and death data from the Directorate of Malaria Control-Pakistan; 2024 death data unavailable.

**933%
Increase**

**in indigenous malaria cases
between 2015 and 2024**

Key Message

Once on a slow downward trajectory, malaria surged after the climate-driven floods of 2022. Achieving the national elimination target of 2035 will hinge on climate-resilient surveillance, improved private-sector reporting, vector-borne disease integration, updating health-seeking behaviour data, as well as closing the glaring funding gap.

Epidemiological Context

The Islamic Republic of Pakistan's (Pakistan's) malaria trajectory has flipped from gradual decline to explosive growth in recent years. In 2015, the national surveillance system logged approximately 204,000 indigenous cases; by 2021, the tally had almost doubled to almost 400,000 cases. In 2022, Pakistan experienced catastrophic flooding linked to climate change which damaged and destroyed infrastructure, devastated livelihoods and uprooted millions of people from their homes and communities.^{1–3} A subsequent malaria outbreak, the largest since 1973, led to significant surge in malaria cases as reported by health facilities.^{4,5} Cases ballooned to about 2.73 million cases in 2023, a 1,250% rise over the 2015 baseline before falling to 2.11 million cases in 2024.

The geographic distribution reveals stark regional disparities that persist despite intervention efforts. As of 2023, Sindh remains as the highest-burden province with 49.4% of cases, followed by Balochistan at 37.9%, reflecting the provinces most severely affected by flooding.⁶ At the same time, Pakistan's 245 million population at risk faces heightened vulnerability from multiple intersecting factors, including increasing poverty, lack of access to



quality essential diagnostic and treatment services, the deteriorating security situation in Balochistan and Khyber Pakhtunkhwa provinces, and healthcare access limitations in Sindh province.⁷ As a result, border regions hosting approximately 1 million Afghan refugees experience elevated transmission, while the 33 million people affected by 2022 floods (half of whom were children) represent displaced populations with compromised access to malaria prevention and treatment services.⁸

The National Response

The Directorate of Malaria Control (DoMC)-Pakistan operates as an attached department in the Ministry of Health. The DoMC's core responsibilities include serving as the Principal Recipient for Global Fund grants, technical coordination of the National Malaria Control Programme across provinces, as well as strategic planning leadership. The organization extends its reach to the village level through Basic Health Units (BHUs), ensuring nationwide coverage. In May 2019, recognizing evolving public health needs, the Ministry of NHSRC-Islamabad approved expanding DoMC's mandate to become the "Directorate of Malaria, Dengue & other VBD Control", broadening its scope beyond malaria to encompass dengue, chikungunya, CCHF, leishmaniasis and other major vector-borne diseases.⁴ This strategic expansion aims to harmonize coordination, improve surveillance, enhance training programmes, streamline logistics, and strengthen monitoring and evaluation mechanisms across all stakeholders and partners.

The *National Strategic Plan for Malaria Elimination (2021-2035)* outlines Pakistan's pathway toward zero transmission of *Plasmodium falciparum* by 2030 and nationwide malaria elimination by 2035.⁹

Building Climate Resilience

In response to the floods, the *National Plan of Action for the Management of Vector Borne Diseases in Pakistan (2024-2028)* was updated to incorporate a stronger focus on climate change and emergency response in the context of humanitarian emergencies.⁴ Additionally, the *National Framework of Action for Climate-Resilient Health Systems* highlights the need for robust monitoring, evaluation, and accountability within the Ministry of National Health Services.¹⁰ Khyber Pakhtunkhwa province has introduced the country's first provincial *Climate and Health Adaptation Plan*, which features policy implementation, digital monitoring systems like DHIS-2, and the creation of a Climate Change Cell to coordinate efforts. The province's *Climate and Health Vulnerability Assessment (CHVA)* also uses data-driven analysis to guide planning and evaluation of health adaptation measures, with a special focus on vector-borne diseases.

Prioritisation of high-risk locations and high-risk groups

Pakistan's malaria control and elimination strategy is underpinned by regular stratification exercises based on annual parasite incidence (API – the number of confirmed malaria cases per 1,000 population). Districts are grouped into three strata: stratum I (high transmission) districts have an API of > 5, stratum II (moderate transmission) districts have an API of 1-5; and stratum III (low transmission) districts have an API of < 1 (8). The stratification enables interventions to be tailored appropriately to variations in the risk of malaria transmission across different geographical areas.

In the aftermath of the floods, resources were targeted to the geographical locations most affected by malaria and the flood-displaced population within these areas. Equity considerations drove the national post-flood malaria response, and the national strategy to ensure universal coverage with long-lasting insecticide-treated nets (LLINs) in stratum I and II districts was intensified, with priority given to 13 districts that were considered the highest-risk for malaria outbreaks. LLINs were distributed in mass campaigns targeting entire households, and continuously through antenatal care services, targeting pregnant women who were at increased risk both of contracting malaria and suffering severe complications from malaria. Community awareness sessions which focused on the correct use of nets were implemented in support of the mass distribution.



In high malaria-burden locations, priority was also given to extending the coverage of malaria case management, the use of presumptive treatment for suspected malaria cases, mass drug administration in selected areas, and the use of indoor residual spraying and larviciding to reduce adult vector populations.

Ensuring Access

Pakistan's National Strategic Plan for Malaria Elimination (2021-2035) aims to ensure universal coverage of malaria prevention, treatment and diagnosis.⁹ Following the floods, an estimated 8.2 million people required access to basic health care, including early diagnosis and treatment of malaria. Many affected communities reside in hard-to-reach areas, where barriers to accessing health services had been exacerbated by extensive damage to roads, health facilities, and communication systems. In the worst-affected districts of Sindh province, for example, over a third of survey respondents indicated that their local health facility was not operational.¹¹ In the context of the floods, different service delivery modalities were identified and adopted to reach the large, displaced population.

Female staff were recruited to ensure that mobile services were culturally accessible to women. In areas that were the most challenging to access, malaria diagnostic kits, anti-malarial drugs, and other equipment and supplies were delivered using the most appropriate form of transport, such as four-wheel vehicles and boats. In localities that could not be reached by transport, supplies were transferred on foot. Indoor residual spraying (IRS) was introduced in Larkana district, Sindh where the Slide Positivity Rate (SPR) for malaria was more than 50%. This intervention was targeted to a very high malaria burden area with the aim of dramatically reducing the malaria caseload. In addition, existing interventions were adapted to suit the local context, such as the introduction of foldable LLINs which were better suited for use within small tents.⁵ These were introduced on a small scale by local development partners.

Integrated Community Case Management (iCCM)

In recent years, integrated community case management (iCCM) has been piloted on a small scale as an alternative service delivery modality in selected rural areas.¹² Female service providers from the local community have been trained to integrate malaria diagnosis and treatment services into their ongoing primary health care activities and to deliver these door-to-door. The strategy is delivered through the national Lady Health Worker (LHW) and Community Midwife programmes, established in 1994 and 2006, respectively. Both are pivotal government strategies aimed at promoting poverty reduction and universal health coverage in rural, remote, and disadvantaged communities across Pakistan. LHWs undertake door-to-door visits, carry out health-related awareness-raising on maternal, newborn and child health issues, including family planning, and support referrals. Community midwives receive midwifery training and support women throughout pregnancy and delivery, thereby increasing their access to skilled birth attendance. Evaluations of the LHW programme indicate that it has increased access to health services for all sections of society, has positively impacted health equity, and increased health seeking behaviour.

Adding iCCM to the repertoire of existing government-backed community health workers enables rural women to receive integrated, convenient and culturally acceptable health services. During the floods, LHWs and Community Midwives played an important role in addressing the surge in malaria cases. They worked in temporary camps and shelters in the immediate aftermath of the flood and continued this work when displaced communities were able to return home. Their inputs were coordinated with other health workers (e.g. immunisation, polio), thereby ensuring integrated service delivery.

Digital Surveillance and Private Sector Engagement

Despite progress, Pakistan still faces substantial surveillance gaps. It is estimated that the private sector accounts for two-thirds of all malaria diagnoses, yet only a fraction of these cases are reported through the national system. To address this, the malaria programme is expanding the reach of DHIS-2 digital surveillance



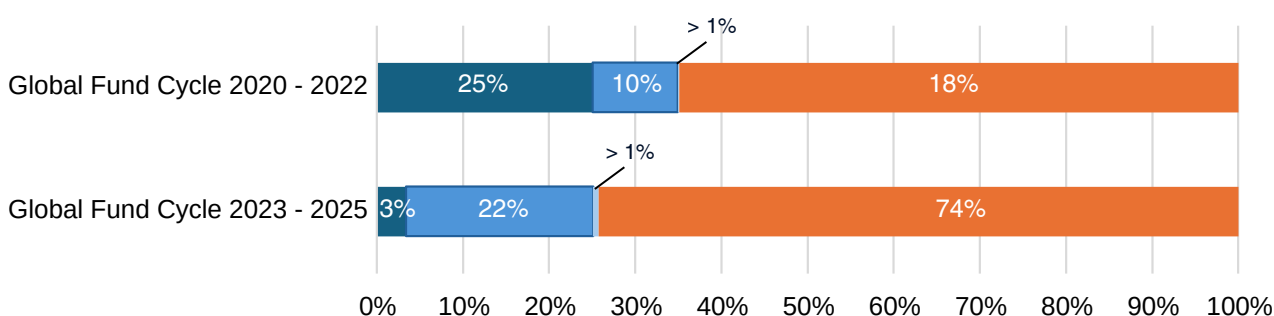
and training frontline providers in case-based notification. Efforts are underway to integrate private healthcare providers, pharmacies, and informal clinics into the surveillance network. Enhancing interoperability between provincial databases and national dashboards remains a top priority to improve data quality and response coordination.

Financing the Response

The National Strategic Plan estimated that approximately US\$159 million is required to fully meet malaria programmatic needs between 2024 – 2026.¹⁵ However, only a quarter is presently secured, with domestic health budgets and provincial allocations contributing approximately 3% of this amount. External donors such as the Global Fund make up another 23%. This meant that there remains a 75% funding gap for malaria programmatic needs in the current 2023 – 2025 Global Fund grant cycle. In the aftermath of the 2022 floods, the Global Fund further committed to another US\$30 million in emergency funding to ensure access and distribution of essential medicines and health services in Pakistan.^{13,14}

Despite this injection, the Office of the Inspector General's 2025 audit warned of “sub-optimal governance and slow grant absorption”, which threatens LLIN replacement schedules, IRS rounds and digital-surveillance upgrades.

Figure 2. Malaria funding (USD) by funding source, Pakistan.



	Global Fund Cycle 2020-2022	Global Fund Cycle 2023-2025
Domestic	\$86,940,912	\$5,369,606
Global Fund	\$34,424,659	\$34,424,959
Other External Partners	\$500,000	\$1,000,000
Funding Gap	\$225,380,867	\$117, 772,914

Source: The Global Fund Data Explorer – Pakistan: Southern Asia, Access to Funding



Towards 2030 - Challenges and Opportunities

Pakistan's journey toward malaria elimination by 2035 faces unprecedented challenges that demand fundamental strategic recalibration. The 2022 floods, which caused nearly US\$40 billion in economic losses and displaced millions, demonstrated how climate change can instantly reverse years of public health progress.¹⁶ With over a million people still displaced two years later and further floods occurring in 2024, Pakistan confronts the harsh reality that traditional malaria control approaches require climate-resilient adaptations to achieve sustainable elimination.

Critical operational challenges persist across multiple domains. The lack of comprehensive data on malaria burden, particularly from private sector providers who serve the majority of Pakistan's population, creates significant surveillance gaps. Outdated health-seeking behaviour data undermines the effectiveness of social and behavioural change communications, while the absence of data disaggregation limits targeted interventions.

However, emerging opportunities offer pathways forward. Plans to engage private sector providers through rapid diagnostic test and drug distribution could dramatically expand universal coverage. The proposed integration of DoMC's mandate to encompass all vector-borne diseases would create synergistic control mechanisms for dengue, leishmaniasis, and CCHF.⁴ Most critically, establishing robust climate-resilient surveillance systems, fostering enhanced community engagement, and developing integrated outbreak preparedness systems represent essential investments¹⁷ for achieving Pakistan's elimination goals while building broader health system resilience against increasingly unstable climate shocks.

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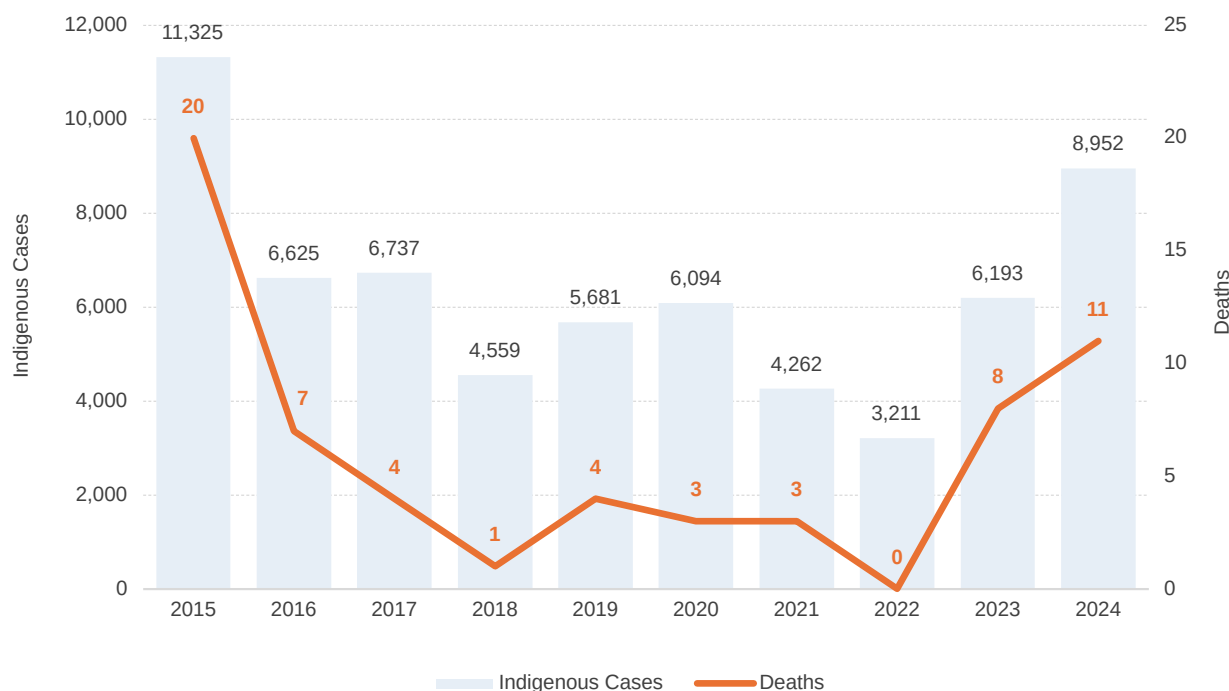
Photo: Manila, Philippines

REPUBLIC OF THE PHILIPPINES



Republic of the Philippines

Figure 1. Indigenous Cases and Deaths in the Philippines, 2015-2024.



Source: 2015-2023 data from the WHO World Malaria Report 2024. 2024 data from Rocha, Ian Christopher N., and Clariza D. Fernandez. "Malaria and Other Vector-Borne Diseases in the Philippines: Climate Change Impacts and Adaptation." PowerPoint Presentation. APMEN Workshop on Climate Change, Malaria, and Other Vector-borne Diseases, Singapore, June 2, 2025.

21% Decrease

in indigenous malaria cases
between 2015 and 2024

Key Message

The Philippines faces fragile progress with 2024's nine-year high in cases. However, elimination by 2030 remains achievable through coordinated action to mobilize domestic resources and address current funding gap, strengthen indigenous community engagement, and build climate-resilient systems that can prevent future resurgence.

Epidemiological Context

Over a 10-year period from 2015 to 2024, malaria transmission in the Republic of the Philippines (Philippines) has become increasingly focalized, reflecting both remarkable progress and persistent challenges. On one hand, most of the country is free from malaria transmission: 81 out of 82 provinces reported zero indigenous malaria cases at the end of 2024, with 72 provinces officially recognized and declared by the Department of Health (DOH) as malaria-free, and 9 additional provinces under elimination phase with zero local transmission. The remaining malaria-endemic province is Palawan, with four southern municipalities – Rizal, Brooke's Point, Bataraza, and Sofronio Española – accounting for most cases. Indigenous populations, particularly the Palaw'an tribe, remain at highest risk of malaria infection due to their cultural and livelihood practices that require travel to remote mountainous areas where exposure to malaria vectors is greatest. In 2022, over 80% of all malaria cases in the Philippines occurred among indigenous populations.¹

However, the trajectory toward elimination has not been linear. The Philippines recorded a high of 11,325 indigenous cases in 2015, which dwindled by 72% to a low of 3,211 in 2022, demonstrating significant progress in malaria control efforts.



