Vietnam Malaria Transition and Sustainability Assessment

October 2021

Malaria Elimination Initiative

UCSF

Institute for Global Health Sciences

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Recommended citation
The Institute of Malariology, Parasitology and Entomology and the UCSF Malaria Elimination Initiative. (2021). *Vietnam Malaria Transition and Sustainability Assessment.* San Francisco: The Malaria Elimination Initiative at University of California, San Francisco; Hanoi: The Vietnam Institute of Malariology, Parasitology and Entomology.

Produced in the United States of America. October 2021.

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Cover image: In Vietnam's Tay Ninh province, a mosquito net distribution campaign is giving more children the chance to grow up without falling ill with malaria. Photo courtesy of The Global Fund / Mattingly.

NIMPE has a responsibility for doing scientific research, training and international cooperation in malaria, vector-borne and parasitic diseases, entomological vector control services, health education and behavior change. NIMPE provides technical guidance and the national and sub-national level. Over the past 64 years, NIMPE has excelled in its functions and responsibilities of reducing malaria morbidity, mortality, malaria outbreaks and the morbidity of parasitic diseases throughout Vietnam. The control of malaria and parasitic diseases has made active contribution to the protection and improvement of people's health in Vietnam.

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The Malaria Elimination Initiative (MEI) at the University of California San Francisco (UCSF) believes a malaria-free world is possible within a generation. As a forward-thinking partner to malaria-eliminating countries and regions, the MEI generates evidence, develops new tools and approaches, disseminates experiences, and builds consensus to shrink the malaria map. With support from the MEI's highly-skilled team, countries around the world are actively working to eliminate malaria.

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Foreword

With the leadership and commitment of the Government of Vietnam and the National Institute of Malariology, Parasitology and Entomology (NIMPE), Vietnam has made remarkable progress in malaria control over the past decade. From 2000 to 2020, malaria cases declined by 98.1% and malaria deaths declined by 99.3%. The Government of Vietnam has now set the important ambition of eliminating *P. falciparum* by 2025 and achieving malaria elimination by 2030.

To achieve elimination, Vietnam will need to manage several challenges including lack of sufficient resources for elimination and prevention of re-establishment, tackling insecticide and drug resistant malaria, and reaching the vulnerable, high-risk forest going and migrant populations where malaria remains concentrated. NIMPE is leading Vietnam's elimination efforts with the support of international and local partners. Due to advancements in malaria control, Vietnam will likely face a decline in international financial support for the malaria program in the coming years. Preparing for this transition is critical to ensure we achieve our elimination goals.

NIMPE partnered with the University of California, San Francisco's (UCSF) Malaria Elimination Initiative (MEI) to develop a collaborative assessment of sustainability and transition for Vietnam's national malaria program. The development of this Sustainability Assessment was informed by NIMPE's leadership and critical inputs from representatives of government, global health partners, civil society and private sector actors. Given the multiple demands on domestic financing – including managing COVID-19 – NIMPE is grateful for the opportunity to work with UCSF MEI and others to find sustainable solutions for malaria elimination.

On behalf of NIMPE, I would like to thank UCSF MEI and the stakeholders who contributed to this assessment for facilitating a consultative assessment and for generating practical recommendations. NIMPE appreciates the perspectives of WHO, various implementing partners including civil society organizations involved in the RAI3 program, as well as private sector partners who are also reaching communities at risk of malaria. The findings and suggested next steps outlined in this report will help the Government of Vietnam and NIMPE achieve malaria elimination.

Sincerely,

Dr. Tran Thanh Duong, Associate Professor
Director of NIMPE

Acknowledgments

The development of this report was co-led by the National Institute of Malariology, Parasitology and Entomology and the UCSF Malaria Elimination Initiative, under the guidance of Dr. Tran Thanh Duong (Director, NIMPE), Dr Nguyen Quang Thieu (Deputy Director, NIMPE) and Dr. Ngo Duc Thang (Chief of Epidemiology, NIMPE). We would like to thank the UCSF MEI assessment team, especially lead consultant Josselyn Neukom, for their work to adapt the assessment tool for use in Vietnam, collect and analyze assessment data, and facilitate dialogue with NIMPE and other partners to generate the policy and program recommendations included in this report. The assessment team included Josselyn Neukom, Hue Nguyen, Naomi Beyeler, Vanessa Elias and Sara Fewer. We express our gratitude to the Bill & Melinda Gates Foundation for supporting this assessment. We would also like to acknowledge critical contributions from the Global Fund and the Country Coordinating Mechanism as well as WHO Vietnam, civil society organizations and other stakeholders who shared their perspectives and contributed to the assessment findings and related recommendations outlined in this report.

Acronyms

AMR	Antimicrobial Resistance
CDC	Centers for Disease Control
CHAI	Clinton Health Access Initiative
CSO	Civil Society Organization
DAV	Drug Administration of Vietnam
eCDS	Electronic Communicable Disease Surveillance
GAC	Grant Approvals Committee
GDPM	General Department of Preventive Medicine
Global Fund	The Global Fund to Fight AIDS, Tuberculosis, and Malaria
GMS	Greater Mekong Subregion
GOPFP	General Office for Population and Family Planning
HCMC	Ho Chi Minh City
HPA	Health Poverty Action
IMPE	Institute of Malariology, Parasitology, and Entomology
INGO	International Non-Government Organization
LLIN/LLIHN	long-lasting insecticide-treated bednet or hammock
MOF	Ministry of Finance
MOH	Ministry of Health
MOPI	Ministry of Planning and Investment
NMCP	National Malaria Control Program
NIMPE	National Institute of Malariology, Parasitology and Entomology
PSI	Population Services International
RAI	Regional Artemisinin-resistance Initiative
RDT	Rapid Diagnostic Test
TRP	Technical Review Panel
TWG	Technical Working Group
UCSF MEI	University of California San Francisco Malaria Elimination Initiative
UNOPS	United Nations Office for Project Services
VAMS	Vietnam Administration of Medical Services
VHW	Village Health Workers
VIHEMA	Vietnam Health Environmental Management Agency
WHO	World Health Organization

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Executive Summary

During the first half of 2021, the National Institute of Malariology, Parasitology and Entomology (NIMPE) and the University of California, San Francisco Malaria Elimination Initiative (UCSF MEI) jointly conducted a Sustainability and Transition Readiness Assessment to support Vietnam's malaria response as the country navigates the expected decline and eventual end of international donor financing for the malaria program. The Assessment responds to technical reviewer feedback from The Global Fund to Fight AIDS, Tuberculosis, and Malaria (Global Fund) regarding Vietnam's RAI3 grant. The Assessment informs planning and implementation of strategies to ensure the long-term sustainability of the malaria response with reduced levels of international donor funding expected after 2023. The Assessment was based on the Sustainability and Transition Readiness Assessment for Malaria Guidance Manual and Tool, developed by UCSF MEI and adapted for the Vietnam context in consultation with NIMPE.

The key findings and recommendations of the Vietnam Transition Assessment, discussed with NIMPE and the Global Fund during a May 2021 workshop, are summarized here.

Over the past decade, the Government of Vietnam invested heavily in malaria elimination, to great success – in 2020, the country had only 1,422 malaria cases and one malaria death, a dramatic reduction from nearly 20,000 cases in 2012. Yet domestic financing for the malaria program has declined by 30% in 2021 compared to previous years. Donor funding, particularly from the Global Fund, supports a significant share of all malaria program costs (approximately 75%). Without increased domestic budget allocation to support elimination, the gap between current costs and financing is projected to grow following the RAI3 grant period (2021–2023) when support from the Global Fund is expected to decline.

Several program areas are heavily reliant on Global Fund support including the national program's procurement of vector control, diagnostic and some malaria treatment commodities; training and other quality assurance activities; civil society and private sector engagement efforts to expand services to high-risk communities including migrant and mobile, forest-going, and ethnic populations; and public sector village health worker activities to provide community-level malaria outreach.

To achieve Vietnam's commitment to eliminate all forms of malaria by 2030, additional domestic financing will need to be secured and program efficiency enhanced beyond 2023. In the context of the potential integration of NIMPE within Vietnam's preventive and primary care public health system, malaria budget advocacy efforts will likely need to be planned in collaboration with NIMPE and the Ministry of Health (MOH).

Key opportunities to strengthen the financial sustainability of Vietnam's malaria program beyond 2023 include:

1. Leverage Vietnam Prime Minister's commitment to eliminate malaria by 2030 to mobilize leaders from the MOH, Ministry of Finance (MOF), and Ministry of Planning and Investment (MOPI) to support advocacy for domestic financing to achieve and sustain elimination in the face of declining external resources.
2. Create a dedicated and intensified advocacy effort, to help NIMPE engage leaders within key ministries including but not limited to the MOH, with support from a global health partner with high-level advocacy experience and high-level, cross-ministerial relationships.
3. Accelerate both national and provincial budget advocacy activities, acknowledging the growing role of provincial governments in health financing.
4. Learn from the HIV program's successful effort to mobilize domestic resources following donor transition.
5. Consider an innovative tax to support malaria and other disease priorities.

Domestic resource mobilization efforts should be paired with strategies to target the highest impact interventions to the highest burden areas. This may improve the value of malaria investments while reducing total financing requirements.

1. Identify prioritized malaria activities in highest burden areas and align budget requests with more targeted strategies.

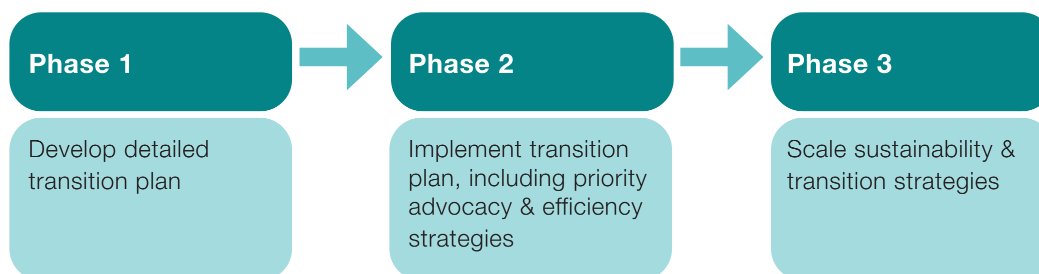
2. Leverage World Health Organization's (WHO) independent technical expertise to identify opportunities to align program activities with approaches and areas most likely to achieve elimination.
3. Integrate malaria health workers within the broader community health program to reduce administrative and financial costs of delivering multiple health products, services and information to underserved communities.
4. Assess opportunities to further integrate the malaria surveillance system into the national health surveillance system.
5. Coordinate with other public health and/or development programs targeting the same communities and manage the risk of overlapping partner scopes and budgets to reduce costs.