By 2024, however, that number rebounded dramatically to 8,952 – representing a nine-year high and nearly tripling from 2022 numbers.¹ This resurgence has been attributed to multiple factors, including climate change which has led to changing rainfall patterns and increased typhoon frequency, as well as the lifting of COVID-19 restrictions that increased population mobility and travel to malaria-endemic regions.² Reported deaths also reached a nine-year high, with 11 fatalities recorded in 2024.

The National Response

Under the Philippines' decentralized health system, the Department of Health (DOH) leads the National Malaria Control and Elimination Programme (NMCEP), establishing a cascading framework for implementation across administrative levels. Technical assistance, policies, and guidelines flow from the central DOH through Regional Centers for Health Development (CHD) and DOH representatives strategically positioned in extension offices at the provincial level, ensuring consistent programme standards nationwide.³ This multi-tiered approach enables Provincial Health Offices to receive direct support and oversight while serving as critical intermediaries in the implementation chain. Provincial health office staff subsequently conduct capacity-building trainings and provide ongoing supervision of malaria control activities at the municipal and barangay (village) levels, with continued participation from DOH representatives to maintain quality assurance and technical consistency.

Published in 2023, the Philippines' Malaria Transition, Elimination and Sustainability Plan (MTESP) maps the country's progress to date while providing a comprehensive blueprint through 2028.¹ The MTESP establishes three ambitious yet sequential objectives: first, the elimination of malaria in Palawan by 2026; second, declaring 81 of the country's 82 provinces malaria-free by 2027, with Palawan to follow by 2029; and finally, being certified by the World Health Organization (WHO) to be malaria-free by 2030 while simultaneously preventing the re-establishment (POR) of malaria transmission across the entire country.

Integrated Elimination Hub for Malaria and Lymphatic Filariasis

In 2021, DOH established Integrated Elimination Hubs for malaria and lymphatic filariasis (LF), as outlined in Administrative Order 2021-0003.⁴ This integrated approach acknowledges that both diseases share a common mosquito vector, *Anopheles flavirostris*, and represents a paradigm shift toward coordinated, multi-disease elimination efforts. The establishment of these integrated hubs serves multiple strategic purposes. First, the hubs optimize resource allocation by consolidating expertise, equipment, and interventions for both diseases under unified management structures, maximizing operational efficiency and cost-effectiveness. Importantly, each hub is also equipped with multidisciplinary teams with expertise in malaria and LF surveillance and response, comprising of entomologists, medical doctors trained in case management, programme coordinators, and health promotion officers. These teams implement coordinated interventions including intensified disease surveillance, proactive vector surveillance during peak transmission periods, environmental modification measures, outbreak detection and response mechanisms, and community mobilization campaigns.

Online Malaria Information System (OLMIS)

DOH developed the OLMIS in 2017 with support from the WHO to modernize the country's malaria surveillance infrastructure.⁵ Previous surveillance systems lacked real-time reporting capabilities and could not adequately host comprehensive malaria data, including foci investigations, case registries, laboratory registers, analytical tables and mapping functionalities. OLMIS was designed to efficiently collect and report malaria information from all levels of the healthcare delivery system while adhering to the Health Enterprise Architecture prescribed by the DOH to ensure interoperability with existing health information systems.



The formal implementation of OLMIS beginning in 2021, through Administrative Order 2021-0028, directly supports the Philippines' 1-3-5 elimination strategy by enabling case notification within one day, case investigation within three days, and focus investigation and response within five days. The system incorporates both web-based and Android platform capabilities, with offline data input functionality designed for remote areas where internet connectivity may be limited or unreliable. This comprehensive technological approach ensures that all provinces, regardless of their malaria transmission status, can access standardized surveillance tools that are essential for maintaining elimination gains and POR.

Progress towards Universal Health Coverage (UHC)

In 2018, the Philippines took a significant step forward by enacting the UHC Act (Republic Act 11223), which mandates the automatic inclusion of every Filipino in the PhilHealth insurance programme. This legislation aims to reorganize healthcare providers into province-wide and city-wide health systems, who are then tasked to consolidate and manage diverse sources of funding for health, including a Special Health Fund (SHF)⁶. This progress plays a vital role in bolstering the sustainability of the malaria programme in the Philippines in two major ways. First, the UHC framework unlocks new domestic funding source that can be purposed for malaria elimination; second, it has also led to better integrated health systems with improved efficiency.

SHF also serves a multifaceted purpose, supporting both population-based and individual-based health services, covering health system operational costs, capital investments, and the remuneration of additional healthcare workers. Importantly, Local government units (LGUs) receive training on how to incorporate the SHF into their Investment Plan for Health and Annual Operational Plan, hence building their capacity to bridge the funding gap for local malaria activities. At the same time, this clinical, financial, and management integration of health providers ensures that health services are not only readily available but also coordinated and efficient. This ultimately contributes to the sustainability of the malaria programme by improving access to malaria-related care.

Subnational malaria elimination

The Philippines has successfully implemented a subnational malaria elimination approach that has proven crucial to the country's overall elimination strategy. This targeted approach recognizes the heterogeneity in malaria transmission across its geography. By pursuing province-by-province elimination, the Philippines has systematically certified majority of provinces in the country as malaria-free based on stringent criteria: no indigenous cases for five consecutive years, functional surveillance systems, continued epidemiological investigations with epidemic preparedness, availability of anti-malarial drugs and vector control commodities, and ongoing health education programmes. This strategy has been effective in an archipelagic nation where geographic barriers naturally compartmentalize transmission, allowing provinces to achieve elimination independently while creating expanding zones of protection that reduce overall transmission pressure. The subnational approach has also enabled efficient resource allocation as well as tailored interventions to local contexts.

Earmarked funds for malaria elimination

Separately, the national malaria programme also benefits from earmarked funds for malaria elimination within the national health budgets. The combined funding sources for the programme include contributions from the Department of Health (DOH), Community Health Development (CHD), and LGUs, with DOH taking a significant share of 63%, LGUs contributing 28%, and CHD providing 9%.⁶ To further narrow the funding gap, it too can access special additional funding through initiatives like the Sin Tax Reform Law, passed in 2012, which imposed an increased excise on tobacco and alcohol products that is then invested in public health programmes and subsidies of social health insurance for the poor.⁶ Such an innovative approach has enabled the Philippines to mobilise domestic resources towards public health causes like malaria, which boosts the sustainability of its national programme.



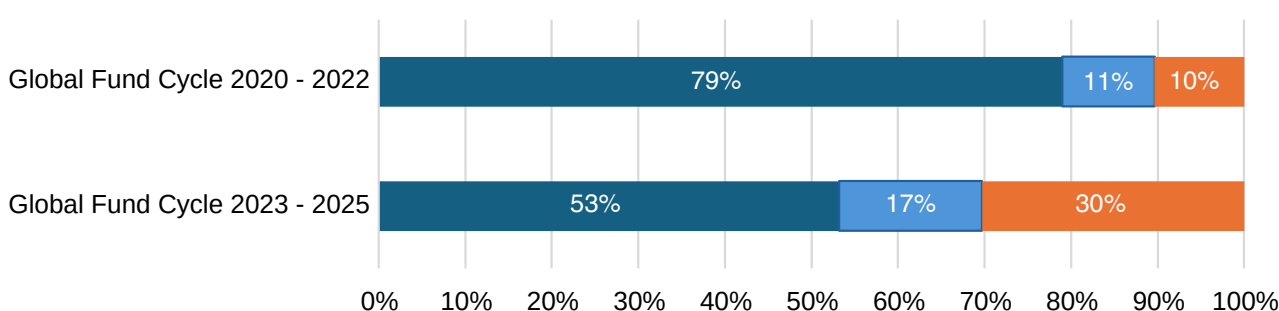
Financing the Response

Domestic sources currently fund approximately half of the country's malaria programmatic needs, with the Global Fund providing 17% of external financial support for essential commodities including second-line drugs and human resources for health.⁹ However, this funding structure still leaves a significant 30% gap in meeting NMCEP's full needs.

In response to this challenge, the DOH is implementing a Transition and Public Financial Management (PFM) Plan to increase domestic health financing through multiple approaches: mobilizing PhilHealth reimbursements, optimizing DOH budget utilization, and securing alternative funding sources such as grants, loans, and investments from local government units (LGUs) and the private sector. Additionally, the Plan also includes procurement and supply chain reforms and digitalization of financial management systems to improve budget execution. There are also plans to enhance local programmatic implementation by supporting LGUs in the procurement and delivery of essential health commodities.⁷ In strengthening domestic financing capacity while reducing dependency on external donor support, this comprehensive Plan aims to ensure both financial and programmatic sustainability of malaria elimination efforts.

A 2017 investment case demonstrated that malaria elimination in the Philippines represents a high-impact investment, with the return on investment (ROI) estimated at over 13:1. The actual ROI is likely substantially higher when accounting for indirect societal benefits, including improved educational outcomes, enhanced cognitive development, and increased tourism potential.⁸ These compelling economic returns underscore that continued and adequate financing of the NMCEP represents a sound investment strategy that will generate significant long-term dividends.

Figure 2. Malaria funding (USD) by funding source, the Philippines.



	Global Fund Cycle 2020-2022	Global Fund Cycle 2023-2025
Domestic	\$59,154,824	\$22,368,541
Global Fund	\$7,997,113	\$6,953,360
Other External Partners	\$-	\$-
Funding Gap	\$7,752,228	\$12,742,807

Source: The Global Fund Data Explorer – Philippines: South-Eastern Asia, Access to Funding



Towards 2030 - Challenges and Opportunities

Within the past decade, the Philippines has made remarkable progress while also facing significant setbacks in its malaria elimination journey. The rebound to 8,952 cases in 2024 – a nine-year high – demonstrates that gains remain fragile and that climate adaptations to current interventions may be necessary. The country's geography places it at increased risk of natural disasters and extreme weather events, with the potential to displace already-vulnerable populations and dramatically impact transmission patterns.

The concentration of malaria cases among Palawan's indigenous communities highlights the critical need for engagement and interventions tailored to specific geographic and cultural contexts. Language barriers, preference for traditional healers (*albularyo*), and socio-cultural isolation from government services create persistent challenges that require culturally competent approaches and sustained trust-building efforts.¹⁰

However, with 72 provinces already certified malaria-free and 9 additional provinces reporting zero indigenous transmission, the Philippines has showcased a solid foundation for success. Its goal of achieving malaria-free certification by 2030 remains within sight by leveraging integrated disease elimination hubs, modernized surveillance information systems through OLMIS, ongoing progress towards UHC implementation, and sustained government commitment. The next five years will be decisive – success requires coordinated action to mobilize domestic resources and address the current funding gap, strengthen indigenous community engagement, and build climate-resilient systems that can prevent future resurgence.

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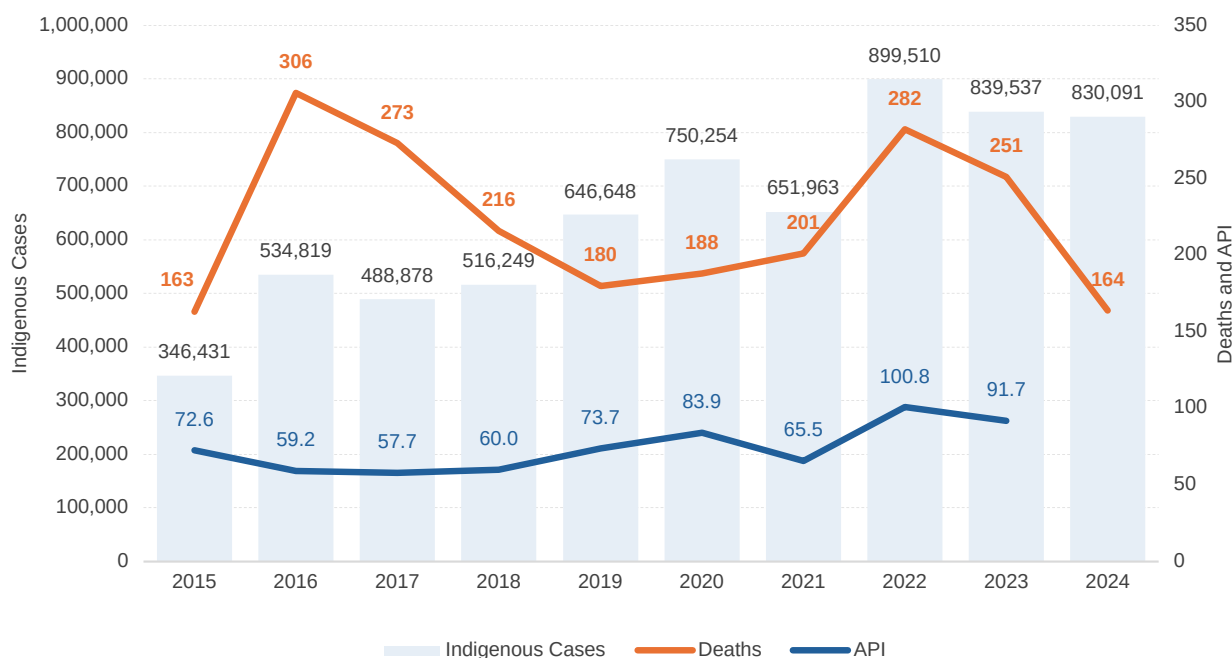
Photo: Port Moresby, Papua New Guinea

INDEPENDENT STATE OF PAPUA NEW GUINEA



Independent State of Papua New Guinea

Figure 1. Indigenous Cases and Deaths in Papua New Guinea, 2015–2024.



Source: 2015–2023 data from the WHO World Malaria Report 2024. 2024 case and death data from the National Malaria Control Programme. 2024 API data unavailable.

**163%
Increase**

**in indigenous malaria cases
between 2015 and 2024**

Key Message

Papua New Guinea is unlikely to eliminate malaria by 2030, with climate change increasing the population at risk. Strategic efforts are underway, including participation in the EDEN Initiative, subnational stratification, and a new elimination strategy. Strengthened community engagement, more effective vector control, and multisectoral partnerships are urgently needed.

Epidemiological Context

The Independent State of Papua New Guinea (Papua New Guinea, PNG) has one of the highest malaria burdens outside of Sub-Saharan Africa. Between 2015 and 2024, PNG saw a 163% increase in indigenous malaria cases, from 346,431 cases in 2015 to 910,747 cases in 2024. In 2023, the annual parasite incidence (API) was approximately 91.7 per 1,000 population.¹ About 94% of PNG's population is considered at risk of malaria.² The spatial epidemiology of malaria in PNG is highly heterogeneous, with transmission patterns varying significantly across different regions and even between villages. Transmission is perennial in the northern coastal and lowland regions, seasonal on the south coast, with 12 of the 15 coastal provinces being high-burden provinces. Malaria transmission has been historically unstable in the seven highland provinces, as altitude and temperature play significant roles in limiting mosquito infectivity and malaria endemicity. However, some highland regions are increasingly reporting sporadic outbreaks, particularly in local hot spots near agricultural lowland valleys.³

Environmental drivers such as temperature, rainfall, and altitude are key determinants of malaria transmission, with different factors predominating in different regions. The diversity of malaria vectors—over ten *Anopheles* species—further complicates the transmission landscape, as each occupies distinct ecological niches.⁴



Several key species are prone to bite humans, leading to high levels of malaria transmission. Transmission is high due to efficient mosquito vectors, necessitating a well-managed application of multiple interventions. Malaria incidence is also increasing in the PNG highlands, attributed to increased temperature and rainfall associated with climate change.⁵ Under a conservative climate change model, the population anticipated to be at risk of malaria is expected to double by 2040 to 13.4 million people, with 2.8 million people at risk due to temperature increases in the highlands.⁶

The National Response

The National Malaria Control Programme (NMCP) in PNG operates within the National Department of Health (NDoH) and coordinates policy and strategic planning through a Technical Working Group (TWG) that includes technical experts, government officials, and international partners. The NMCP receives implementation support from Rotarians Against Malaria (RAM)—the principal recipient of the Global Fund malaria grants to PNG—as technical support from the PNG Institute of Medical Research (PNGIMR), WHO PNG, and WHO Western Pacific Region Offices. Implementing partners include Provincial Health Authorities (PHAs), the private sector, faith-based health facilities—which manage about 50% of primary, secondary, and tertiary health services in the country—and Community Malaria Volunteers (CMVs). Collaborations with international research institutes like the Burnet Institute, James Cook University, the Australian Institute of Tropical Health and Medicine (AITHM), and Swiss Tropical and Public Health Institute (TPH) further enhance research capabilities and inform policy development.

The Papua New Guinea National Malaria Strategic Plan, 2021-2025 puts forth a vision of a malaria-free PNG by 2030 and set goals of a 63% reduction in malaria morbidity between 2019 and 2025, a 90% reduction of malaria mortality between 2019 and 2025, and malaria elimination in the Autonomous Region of Bougainville by 2025.⁷ In 2025, a Malaria Programme Review was conducted to examine malaria trends and programme performance and propose effective solutions.³ The report is anticipated to inform the development of the National Malaria Strategic Plan, 2026-2030.

Political Commitment to Eliminate Malaria

Papua New Guinea has demonstrated strong political commitment to malaria elimination by hosting the 8th Asia Pacific Leaders' Summit on Malaria Elimination in June 2024 and co-launching the EDEN Initiative with Indonesia, Timor-Leste, Vanuatu, and the Solomon Islands. At the 8th Summit, Prime Minister James Marape reaffirmed PNG's national commitment, positioning malaria elimination as a political and public health priority. The Summit also catalyzed the formation of the PNG Governors Ending Malaria (GEM) Coalition, aimed at uniting provincial governors—particularly from high-burden areas—to drive coordinated, locally led action. Oro Province, under the leadership of Governor Gary Juffa, is collaborating with the NDoH to support the establishment of the Coalition.

Vector Control and Personal Protection

LLINs are a crucial component of malaria vector control in PNG. LLINs are distributed every three years to all villages below 1,600 meters, with about 1.2 million nets distributed per year. However, there have been significant challenges with the efficacy of LLINs. Research conducted by PNGIMR in collaboration with RAM found that the performance of LLINs significantly decreased in 2013 following a manufacturing change involving the chemical coating of the nets. This led to reduced efficacy in killing mosquitoes and, consequently, reduced community protection. This change is likely one of the major reasons for the increase in malaria burden in PNG since 2013. The PNG MPR has pinpointed re-establishment of effective vector control as a crucial component of a 'pathway towards elimination', including use of high-quality, effective insecticide-treated nets (ITNs), which also kill bedbugs.³ It also highlights the need and intention to pilot environmental management efforts, including larval source management (LSM).



Vector control implementation research is currently being led by PNG IMR and the NMCP with a focus on ITNs, IRS, LSM, and spatial emanators, and acceptability studies on new vector control tools are being conducted.

Case Management and Home-based Management of Malaria (HMM)

PNG is committed to expanding universal access to quality-assured diagnosis and treatment, primarily through a network of government and church-run health centers and aid posts staffed by nurses and community health workers. The Home-based Management of Malaria (HMM) Programme was introduced in 2021. Through this programme, trained CMVs receive additional training in RDT-based diagnosis and ACT administration, and are deployed to remote communities located more than 2km from the nearest health facility. Since 2024, HMM has been implemented in 12 out of 22 provinces, playing a key role in the detection and treatment of cases in high burden areas. The demonstrated success of HMM highlights the potential of expanding the programme to all malaria-endemic areas as well as broadening the scope of CMVs to include other malaria and health-related activities; however, the programme faces significant resource gaps, posing a challenge to its sustainability and scale-up. This includes commodity supply and storage issues and the lack of financial incentives for volunteers, leading to volunteer attrition. Outside of HMM, community engagement remains low.

Innovative Private Partnerships

Papua New Guinea (PNG) has cultivated several innovative public-private partnerships to support malaria control and broader public health systems, particularly in high-burden and remote areas. Since 2006, Newcrest Mining Ltd has implemented a comprehensive vector control programme within the Mine Impacted Zone (MIZ) of the Lihir Islands in New Ireland Province. This includes regular fogging and larval source management—such as draining small water bodies and larviciding larger ones—as well as the provision of essential services such as health care, electricity, and waste management.⁸ Building on this foundation, the Lihir Malaria Elimination Programme (LMEP) was launched in 2015 through a partnership between Newcrest Mining Ltd and Medicines for Malaria Venture (MMV), with operational support from International SOS (ISOS). The programme aims to eliminate malaria parasites from the Lihir Islands through a multisectoral approach. Key achievements include strengthening malaria diagnosis, treatment, and reporting systems; training 64 Village Malaria Assistants in prevention and control; and rolling out a comprehensive school-based education campaign across the islands. Recent research has shown that malaria transmission is significantly lower in the MIZ compared to surrounding areas in the Lihir Islands; as such, further strengthening and scaling of public-private partnerships is needed to enhance control efforts and reduce malaria burden beyond the Lihir Islands MIZ.⁸

The challenges discussed above are compounded by broader health system and infrastructure barriers to accessing healthcare in PNG. More than 30% of PNG's population resides in villages more than two hours' walk from a health facility.⁹ Only 40% of individuals with symptomatic malaria seek care at formal health facilities, and an estimated less than 20% of symptomatic malaria cases are effectively treated.³ Combined with limited human resource capacity and unstable sources of funding, these barriers have hindered progress toward the goals outlined in the PNG National Malaria Strategic Plan, 2021-2025.

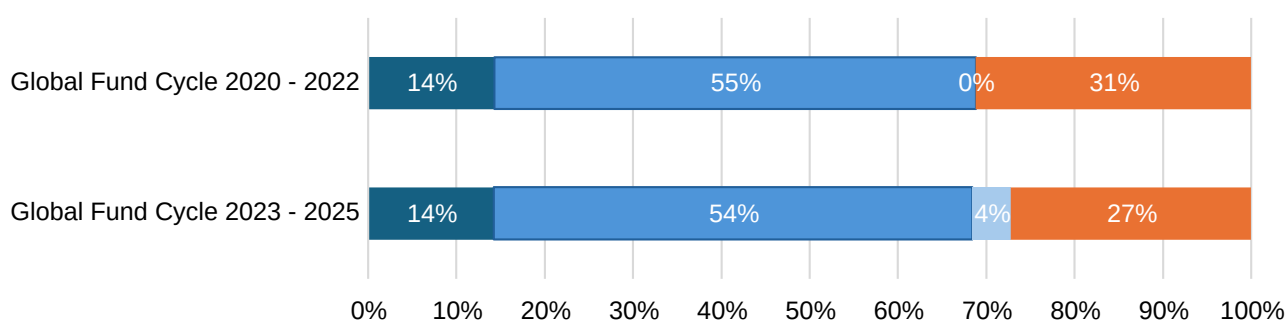


Financing the Response

Malaria control in PNG has historically relied heavily on external funding, particularly from the Global Fund. The Global Fund currently finances 54% of malaria programmatic needs, including mass LLIN campaigns and commodity procurement.¹⁰ Other external partners—such as the Australian Department of Foreign Affairs and Trade (DFAT)—contribute an additional 4%, primarily through bilateral health aid. Despite these efforts, funding per person at risk remains just US\$1.45, with domestic contributions accounting for only US\$0.01.¹ Another 27%, or \$18.9M, of national malaria programmatic needs between 2023-2025 remains unfunded, not accounting for adjustments for inflation or including the further investments critically needed to improve and expand current programming.³ This shortfall is especially concerning given that PNG alone accounts for approximately 90% of all malaria cases in the WHO Western Pacific Region in 2023.¹

To ensure alignment of different malaria programme funding and maximize collaboration, all projects under the leadership of the PNG NMCP are coordinated through a Partnership Management Unit (PMU). Despite these efforts, funding for malaria control in PNG is insufficient to maintain current levels of control, let alone progress towards malaria elimination.

Figure 2. Malaria funding (USD) by funding source, Papua New Guinea.



	Global Fund Cycle 2020-2022	Global Fund Cycle 2023-2025
Domestic	\$9,813,745	\$9,852,275
Global Fund	\$37,534,289	\$37,440,753
Other External Partners	\$0	\$3,037,000
Funding Gap	\$21,449,666	\$18,803,294

Source: The Global Fund Data Explorer – Papua New Guinea: Melanesia, Access to Funding



Towards 2030 - Challenges and Opportunities

In the face of programmatic challenges and increasing malaria caseload, Papua New Guinea has reaffirmed its national commitment to malaria elimination by hosting the 8th Asia Pacific Leaders' Summit on Malaria Elimination and endorsing the EDEN Initiative, thereby strengthening regional collaboration and shared accountability. At the national level, PNG has advanced its malaria response by undertaking a comprehensive Malaria Programme Review, initiating subnational stratification and modeling, establishing the GEM Coalition, and preparing for the development of a new National Malaria Elimination Strategy, 2026–2030. A cross-border Joint Action Plan with Indonesia, aimed at improving surveillance and response in border areas, was launched at the 9th Asia Pacific Leaders' Summit on Malaria Elimination in 2025.

The NMCP has committed to intensifying efforts to reduce the malaria burden in high-transmission areas, including through reestablishing effective vector control, strengthening case detection and treatment through improvement and expansion of HMM, and refining strategies for *P. vivax* radical cure. There is also growing recognition of the critical need for innovative resource mobilization, including strengthened public-private partnerships, to secure sustained financing for malaria control and elimination efforts in PNG.

While these efforts mark important milestones, elimination by 2030 remains an ambitious goal given current epidemiological and operational challenges. Achieving accelerated and sustained reductions in malaria transmission will require scaled-up financing and enhanced implementation capacity. Projections made in 2016 suggested that elimination by 2030 would require at least a doubling of funding,¹¹ a timeline that has likely grown due to delays in execution.

While elimination by 2030 may not be fully attainable, PNG's continued leadership and engagement are critical to reduce burden, improve health outcomes among the most vulnerable communities, and ultimately lay the groundwork for elimination beyond 2030. With sufficient investment, sustained political commitment, and coordinated action, PNG can achieve significant progress that contributes to national and regional malaria elimination goals.

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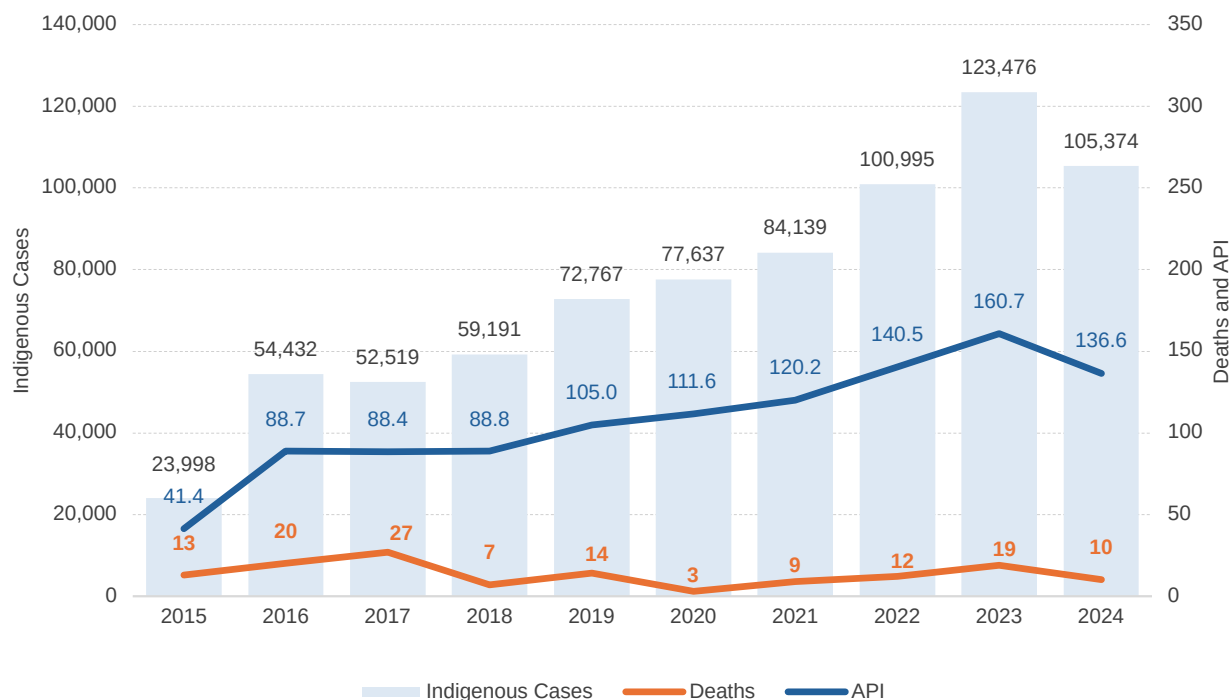
Photo: Honiara, Solomon Islands

SOLOMON ISLANDS



Solomon Islands

Figure 1. Indigenous Cases and Deaths in Solomon Islands, 2015–2024.



Source: 2015–2023 data on cases and deaths from the WHO World Malaria Report 2024. 2015–2024 API data and 2024 data on cases and deaths from the National Vector Borne Disease Control Programme. Data excludes cases from the National Referral Hospital.

**339%
Increase**

**in indigenous malaria cases
between 2015 and 2024**

Key Message

Solomon Islands is off target to eliminate malaria by 2030, with the highest malaria burden by API in the Asia Pacific region. To reduce the burden, Solomon Islands will need to optimize the roles and responsibilities of the subnational health workforce, strengthen surveillance and case management for *P. vivax*, and promote community engagement to improve LLIN use and treatment compliance.

Epidemiological Context

The Solomon Islands, an archipelago in the south-west Pacific, is one of the most malaria-endemic areas in the region by annual parasite incidence (API), where almost 100% of the population is at risk of malaria. Over the past decade, malaria incidence has risen sharply, increasing by 339% from 23,998 cases in 2015 to 105,374 cases in 2024, with year-on-year increases except for in 2024. Though *P. falciparum* has historically been the primary malaria parasite, the recent surge in cases has primarily been driven by *P. vivax* infections. *Anopheles farauti* is the principal mosquito vector of malaria.

In 2024, five provinces of ten, including the capital territory of Honiara, contributed to 80% of the malaria burden in the country. These provinces were Guadalcanal (23%), Honiara (19%), Malaita (15%), Western (12%), and Central Islands (11%). Renbell and Bellona Province is the only malaria-free province in the country, due to the lack of suitable mosquito vectors.¹ The national reported API from confirmed cases was 136.6 per 1,000 population in 2024; however, some health zones in Guadalcanal and Central Island provinces reported APIs exceeding 500, highlighting the stark geographical variability of malaria transmission and the severity of transmission in certain locales.



Evidence in Guadalcanal demonstrates a highly significant negative association between rainfall and malaria, wherein increased rainfall has been associated with decreased malaria transmission in the subsequent 6-month period.²

The National Response

The national malaria response is led by the National Vector Borne Disease Control Programme (NVBDCP) within the Ministry of Health Medical Services (MHMS). The NVBDCP is responsible for policy and guideline development, oversight of financial allocations, technical support for procurement and supply management of malaria commodities, quality assurance, monitoring, and advocacy. Implementation and operational planning are decentralized to provincial health departments across the country's nine provinces and the capital territory of Honiara. Since 2024, World Vision International, Solomon Islands has served as the Principal Recipient of Global Fund financing and directly supports programme management and implementation.

Malaria services are delivered through a tiered health system comprising one national referral hospital, eight provincial hospitals, 27 area health centres, 115 rural health centres, and 190 nurse aid posts.³ Currently, malaria risk stratification is based on 45 Health Zones, an administrative designation used exclusively by the health sector. Efforts are underway to shift stratification to the 50 parliamentary constituencies and, eventually, to the ward level. Analysing malaria risk by political administrative boundaries is intended to enhance political accountability and the granularity of data collected, enabling more targeted responses.

In 2018, the Solomon Islands renewed its commitment to malaria elimination through a Cabinet-endorsed *Solomon Islands Road Map for Malaria Elimination*, which set out a vision to achieve elimination by 2030. With support from the WHO and APMEN, the Office of the Prime Minister and Cabinet convened stakeholders across sectors to promote a whole-of-government approach to malaria elimination. This Roadmap was followed by the *National Malaria Strategic Plan 2021–2025*, which initially aimed to establish elimination-ready surveillance systems in low-burden provinces by the end of 2021 and reduce the national API to pre-2015 levels (30 per 1,000) by 2025. However, in response to rising case numbers, the strategic plan was revised in 2023 to become the *National Malaria Strategic Plan 2021–2026*. The updated targets include reducing the API from an anticipated 155 per 1,000 in 2024 to 89 per 1,000 by 2026, and establishing systems capable of reducing transmission, ensuring timely treatment, and supporting targeted elimination efforts in designated areas by 2026.⁴ The updated roadmap focuses on bringing burden back down and does not set a new target year for elimination.