Assess the potential of distribution, policy, and regulatory reforms to facilitate the availability of affordable, high quality malaria commodities for elimination and prevention of reestablishment.

1. Conduct an independent review by an experienced private sector supply chain agency and reconciliation of the current malaria product distribution system and cost structure.
2. Advocate to remove or reduce the custom duty for commercial importers of long-lasting insecticide-treated bednet or hammock (LLIN/LLIHN) products to facilitate greater private sector contributions to vector control program goals.
3. Ensure regulatory and policy chain processes are transparent and timely in prioritized cases related to elimination.
4. Assess policy context against WHO-recommended high-impact interventions and address any policy barriers to recommended actions.

In addition to the above strategic actions, greater collaboration with the Global Fund to plan for and implement transition strategies will be critical to a successful transition and continued progress towards elimination. A key first step is the establishment of a clear timeline and anticipated scale and phasing of the decline in Global Fund financial support for Vietnam's malaria program. This critical step will help NIMPE and its partners align all relevant ministries around the need to accelerate domestic financing advocacy. As stakeholders consulted during the assessment phase explained, without more clarity about the timeline and levels of funding decrease, it is difficult to make a compelling case for increased domestic financing.

Vietnam's pathway to sustainability



Introduction

The Importance of Sustainability for Vietnam's Malaria Response

Vietnam has achieved remarkable progress in malaria control with technical leadership and domestic financing support from the Government of Vietnam and the financial and technical support from international global health partners. The goal of the Vietnam National Strategic Plan for Malaria Control and Elimination, which guides national and subnational-level implementation of the National Malaria Program, is to actively control malaria in moderate and high endemic areas and to eliminate malaria in low-burden areas. Vietnam achieved all targets set for 2020 including reducing morbidity below 0.15 per 1,000 population and reducing mortality below 0.02 per 100,000 population. Going forward, the National Strategic Plan for Malaria Control and Elimination 2021–2025 includes goals of eliminating *P. falciparum* by 2025 and achieving malaria elimination by 2030. Vietnam's Prime Minister, together with senior leaders across Asia Pacific, recommitted to eliminating malaria by 2030 at the 14th East Asia Summit held in Bangkok, Thailand in 2019.

While Vietnam has made extraordinary progress, several challenges remain to achieve malaria elimination, including drug resistance, a relatively high proportion of *vivax* malaria cases, and the need to ensure coverage of effective interventions among high-risk populations such as mobile and migrant and forest-going populations. The COVID-19 pandemic and shifting domestic health investment priorities pose additional new threats to the achievement of malaria elimination as of 2021.

Achieving and sustaining malaria elimination goals in Vietnam will require targeting of impactful elimination activities; new vector control, diagnostic and treatment product access; and programmatic innovation, partnerships, and community engagement. NIMPE leads Vietnam's elimination effort with the collaboration of local and international partners. The Global Fund is the largest external donor of malaria activities in Vietnam, currently supporting national and regional malaria elimination and health system strengthening activities through the Regional Artemisinin-resistance Initiative (RAI). As Vietnam and other countries in the Greater Mekong Subregion (GMS) move towards elimination and experience continued economic growth, the Global Fund is considering a gradual reduction of malaria funding support for Vietnam and other countries in the GMS. This transition from donor to domestic financing for the malaria response poses unique opportunities and risks for Vietnam.

Successfully managing a sustainable transition from external donor funding is critically important to protect gains and ensure continued progress towards elimination. In fall 2020, the Global Fund Technical Review Panel (TRP) and Grants Approval Committee (GAC) identified "*uncertain mid and long-term financial sustainability*" as a key issue for the RAI3 grant, noting, *"For the regional initiative to be deemed successful, it needs to have a clear path towards sustainability."* In response, the TRP/GAC issued a requirement for RAI countries to conduct a transition assessment. UCSF MEI partnered directly with NIMPE to help them fulfill this requirement.

Without adequate planning, donor transition – no matter how gradual the pace – can leave countries at risk of service interruptions and even disease resurgence. However, Vietnam's experience successfully managing the government's transition from donor funding for HIV provides a foundation for the malaria program to build from. In this context, transitioning to reduced reliance on external funding presents opportunities for Vietnam to strengthen the long-term sustainability of the malaria response and progress towards Vietnam's malaria elimination goal.

Scope and Purpose of this Report

During the first half of 2021, NIMPE partnered with UCSF MEI to conduct a sustainability and transition assessment for Vietnam's malaria elimination program. The goal of the Vietnam malaria sustainability and transition assessment was to develop actionable evidence to inform Vietnam's strategies to transition to increased domestic financing for the malaria program

in the context of expected reduction in external funding. Objectives included:

- Identify malaria program and health system strengths, challenges, and opportunities anticipated with reductions in donor funding for malaria
- Prioritize main challenges for achieving and sustaining malaria elimination in the context of reduced donor funding
- Facilitate multi-stakeholder dialogue to ensure accurate, inclusive, and actionable findings, including government (health and non-health), global health partners, civil society, and private sector perspectives
- Meet Global Fund TRP/GAC requirement to complete a transition assessment

This report summarizes the findings of the assessment in the following sections:

- Methods
- Findings of the sustainability and transitions assessment
- Strategies to support Vietnam's transition
- Annexes

The assessment and report were supported by funding from the Bill & Melinda Gates Foundation.

Methods

The Vietnam Sustainability and Transitions Readiness Assessment was conducted using the UCSF MEI's *SUSTAIN Transition Readiness Assessment Tool for Malaria*. The SUSTAIN tool uses a mixed methods approach to examine a range of program and health system indicators that relate to transition, including malaria financing, leadership and management, the health workforce for malaria, supply chain, malaria program integration, and specific program activities including services for high-risk populations. During February and March 2021, NIMPE and UCSF MEI agreed on adaptations of the SUSTAIN tool for the context of Vietnam, including tailored indicators, questions, and list of key informants determined to be relevant to Vietnam's health system and stakeholder landscape. The following sections describe collection and analysis of quantitative and qualitative data.

Quantitative Data Review and Analysis

Review and secondary quantitative data analysis was completed on data related to Vietnam's health system, health workforce, and malaria program financing. Quantitative data was collected from the national program, donor grant budgets, and one sub-national health office in Binh Phuoc province. A full list of data sources reviewed can be found can be found in Annex A.

Qualitative Data Collection and Analysis

Key informant interviews were conducted with malaria program and government representatives at the national, regional, and provincial levels; international and local civil society organizations (CSOs) supporting program implementation; and donors, global health experts and private sector representatives. Key informants were identified in consultation with NIMPE. Interview questionnaires were developed in consultation with NIMPE using a multi-step process. Aa a first step, an initial master list of questions was developed by tailoring the standard SUSTAIN questionnaire for the Vietnam context. This list was translated into Vietnamese and modified in consultation with NIMPE during multiple meetings used to discuss and revise questions together. The final, dual-language master questionnaire was used to tailor distinct questionnaires for use with each major type of respondent. The list of interview participants can be found in Annex B.

Identification of Key Findings

In May 2021, NIMPE, the Global Fund, and UCSF MEI participated in a Transition Workshop to review and discuss draft findings and recommended strategies to support sustainability. During this meeting, NIMPE provided inputs to clarify findings, and the Global Fund shared insights to inform the next stages of sustainability and transition planning. Building from the workshop discussion, UCSF MEI and NIMPE further developed the analysis and key findings. UCSF MEI met with NIMPE to review the quantitative data in detail and verify the accuracy of summary figures and tables. In addition, the qualitative results and key findings were further refined to inform the summary included in this report.

This report reflects the findings of the Assessment activities and the consultations described above, as developed collaboratively with UCSF MEI and NIMPE.

Limitations

This report provides an overview of considerations for the Vietnam malaria response during transition and reflects the perspectives of NIMPE and several of its local and international partners. However, the findings described in this report are limited by several factors. Firstly, the COVID-19 pandemic impacted the ability to conduct qualitative data analysis. While Binh Phuoc and Hoa Binh provinces were selected by NIMPE to participate in the assessment, it was not possible to conduct interviews in Hoa Binh province due to a COVID-19 outbreak. While most interviews with national malaria program representatives were conducted in-person, with the exception of Institute of Malaria Parasitology and Entomology (IMPE) Quy Nhon, all other interviews were conducted virtually due to COVID-19 travel restrictions. Interviews with Government of Vietnam representatives were limited to NIMPE, IMPE, and provincial Centers for Disease Control (CDC) respondents. Despite introductory letters sent by NIMPE, other Ministries and MOH representatives did not respond to

requests for interviews. Unsuccessful attempts were made to interview stakeholders from the Vietnam Administration of Medical Services (VAMS), the General Department of Preventive Medicine (GDPM), and the Vietnam Health Environment Management Agency (VIHEMA) under the MOH, as well as representatives at the MOF and the Ministry of Ethnic Minorities. The Assessment's inability to include input from Government representatives outside of the national malaria program limits the extent to which findings can inform multi-sectoral and national health system-level conclusions regarding challenges and opportunities related to securing domestic financing for malaria beyond the 2021–2023 Global Fund support. Third, financial data was collected from malaria awards managed by the national malaria program and sub-recipients of the Global Fund RAI3 award, however, did not include malaria funding managed outside national malaria program. Therefore, the total malaria program costs described here likely underestimate full costs of implementation and research contributing to Vietnam's elimination effort as of 2021.

Malaria Elimination Context

Malaria Trends

Malaria morbidity and mortality in Vietnam decreased significantly between 2000 and 2020, with a 98.1% decline in malaria cases and a 99.3% decline in malaria deaths. As of 2020, 35 of the 63 provinces in Vietnam are considered malaria-free, and the country has met all the malaria targets set for 2020 including achieving morbidity below 0.15 per 1,000 population, mortality below 0.02 per 100,000 population and malaria elimination in at least 35 provinces.

The Government of Vietnam is now committed to eliminating malaria by 2030. NIMPE is working diligently with regional IMPEs, provincial-level health departments, and global health partners to reach that goal. The number of reported cases decreased from 9,331 cases in 2015 to 4,811 cases in 2018 to just 1,422 cases in 2020. Malaria deaths decreased from 3 in 2016 to 0–1 deaths annually since 2018. There have been no malaria outbreaks since 2010 (Table 1). Vietnam's malaria cases are caused by *P. falciparum* (58% in 2020) and *P. vivax* (41% in 2020).

Elimination activities are guided by the National Strategic Plan on Malaria Prevention and Elimination, Period 2021–2025 which builds on the previous accomplishments of the national program (Box 1). This plan focuses on actively controlling malaria in moderate and high endemic areas (Southern and Central provinces) and to eliminate malaria in low burden areas (Northern provinces).