Health Systems Reform in 2014

Historically, the national malaria programme in Solomon Islands functioned as a vertical programme from national to subnational levels, independent of the MHMS. In 2014, Solomon Islands launched the Role Delineation Policy (RDP), initiating health systems reform aimed at decentralizing service delivery and integrating disease programmes, including malaria, at the provincial level. This reform sought to devolve authority and resources to Provincial Health Offices (PHOs) and Provincial Health Directors, enabling them to coordinate and deliver malaria services directly.

The RDP marks an important step toward ensuring the long-term sustainability of malaria control by promoting integration within the broader health system and enabling provincial ownership. However, implementation remains incomplete, particularly in establishing the enabling environment required to successfully operationalize the policy. Roles and responsibilities for malaria programme management at the provincial level are not yet clearly defined, key management positions outlined in the RDP remain unfulfilled, and there is currently no skills development plan to equip provincial teams with the capacity needed to assume full responsibility.



Limited capacity within PHOs to manage and coordinate malaria activities may have contributed to operational challenges in programme implementation, including LLIN distribution and monitoring, which played a role in the increase in malaria burden. Achieving the revised national targets and advancing burden reduction will require the full implementation of the RDP. This includes clarifying subnational roles, filling essential management and programme positions, and investing in local capacity building.

Surveillance, Response, and Case Management

Solomon Islands utilizes a DHIS2-based surveillance system that reports facility-level data. While the *National Malaria Strategic Plan 2021-2026* indicates the intention to transition to an elimination-ready case-based surveillance system using a tracker module by 2026,⁴ the case volumes remain too high for rollout. A significant proportion of malaria cases continue to be diagnosed clinically, without parasitological confirmation through RDT or microscopy. Limitations in staff capacity, poor data quality, and weak case management contribute to underreporting and delays in case notification.^{1,3}

Health facilities are likely underreporting malaria cases: A 2025 pilot surveillance and case management intervention in two health zones in Isabel Province—once primed for elimination—identified 835 malaria cases in just four months, exceeding the total annual cases reported across Isabel in 2024. Data from the National Referral Hospital (NRH), a major public facility, is not reported into the national DHIS2 system. A manual review of paper-based reporting from the NRH in 2023 revealed 612 malaria cases that were not captured in the national health management information system (HMIS). Furthermore, reporting compliance remains low, with only 31% of facilities submitting reports on time or at all, despite a 2025 target of 93%.

Furthermore, many private health facilities and pharmacies—primarily located in Honiara—provide malaria diagnosis and treatment services; however, no private facilities report case data into the national HMIS. This contributes to underreporting of malaria cases: In 2023, the “Chasing Malaria in Honiara” project recorded and mapped malaria cases from public and private facilities to households within and surrounding Honiara in real-time. Over two months, the project found a total of 1,765 positive cases, with 342 cases (19.4%) reported by just four private facilities in Honiara.

Community Engagement for Vector Control

Vector control in the Solomon Islands has primarily relied on IRS and LLINs. IRS was discontinued in 2016, leaving LLINs as the sole national vector control intervention between 2016 and 2022. Rising malaria cases between 2018 and 2022 have been partly attributed to ineffective LLIN distribution strategy³. The only recent data on net usage comes from the 2015 Demographic and Health Survey, which found that just 56% of individuals had slept under a net the previous night.⁵

Although IRS was scheduled for reintroduction in 2022, implementation of both IRS and LLIN distribution between 2021 and 2023 was delayed due to the COVID-19 pandemic and only resumed in 2023. The 2024–2026 strategy aims to enhance community engagement for LLIN use, and use field observations, health worker feedback, and monitoring and evaluation to identify key behavioural barriers to intervention effectiveness. IRS will be used as a targeted intervention in outbreak and high-burden communities. To improve uptake of IRS, the NVBDCP aims to mobilize communities immediately before spraying campaigns to improve compliance with requirements of the spray team, e.g. moving furniture or briefly vacating the premises.

While community-based groups—including Women's Groups, Church Groups, and the Red Cross—have participated in LLIN distribution and health education, there is limited information on the quality or consistency of distribution standards and accompanying messaging on usage, net care, malaria prevention, and treatment seeking and compliance behaviours. Furthermore, there is a lack of data on community values, attitudes, and practices related to net usage. Effective implementation of vector control strategies necessitates greater community engagement and targeted, locally appropriate messaging.



Health Promotion through the Healthy Settings – Health Village Programme

The National Healthy Settings Policy, launched in 2021, promotes community-led prevention and protection to support “healthy, happy people living in a clean, peaceful and harmonious environment”.⁶ The policy targets key determinants of health across villages, schools, marketplaces, and workplaces, and establishes a National Healthy Settings Coordination Committee as well as parallel committees at the provincial, ward, and village levels.⁷

A central component of the policy is the Healthy Village Programme, which aims to prevent multiple health issues and promote overall wellbeing in villages, focusing on malaria, sanitation and hygiene, and non-communicable diseases. It promotes a community-led process of mapping community challenges, creating a vision, setting priorities, developing a community action plan, implementing the plan, and monitoring, evaluating, and updating the plan as needed. For malaria, the Health Village Programme specifically calls for regular drainage of potential breeding sites to reduce sources of transmission, as well as support for bed net distribution and malaria surveys.⁷ However, success of the healthy settings programme in reducing malaria transmission is not well documented.

Despite monitoring and implementation challenges, the Healthy Settings approach remains a promising, country-owned initiative with strong potential to enhance community engagement and ownership of malaria interventions. Successfully leveraging this framework will require dedicated efforts and resources to ensure the interventions are measurable and scalable.

Financing the Response

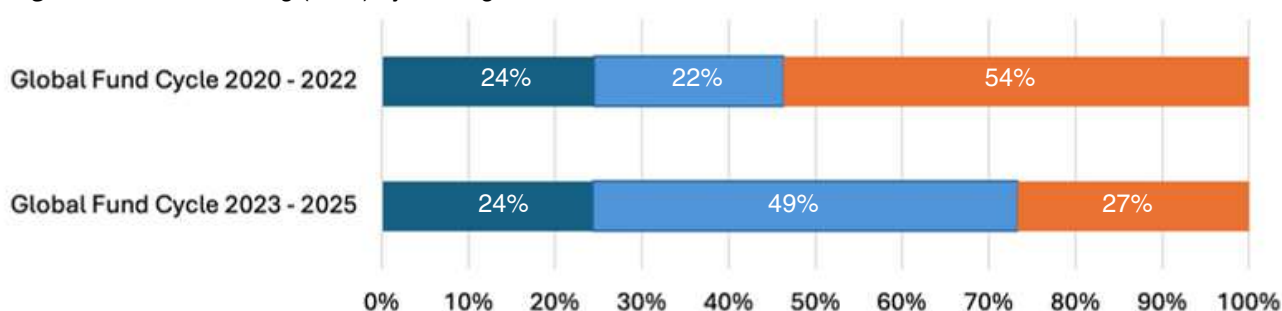
The national malaria response in the Solomon Islands is financed by the Solomon Islands Government (SIG), the Global Fund, the Australian Government through the Department of Foreign Affairs and Trade (DFAT), and the WHO. Between 2021 and 2023 (Global Fund Cycle 2020–2022), the programme required US\$36.7 million but faced a 54% funding gap (US\$19.7 million).⁸ For 2024–2026 (Global Fund Cycle 2023–2025), projected needs total US\$14.8 million, with an estimated 27% funding gap (US\$4.0 million) (See Figure 2).

The Global Fund is the larger financier of the national malaria programme in Solomon Islands, contributing US\$7.2M (49%) of the total US\$14.8M budget for the 2024–2026 period. SIG contributed US\$3.6M (24%), a 150% decline from the domestic budget of US\$9.0 million from the 2021–2023 period. Given the extent of underreporting, which hampers effective planning and budgeting, the actual funding gap for controlling and reducing malaria transmission is likely much larger than currently estimated.

Beyond the funding gaps, grant absorption remains a challenge. In 2021, 74% of the combined SIG and Global Fund malaria budget remained unspent, though this improved to 22.4% in 2022.³ Between 2015 and 2023, the Global Fund malaria grant was implemented through a Cash on Delivery modality, wherein SIG was expected to pre-finance operational activities and would be reimbursed by the Global Fund if specified performance targets across six indicators were met. While this arrangement aimed to promote domestic ownership and accountability, SIG's limited fiscal capacity hindered its ability to frontload the costs. In response, DFAT stepped in to frontload costs in 2021 and 2022. This workaround complicated disbursement processes, often delaying the flow of funds to the NVBDP and then to provincial levels, resulting in postponed or cancelled activities. In years when DFAT support was unavailable, implementation stalled entirely due to lack of upfront financing.

Under the 2023–2025 grant cycle, the malaria grant has transitioned from a cash on delivery model to a standard disbursement modality, with funds disbursed to the Principal Recipient—World Vision International. Future sustainability of the programme will require strengthened domestic resource mobilization, improved grant absorption, and alignment among partners.



Figure 2. Malaria funding (USD) by funding source, Solomon Islands.

	Global Fund Cycle 2020-2022	Global Fund Cycle 2023-2025
Domestic	\$8,962,212	\$3,600,000
Global Fund	\$8,031,136	\$7,236,394
Other External Partners	–	–
Funding Gap	\$19,701,359	\$3,951,506

Source: The Global Fund Data Explorer – Solomon Islands: Melanesia Access to Funding.

Towards 2030 - Challenges and Opportunities

Solomon Islands faces a myriad of persistent challenges in progressing toward its national malaria elimination goals. These include limited visibility on and frequent stockouts of commodities, unclear roles and responsibilities at subnational level, low political prioritization or accountability at subnational levels, and insufficient community engagement.

Nonetheless, there are clear opportunities to strengthen the response. Full operationalization of the Role Delineation Policy—including filling vacancies and clarifying roles and responsibilities at provincial level—can enhance oversight, management, and service delivery. The Healthy Settings Policy provides a valuable framework to strengthen community-based malaria prevention, diagnosis, and treatment, including for *P. vivax*, and for strengthening LLIN distribution and education. Moreover, visualizing malaria burden by parliamentary constituency rather than health zone could increase political visibility, support more context-specific intervention packages, and improve progress tracking at the subnational level. These steps will be crucial for Solomon Islands to reduce its high malaria burden and advance toward elimination.

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Photo: Colombo, Sri Lanka

DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA



Democratic Socialist Republic of Sri Lanka

Certified Malaria-Free

by the World Health
Organization in 2016

Key Message

Sri Lanka's malaria elimination journey showcases that achieving and sustaining malaria-free status is possible with continued investment and strong political commitment. Such principles are upheld in its POR programme, as it continues to optimize surveillance and response, maintain malaria knowledge, systems, and intersectoral partnerships.

The Democratic Socialist Republic of Sri Lanka's (Sri Lanka's) malaria history reveals both the devastating potential of the disease and the remarkable progress possible through sustained commitment. The catastrophic 1934-35 epidemic affected approximately 60% of the population and caused roughly 80,000 deaths, with regular epidemic cycles recurring every 3-5 years throughout the 20th century.^{1,2} The modern elimination campaign began showing dramatic results from 2000 onwards, enhanced by Global Fund support that enabled scaled-up intervention coverage and deployment of newer tools including long-lasting insecticidal nets, rapid diagnostic tests, and artemisinin-based combination therapies. From a peak of 210,048 cases in 2000, Sri Lanka achieved remarkable year-on-year reductions, dropping below 1,000 annual cases by 2006 and reaching pre-elimination status with 736 cases in 2008.² In 2012, Sri Lanka successfully eliminated malaria and maintained zero malaria cases for over three years, earning the WHO's malaria-free certification in 2016.³

Sri Lanka's achievement as the first APLMA member state to receive WHO certification established the country as a regional leader and provided crucial evidence that the ambitious 2030 malaria-free Asia Pacific goal was achievable. Today, Sri Lanka's robust Prevention of Re-establishment programme effectively manages imported cases through enhanced surveillance systems that have successfully prevented any re-establishment of local transmission. This comprehensive approach demonstrates that sustained elimination is possible even in highly receptive tropical environments with significant importation pressure, offering valuable lessons for the rest of the region.

The National Response

The Anti Malaria Campaign (AMC) Directorate operates under the Ministry of Health as the central coordinating body, providing national policy formulation, technical guidance, and monitoring functions. Since 1989, the programme functions as a decentralized campaign implemented by nine provincial health authorities under technical guidance from the national directorate. This hybrid structure ensures administrative integration within provincial health systems while maintaining technical coherence across the national programme. The AMC Directorate maintains specialized units including administrative and finance sections managing decentralized operations.

Sri Lanka's 27 Regional Malaria Officer (RMO) regions form the operational backbone of the malaria response system. RMOs function as focal points responsible for POR at provincial and district levels, operating under a dual reporting structure that reports administratively to Provincial and Regional Directors of Health Services while receiving technical guidance from the national AMC Directorate. RMOs coordinate multi-sectoral collaborations with immigration, military, and tourism sectors while supervising field staff and maintaining surveillance operations across previously endemic areas, supported by 24-hour reporting systems enabling real-time coordination.



Continued Strong Leadership

Importantly, strong leadership has continued to guide the anti-malaria efforts in Sri Lanka. For example, to support its POR programme, the Director General of Health Services has established and chairs the Technical Support Group (TSG), which consists of 17 members possessing diverse expertise related to malaria control – including parasitology, epidemiology, pharmacology, sociology, and vector control⁴. The TSG convenes bi-annually to offer evidence-based strategic advice and recommendations to the AMC. A sub-committee, the Case Review Committee (CRC), further operates monthly to independently review and classify every malaria case according to WHO standards.⁵ This independent review mechanism ensures quality assurance and maintains Sri Lanka's WHO certification requirements.

Additionally, AMC continues to update its guidelines and standard practices, such as the *Guidelines for the Management and Treatment of Malaria Patients* published in 2023.⁶ These comprehensive guidelines provide a roadmap for sustained success by ensuring that strategies are implemented consistently over time, and shows the sustained resolve of AMC to keep Sri Lanka malaria-free.

Optimized Surveillance and Response

Sri Lanka's surveillance and response optimization centres on an enhanced "1-2-3 strategy" that accelerates WHO's standard protocols through case notification within 1 day, investigation within 2 days, and response initiation within 3 days.⁷ This framework operates through a sophisticated multi-layered case detection system combining Passive Case Detection (which accounts for over 95% of case identification), Reactive Case Detection (achieving exceptional yields of 806.5 cases per 100,000 smears when screening travel and spatial cohorts), and Proactive Case Detection targeting high-risk populations. The system maintains exceptional performance standards with 100% case notification within 24 hours and quality assurance through comprehensive cross-checking of positive results, supported by over 300,000 annual microscopy examinations.

The optimization approach emphasizes risk-based targeting through continuous profiling of high-risk populations including military personnel, gem traders, migrant workers, and travellers from endemic countries, ensuring efficient resource allocation while maintaining comprehensive coverage. Integration with entomological surveillance provides monthly receptivity mapping and risk stratification that informs both case detection priorities and vector control interventions, demonstrated effectively when managing the 2016 *Anopheles stephensi* emergence through rapid containment measures that eliminated this urban vector from 4 of 6 initially affected districts. This comprehensive system relies on real-time data sharing, evidence-based response protocols, and continuous refinement based on epidemiological intelligence and operational performance indicators to maintain Sri Lanka's malaria-free status despite ongoing importation pressure.

Maintaining Malaria Knowledge and Skills

Even post-elimination, Sri Lanka has continued to maintain the malaria knowledge and skills of its health workforce. Together with the Sri Lanka Medical Association and other professional colleges, the AMC has conducted clinician awareness programmes in 25 districts in the country over the past five years. AMC personnel also regularly visit medical facilities to deliver informative presentations on malaria. At the same time, dedicated time for malaria education has been incorporated into all medical undergraduate programmes nationwide. Besides medical staff, AMC also organises regular training for its field staff at all levels throughout the country. National and external competency assessments for malaria microscopy were conducted for laboratory technicians with WHO support to ensure accurate malaria diagnosis and maintain up-to-date technical knowledge.⁸ Through these multifaceted approaches, Sri Lanka demonstrates its commitment to sustain the necessary medical knowledge, skills, and awareness towards effective malaria management.



Strong Supply Chain Management

Strong supply chain management has ensured that malaria medicines and diagnostics are consistently available at designated service delivery points across Sri Lanka. The system operates with zero tolerance for stock-outs, with arrangements in place to deliver any malaria commodity within hours if needed – most critically, IV artesunate must be made available within two hours anywhere in the country upon request.^{2,6} This robust logistics framework, supported by Sri Lanka's health and national infrastructure, has been fundamental to maintaining the country's malaria-free status by ensuring rapid access to diagnosis and treatment nationwide.

Integration of POR in COVID-19 Management

When Sri Lanka closed its airports in early 2020, the country faced a dual challenge: managing COVID-19 while preventing malaria reintroduction from nationals returning from endemic regions in Africa, the Middle East, and India. Sri Lankan authorities demonstrated strategic foresight by integrating malaria surveillance directly into the national COVID-19 response. The Anti-Malaria Campaign coordinated with COVID-19 teams to receive advance passenger details and quarantine locations.⁹ For returnees from malaria-endemic countries, officials conducted malaria screening using the same blood samples collected for COVID-19 testing—maximizing diagnostic efficiency while minimizing patient burden.

Post-quarantine surveillance maintained rigorous follow-up testing at one, three, six, and twelve months, with clear fever-response protocols. Entomological teams simultaneously monitored quarantine facilities for potential vectors, enabling rapid control measures when necessary. This integrated approach now covers facilities across 18 of the country's 25 districts. This rapid integration of malaria surveillance into COVID-19 management protocols demonstrates the POR programme's remarkable adaptability in leveraging existing health infrastructure to maintain vigilance against malaria reintroduction during a global pandemic.

Partnerships with Private Sector and International Organizations

The AMC's prevention strategy relies on robust partnerships spanning multiple sectors and international entities. Strong collaborations with armed forces, police, International Organization for Migration (IOM), and United Nations High Commissioner for Refugees (UNHCR) create a comprehensive defence network against malaria re-establishment. The navy consistently communicates refugee and asylum seeker arrivals from endemic countries, while the Army Medical Corps receives specialized malaria training. International partnerships with IOM and UNHCR specifically address challenges posed by migrant workers and asylum seekers who could inadvertently carry malaria parasites.

Extensive private sector collaborations include successful public-private partnerships initiated during the civil war, with companies in Colombo dockyard and steel industries conducting foreign labourer blood screening. The AMC provides quality assurance training to private hospitals and laboratories that diagnose one-third of malaria cases, while travel agencies, hotels, and businesses distribute free chemoprophylaxis and prevention guidance to Sri Lankan citizens traveling to endemic regions.



Financing the Response

To ensure a smooth financial transition as it progressively mobilised domestic resources for its malaria programme, Sri Lanka applied and received a transition grant of US\$2.5 million from the Global Fund beginning in 2019 and ending in 2021.¹⁰ This bridging support facilitated the country's shift to sustainable domestic financing, with the Sri Lankan government now funding the AMC through the Ministry of Health and Provincial Councils supporting Regional Malaria Office staff through their respective ministries.

As of 2023, the government has contributed 22 million Sri Lankan rupees (approximately US\$75,000) annually towards supporting the AMC, demonstrating sustained political and financial commitment that supports ongoing POR endeavours and significantly reduces the risk of malaria resurgence. A 2017 investment case demonstrated the compelling economic rationale for sustaining Sri Lanka's POR programme.

The study found that potential malaria resurgence would cost 13 times more than maintaining existing POR activities, yielding a remarkable financial return on investment of over US\$21 for every US\$1 invested.¹² These estimates likely undervalue the true cost of resurgence, as they exclude broader macroeconomic impacts beyond direct health system costs—such as reduced productivity, tourism losses, and broader economic disruption. This analysis establishes POR as a high-impact, high-return investment that delivers substantial value for money while protecting Sri Lanka's hard-won malaria-free status.

Towards 2030 - Challenges and Opportunities

As Sri Lanka approaches 2030, the country faces a complex landscape of challenges and opportunities in maintaining its malaria-free status. Key challenges centre on financial sustainability, as the current *National Malaria Strategic Plan 2023-2027* requires an estimated 1.25 billion LKR over five years,¹³ necessitating sustained political commitment despite competing health priorities amidst economic crises. There is also a need to sustain political commitment to prevent malaria from becoming a 'forgotten disease' among healthcare providers and policymakers. Maintaining technical expertise within the AMC also poses a challenge as experienced staff retire without adequate replacement.

The spectre of resurgence provides a sobering reminder of the stakes involved. Sri Lanka's own historical experience demonstrates the catastrophic consequences of premature programme reduction—intense indoor residual spraying with DDT throughout the 1950s led to dramatic burden reduction, with only 17 cases reported by 1963 (11 imported). However, when the IRS campaign was subsequently scaled back, malaria resurged catastrophically, with over 1.5 million cases reported between 1967-1970.^{14,15} It took Sri Lanka approximately five decades to return to elimination levels, finally achieving zero local transmission in 2012.¹⁶ This sobering lesson underscores that continued vigilance and sustained investment are non-negotiable prerequisites for maintaining malaria-free status, while evolving epidemiological risks—including urban vectors like *Anopheles stephensi*, increasing travel from endemic countries, and declining clinical awareness—will continue to present as challenges.

However, significant opportunities exist to strengthen prevention efforts. The COVID-19 pandemic demonstrated remarkable programme adaptability and potential for enhanced inter-sectoral collaboration with defence, aviation, and immigration authorities. Integration with broader vector-borne disease control programmes offers economies of scale, while technological innovations in surveillance and data management can improve efficiency. The Sri Lankan experience emphasizes that sustained malaria-free status requires continued investment and political commitment. With such robust institutional foundation and proven adaptive capacity, Sri Lanka is well-positioned to maintain its malaria-free status, serving as a beacon of hope for regional malaria elimination efforts.



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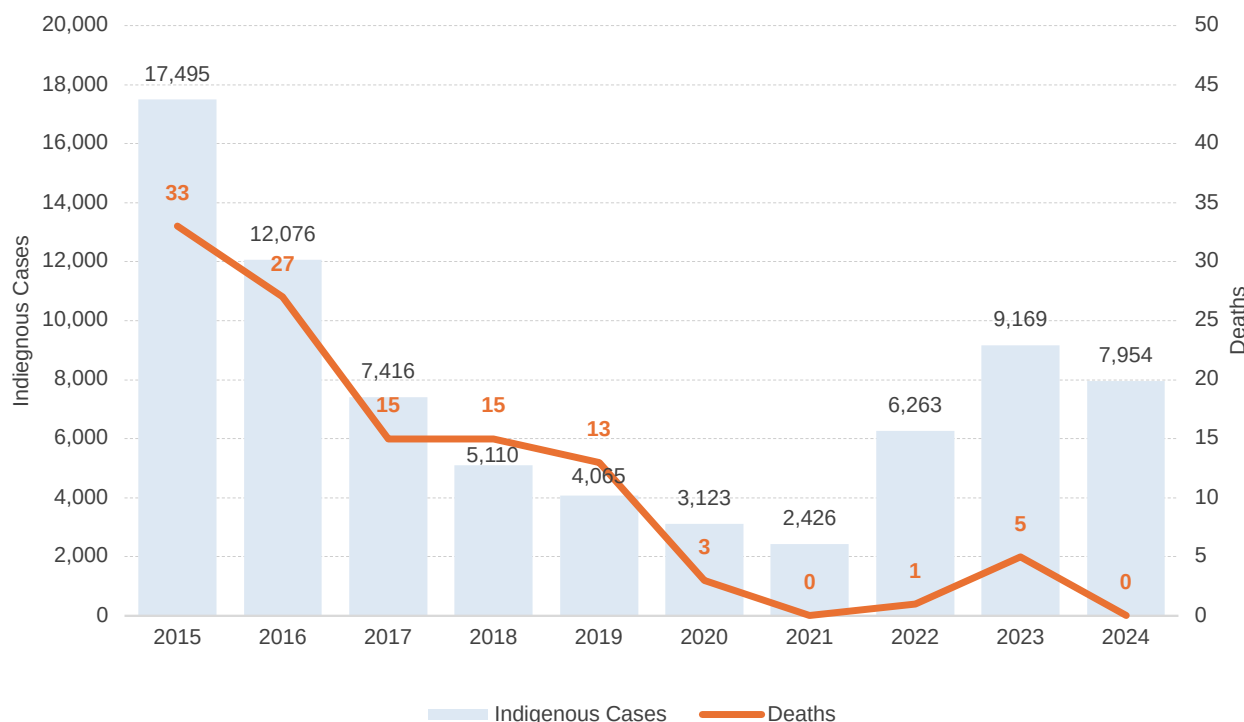
Photo: Bangkok, Thailand

KINGDOM OF THAILAND



Kingdom of Thailand

Figure 1. Indigenous Cases and Deaths in Thailand, 2015–2024.



Source: 2015–2023 data from the WHO World Malaria Report 2024. 2024 data from the WHO Mekong Malaria Elimination Programme Epidemiology Summary, Volume 29, January–March 2025.

55% Decrease

in indigenous malaria cases
between 2015 and 2024

Key Message

Despite a setback in its malaria elimination goals due to large waves of cross-border migration, Thailand has achieved substantial malaria elimination progress through 1-3-7 surveillance, extensive Village Health Volunteer networks, migrant-focused care, strong information systems, as well as an increasingly domestically financed programme.

Epidemiological Context

Prior to 2021, the Kingdom of Thailand (Thailand) was positioned to meet its national targets of *Plasmodium falciparum* (*Pf*) elimination by 2023 and achieve malaria elimination by 2024 under the previous Global Fund Regional Artemisinin Initiative 3 Elimination (RAI3E) grant cycle. Following the adoption of the *National Malaria Elimination Strategy (NMES) 2017 - 2026*,¹ indigenous cases declined dramatically from 7,416 in 2017 to 2,426 in 2021. In particular, confirmed *Pf* cases dropped from 12% to 2% between 2017 and 2021, while active *Pf* foci decreased from 330 of 893 to 44 of 495 total active foci.² However, the epidemiological landscape deteriorated dramatically from 2021 onwards, due to confluence factors that disrupted elimination progress. COVID-19 lockdown measures between 2020 to 2021 severely impacted malaria services and routine vector control activities, and this disruption coincided with large waves of cross-border migration from Myanmar following internal conflict within Myanmar beginning in February 2021, fundamentally altering transmission dynamics.

The impact was catastrophic: indigenous malaria cases surged to 7,954 in 2024,³ representing a 228% increase from 2021 levels.⁴ Including imported cases, the total of 14,688 confirmed cases were reported in 2024.³



Geographic concentration became pronounced, with 87% of these 14,688 cases reported in 2024 occurring in the six provinces bordering Myanmar. While 51 of the country's 77 provinces are malaria-free,⁵ the border regions shared with Myanmar continues to have endemic malaria transmission. The at-risk population encompasses over 780,000 people in active transmission foci within these border provinces, of whom 44% are non-Thai nationals, alongside more than 84,000 refugees in camps and 88,000 people in cross-border foci on the Myanmar side, illustrating how regional instability can rapidly reverse malaria elimination gains.

The National Response

The Ministry of Public Health (MoPH) serves as the apex authority for Thailand's malaria control efforts, while the Division of Vector-Borne Diseases (DVBD) serves as the technical nerve centre, coordinating the *National Malaria Elimination Strategy 2017-2026*. DVBD operates through four levels: provincial offices coordinating with Vector Borne Disease Centres, district-level units overseeing Health Promoting Hospitals, and community-level infrastructure including 240 specialized Malaria Clinics, numerous Malaria Posts, and approximately one million Village Health Volunteers.⁶

Malaria Posts serve as primary community detection points in endemic border areas, providing comprehensive services including rapid diagnostic tests, microscopy, treatment, and vector control coordination. Village Health Volunteers undergo over 40 hours of specialized training and receive monthly compensation of approximately 1,000 Thai Baht (\$32) from MoPH. The strategy centres on the 1-3-7 approach: case notification within 1 day, investigation within 3 days, and foci response within 7 days,⁷ achieving remarkable improvements in case notification (24.4% to 87.8%) and investigations (58.0% to 94.7%).⁸

Numerous civil society organisations (CSOs) also play crucial roles in Thailand's malaria ecosystem. To name a few, World Vision Foundation of Thailand provides training and supervision of Migrant Health Volunteers (MHVs) to conduct community outreach and assist public health staff during case finding, treatment supervision and follow-up, and vector control activities.⁹ The International Rescue Committee (IRC) with Malteser International (MI) and the Shoklo Malaria Research Unit (SMRU) provide malaria test and treatment services in the camps and border areas.¹⁰

Migrant-Focused Malaria Care Delivery

Thailand has developed migrant-specific malaria programmes in response to significant cross-border challenges. As of 2024, approximately 46% of confirmed cases are classified as imported.³ A 2024 qualitative study interviewed government healthcare providers and Village Health Volunteers (VHVs) from high malaria burden districts, and respondents consistently linked the rise in malaria cases to increased cross-border migration from Myanmar following political unrest. The scale of this population movement is substantial, with approximately four million migrants residing in Thailand, with about 75% originating from Myanmar.¹¹ Despite Thailand's inclusive policy of providing diagnosis and antimalarials to patients with confirmed malaria, regardless of their nationality, significant barriers persist in reaching migrant populations. Only a quarter (27.3%) of Myanmar migrants reported adequate access to comprehensive malaria services.¹² Healthcare providers identify key challenges including difficulty locating and following up with short-term or undocumented migrants, language barriers that hinder health education, and delays in diagnosis because of limited infrastructure.^{11,12}

To address these challenges, Thailand has established specialized delivery mechanisms centred on Migrant Health Volunteers (MHVs). World Vision Foundation of Thailand serves as a principal implementer through the Global Fund's Regional Artemisinin-resistance Initiative, having trained over 4,000 MHVs for TB, HIV, Malaria, COVID-19 and advocated for their formal integration into the Thai Village Health Volunteer model.



These volunteers operate primarily in Mae Hong Son and Tak provinces, with support from the Global Fund, through working with government networks, public health agencies and Raks Thai Foundation. The MHVs serve as cultural bridges between health providers and the community, promoting trust and engagement, adapting the traditional Thai Village Health Volunteer model to meet migrant-specific needs.⁹

Information Systems

Thailand's malaria elimination efforts are underpinned by technology integration systems that enable real-time surveillance and evidence-based decision-making. The electronic Malaria Information System (Malaria Online) provides real-time case-based surveillance data tracking with geospatial mapping capabilities.^{2,13} Developed through collaboration between DVBD and Mahidol University's BIOPHICS centre, the system integrates case data, vector surveillance, and drug efficacy monitoring into a comprehensive platform.¹⁴ The platform also supports both web-based and mobile data entry, as well as a Malaria Offline database to accommodate for connectivity challenges in remote border areas.⁷ Additionally, data from integrated drug efficacy surveillance (iDES) is also reported within the same system. Launched to address multidrug resistance in 2018, iDES tracks patients to confirm parasite clearance and monitor antimalarial drug efficacy.^{15,16} This comprehensive monitoring has enabled evidence-based policy changes, including the 2019 approval of pyronaridine-artesunate as first-line treatment in provinces with documented piperaquine resistance, demonstrating how technological integration directly informs clinical and programmatic decisions to maintain therapeutic effectiveness.¹⁶

Thailand also established innovative communication networks to facilitate rapid information exchange and peer support. A mobile chat application connects over 400 malaria workers nationwide, enabling direct communication between DVBD and subnational officers for investigation updates, guidance requests, and rapid information exchange.^{7,8} This digital network complements formal reporting structures by providing informal peer-to-peer communication channels that enhance across the programme.

Village Health Volunteers

Central to Thailand's elimination efforts, VHVs play crucial roles in community reporting of 1-3-7 metrics,⁷ as well as maintaining close collaboration with malaria clinics to execute field-level malaria control activities. Each VHV is typically responsible for health-related activities such as health education, home visits to monitor residents' health, providing basic medical services (e.g., first aid), referring suspected malaria cases for blood testing, and collecting public health data.

Additionally, in malaria-endemic areas, VHVs further serve specialized functions as Village Malaria Volunteers, operating at village-level malaria posts, coordinating with hospitals and Provincial Health Offices. Their effectiveness is demonstrated through operational success rates of approximately 90% for Thai residents, though challenges remain with migrant populations where rates for migrants were significantly lower, at about 60%.¹⁷ The VHV network exemplifies Thailand's commitment to community-based healthcare delivery, providing the essential human infrastructure necessary for sustained malaria elimination while ensuring health equity across diverse populations and geographic areas.