The COVID-19 pandemic has affected malaria program activities and strained the health system, although data through the first quarter of 2021 suggests malaria caseloads have continued to decline during the pandemic. Vietnam's investment in controlling COVID-19 and responding to other other public health priorities such as tuberculosis and HIV, may be one of the reasons that national budget allocation for the malaria response has declined in the past two years.

Box 1. 2021–2025 National Strategic Plan targets

- Eliminate *P. falciparum* in all provinces
- Reduce malaria morbidity rate to below 0.015/1,000 population
- Reduce malaria mortality rate to below 0.002/100,000 population
- Increase malaria elimination from 35 to 55 provinces
- Prevent future malaria outbreaks

Table 1. Key malaria statistics in Vietnam, 2000–2020

	2000	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Malaria confirmed cases	74,329	17,515	16,612	19,638	17,128	15,752	9,331	4,161	4,548	4,813	4,665	1,422
Malaria deaths	148	21	14	8	6	6	3	3	6	1	0	1
Number of outbreaks	2	5	0	0	0	0	0	0	0	0	0	
Morbidity (/1,000 pop)	3.84	0.62	0.52	0.49	0.39	0.3	0.21	0.11	0.09	0.07	0.06	0.02
Mortality (/1,000 pop)	0.19	0.02	0.02	0.01	0.01	0.01	0.003	0.003	0.006	0.001	0	0.001

Sources: National Malaria Program Review - Vietnam; RAI Grant

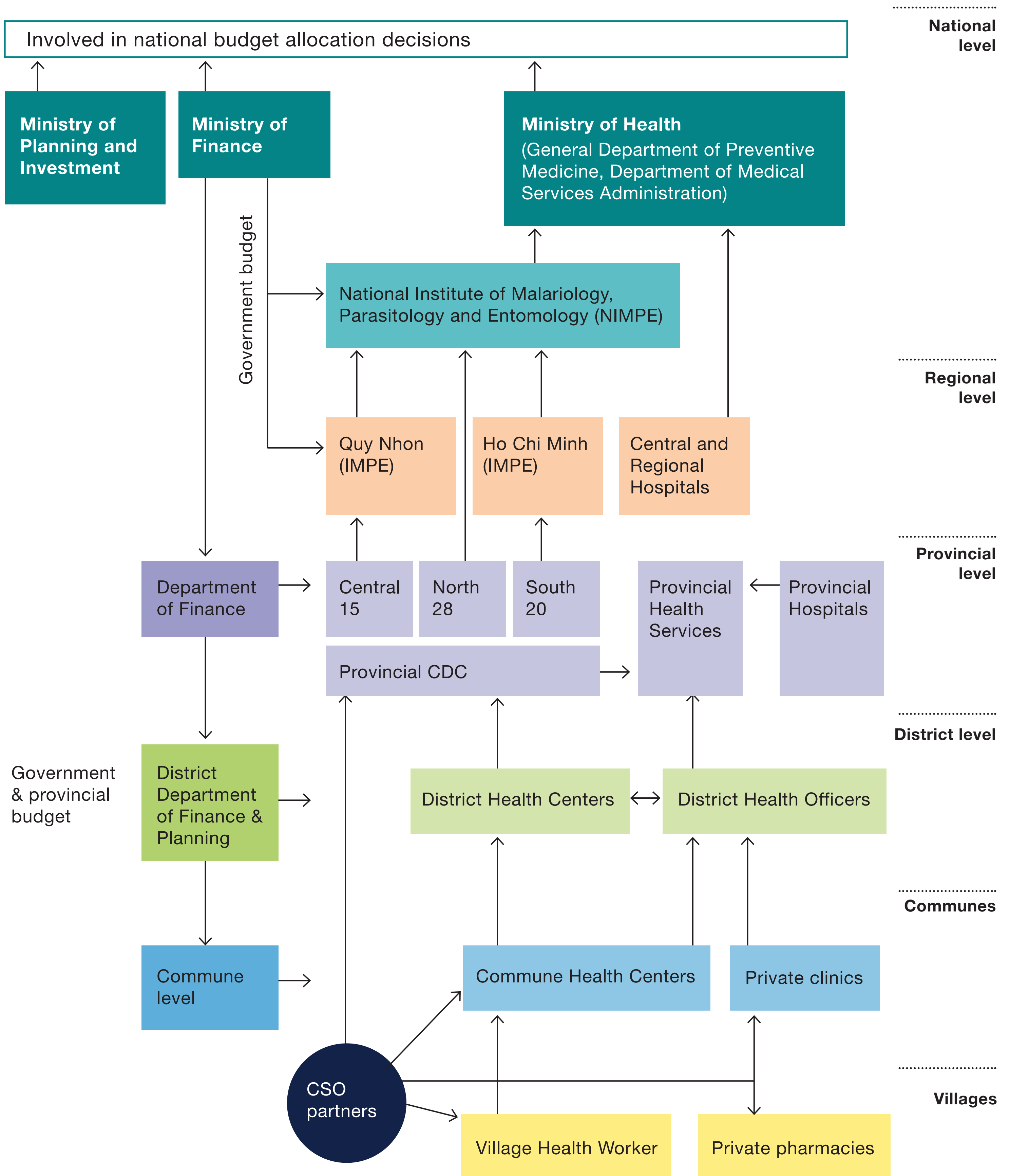
National Malaria Program Structure

NIMPE is responsible for technical oversight of the national malaria program including national guideline development and review as well as surveillance system design, maintenance, and use (Figure 1). National planning and coordination efforts are organized by NIMPE with inputs from IMPEs, provincial CDC and WHO prior to seeking further technical inputs from departments within the MOH. Technical Working Groups (TWG) – for Surveillance, Case Management and Vector Control – are largely managed by NIMPE with active participation from IMPEs, WHO and other technical stakeholders. The Elimination Committee included representatives from NIMPE, IMPE, GDPM, Drug Administration of Vietnam (DAV), and VAMS but has not met for several years. CSOs are not routinely invited to TWG discussions, with some exceptions.

At provincial level, malaria program oversight is integrated with other preventive health programs under the CDCs (a change that went into effect in 2017). As a result, the provincial Centers for Malaria Control were integrated into the CDC and there is no longer a specific department for malaria at the provincial level. Similar integration at national level is being considered by the MOH in 2021. Both IMPEs and NIMPE receive proposed plans from all 63 provinces to review and identify priorities for each year. NIMPE and both IMPEs are currently heavily involved in provincial level program oversight and implementation in several cases, including training, quality assurance/program monitoring and surveillance.

Preventive medicine reforms being planned at the time of this assessment are expected to impact NIMPE's responsibilities relative to IMPEs and the General Department of Preventive Medicine (GDPM) within MOH. There are ongoing discussions about possible integration of multiple preventive health agencies/ units at national and regional levels similar to the way that integrated CDCs were formed to cover multiple health issues including malaria. If this happens, NIMPE could be integrated with GDPM together with the other preventive national agencies (i.e., Vietnam Administration for HIV/AIDS Control and GOPFP), whereas IMPEs could be integrated with Pasteur Hygiene & Vaccination Institution, or together with NIMPE and the other national preventive agencies. The potential of integrating zoonotic or tropical diseases or dengue into NIMPE's mandate has been discussed, but the likelihood of an expanded mandate is currently unclear.

Figure 1: Health system structure in Vietnam



Findings of the Sustainability and Transition Assessment

Leadership and Political Will

To achieve Vietnam's national commitment to eliminating malaria by 2030, political support from high-level leaders within the Government is needed. Support from leaders of the MOH, MOF, and the General Assembly will be needed to secure approval for greater allocation of national budget support for elimination. NIMPE will have a critical role to play in advancing domestic financing support for malaria by taking a leadership role in advocacy at the higher levels of the MOH, MOF, and with the Prime Minister. Experience from the HIV program highlights the potential for political will at the highest levels of leadership to secure commitment to integrating public health program costs into national insurance and other national budget items.

Difficulty engaging representatives from Government agencies and Ministries outside of the national malaria program in this assessment may reflect a need for more deliberate engagement and advocacy strategies in the future, ideally facilitated by an independent partner with pre-existing relationships with government leaders, building on learnings from the successful approach used by the HIV program.

"In Vietnam the malaria program's achievements are part of the challenge – with achievement, it becomes harder to capture the attention of decision makers who are primarily focused on the diseases generating the highest rates of morbidity and mortality."

Strong relationships between senior leadership and policy decision-makers are needed to propel advocacy at the national and subnational level and secure increased domestic financing for malaria. At the national level, collaboration between MOH and NIMPE leaders is needed; however, given the multiple priorities being overseen by NIMPE, targeted support for advocacy may be helpful. Similarly, at provincial level, relationships between CDC and Peoples' Committees can facilitate effective advocacy for provincial budget allocation for malaria.

Political will to increase domestic resource allocation for malaria is needed at two levels of Vietnam's governmental system.

First, at the national level, General Assembly approval for resource requests aligned with the annual malaria strategy requires political will and support from senior representatives within the ministries for health, finance, and planning and investment. To secure this support, strong political will within NIMPE and the GDPM is needed to actively advocate on behalf of the malaria program's resource needs.

Second, at the subnational level, political will from the provincial People's Committees is needed to allocate provincial budget support for malaria program costs. Active and compelling advocacy by provincial CDC representatives is needed to convince provincial People's Committees to allocate provincial resources in the context of Vietnam's decentralized budget allocation process. As 2021 was the first year that provincial budgets were asked to cover partial malaria program costs, no data is yet available on the impact of this change on the malaria budget.

"INGO support for transition project will be key to support transparent tracking of progress and high-level engagement with decision-makers within and beyond the MOH. The partner selected should be able to dedicate quality national staff who understand the government system and have pre-existing relationships with high-level leaders MOH and other Ministries, to help NIMPE to guide the advocacy process and organize successful round-table discussions with participation from senior officials from the MOH, MOF and MOPI"

Box 2. Key advocacy components informed by the HIV program's successful transition to increased domestic financing:

- Active engagement with the Minister of Health or Deputy Minister responsible for malaria through NIMPE-organized roundtable discussions is needed to present a compelling advocacy case to MOH leadership
- Advocate convincingly with the Department of Planning & Finance within the MOH for malaria resource needs
- Organize a round-table discussion, co-led by NIMPE and MOH leadership, with MOF and MOPI to explain national budget allocation needs and plan advocacy messages
- Involve international NGO with high-level connections and experience negotiating with the MOH and other ministry leaders
- Leverage international donor representative advocacy with senior government representatives to explain specific timeline and tentative reduction in funding. PEPFAR/USAID Vietnam made multiple, high-level presentations to GOV over a multi-year period in advance of reduced funding which were viewed as successfully motivating MOH advocacy for domestic financing of antiretroviral therapy and methadone

Finance

Sources of finance

As of 2021, the malaria response in Vietnam is primarily financed by the Government of Vietnam and the Global Fund. The Government of Vietnam has made significant investments in the national malaria program, however funding for malaria from Vietnam's national budget is declining. Currently, Vietnam's national health insurance program does not cover malaria prevention, diagnostic, or treatment costs, making the malaria program costs fully reliant on annual government and donor budget allocations.

Domestic financing support for malaria program costs decreased by 30% in 2021 compared to the annual average during the period 2016–2020. Recent national budget support requests made by NIMPE and IMPEs have not been met with approved MOH budget support. The gap in requested versus allocated funding is in some cases sizeable, and routine domestic financing is insufficient to cover the requested current costs of the malaria program. For example, in 2021 IMPE Quy Nhon requested VND 29 billion for program costs and was approved VND 6 billion by the MOH. There are several factors contributing to the domestic financing gap for malaria at the national level including the allocation of health resources to the COVID-19 pandemic response; the shift towards provincial financing for malaria and other community health priorities; and the need for the MOH to balance competing priorities with a limited health budget. For instance, while the tuberculosis and HIV programs have both received increased levels of national budget support, malaria has not received a comparable increase, in part because of the higher burden and mortality rates of these other diseases.

Vietnam has recently issued official guidance shifting budget allocation decisions for all preventive health issues to the provincial level. In July 2017 the Prime Minister (Decision 1125/QD-TTg) ended national level financial support for malaria programming at the provincial level. Following this decision, provinces are responsible for allocating provincial budgetary support to co-finance malaria program implementation together with Global Fund and other donor contributions. In November 2020, the National Assembly approved a resolution requiring provincial budgets to allocate at least 30% to preventive health issues.

The Global Fund currently supports 77% of the total annual malaria program costs managed by NIMPE or UNOPS. The Global Fund has committed over US$ 560 million to Vietnam to tackle HIV, TB, and malaria. Since 2002, the country has received US$ 414 million in Global Fund support, $123 million of which supported the malaria program, including three rounds of funding through the RAI (Table 2). The overwhelming majority of Global Fund financing for malaria between 2018–2023 has been allocated to the public sector through Vietnam's vertical malaria program, although the proportion allocated to civil society partners increased from 13% during the 2018–2020 period to 17% between 2021 and 2023. Under RAI3, there are three CSO sub-recipients: VietMCI, Vietnam Public Health Association (VPHA) and Health Poverty Action (HPA). Moderate amounts of additional donor support to NIMPE comes from WHO for malaria research, training, and guideline development, and the Bill & Melinda Gates Foundation for research, private sector engagement, and technical assistance provided by implementing partners such as PATH, Clinton Health Access Initiative (CHAI), and Population Service International (PSI).

Table 2. Global Fund Support to Vietnam for Malaria, 2005–2023

Grant	Implementing years	Funding (USD)
VNM-304-G03-M	2005–2008	$21,177,956
VTN-708-G06-M	2009–2015	$29,278,408
RAI	2016–2017	$12,158,504
RAI2E - Enhancing communityparticipation in malaria elimination in Vietnam	2018–2020	$32,533,008
RAI3	2021–2023	$28,404,270
Total		**$123,552,146**

Source: https://data.theglobalfund.org/investments/location/VNM/Malaria#grants; The Global Fund Vietnam Office

Funding for key program areas

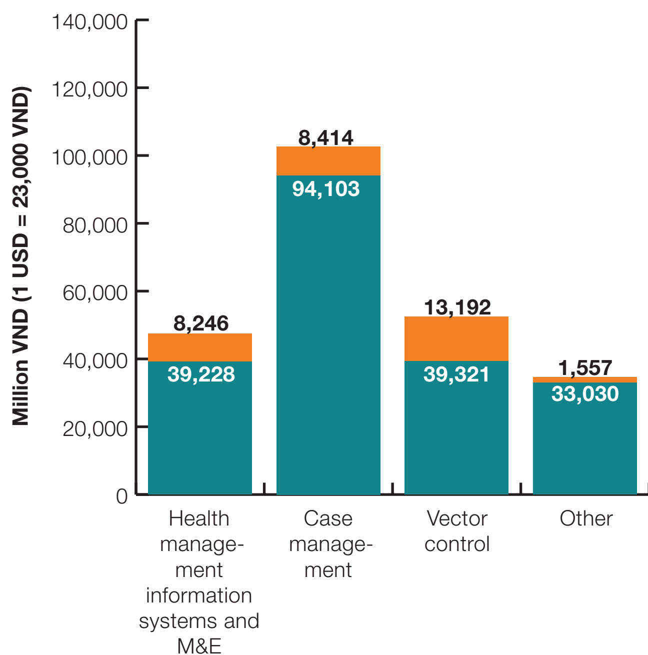
Several areas of the malaria program are heavily reliant on Global Fund funding (Figure 2). For example, procurement of vector control, malaria diagnostic, and treatment medicine – commodities that are critical to achieving and sustaining malaria elimination – are close to fully reliant on Global Fund support currently.

The Global Fund RAI supports the national malaria program, provinces, and CSO partners to implement malaria program activities, including some health workforce costs (Figure 3). From 2017 to 2020, most RAI funding supported case management, program management, health management information systems, and monitoring and evaluation costs. For the year 2021, most Global Fund financing is planned to support case management and vector control activities, including commodity procurement (procurement and distribution of LLIN represents 93% of vector control budget line for example). Health management information systems, monitoring and evaluation, and program management are receiving less Global Fund support compared to the previous three-year period.

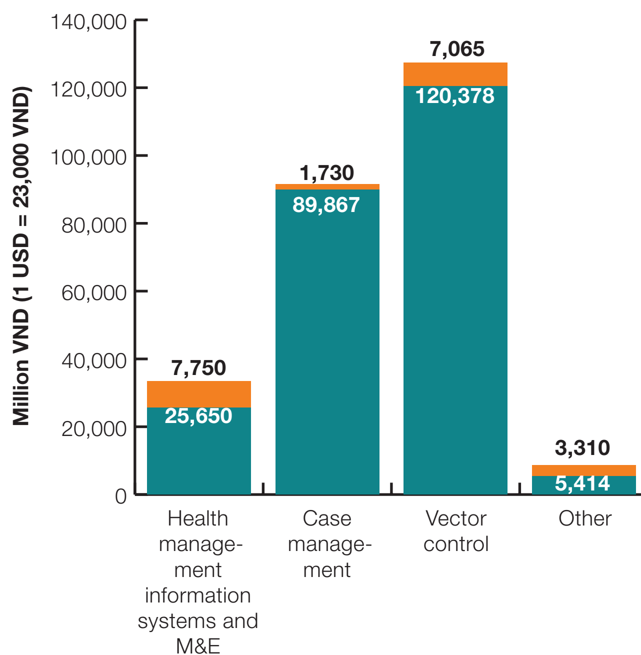
Between 2017–2020, 42% of domestic financing for malaria was allocated to cover vector control costs, 27% for case management, and 26% for health management information systems (Figure 4). Domestic government financing also supports malaria workforce costs, which is discussed further below. Domestic financing has not supported civil society contributions to the malaria program to date.

Figure 2. Sources of NIMPE finance, by program area and funding source, 2017–2021