Engagement of Local Administrative Organizations

To secure domestic funding for malaria-related activities, DVBD also engaged with Local Administrative Organizations (LAOs), which are the subnational governmental units of Thailand.¹⁸ By conducting training workshops for over 2,600 LAO staff, LAO personnel were able to learn about the current malaria situation in their local areas as well as sub-foci transmission data and corresponding risk levels that enable LAOs to tailor malaria interventions to local situations.¹³ This in turn helped to secure financial backing from LAO budgets for malaria-related activities; between 2018 and 2020, annual LAO funding support for malaria effectively doubled.² Additionally, LAOs have also learned technical knowledge and skills from public health officials, empowering them to actively take on vector control responsibilities. In 2024, LAOs invested US\$1.37 million for malaria elimination.



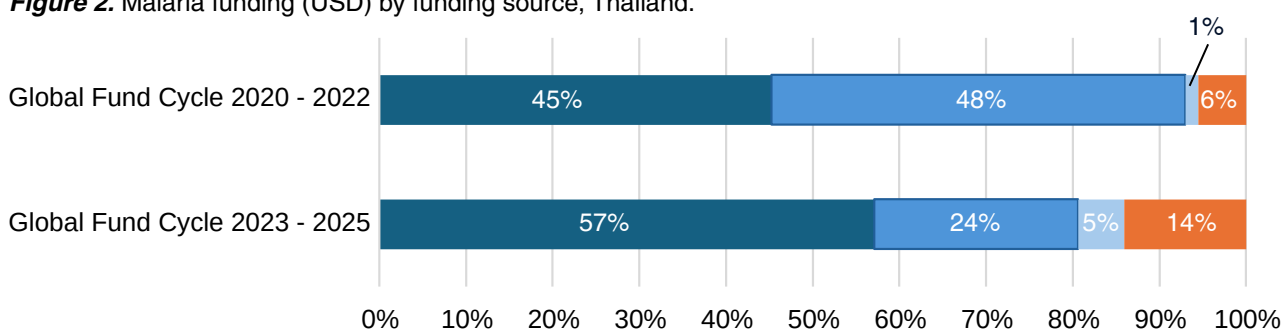
Financing the Response

Thailand has made great efforts in mobilising domestic resources to finance for malaria elimination. Currently, over half (57%) of Thailand's national malaria programmatic needs is domestically financed, a 12% increase from the last Global Fund grant cycle.²⁰ Of which, the component with most dramatic increase is funding support from National Health Security Office (NHSO) – its proportional share increased from 0.5% in 2017 to 53.4% in 2022,² becoming the biggest domestic funding source. Additionally, as mentioned in the previous section, LAOs have also begun contributing to the domestic budget. These efforts correspond to Thailand's commitment to the long-term sustainability of its malaria elimination programme, as highlighted in its NMES 2017 – 2026. In 2024, Thailand has also drafted its *National Sustainability and Transitional Preparedness Roadmap for Malaria (2024 – 2032)*, which included planning for a phased increase in domestic co-financing and additional domestic resource mobilization.

Concurrently, reliance on Global Fund support has also substantially reduced by over 24% between the two latest Global Fund grant cycles. Thailand also receives support from several external partners, including United States Agency for International Development (USAID), Medicines for Malaria Venture (MMV), World Health Organization (WHO) and Japan International Cooperation Agency (JICA).

To further strengthen the economic case for continued investment, DVBD conducted a comprehensive cost-benefit analysis in 2019, developing a compelling investment argument for malaria elimination. The analysis demonstrated substantial economic returns, finding that every US\$1 invested in malaria elimination generates between US\$2 to \$15 in return on investment, providing strong justification for sustained domestic and international funding commitments toward achieving elimination goals.¹⁹

Figure 2. Malaria funding (USD) by funding source, Thailand.



	Global Fund Cycle 2020-2022	Global Fund Cycle 2023-2025
Domestic	\$20,838,908	\$37,483,422
Global Fund	\$21,985,067	\$15,418,999
Other External Partners	\$686,503	\$3,510,000
Funding Gap	\$2,542,582	\$9,208,528

Source: The Global Fund Data Explorer – Multicountry East Asia and Pacific RAI, Access to Funding.



Towards 2030 - Challenges and Opportunities

In 2022, an external review team conducted a programmatic review of the national malaria programme in Thailand.²¹ From their findings and recommendations, it is evident that Thailand's path to malaria elimination by 2030 presents opportunities for strengthened governance and strategic oversight. The National Communicable Disease Control Committee, chaired by the Minister of Health, potentially elevating malaria elimination as a national priority alongside dengue control with establishment of a Strategic and Technical Advisory Group for technical guidance. Additionally, critical operational improvements can focus on implementing standing orders for rapid treatment initiation within six hours for uncomplicated malaria and one hour for complicated cases, addressing the primary cause of malaria mortality. The national external quality control system offers opportunities for expansion beyond vertical networks to include all health facilities and private laboratories, with enhanced microscopist capacity building and standardized recording systems.

Surveillance and rapid response capabilities can also be further strengthened through enhanced training of Communicable Disease Control Units and Surveillance Rapid Response Teams, particularly in border provinces facing cross-border challenges. Thai-Myanmar border areas, in particular, present opportunities for innovative interventions and specialized task forces addressing security and migration issues. Lastly, vector control strategies can consider proactive mass distribution of long-lasting insecticidal nets and indoor residual spraying in high-transmission risk areas, with continued entomological monitoring in low-transmission and malaria-free provinces preventing re-establishment. Creative procurement solutions for antimalarials and insecticides, including orphan medication classification and international procurement partnerships, will help ensure sustained commodity availability for elimination efforts.

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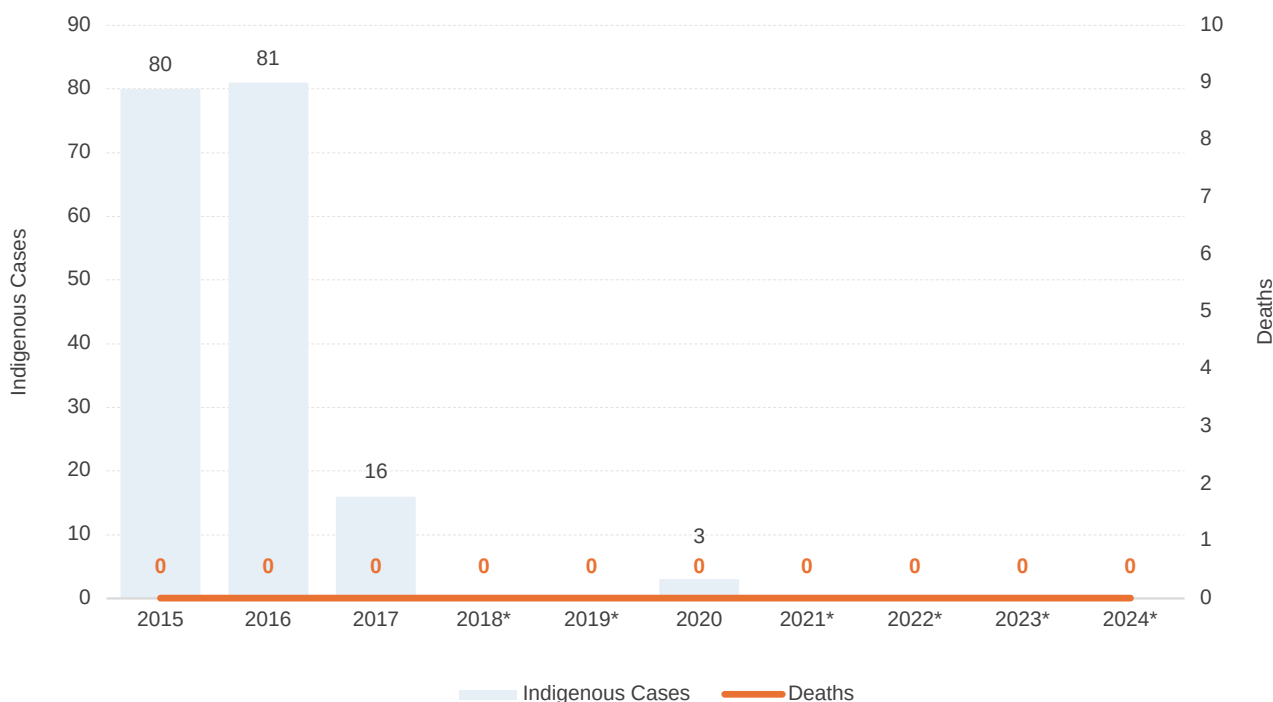
Photo: Dili, Timor-Leste

DEMOCRATIC REPUBLIC OF TIMOR-LESTE



The Democratic Republic of Timor-Leste

Figure 1. Indigenous Cases and Deaths in Timor-Leste, 2015–2024.



*Timor-Leste reported 0 indigenous cases and deaths for 2018–2019 and 2021–2024.

Source: 2015–2023 data from the WHO World Malaria Report 2024. 2024 data from the national programme.

**100%
Decrease**

**in indigenous malaria cases
between 2015 and 2024**

Key Message

Timor-Leste was certified malaria-free by WHO in July 2025. The primary challenge to prevention of re-establishment is malaria transmission across Timor-Leste's shared border with Indonesia. Community-based and integrated health services are key components of Timor-Leste's prevention of re-establishment programme to sustain malaria-free status.

Epidemiological Context

The Democratic Republic of Timor-Leste (Timor-Leste) occupies the eastern half of Timor Island, while the western half—West Timor—forms part of East Nusa Tenggara Province of the Republic of Indonesia. The country additionally comprises the two islands of Atauro and Jaco, as well as the Oecusse municipality, an exclave within Indonesian West Timor. Administratively, the country is divided into 14 municipalities.

As malaria incidence has declined over the past decade, transmission has become increasingly localized, with the highest burden reported in Oecusse. This is primarily attributed to cross-border transmission from neighbouring West Timor, Indonesia, which remains in the control phase of the malaria response. In 2016, Oecusse accounted for 93% of all confirmed malaria cases in Timor-Leste.¹

Timor-Leste achieved zero indigenous cases for two consecutive years in 2018 and 2019, marking a significant milestone toward elimination. However, in 2020, a localized outbreak of three indigenous cases was detected in Oecusse, linked to disruptions associated with the COVID-19 pandemic.² No malaria-related deaths have been reported since 2015. The primary vectors implicated in malaria transmission in Timor-Leste are *An. barbirostris* and *An. Subpictus*.



The National Response

The national malaria response is led by the National Malaria Programme (NMP), under the Communicable Disease Control Division of the Ministry of Health. Malaria services are delivered through one national hospital, five regional referral hospitals, a network of community health centres and health posts, as well as private sector providers. Much of the country's success in reducing malaria burden and progressing toward elimination has been driven by confirming 100% of suspected cases through quality diagnosis by RDTs and microscopy, ensuring high coverage of LLIN and IRS interventions, and extending service delivery coverage to high burden and remote areas through a strong network of community health volunteers.

The *National Strategic Plan for Prevention of Re-Establishment of Malaria in Timor-Leste 2021-2025* delineates the strategy for preventing re-establishment of malaria transmission in Timor-Leste, maintaining zero mortality due to locally acquired malaria, and achieving WHO malaria-free certification.³ Although certification was initially targeted for 2021 or 2022, the outbreak in 2020 delayed the process. However, after reporting zero indigenous cases for three consecutive years (2021–2023), Timor-Leste was certified as malaria-free by WHO in July 2025.

Now in the prevention of re-establishment (POR) phase, Timor-Leste is focusing sustaining its malaria-free status. This includes strengthening the community health approach, engaging in cross-border collaboration with the Republic of Indonesia, and ensuring the full integration of malaria services into routine health care delivery.

Community Health Volunteers

Community Health Volunteers (CHVs) have played a critical role in Timor-Leste's malaria control and elimination efforts, particularly in remote and hard-to-reach border areas. CHVs are trained to administer RDTs, treat uncomplicated malaria cases, supervise directly-observed therapy (DOT) for 8-week primaquine regimen for *P. vivax* infections, monitor LLIN usage and conduct information, education, and communication activities through routine household visits.³

In 2015 and 2016, approximately 30% of cases were detected in the community by CHVs;¹ in 2020, over half of detected malaria cases were diagnosed by 33 CHVs.^{2,3} As of 2022, Timor-Leste had deployed 37 CHVs, primarily in the municipalities bordering the Republic of Indonesia, where transmission risk remains elevated due to cross-border movement and activities. These volunteers are located in the border municipalities of Oecusse (20), Bobonaro (6), Covalima (6), as well as split across the island of Atauro and the capital of Dili (5).⁴

Cross-border Collaboration

Timor-Leste has prioritized cross-border collaboration with Indonesia since 2017 to address malaria transmission in shared border areas. A Memorandum of Understanding (MoU) for joint efforts on HIV, TB, and malaria was first signed in 2019⁵ and renewed in 2022, outlining shared objectives and a roadmap for cross-border malaria elimination. Despite initial delays due to COVID-19, coordination has resumed, with joint task forces now established and focal points appointed at national, provincial, and district levels in both countries. Key stakeholders, including WHO, the Global Fund, and APLMA, have participated as observers in coordination meetings.

Since 2022, the NMP, with support from the Global Institute for Disease Elimination (GLIDE) and Universitas Gadjah Mada, has piloted operational research in the Belu (Indonesia)–Bobonaro (Timor-Leste) border area to test targeted interventions for improved surveillance and communication.



These include a joint malaria dashboard for real-time data sharing, case notification via WhatsApp, and delivery of IEC materials to mobile populations. Findings from the pilot were disseminated in January 2025 and will inform next steps to develop a comprehensive cross-border collaboration framework.

Malaria Included in the Essential Services Package for Primary Healthcare

To ensure the long-term sustainability of the malaria response, Timor-Leste has integrated routine malaria services into the Essential Services Package for Primary Healthcare.³ Timor-Leste has developed a differentiated package of essential services for POR based on two strata based on malaria receptivity and vulnerability: high-risk border areas, encompassing Oecusse municipality, the border sub-districts in Bobonaro and Covalima municipalities, and Atauro Island are designated as “Stratum 1”. The rest of the country is designated as “Other Strata.”

In both strata, all confirmed uncomplicated malaria cases are treated under DOT, with health workers conducting follow-up home visits to ensure treatment adherence. Case notification is required within 24 hours, with case and foci investigation—including reactive case detection—within 7 days, and targeted response interventions (IRS, LLIN distribution) within 10 days.

Diagnosis and vector control interventions are stratified by risk. In Stratum 1, all fever cases are tested using RDTs, with positive cases confirmed by microscopy. In Other Strata, only clinically suspected malaria cases are tested. Universal vector control coverage—including IRS and mass LLIN distribution every three years—is maintained in Stratum 1, while in Other Strata, interventions are targeted to mobile or high-risk groups or used reactively. This differentiated approach ensures malaria services are risk-responsive and resource-efficient.

Financing the Response

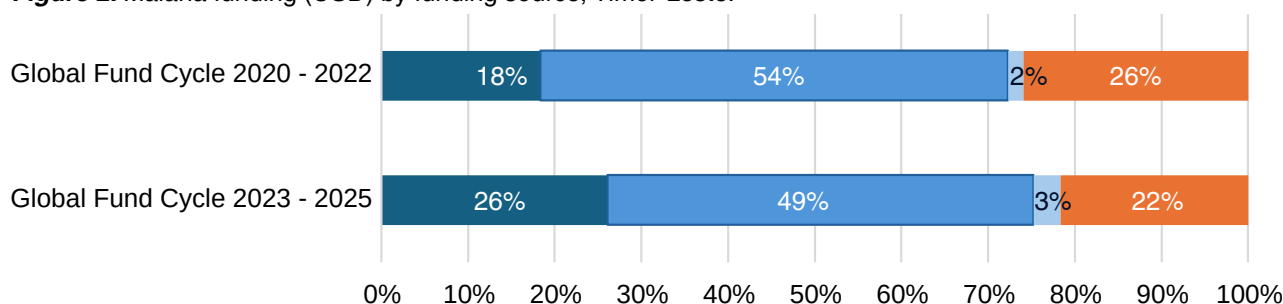
As Timor-Leste transitions into the POR phase, the country faces the critical challenge of ensuring financial sustainability of its malaria-free status while developing robust domestic leadership and programmatic resilience. The Global Fund currently provides approximately half (49%) of Timor-Leste's malaria programmatic funding, creating a significant dependency that must be addressed during the transition period.⁴

Given that Global Fund eligibility is partially determined by disease burden, Timor-Leste will likely receive one final allocation period of malaria transition funding (expected 2027-2029) before becoming ineligible for Global Fund support.⁶ This transition funding serves to support countries in achieving full domestic financing and sustainability of health programmes independent of Global Fund resources. However, the transition funding allocation will be substantially smaller than current support levels, creating considerable financial pressure for the NMP to meet programmatic requirements and address the existing 22% funding gap.