a. Average funds from 2017–2020



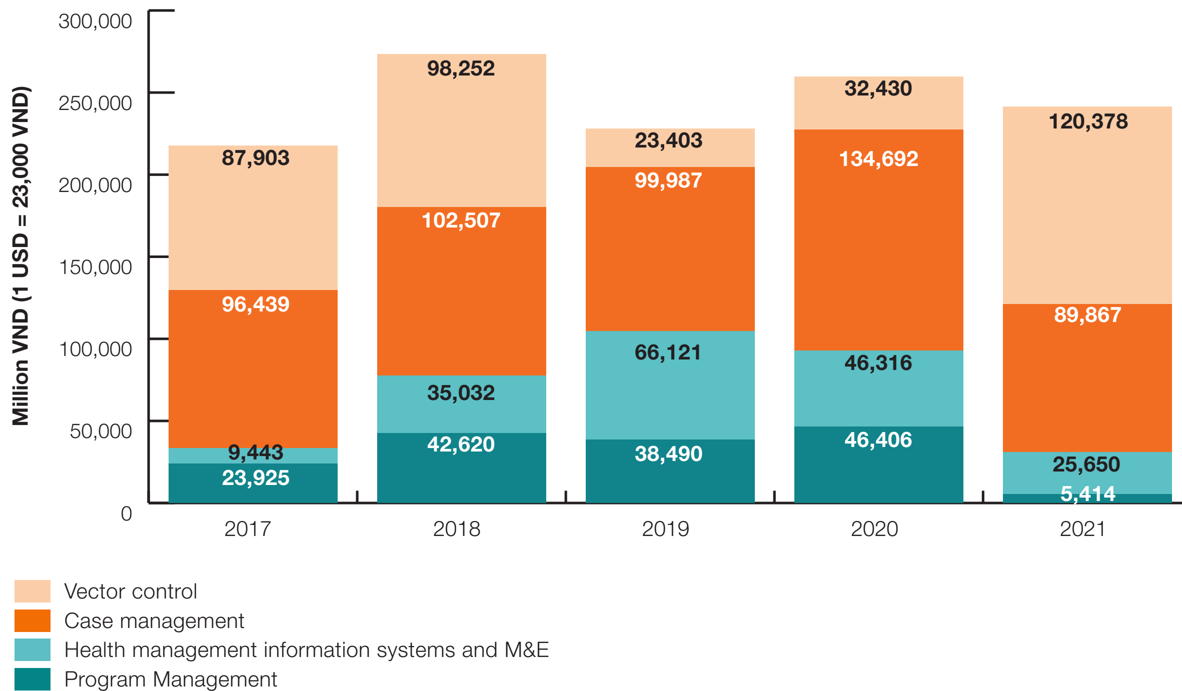
b. Requested funds for 2021



National budget expenditure
Global Fund

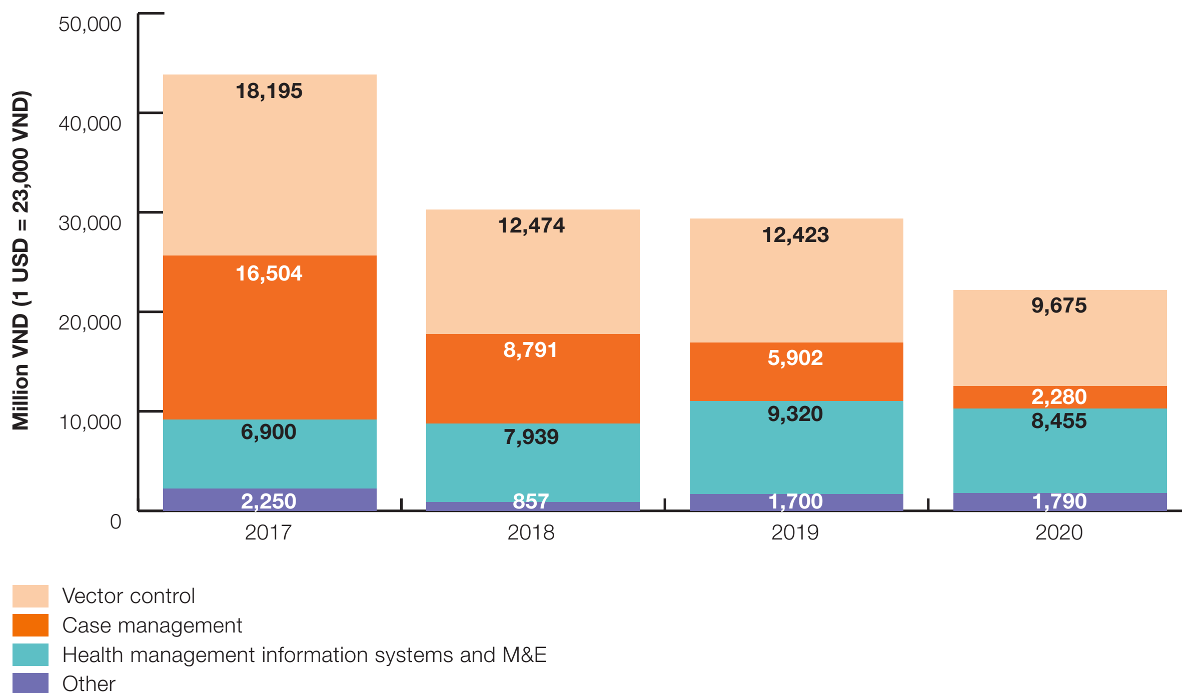
Note: Excludes salary, vehicle and infrastructure costs covered through the national budget as well as other sources.
Source: Annual action plan for National Malaria Control Program from 2017 to 2020.

Figure 3. Global Fund malaria funding in Vietnam by programmatic area, 2017–2020



Sources: Interviews with NIMPE staff and review of NIMPE annual financial reports to Global Fund.

Figure 4. Domestic financing for malaria program activities, by program area 2017–2020



Notes: National Budget data does not include government finance for staff salaries, vehicles, and infrastructure.
Vector control costs include procuring and distributing insecticides.
Case management costs include procurement of anti-malarial medication, PCR test materials and microscopes.
Sources: Annual action plan for National Malaria Control Program from 2017 to 2020

Malaria funding gaps

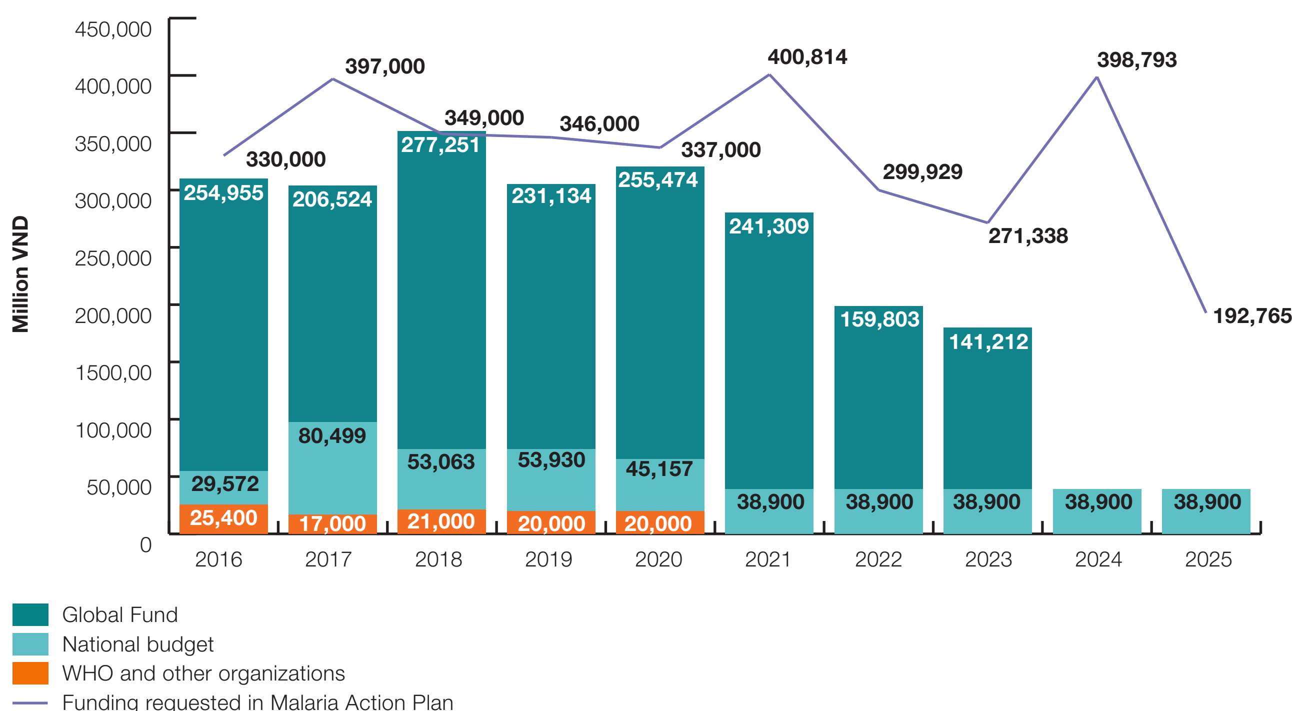
To date, total government and donor funding for malaria has closely aligned with funding needs as indicated in the national malaria action plan (Figure 5). However, the gap between program need and projected funding is anticipated to widen significantly in the near future. Beginning in 2021, there is a projected widening gap between the estimated funding needed and financing available. Significant financing gaps are anticipated after the RAI3 grant period (2021–2023), if domestic financing does not increase substantially to meet the projected need after the end of donor support.

Potential funding sources

Donor diversification is unlikely to be a feasible long-term financial sustainability strategy given Vietnam's economic progress and rapidly declining and low malaria caseload relative to other low and middle-income countries. Global Fund support for Vietnam's malaria program is projected to end, or be significantly reduced, following 2023.

To optimize chances of compensating for the expected decline in external funding beyond 2023, it is important to plan successful advocacy efforts to increase budget support for elimination at both national and provincial levels.

Figure 5: Malaria funding received and projected, 2016–2025, compared to Malaria Action Plan funding request



Notes: National budget support does not include salary, vehicle & infrastructure costs; funding estimates reflect funding to NIMPE and RAI sub-recipients. WHO and other organizations include awards or sub-awards to NIMPE from partners other than the Global Fund or Global Fund-supported SRs.
Note: No projecting funding to include from WHO 2021–2025; No projected funding to include from the Global Fund 2024–2025.
Sources: National budget: Action plan for malaria control and elimination in period 2021–2025 and Global Fund data in 2021–2023.

To meet projected needs, additional funding will need to be secured and/or program costs will need to be reduced. To assess future financing gaps more accurately, it is critical to get more complete data regarding the timing and level of post-RAI3 funding support anticipated from the Global Fund, as well as more detailed information regarding possible domestic financing sources and levels from both national and subnational levels.

The gap between current domestic financing support and the total malaria program costs may be larger than what domestic financing can feasibly support going forward. Vietnam recently transitioned from national health and population programs to "National Health Target" programs. Malaria was removed from the National Health Target program last year. These changes, combined with the financial demands of the COVID-19 pandemic response and other high burden

diseases, translate into stakeholder skepticism around the feasibility of increased domestic financing for the malaria program in the 2021–2023 period. NIMPE previously received approximately USD 2 million in priority program funding, in addition to routine annual MOH funding, however this priority program funding will not likely be available from 2022 onward.

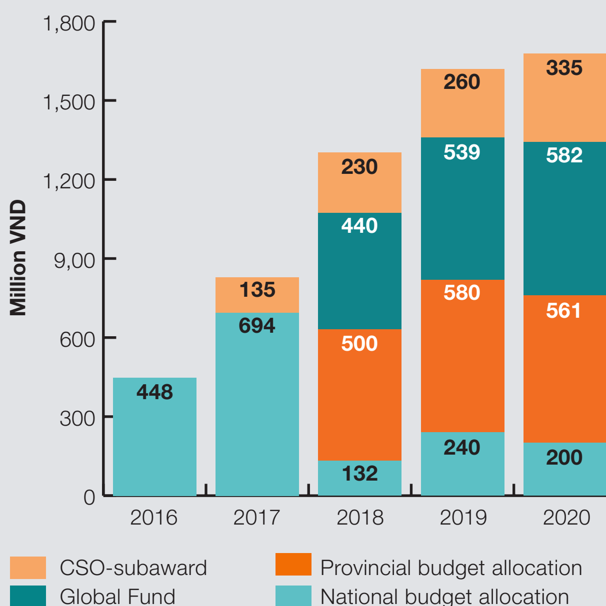
Future domestic financing for malaria will likely be increasingly dependent on provincial People's Committee budget allocations, particularly if malaria is not included as a "National Health Target" program supported by the national budget. However, even optimal provincial-level budget support will not be able to sustain centralized functions and support, including surveillance, policy development and guidance, and commodity procurement.

Limited provincial budgets in higher malaria burden provinces further complicates prospects of securing subnational budget allocation for malaria in future. Factors that will influence malaria budget allocation in the context of decentralization include i) support from provincial People's Committees for malaria relative to other health and social needs; ii) the ability of the provincial CDC to advocate successfully on behalf of malaria relative to other provincial needs; and iii) provincial budget health overall, as some of the poorer, rural provinces have less resources for all health and social issues compared to the wealthier provinces. COVID-19 has generated additional challenges related to efforts to advocate for provincial level budget allocation for malaria. Whereas wealthier, urban provinces such as Hanoi & Da Nang and Ho Chi Minh City (HCMC) have surplus budgets that can be used to support local health and other social issues, the provinces where malaria burden is highest are poorer. In these provinces the Provincial People's Committees will likely prioritize support for economic development. In addition, these provinces have greater unmet health needs overall, translating into competing requests for limited provincial budget support.