Despite these challenges, Timor-Leste has demonstrated encouraging progress in domestic resource mobilization for malaria programming. The country's domestic contribution has increased meaningfully from US\$1.3 million (18% of total funding) during the 2020-2022 Global Fund grant cycle to US\$1.6 million (26% of total funding) for the current 2023-2025 cycle. This upward trajectory reflects growing national commitment to sustaining malaria gains.

Concurrently, the transition to POR phase has reduced overall resource requirements. The national strategic plan implementation cost decreased from US\$7.3 million for the 2021-2023 Global Fund grant cycle to US\$6.2 million for the 2024-2026 cycle. The malaria programme has also benefited from external support beyond the Global Fund, including contributions from the World Health Organization and Rotarians Against Malaria (RAM) Australia.



Figure 2. Malaria funding (USD) by funding source, Timor-Leste.

	Global Fund Cycle 2020-2022	Global Fund Cycle 2023-2025
Domestic	\$1,337,828	\$1,603,428
Global Fund	\$3,937,840	\$3,028,553
Other External Partners	\$133,361	\$191,517
Funding Gap	\$1,890,285	\$1,332,977

Source: The Global Fund Data Explorer – Timor-Leste: South-Eastern Asia, Access to Funding

Towards 2030 - Challenges and Opportunities

The most significant challenge to sustaining Timor-Leste's malaria-free status is the porous land border with the Republic of Indonesia, which facilitates frequent cross-border movement and importation of cases. While the country has achieved elimination, much of the population lives in highly receptive rural areas—particularly in the border municipalities of Bobonaro, Covalima, and the Oecusse exclave—where even a single imported infection could lead to local transmission and resurgence.

To mitigate the risk of malaria re-establishment, Timor-Leste will need to maintain continued vigilance, strengthen cross-border collaboration, and ensure sustained investment in health workforce capacity, including for CHVs. Timor-Leste has demonstrated innovation despite constraints such as limited fiscal capacity and competing health priorities—integrating malaria surveillance with dengue and chikungunya systems to reduce costs by 40%, expanding national health insurance coverage, and co-establishing a US\$150,000 surveillance fund with Indonesia.⁷ Ensuring the long-term sustainability of the POR programme will require strategic investment in human resources, including ongoing training in critical skills such as microscopy, and thoughtful restructuring to integrate staff roles while preserving core technical capacity. These efforts are essential not only for preventing malaria resurgence, but also for building a resilient, nationally led system equipped to address future vector-borne disease threats.

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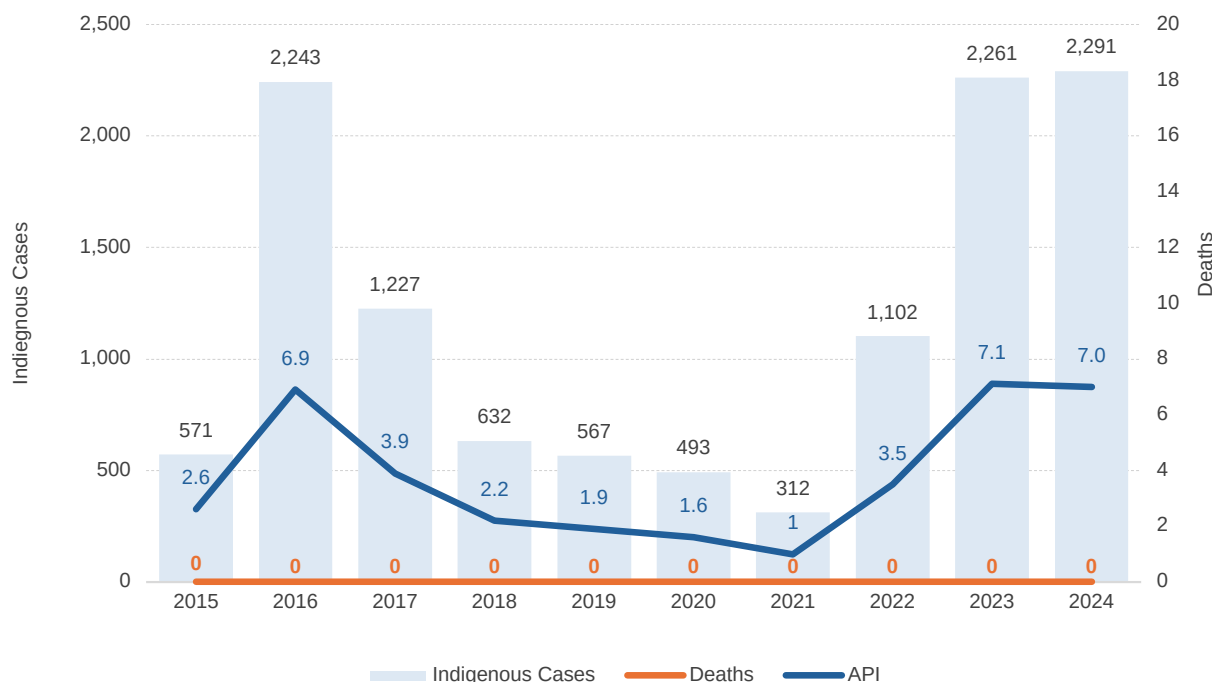
Photo: Port Vila, Vanuatu

REPUBLIC OF VANUATU



Republic of Vanuatu

Figure 1. Indigenous Cases and Deaths in Vanuatu, 2015–2024.



Source: 2015–2023 data from the WHO World Malaria Report 2024. 2024 data from Donald, Wesley. “Vanuatu.” PowerPoint Presentation. EDEN Regional Coordination Meeting, Port Moresby, Papua New Guinea, May 6, 2025.

**301%
Increase**

**in indigenous malaria cases
between 2015 and 2024**

Key Message

Vanuatu is off target to eliminate malaria by 2030. Natural disasters and climate change threaten progress. The recent Vanuatu Malaria Elimination Framework 2026–2030 adopts a progressive island-based approach to elimination, anticipated by 2032. Real-time reporting, digital infrastructure for surveillance, intensified response, capacity building for IRS and LSM, and community advocacy have been identified as critical components needed to achieve elimination.

Epidemiological Context

The Republic of Vanuatu (Vanuatu) is an archipelagic country with 83 islands, administratively divided into six provinces. Malaria transmission is geographically heterogeneous, with higher levels of transmission in the northern provinces and coastal areas. This pattern is linked to the behaviour of the country's sole malaria vector, *An. farauti*, whose larval stages prefers brackish water pools. While both *P. falciparum* and *P. vivax* have historically been present in Vanuatu, the country successfully eliminated indigenous cases of *P. falciparum* mono-infection in 2020.¹ However, an imported case from Solomon Islands was detected in late 2024, followed by a local *P. falciparum* case in 2025.

Vanuatu's journey toward malaria elimination has seen both significant progress and recent setbacks. Over much of the past decade, malaria cases declined steadily, with no malaria-related deaths reported since 2012 and a low of 312 indigenous cases in 2021.² The southernmost province of Tafea achieved zero indigenous cases by 2014 and was declared malaria-free in 2017, emerging as a model for elimination.³

However, in 2022, Vanuatu experienced a resurgence in malaria transmission, attributed largely to disruptions caused by the COVID-19 pandemic.



Between 2021 and 2024, indigenous malaria cases increased more than seven-fold—from 312 cases to 2,291 cases.⁴ In 2024, the northern provinces of Sanma and Torba together accounted for approximately 84% of all confirmed cases.¹ Sanma reported 1,440 cases and an API of 21.5 per 1000 population, followed by Torba with 476 cases and an API of 39.3—both well above the national API of 7.0. Notably, at the subnational level, four Area Councils—the lowest unit of government—in Sanma and Torba accounted for 61% of all malaria cases.

The National Response

Vanuatu's malaria response is led by the Ministry of Health's National Malaria and other Vector-Borne Diseases Control Programme (NVBDP). Malaria services are delivered through a decentralized health system spanning national, regional, and provincial hospitals; health centres; dispensaries; and community-managed aid posts staffed by village health workers (VHWs).⁵ United Nations Development Programme (UNDP) is the Principal Recipient of Global Fund financing and supports programme management and implementation.

Spurred by the successful elimination of malaria from Tafea Province in 2017, Vanuatu initially aimed to achieve zero indigenous malaria cases nationwide by 2023 and receive WHO certification of malaria-free status in 2026.⁶ However, the resurgence in 2022 prompted the NVBDP to revise their target. In 2024, the government and development partners reached consensus to adopt a sub-national and island-focused elimination approach, formalizing the strategy in the Vanuatu Malaria Elimination Framework (MEF) 2026-2032.¹

The MEF targets zero indigenous malaria cases nationwide by 2032. Informed by a 2025 stratification exercise, it classifies provinces into four operational strata—Control, Pre-elimination, Elimination, and Non-endemic—based on 2022-2025 API. It delineates a phased approach to elimination, with pilots to be conducted between 2025 and 2027, starting in Shefa Province. The MEF prioritizes *P. vivax* management and radical cure at all health system levels, elevates larval source management (LSM) as a core vector control strategy, and renews focus on community engagement.

Malaria Elimination in Tafea Province as a Model for an Island-Based Approach

Tafea's elimination journey began with the successful interruption of transmission on Aneityum Island by 1996. In 2008, it was designated as the national pilot for intensified elimination. This strategic decision enabled the implementation of a targeted, well-resourced response anchored in high-coverage delivery of proven interventions between 2008-2012. In 2014, Tafea recorded its last indigenous malaria case and was officially declared malaria-free in 2017.

Tafea's dedicated malaria elimination efforts included ensuring near-universal LLIN coverage, with 93% of households owning at least one LLIN—compared to 71% nationally—and 87% of residents using them. Among pregnant women, 85% reported sleeping under a net, far surpassing the national average of 51%.⁷ Three rounds of IRS in high-risk coastal areas were conducted between 2009 and 2011, covering over 90% of households, successfully reducing API to below the elimination threshold 1 per 1,000 population by 2011.⁸

At the same time, case management improved through free RDT or microscopy testing, directly-observed therapy with ACTs, and expansion of aid posts from 20 in 2010 to 31 by the end of 2012. Community and school engagement further strengthened uptake.⁸

These efforts were enabled by a robust enabling environment, including intensified programme management, increased staffing, and significant financial, technical, and programmatic support.⁸ This included targeted investment from the Australian Government and technical assistance from WHO and the Pacific Malaria Initiative (PacMI) Support Centre.³



Larval Source Management as a Core Vector Control Intervention

Larval Source Management (LSM) presents a technically sound and contextually appropriate intervention for malaria control in Vanuatu, given the ecological characteristics of the primary vector, *An. farauti*, which breeds in “few, fixed, and findable” habitats such as brackish pools and coastal swamps. Despite this, the ecological complexity and scale of these breeding sites, alongside concerns around potential unintended consequences of LSM interventions, have historically limited its broad application.^{6,9}

The MEF marks a strategic shift in approach, formally elevating LSM as a core component of Vanuatu's vector control interventions. It calls for a comprehensive scale-up of LSM—including environmental modification, targeted larviciding, and community-led efforts—to systematically reduce vector breeding sites in control areas and active foci within elimination settings. To operationalize this strategy, the NVBDCP plans to develop national LSM guidelines and standard operating procedures (SOPs), systematically map and geo-reference larval habitats, and roll-out targeted capacity building for provincial vector control teams and community volunteers. LSM interventions are intended to be fully integrated into foci investigation and response protocols as well as incorporated into national and provincial malaria work plans and budgets to ensure long-term impact and programmatic sustainability.

This ambitious and ecologically grounded approach has the potential to interrupt transmission; however, training and implementation at scale is unfunded and will require dedicated financial support.

P. vivax Radical Cure at All Facilities and Aid Posts

In the past decade, *P. vivax* has emerged as the predominant malaria parasite in Vanuatu, accounting for 99.8% of cases in 2024.¹ Despite high ACT coverage, uptake of radical cure with primaquine remains low due to limited G6PD testing: only 8.6% of cases were G6PD-tested in 2024, and 69% received primaquine.¹

In response, the NVBDCP prioritized the scale-up of G6PD testing in 2024 and integrated G6PD testing protocols into case management trainings, aiming to reach training coverage to all public health facilities by the end of 2025. In a major policy shift, G6PD testing and primaquine treatment was authorized at aid posts in November 2024. In 2025, the programme obtained official approval from MOH executives and the Therapeutics Committee to allow Primaquine administration by VMWs at aid post level, allowing for roll-out across the country.

An Intensified Focus on Community Engagement

Sustained community engagement is essential for the success of Vanuatu's decentralized, island-focused elimination strategy. NVBDCP aims to establish structured partnerships between provincial malaria teams and Area Councils, with formalized Memoranda of Understanding delineating council roles in malaria elimination. In high-burden priority areas, NVBDCP plans to establish Malaria Elimination Committees with clear terms of reference. The programme plans to engage Village Health Workers (VHWs) as Malaria Elimination Volunteers in selected provinces, with TORs to guide facilitation of community acceptance in the use of LLIN, monitor treatment compliance, conduct case investigations, spread awareness, and monitor LSM activities.

However, challenges remain—particularly around the governance, compensation, and role definition of VHWs, who are central in reaching remote communities and extending key malaria services, such as radical cure and treatment follow-up, to the community level.



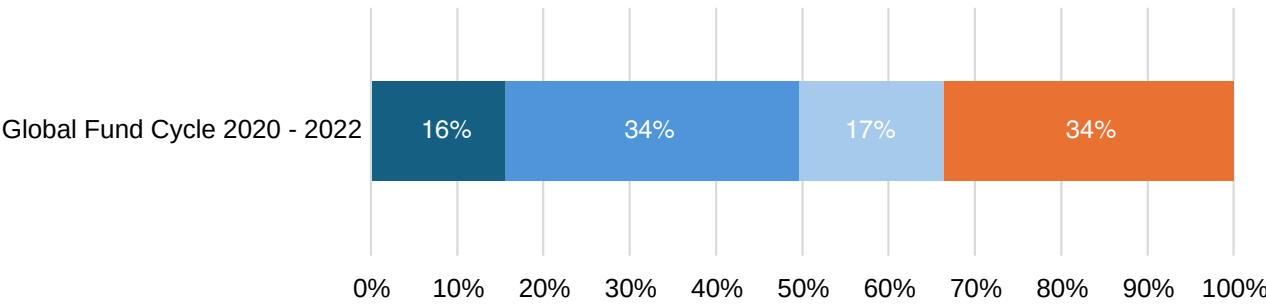
Financing the Response

The national malaria programme remains heavily reliant on external financing, with major contributions from the Global Fund and the Australian Government, as well as other donors such as the WHO, Rotarians Against Malaria (RAM), and James Cook University. The Global Fund continues to support core programme components—surveillance, vector control, case management, and technical assistance—while the Department of Foreign Affairs and Trade (DFAT), through the Vanuatu Australia Health Partnership, provides flexible provincial-level support, particularly for outbreak response. During the 2020–2022 Global Fund grant cycle, the Global Fund accounted for 71% (US \$2.97 million) of total programme’s operational budget, the Government of Vanuatu contributed 12%, and other sources 17%.¹⁰

However, the actual programme needs were far greater: according to the National Strategic Plan 2021 – 2026, US\$8.7 million was required to meet 100% of NMP needs over the 2020 – 2022 grant cycle period. This meant there was a 34% NSP funding gap over the three-year period (Figure 2). A mid-term review of the programme confirmed that existing levels of funding were insufficient to support a strong, elimination-capable malaria programme, with the 2020-2022 budget leaving 59% of programme activities unfunded in 2020 and 2021, and 20% unfunded in 2022.¹¹ The situation has since deteriorated further, the Global Fund’s allocation for the 2023–2025 cycle declining by an additional 17%. This raises serious concerns about widening funding gaps and the long-term sustainability of the programme.

Additionally, funding gaps are not the only constraint to malaria programme implementation. In 2021, 42% of Global Fund allocation were unspent; in 2022, 59% went unspent.[1] In 2021, absorption was lowest in the key enabling areas of community awareness & advocacy (5%) and surveillance & monitoring (7%).¹¹ Improving financial management and budget execution will be essential to ensure malaria service delivery and bring down malaria case load in Vanuatu.

Figure 2. Malaria funding (USD) by funding source, Vanuatu.



	Global Fund Cycle 2020-2022
Domestic	\$1,356,064
Global Fund	\$2,968,368
Other External Partners	\$1,465,535
Funding Gap	\$2,923,746

Source: The Global Fund Data Explorer – Vanuatu: Melanesia, Access to Funding.

¹⁰ Hacking of the government finance system rendered funds unavailable and unspent for the last two months of 2022.



Towards 2030 - Challenges and Opportunities

Vanuatu has laid a strong foundation for malaria elimination, leveraging the success of Tafea Province as proof of what can be achieved through targeted interventions, strong community engagement, effective partnerships, and consistent funding. Building on this momentum, the Vanuatu Malaria Elimination Framework 2026–2032 sets out a clear island-by-island strategy to achieve zero indigenous malaria cases nationwide by 2032. However, Vanuatu's geography—characterized by remote islands and limited transport infrastructure—poses inherent challenges to service delivery and surveillance. These are further compounded by recurrent natural disasters, with climate change escalating risks.¹² Vanuatu has responded to this risk by developing the National Health Plan for Disaster Risk Management and Climate Change Adaptation 2021–2025¹³ and integrating malaria response with other emergency responses through the National Health Emergency Operations Centre when feasible.¹⁴

Malaria elimination will also require addressing critical operational and systems-level gaps. Provincial capacity must be fortified to implement key vector control interventions, including IRS and LSM. Deeper community engagement and support for village health workers will be necessary to build trust, encourage treatment adherence, and sustain practices like larval source management over time. Digital infrastructure—especially internet connectivity at health facilities—will need to be improved to enable real-time reporting and timely case and foci investigation.

To address these needs, NVBDCP is exploring innovative financing approaches, including through the EDEN Initiative, positioning malaria elimination as an integral component of climate adaptation and health security in the region. While increased funding will be essential to implement the MEF, this must concurrently be accompanied by strengthened financial management to ensure effective utilization of existing resources.

The MEF provides a dynamic framework for tailoring and reallocating interventions based on local transmission contexts. Vanuatu's island-based approach provides a unique opportunity to develop scalable, adaptable elimination strategies relevant across the Pacific. With sustained investment and partnership, Vanuatu can reach its newly outlined elimination targets and secure a malaria-free future for its communities.

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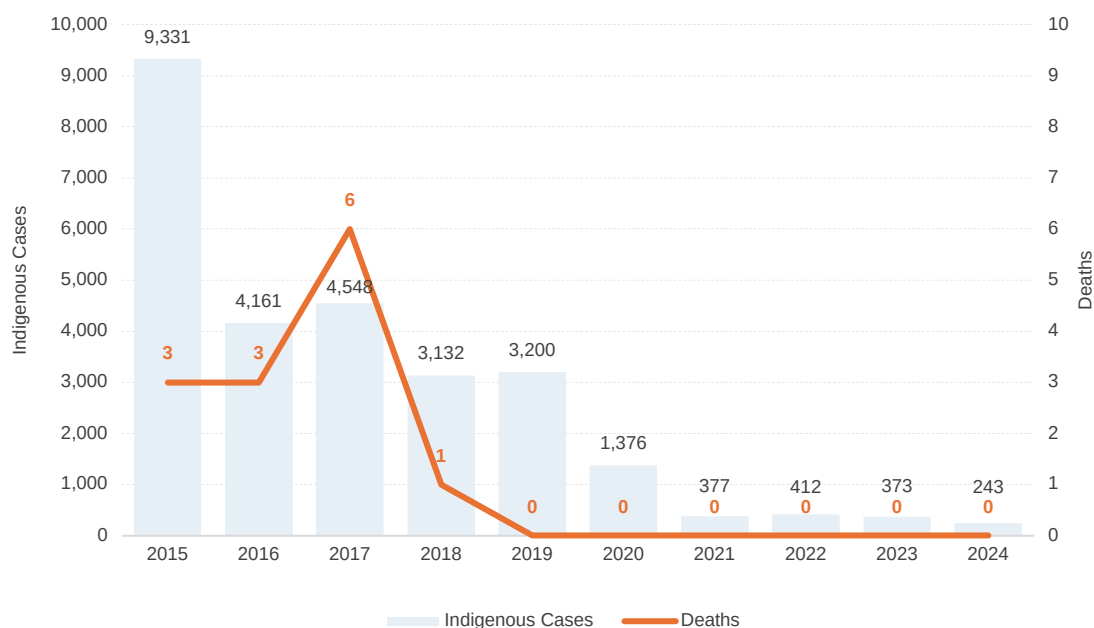
Photo: Hanoi, Viet Nam

SOCIALIST REPUBLIC OF VIET NAM



Socialist Republic of Viet Nam

Figure 1. Indigenous Cases and Deaths in Viet Nam, 2015–2024



Source: 2015–2023 data from the WHO World Malaria Report 2024. 2024 data from the WHO Mekong Malaria Elimination Programme Epidemiology Summary, Volume 29, January–March 2025.

**96%
Decrease**

**in indigenous malaria cases
between 2015 and 2024**

Key Message

On track to eliminate malaria by 2030, Viet Nam has made great progress in maintained a strong community health worker network, domestically financing 74% of its malaria programmatic needs, and demonstrated programmatic adaptability during COVID-19. Persistent outbreaks and new administrative reforms may pose as challenges.

Epidemiological Context

The Socialist Republic of Viet Nam (Viet Nam) has achieved remarkable success in reducing its indigenous malaria burden from close to 10,000 in 2015, to less than 300 a decade later.^{1,2} At the same time, the country has reported zero deaths from malaria since 2019. Well on-track to achieve its official target to be eliminate all malaria species by 2030, Viet Nam also has an intermediate goal to eliminate *P. falciparum* by 2025.³ Over the past four years (2021–2024), indigenous cases have consistently remained around 300 annually, making the final push to zero a critical challenge in this last mile toward elimination.

Geographically, transmission has become increasingly concentrated in the central and southern regions, which report 97% of all confirmed cases.⁴ Scattered foci are concentrated in Lai Châu, Khánh Hòa, Gia Lai, Đắk Lắk and Đắk Nông provinces.^{5,d} Additionally, Viet Nam has witnessed several persistent malaria outbreaks in the past few years. This includes a large, year-long outbreak of *P. malariae* in Khanh Vinh District, Khánh Hòa Province that began in 2023,⁶ as well as a 2019 outbreak of *P. vivax* malaria in Lai Châu, a province bordering China, that lasted several years.⁷ Populations at the highest risk are forest and forest-fringe inhabitants, particularly ethnic minority groups, mobile and migrant workers, as well as seasonal workers accessing remote forested areas.⁴

^d Province names are as of 2024, before 63 provinces were merged into 34 provinces in 2025.



The National Response

Guided by the *National Strategic Plan on Malaria Control and Elimination (2021 – 2025)*,⁴ Viet Nam's national malaria programme operates through a sophisticated multi-tiered institutional framework that balances centralized technical leadership with significant decentralization to provincial and local levels. At the national level, the Ministry of Health serves as the apex authority, issuing major policy decisions through formal directives including Decision 741/2016 establishing the 2-3-7 surveillance strategy and Decision 4922/2021 refining this to the current 2-7 approach.⁸ The National Institute of Malariology, Parasitology and Entomology (NIMPE) serves as the primary technical authority and provides technical direction to two Regional IMPEs – IMPE Quy Nhon serving Central Viet Nam and IMPE Ho Chi Minh City serving Southern Viet Nam.⁹

Between 2017 and 2024, the national malaria response has been significantly decentralized following Prime Minister's Decision 1125/QĐ-TTg, which terminated national funding for provincial malaria programmes.⁹ Provincial Centers for Disease Control (PCDC) then assumed primary operational responsibility under Provincial Departments of Health supervision, while District Health Offices provided integrated curative and preventive services. At the community level, Commune Health Centers served as primary implementation points, supported by Village Health Workers in every village nationwide. In July 2025, nationwide administrative restructuring meant that District Health Offices were abolished in favour of a two-tier local governance system (Provincial- and Commune-levels).^{10,11}

Community Health Worker Network

Viet Nam's three-tier⁹ community health worker system has been fundamental to reaching remote and forest-going populations that formal health services struggle to access. The network includes Village Health Workers (VHWs), Malaria Post Workers (MPWs), and Civil Society Organization workers, with one VHW in every village nationwide focused on malaria elimination areas.⁹

To further meet the needs of the mobile and migrant populations (MMPs), Viet Nam also set up community malaria action teams in 86 vulnerable communities. These teams provide comprehensive services including long-lasting insecticidal hammock nets (LLINs) distribution, surveillance operations, case referral, and community-specific education campaigns. For areas with the greatest access challenges, mobile outreach teams deliver active case detection and treatment, while engaging with the community and improving surveillance system capacity.¹² The community health worker network therefore serves as the critical link between formal health services and hard-to-reach populations, ensuring that Viet Nam's elimination efforts extend beyond clinic-based services to achieve comprehensive population coverage.

Adaptability During COVID-19

In 2021, NIMPE, in collaboration with Viet Nam's General Department of Preventive Medicine, WHO Viet Nam country office and Health Poverty Action (HPA), jointly developed the Guidelines for malaria control in the context of the COVID-19 pandemic. These guidelines enabled COVID-19-safe malaria activities through mobile outreach teams of VHWs and community volunteers. The teams provided home-based malaria testing and treatment, conducted dual fever screening for both malaria and COVID-19, and used mobile follow-up to promote antimalarial treatment adherence. As the implementing partner, HPA supported nationwide implementation through online training for health workers at provincial, district, commune, and village levels, while distributing personal protective equipment to ensure safe service delivery in endemic areas. This pivot to innovative service delivery models exemplifies how elimination programmes can adapt to maintain momentum even during global health emergencies.

⁹ As of mid-2025, Viet Nam's health system has been restructured to consist of two-tiers, rather than three.



Programmatic Integration

At a subnational level, there are efforts to integrate malaria programme activities with those of other diseases. Led by NIMPE and supported by APLMA and Clinton Health Access Initiative (CHAI), a 2023 field assessment in Bac Kan Province found that at a district level, malaria-related activities have already begun to be integrated with initiatives targeting dengue and other communicable diseases. Similarly, at the commune level, malaria-related activities have been integrated with health campaigns of dengue hypertension prevention. These integrations demonstrated the district and commune's resourcefulness and proactive approach to drive public health initiatives with limited resources, and can in turn enhance the sustainability of subnational malaria-related activities by ensuring they are efficiently run.

Subnational Domestic Resource Mobilization

There is also political commitment and investment among some provinces that are recognized as malaria-free, although such commitment is geographically uneven. In August 2023, a field assessment led by NIMPE and supported by APLMA and CHAI found that in Nghệ An province, an area that has recently achieved malaria-free status, financial investments in the local malaria programme has remained unchanged at 1 billion VND (approximately US\$40,000) for malaria in 2023. In contrast, in Bac Kan province, another malaria-free area, it was found that while provincial authorities committed to allocating an annual amount of 90 to 180 million VND (approximately US\$3,700 to \$7,400) malaria in 2023, less than 30% of the committed sum was eventually granted, leading to difficulties in mobilising domestic resources at the subnational level and risking disruption to POR activities. However, the sustained investment demonstrated by provinces like Nghệ An provides a promising model for maintaining elimination gains through consistent domestic financing, offering valuable lessons for scaling up subnational resource mobilization across all malaria-free provinces.

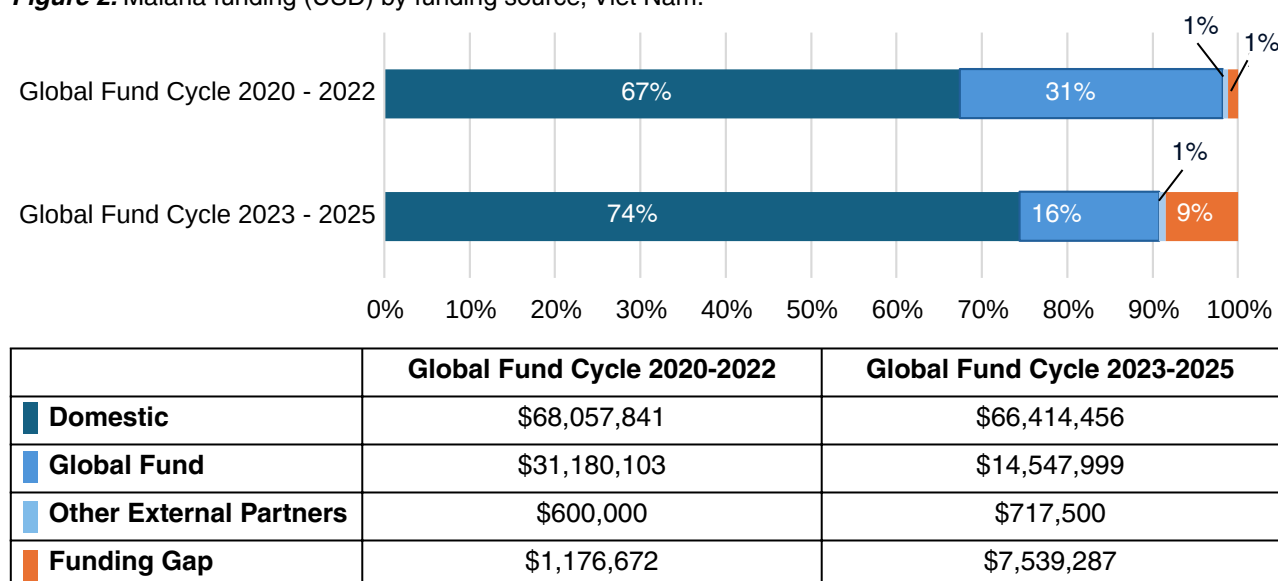


Financing the Response

Viet Nam has demonstrated remarkable progress in mobilizing domestic resources to finance malaria elimination, reflecting strong national ownership and commitment to achieving the 2030 elimination target. Currently, close to three quarters of Viet Nam's national malaria programmatic needs is domestically financed, representing a 7% increase from the last Global Fund grant cycle and signalling a clear trajectory toward financial sustainability.¹³ This upward trend in domestic financing demonstrates the government's recognition that sustained investment is essential for maintaining elimination gains and preventing resurgence.

Concurrently, Viet Nam's reliance on Global Fund support has substantially reduced by 15% between the two latest Global Fund grant cycles, illustrating successful transition planning and proactive assumption of financial responsibility by the country. Beyond the Global Fund partnership, Viet Nam also receives targeted support from several external donors and partners, including World Health Organization (WHO), Governments of Belgium and United Kingdom, Institute of Tropical Medicine in Antwerp, PATH, and CHAI.

Figure 2. Malaria funding (USD) by funding source, Viet Nam.



Source: The Global Fund Data Explorer – Multicountry East Asia and Pacific RAI, Access to Funding.



Towards 2030 - Challenges and Opportunities

Viet Nam faces a complex landscape of challenges and opportunities as it approaches last-mile elimination. The most significant challenge lies in driving persistent transmission foci to zero, as demonstrated by recent outbreaks in Khánh Hòa Province and Lai Châu Province. These outbreaks highlight the difficulty of eliminating the final cases in remote forest-fringe communities, particularly among ethnic minority populations where environmental and behavioural factors sustain low-level transmission despite conventional interventions. However, these same outbreaks have showcased Viet Nam's decisive leadership and technical response capacity. The successful deployment of mass drug administration in Lai Châu Province, achieving an 83% case reduction from 93 cases in 2023 to 16 cases in 2024, demonstrates the country's willingness to implement more radical strategies when standard approaches prove insufficient.

A significant new challenge emerged from the July 2025 administrative reforms, which merged 63 provinces into 34 larger units, combining several malaria-free provinces with malaria-endemic areas. This restructuring complicates programme coordination as previously malaria-free provinces like Ninh Thuan (merged with malaria-endemic Khánh Hòa) may lose their elimination status, requiring renewed surveillance and prevention efforts across newly combined territories. It also remains to be seen how the removal of district-level governance, including District Health Offices which historically provided curative and preventive services, may potentially disrupt existing malaria programmatic capabilities.

Nevertheless, Viet Nam possesses substantial opportunities for success. The country's comprehensive village health worker networks, adaptive and innovative malaria programme leadership, successful subnational domestic resource mobilisation by provinces like Nghệ An, all provide an excellent foundation. High-level political commitment, demonstrated through the Prime Minister's 2030 pledge, ensures continued prioritization and creates favourable conditions for achieving the elimination target.

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