Box 3. Malaria program dinancing in Binh Phuoc province

Binh Phuoc province has received a high level of Global Fund financing to supplement provincial and national budget support. Since 2017, the province has received direct funding from the Global Fund as well as sub-awards from CSOs funded by the Global Fund and other donors. From 2018–2020, the Global Fund financed approximately 30% of provincial malaria program costs for allowances for government staff and administrative fees. National and provincial budget allocation accounted for approximately 43% of the malaria program costs in this province and were allocated for vector control, case management activities. The remaining 18% came from CSO sub-awards and supported case management as well as staff allowances.

Figure 6: Malaria funding by source in Binh Phuoc province, 2016-2020



Sources: Global Fund documents, National and Provincial Budget project documents, Binh Phuoc CDC. The graph above does not include Global Fund support for staff allowances and travel costs at both provincial and district levels during 2016–2017.

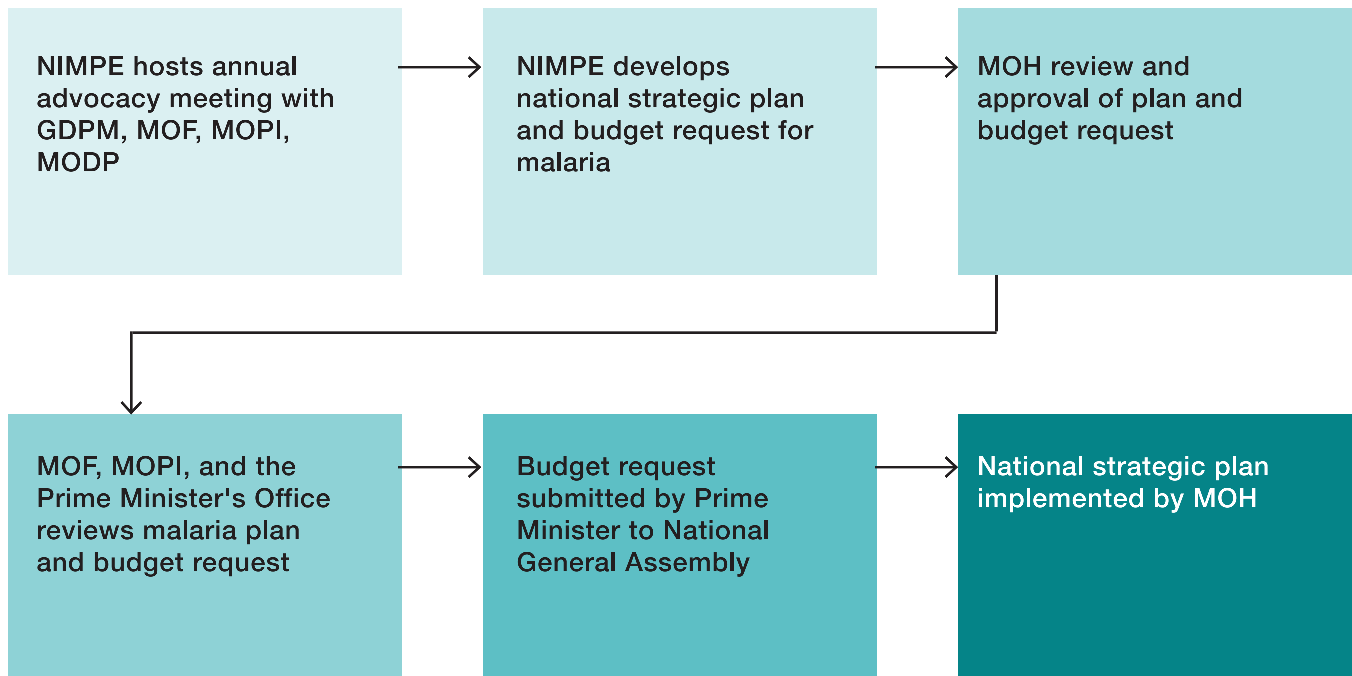
In this context, it will be important to develop national budget advocacy approaches to increase domestic financing for the national malaria program and surveillance costs in the future. These central budget advocacy efforts can build on the learnings from the HIV program and donors. The extent to which national leaders will support budget allocation for malaria will depend on NIMPE's ability to secure support from the Prime Minister and National Assembly. A consultative process, engaging senior leaders from the MOH (Deputy Minister responsible for malaria together with the MOH Department of Budget and Planning) as well as from MOPI and MOF, may be effective. This approach was used together with donor advocacy at high levels – within and beyond MOH – by the HIV program to secure national budget and health insurance support for health program costs previously supported by donors.

Efforts to prepare for likely reductions in domestic financing and donor funding for malaria programing have not yet begun, although annual advocacy for domestic financing allocation occurs annually (Figure 7). Support from both MOF and MOPI is critical for generating support from the Prime Minister's Office and, ultimately, consideration by the General Assembly. Future increases in domestic finance are unlikely without significant advocacy efforts.

The likelihood of private sector support for malaria program costs is limited in the Vietnam context. Stakeholder consultations highlighted the reality that companies such as Vestergaard are supporting relatively targeted activities such as insecticide monitoring in 2018–2019. Companies with significant corporate social responsibility programs in Vietnam, such as Unilever, focus on addressing higher burden community health issues. In this context, the prospects for private sector contributions to malaria program costs appear very low.

> "We always remind of the Prime Minister's commitment to eliminating malaria by 2030, but with limited national resources and competing health priorities, it is very difficult to secure domestic financing needed to support malaria programming with less donor support."

Figure 7. Current malaria domestic financing advocacy process



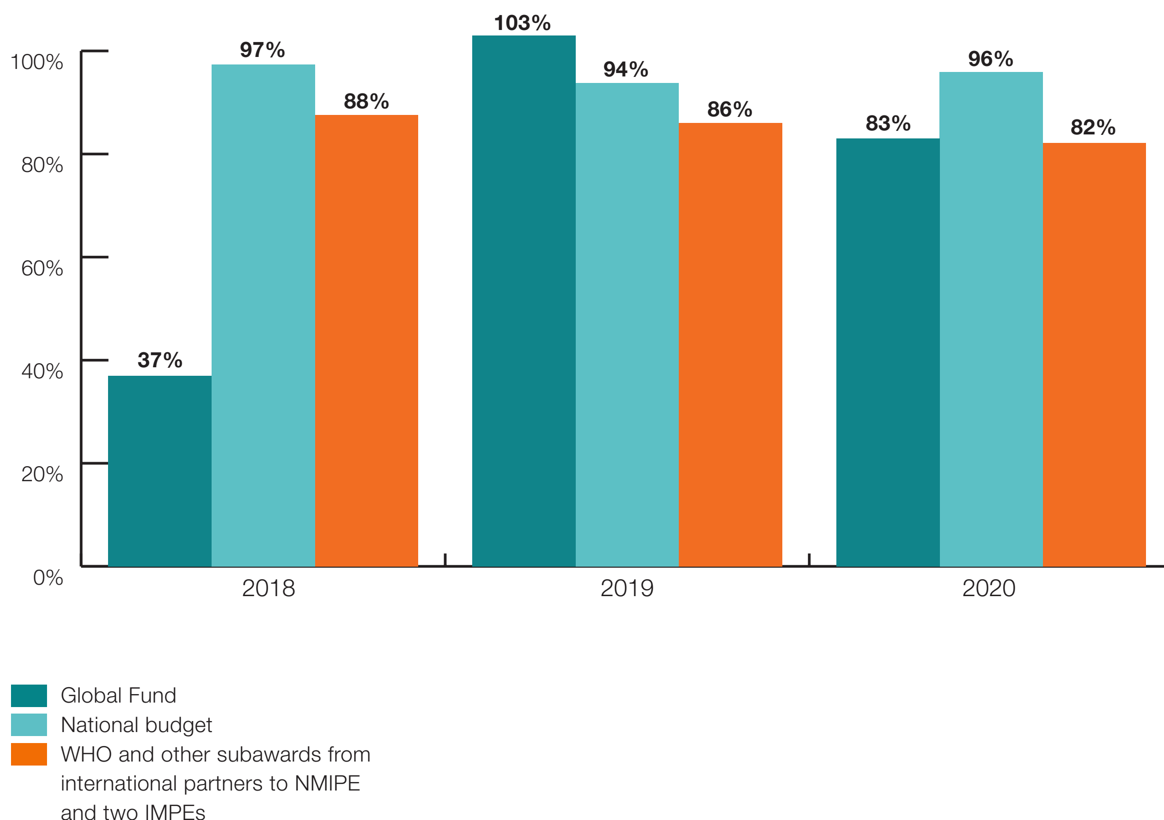
Efficiency

The malaria program's utilization rates across different sources of finance are high, ranging from 82–100% from 2018–2020 (Figure 8). The strong financial management capacity within the Government of Vietnam is a strength of the program, and the national malaria program has a strong track record of meeting donor and government financial management requirements.

While external audit reports were not reviewed, anecdotally the national malaria program has a positive track record demonstrating capacity to manage both donors' and the Government's financial management requirements. One challenge highlighted by stakeholders is the need for transparent budget management and financial reporting. Because the Global Fund's financial management is overseen by the Project Management Unit, there is less direct experience working with NIMPE's financial management systems.

There is potential to use improved targeting and tailoring of malaria program activities to reduce costs without jeopardizing the future success of elimination. Identifying opportunities to prioritize program investments, in the context of declining external support, requires assistance from an independent technical body such as the WHO. According to NIMPE and other stakeholders, selecting priority programmatic components is challenging. Neutral, evidence-based guidance from WHO or a similar body would help NIMPE identify priorities and potential opportunities for cost savings.

Figure 8: Utilization rate of national expenditure by funding source, 2018–2020



Civil Society and Private Sector Engagement

Activities led by civil society and private sector partners are currently 100% dependent on donor funding. Civil society partners contribute to the malaria response at national, provincial and community levels. Partners supporting community-level activities liaise closely with NIMPE and provincial CDCs for local approvals as well as oversight of implementation. Under RAI3, CSOs are working to extend program coverage to migrant and mobile groups, forest goers, and other at-risk communities; ensure gender and social inclusion considerations are included in program design and implementation; and advocate for optimal policy and regulatory pathways for innovative malaria products and support innovations with potential to contribute to elimination.

"Everyone talks about the distance from these communities to the commune health center, but what about the other aspects of their pathway to care for malaria that needs to be understood? Do we understand what is needed to enable/empower treatment adherence for *vivax*, for example? These are the questions that need to be answered if we are to achieve elimination in Vietnam."

There is limited historical coordination between the national program and civil society or private sector partners, and a perception that in some cases CSO activities are duplicative, rather than complimentary to, national program activities. In some ways, the strength of Vietnam's public sector has contributed to this perception– with a strong national program, there has been limited perceived need for CSO or private sector assistance. However, last mile coverage challenges clearly highlight the need to shift from business as usual and leverage all provider and outlet types accessible to underserved communities. Examples of areas where CSOs can add more value include: i) addressing gender and social inclusion barriers to elimination among communities at risk; ii) developing innovations to promote *vivax* radical cure treatment adherence; and iii) identifying efficient models to shift malaria care from villages to forests.

"Migrant workers at risk do not want to visit public health facilities. They are suffering in the forest, in very remote areas. CSOs can help the national program to reach these communities. We need to strengthen community-level and private provider contributions in this context."

CSO contributions are critical in meeting the health and other needs of rural, disadvantaged, and ethnic minority communities. In 2020, the National Assembly approved a 10-year strategic plan for development of ethnic minority areas, which reflects the Government's focus on this area. These communities face high levels of poverty and major gaps in access to education and other basic health services. CSOs working at community level have a distinct role to play in extending coverage of malaria prevention and case management services, while simultaneously bringing community voices to the attention of the national program. CSOs can help the program extend coverage beyond the village to the forests, with a focus on communities with limited ability to access the public sector health services given their mobility. Private sector actors – including clinics, pharmacies, and retail outlets near the forests – can be leveraged to increase coverage for an optimal, mixed health system/market approach to eliminating in the Vietnam context.

Technical partners contribute to key malaria research, training case management, surveillance, and guideline development activities, with funding from the Global Fund and other external donors. These partners include, CHAI, Discovery Life Sciences, FIND, HPA, Institute of Tropical Medicine in Belgium, PATH, PSI, Vysnova. Without external support, these components of Vietnam's elimination program may not be continued beyond 2023.

While Vietnam's surveillance is integrated with the national health information system (Electronic Community Disease Surveillance, eCDS), it is not yet systematically covering malaria case management from all community and private sector channels. Compared to malaria surveillance systems in Laos and China, Vietnam's system does not yet cover contributions from private and CSO partners systematically. In addition, sustaining a real-time malaria surveillance system linked to Vietnam's eCDS system will require deliberate surveillance system maintenance and adaptation as Vietnam approaches elimination.

"Prior to Global Fund's requirement that CSOs be part of RAI2, there were no CSOs contributing to elimination. Without this allocated funding in future, they may not be part of the program."

Given reliance on donor funding, transition presents major challenges to sustaining community and private sector engagement, as well as research and policy advocacy efforts that complement the national malaria program activities led by NIMPE. It is unclear what will happen to CSO innovations during and after donor transition. There is a risk some services will be unable to continue without donor funding for CSOs, including community-based testing and treatment, social and behavior change communication, and outreach to remote and migrant communities.

Health Workforce for Malaria

The government health workforce for malaria is primarily financed by domestic government funding. In 2020, there were 531 staff members working at NIMPE and the two IMPEs. Among these, 21 staff members were funded in part by the Global Fund, including six members of the Central Project Management Unit, five from NIMPE, five from IMPE Quy Nhon and five from IMPE HCMC. Nine additional staff members were funded exclusively with Global Fund support. Other staff members receive over-time allowances from partners other than Global Fund, including civil society partners such as VYSNOVA and CHAI.

Village Health Workers (VHWs) play an important role in providing services in the malaria program and are the backbone of the community-level response through the public sector. There is one VHW in every village of Vietnam. VHWs receive training from the provincial or district levels to provide community health advice. While VHW are not full-time government employees, they receive a monthly allowance of between $15 USD– $25 USD. Sustaining malaria-specific skills at the community level will be challenging in the face of declining malaria burden, and steps to ensure maintenance of malaria capacity in VHW and community cadres will be important during transition.

Quality assurance activities, which are heavily reliant on Global Fund support, may be negatively impacted as donor funding declines. It is of critical importance to ensure quality assurance across the malaria program at all levels. There is a risk that declining donor funding combined with suboptimal national and provincial budget allocations could lead to cuts in quality assurance activities that jeopardize Vietnam's ability to eliminate malaria. Decentralization presents an opportunity to shift quality assurance and monitoring responsibilities closer to communities at risk. If managed effectively, this has the potential to offset the risk of transition and generate efficiencies in malaria program costs (particularly travel).

"There are only a couple of CSOs involved in RAI3 and Vietnam was the last country in the GMS to engage CSOs under RAI."

"If CSO and government both provide training, how are the same activities representing optimal use of scarce resources. CSOs may be doing these activities more quickly and better quality, but if they are not adding value through additional coverage or additional activities, their contributions will not be recognized or needed in future. "

Health Product Management for Malaria

There is high reliance on donor support for procurement of vector control, rapid diagnostic and some malaria treatment medicine. Under RAI3, UNOPS procures rapid diagnostic tests (RDTs), long-lasting insecticide treated nets, and Pyromex for the program, while other products are procured by the MOH. As the malaria burden falls, the volumes of prevention, diagnostic and treatment products needed are not high enough to motivate local manufacturers to produce these malaria products. Commercial investment is limited by regulatory challenges and importation costs described below. This has contributed to the current reliance on external donor funding for a significant portion of malaria product procurement costs. Looking forward, without locally manufactured options, it will be difficult for NIMPE to sustain access to quality products without external funding.

Custom duty charged on imported LLIN/ LLIHN products not covered by the Global Fund exemption disincentivizes private sector investment. Stakeholders – including manufacturers of vector control products point out that Vietnam differs from Cambodia where the custom duty for vector control products has been eliminated, to reduce the procurement and importation costs and facilitate private sector contributions to malaria program costs.

The regulatory pathways for both medicine (DAV) and vector control (VIHEMA) are long and complex compared to other countries

in the region. The time and costs associated with registering new, quality and sometimes lower cost malaria prevention, diagnostic and treatment medicines in Vietnam is a barrier to elimination. Stakeholders recommend advocacy to improve transparency and efficiency of the regulatory pathway for prioritized products including malaria prevention, diagnostic and treatment products. The requirement for Vietnamese packaging also creates a barrier for products manufactured outside of Vietnam and creates an incentive for locally manufactured products and treatment drugs. But for essential products such as RDT, G6PD tests as well as Tafenoquine which are not currently locally manufactured, the complex regulatory pathway combined with importation delays and costs may limit access to essential malaria products and unnecessarily increase costs.

Opportunities to Strengthen Malaria Program Sustainability

Resource Mobilization

1. **Leverage Vietnam Prime Minister's commitment to eliminate malaria by 2030** to mobilize leaders from the MOH, MOF, and MOPI to support advocacy for domestic financing to achieve and sustain elimination in the face of declining external resources. The Prime Minister's complementary commitment to reducing the risk of drug and antimicrobial resistance (AMR) should also be leveraged as improved fever management, including testing before treatment of all fever cases and malaria treatment adherence are essential to the country's efforts to eliminate malaria and reduce AMR. Linking domestic investment in malaria to the country's broader AMR agenda can counter the misperception that malaria is not a serious health issue.
2. **Create a dedicated advocacy project to help NIMPE engage leaders within key ministries including but not limited to the MOH over a 12–24-month advocacy period**. Advocacy efforts must move beyond the current annual budgeting and advocacy processes. In the context of Vietnam's political and administrative systems, more than one year is needed to navigate and influence decision makers. NIMPE, IMPEs, and their partners should utilize the remaining two years of the RAI3 funding to elevate and intensify national advocacy using learnings from the successful HIV advocacy.
3. **The possible integration of NIMPE and other preventive health agencies (e.g., GDPM) presents opportunities for NIMPE to engage more directly and frequently with MOH leaders**. The integration of malaria with other health programs at provincial and lower levels of the health system will facilitate sustainability. Integration at the national level can also provide a platform for advocacy for greater national budget support.
4. **Engage a civil society partner with high-level advocacy experience and cross ministry, high-level relationships to support advocacy activities**. Building from the learnings of the HIV program's budget advocacy process (Box 2), International Non-Government Organization (INGO) engagement with the highest levels of leadership at the ministries of health, finance, and planning – as well as overall advocacy coordination – was critical to this success. A more detailed assessment of the learnings from the HIV sector can inform successful malaria advocacy strategies to include malaria products and services into essential medicine lists and the national insurance program.
5. **Consider an innovative tax to support multiple disease priorities**. Similar to the airplane travel tax proposed a few years ago for HIV, a modest tax on an inelastic product/service to support multiple public health priorities, including malaria, could be a good way to generate resources for malaria and other essential health programs no longer benefitting from the National Target Program. One way of doing this could be to mirror the Global Fund three-disease areas, and share tax revenue across HIV, tuberculosis, and malaria programs, alongside enhanced advocacy collaboration between NIMPE, VAAC, and NTP.

Improved Efficiency

1. **Identify prioritized malaria activities in highest burden areas and align budget requests with more targeted strategies**. NIMPE should revisit which provinces are prioritized for investment and activities considering i) epidemiology; ii) prospects of securing provincial budget support; iii) INGO/CSO/research partner support for select provinces; and iv) recommended high-impact program activities identified with guidance from WHO (see #2 below). Better targeting – by area, target group and program approach – can facilitate improved efficiency and impact of the malaria response in Vietnam. Examples include considering the optimal use of microscopy and rapid diagnostics, revisiting LLIN and IRS distribution/coverage, and leveraging civil society and private sector partners to segment program activities and intensity in accordance with risk.
2. **Leverage WHO's independent technical expertise to identify opportunities to align program activities with approaches and areas most likely to achieve elimination**. Continued efforts to ensure Vietnam's guidelines

align with local evidence and global best practices can guide optimal malaria program investments in future. Providing independent, technical guidance to facilitate programmatic prioritization will enable NIMPE and partners to objectively identify the highest impact activities as well as cost reduction opportunities with minimal risk to continued elimination progress.

3. **Leverage the updated, integrated surveillance system to save costs and time**. The integration of this system with the overall health information system in Vietnam presents opportunities for sustained malaria surveillance in the context of reduced donor funding in future. As the current malaria surveillance system has been adapted to include space for private clinics to report into the same system used by public facilities, and is already linked with eCDS, it would be helpful to consider opportunities to further integrate malaria surveillance management within the body responsible for the eCDS without losing focused, technical interpretation of the malaria data.
4. **Coordinate with other programs targeting the same communities and manage the risk of overlapping partner scopes and budgets to reduce costs**. Since malaria affects a relatively small number of districts and provinces in the country, and these provinces have other donor-funded health projects supported by CSOs, there may be overlaps between implementing partners. These overlaps can be reduced, which would also reduce administrative costs associated with CSO contributions at subnational level.

Civil Society and Private Sector Engagement

5. **Further develop the national malaria strategy to strengthen coordination across all partners including CSOs**, and build clear linkages with MOPI, MOF, and other agencies to support sustainability and transition goals. This strategy should outline an approach to ensure that the highest impact and good value community and private sector engagement efforts managed by CSOs are sustained after 2023. Greater consultation between NIMPE and their CSO and private sector partners has the potential to extend coverage, reduce duplication and overall improve program value and results.
6. **Focus CSO and private sector contributions on extending coverage of vulnerable communities and innovating to support elimination goals**. CSO and private sector partners can add value by extending national program coverage through channels accessible to the most at-risk communities and those underserved by the public health system. Focusing CSO or private sector efforts to these communities and areas can increase program results, quality, equity and value.

Village Health Worker Integration

7. **Further integration of malaria health workers within the broader community health program**. Given the VHW responsibilities already cover multiple community health needs, there is scope to further integrate responsibilities at community level. This should also be explored for community outreach workers affiliated with CSOs contributing to elimination, as malaria-only outreach is unlikely to be viable or needed as Vietnam approaches elimination and as external funding declines.
8. **Integrate and coordinate malaria and other program (health or non-health) administrative and delivery channels targeting the same communities to generate efficiencies**. Similar to integrating activities at community outreach level, the administrative and delivery channels reaching these volunteers could also be further integrated for improved efficiency and cost savings. There are opportunities to integrate delivery of malaria prevention products into fast moving consumer goods distribution channels reaching retail outlets near at-risk forest going communities, as a way of maintaining targeted access for less cost to the program in the future.

Health Product Management

9. **Conduct an independent review by an experienced private sector supply chain agency and reconciliation of the product distribution system and cost structure**. The overall cost structure should be reviewed to identify opportunities to improve efficiency. By critically reviewing importation, storage/warehousing, and distribution costs closely for all malaria prevention, diagnostic and treatment costs, there are opportunities to identify potential cost savings. There is further need to review assumptions used to estimate commodity procurement needs, including for vector control product procurement and distribution, which could be better targeted to save cost without jeopardizing elimination. The review should ideally be conducted by a pharmaceutical or FMCG distributor with experience delivering similar products to remote areas.

10. **Advocate to remove or reduce the custom duty for commercial importers of LLIN/LLIHN products to facilitate greater private sector contributions to vector control program goals**. Put in place a strategy to ensure that donor-procured product duty exemptions are maintained for government-procured products when procurement for RDTs and malaria treatment shifts from the Global Fund to the Government of Vietnam following transition.

11. **Ensure regulatory and policy processes are transparent and timely in prioritized cases related to elimination**. This can facilitate introduction of innovative vector control, malaria diagnostic and treatment products needed to enable Vietnam to achieve and sustain elimination.

Strategies to Support Vietnam's Transition

Transition Planning

Based on analysis of and consultative dialogues about the above findings, several priority strategies and next steps were identified to support Vietnam's anticipated transition from Global Fund financing. The feasibility of each priority action item was then analyzed given the financing, policy, health system, and partner landscape in Vietnam. NIMPE and other malaria program partners were consulted during the prioritization and feasibility assessment process. These opportunities and feasibility ratings were discussed in the May 2021 workshop with NIMPE and are presented in Table 3 below. For greater detail and specific strategies that could contribute to achieving the below priorities, please refer to the section above, "Opportunities to strengthen malaria program sustainability."

Table 3: Summary of opportunities to support sustainability

Strategy	Feasibility
Clarify details (level and timelines) for decline in donor financing to motivate transition planning	High
Leverage independent technical expertise (WHO or other) to identify program priorities	High
Reduce malaria program costs/improve value through targeting, integration & result/cost analysis	Medium
Increase national budget support	Medium
Increase provincial level budget support	Medium
Identify revenue generation opportunities	Low–Medium
Increase contributions from the private sector	Low

The immediate, high feasibility opportunities identified during the workshop include:

Clarify details of the timeline and scale of Global Fund funding decline and share this information with national stakeholders as soon as possible. This step is critical to align all relevant ministries around the anticipated timing and size of national investment in the malaria program and to accelerate domestic financing advocacy. By providing greater specificity about the dates and amounts of the likely funding reduction, the Global Fund can galvanize national level attention on and advocacy for domestic financing for malaria. It is critical to provide this information with adequate advance warning, as the Government of Vietnam will need several years to prepare for and adjust to reduced levels of donor finance. Without this information, transition planning is likely to be delayed, leaving NIMPE and other partners insufficient time to respond and risking delay or backsliding on elimination goals.

"Once Global Fund announces withdrawal of their support for malaria treatment, the process can start. Donors need to be very clear – and give advance warning – about the pace and extent of reductions."

"The national malaria program needs a very clear roadmap to transition from Global Fund support. There is a need to set up specific benchmarks to be able to track progress toward transition and show progress toward securing support. Without this in place, progress to date will be undermined without continued external support."

Leverage independent technical expertise from the WHO or another similarly neutral expert to facilitate a review of program priorities to inform efforts to target resources effectively and efficiently. As explained by NIMPE and other stakeholders, it is challenging and risky to identify opportunities to reduce investment without independent, technical leadership guiding these discussions and decisions.

Pathway to Transition

Analysis of the quantitative and qualitative data collected during the assessment, together with discussions with NIMPE leadership and the Global Fund, informed a proposed pathway for Vietnam to achieve elimination with less external funding. Three main phases of the pathway are outlined below.

To begin the process of planning for transition and to ensure Vietnam's successful transition, NIMPE and the Global Fund identified the following pathway of activities.

Phase 1: During the remainder of 2021, the priority is developing a detailed transition plan including specific steps, timelines, and responsibilities to meet the Global Fund TRP requirements. The transition plan will include specific steps to generate multi-sectoral, high-level Government support for the transition from the MOH and other ministries involved in approving national budget support for malaria and other priority social issues. The malaria budget advocacy strategy that was developed by UCSF MEI in parallel with this assessment complements this transition plan and can inform subnational malaria budget advocacy activities.

Phase 2: During 2022, NIMPE will implement the transition plan to achieve strategic priorities outlined in the previous section, including advocacy to secure greater domestic financing for malaria and cost rationalization based on an independent, technical review of program priorities.

Phase 3: During the third year of RAI3, in 2023, NIMPE will scale the sustainability and transition strategies to optimize results and meet TRP requirements. Lessons from the transition planning and implementation experience between July 2021 to 2023 will be incorporated into any opportunities to apply for Global Fund or other donor funding for the malaria program beyond RAI3.

Annexes

Annex A. Key Documents and Data Sources

- National action plan for malaria control and elimination in period 2015–2020
- National action plan for malaria control and elimination in period 2021–2025
- Final report of malaria control and elimination period 2016– 2020 and action plan for 2021
- Report on National Malaria program period 2016–2020 - National Budget and Expenditure
- Annual budget for national budget and expenditure in 2016, 2017, 2018, 2019, 2020
- Budget and Disbursement of Global Fund from 2015 to 2023

Annex B. Interview Participants

Global Health Partners

CHAI
Inessa Ba

Thuy Hoang

Hue Thi Minh Pham

Agrima Nagpal

Health Poverty Action
Nguyen thi Minh Nguyet

PATH
Nhu Nguyen

PLAN Vietnam
Le Quynh Lan

Unilever Vietnam
Nhi Le Hong

UNOPS
Dr. Faisal Mansoor

Vestergaard
Maneesh Sharma

WHO Vietnam
Dr. Tran Cong Dai

Mya Sapal Ngon

NIMPE
Dr. Tran Thanh Duong – Director

Dr. Nguyen Quang Thieu – Deputy Director

Dr.Tran Quang Phuc – Deputy Director

Dr. Ngo Duc Thang – Chief of Epidemiology Department

Dr. Nguyen Quy Anh, Deputy Head of Epidemiology Department

Dr. Pham Vinh Thanh, Deputy Head of Epidemiology Department

Dr. Nguyen Xuan Thang – NIMPE Epidemiology Department

Dr. Nguyen Thi Hong Phuc – NIMPE Epidemiology Department

Ms.Bùi Thi Luan – NIMPE Epidemiology Department

Dr. Le Phuong Tuan, NIMPE Planning Department

Dr. Do Trung Dung, NIMPE Parasitology Department

Ms. Hua Thi Thuy Huong – Chief of Finance Department

Ms. Le Thu Hien – NIMPE Finance Department

Dr. Nguyen Dinh Nam, Global Fund Program Lead

Dr. Nguyen Xuan Xa, Global Fund Monitoring Lead

IMPE Ho Chi Minh City
Dr. Le Thanh Dong – Director

Dr. Doan Binh Minh – Deputy Director

Dr. Nguyen Thi Yen – Chief of Planning Department

IMPE Quy Nhon
Dr. Ho Van Hoang – Director

Dr. Huynh Hong Quang – Deputy Director

CDC Binh Phuoc
Dr. Nguyen Van Sau – Director

Ms. Nguyen Thi Cam Hong – Chief of Finance Department

CNM
Dr. Pham Le Tuan – Chairman of Country Coordinating Mechanism

Annex C. Management of Key Malaria Activities by Agency and Level of Health System

Programmatic Area	National & Regional	Subnational & Partner
Guidelines & Planning & Administration	• Technical leadership for national guidelines & strategy documents (NIMPE) • Technical inputs to national guidelines and strategy (IMPEs)	• Technical assistance from WHO & CSOs • Implementing & research partners working at provincial level support community-, district- and province-level data and learning to feed into national guidelines and plans but are not formally part of guideline or plan development
Case management	• Case management trainings to support roll-out of updated guidelines • Monitoring and supervision for case management activities at provincial levels	• Training and monitoring, supervision at district and commune levels • Case management and surveillance reporting • Targeted outreach efforts with forest goers and other communities at risk using mobile and private sector channels (CSOs)
Surveillance	• Training • Surveillance data analysis and system management	• Monitor and supervise surveillance at provincial level • Review and aggregate data reported from district and commune levels • Submit reports to regional/national levels for review
Research/Study	• Plan research activities • Manage and oversee research projects	• Support research implementation, particularly data collection at subnational levels • Provide technical support to guide and oversee research (CSO and research agencies)
Vector control	• Plan, monitor and supervise activities related to vector control	• Receive, manage and distribute vector control products/IRS at district and commune level • Report on vector control activities
IEC/BCC	• Plan and develop centrally managed IEC/BCC content and materials	• Distribute/use IEC/BCC at district and commune levels • Implement health education activities at district and commune levels