

PREVENTION OF RE-ESTABLISHMENT (POR) WORKSHOP REPORT

27 September 2023

Oakwood Suite Tiwanon, Nonthaburi,
and Prachinburi Province, Thailand



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ANNEX 1. MEETING AGENDA	

Acronym and abbreviations

A1	Village with reported indigenous malaria cases in the current financial year
A2	Village without indigenous malaria cases for the past 1-3 years
ACD	Active case detection
ACTs	Artemisinin-based combination therapies
BVBD	Bureau of Vector Borne Diseases
B1	Village without indigenous malaria cases for more than 3 years but with vectors
B2	Village without indigenous malaria cases for more than 3 years and no vectors
CNM	The National Centre for Parasitology, Entomology and Malaria Control, Cambodia
DHB	District Health Board
DVBD	The Division of Vector-Borne Diseases
DHO	District Health Office
GFATM	Global Fund to Fight AIDS, Tuberculosis, and Malaria
HPH	Health Promotion Hospital (subdistrict level)
IRS	Indoor residual spraying
IDES	Integrated Drug Efficacy Surveillance
IDA	International Dispensary Association
IPTp	intermittent preventive treatment in pregnancy
ITA	Indoor Transmission Amplification
LLIN	Long-lasting insecticide-treated bed net
MIS	Malaria Information System
MOPH	Ministry of Public Health
MP	Malaria Post
NHSO	National Health Security Office, Thailand
ODPC	Office of Disease Prevention and Control
PCD	Passive case detection
PAPD	Personal Protective Action Against Diseases.
PHO	Provincial Health Office
SAO	Subdistrict Administrative Organization (LAO for subdistrict level)
SDHF	Subdistrict Health Security Fund
SRRT	Surveillance and Rapid Response Team
VBDC	Vector Borne Disease Centre

VBDU Vector Borne Disease Unit
VHV Village Health Volunteer
WHO World Health Organization

Overview

The CSO platform organized a workshop and field visit on the Prevention of Re-establishment (PoR) of malaria on 27 and 28 September.¹ This is the first time that the CNM team and non-governmental partners from Cambodia have attended to learn about Thailand's plan and strategy for malaria elimination, including the Surveillance for malaria elimination, the role and engagement of local authorities and communities in malaria elimination activities, and the prevention of re-establishment (PoR) perspective. Senior officers and technical experts from The Division of Vector-Borne Diseases (DVBD) under the Department of Disease Control, Ministry of Public Health, Thailand, and World Health Organization (WHO) Thailand facilitated the workshop.

The field trip is divided into two parts: a 1-day workshop at Oakwood Suite Tiwanon, Nontaburi, on 27 September 2023, and a field visit to Bu Phram Subdistrict Administration Office, Na Di District, Prachinburi province, on 28 September 2023. The total duration of the field trip is 2 days.

Objectives

1. To learn about Thailand's plan and strategy for malaria elimination including local authority and community's role and engagement in malaria elimination activities from the prevention of re-establishment (PoR) perspective
2. To learn about the surveillance for malaria elimination in Thailand with a focus on the prevention of re-establishment
3. To learn from the local experience and plan for the PoR meeting with local authorities and communities

The participants from Central and provincial level representatives from The National Center for Malaria Control, Entomology and Parasitology (CNM), Malaria Consortium (MC), Catholic Relief Services (CRS), The Clinton Health Access Initiative (CHAI), the URC-CMEP2 (Cambodia Malaria Elimination Project 2), Technician experts from the Division of Vector-Borne Diseases (DVBD) under the Department of Disease Control, Ministry of Public Health Thailand and WHO Thailand, CSO platform and ALIGHT team participated in the workshop.

Session 1 : Malaria Situation in Thailand and Malaria Elimination Strategy

By Ms. Rungrawee Tipmontree, Division of Vector-Borne Diseases, Department of Disease Control, Ministry of Public Health Thailand

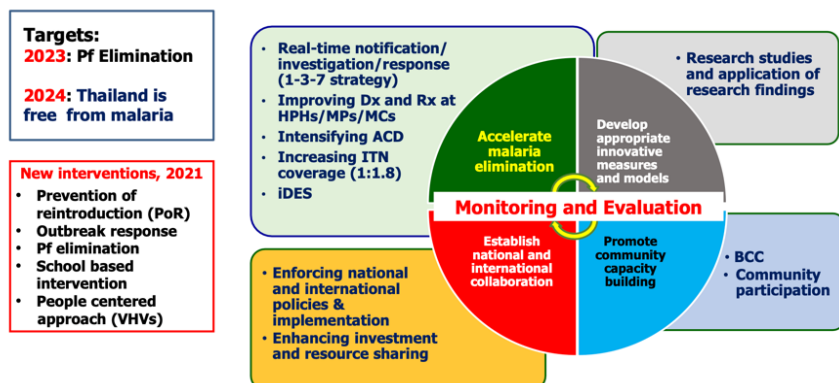
In the past, efforts to prevent and control malaria were managed by a vertical program of the Department of Disease Control (DDC) within the Ministry of Public Health (MOPH), supported by regional Offices of Disease Prevention and Control (ODPC)¹. Malaria clinics were located at Vector Borne Disease Units (VBDU), which provided diagnosis and treatment in the locality. More recently, malaria diagnosis and treatment have been increasingly integrated into the general health services system under Provincial Health Offices (PHO), including Health Promotion Hospitals (HPH) at the subdistrict level, while the role of the Vector Borne Disease Center (VBDC) is being shifted to provide technical support functions, such as building capacity and sharing technical information with relevant agencies and personnel in the locality. The DDC at the national level remains the main driver of malaria policy and strategy, while the Bureau of Vector Borne Diseases (BVBD) manages the national database for monitoring, evaluation, and technical support, called the Malaria Information System (MIS).

The Division of Vector-Borne Diseases (DVBD) under the Department of Disease Control, Ministry of Public Health, Thailand is responsible for monitoring and controlling vector-borne diseases such as malaria, dengue, and chikungunya. The team recently returned from a nationwide survey of risk factors for vector-borne diseases in all provinces. The risk of vector-borne diseases varies greatly from province to province, with some provinces having more than 100% higher risk than others. Also, DVBD is currently working to develop targeted interventions to reduce the risk of vector-borne diseases in high-risk provinces.

Thailand's National Malaria Elimination Strategy for 2017-2026 (NMES) was approved by the Cabinet in 2016. This is a significant development, as it provides financial support for malaria elimination efforts. Prior to 2018, Thailand received very little funding for malaria elimination and has received external funding support for its national malaria response from the Global Fund to Fight AIDS, Tuberculosis, and Malaria (GFATM) since 2004. However, the Cabinet's approval of the strategy has led to significant increases in funding. Thailand's National Malaria Elimination Strategy has three main components:

- Accelerated detection and response to malaria cases. This includes strengthening surveillance systems, improving access to diagnosis and treatment, and ensuring that all cases are reported and investigated promptly.
- Preventing malaria transmission through vector control and other interventions. This includes using insecticide-treated nets and indoor residual spraying (IRS), as well as targeting vector breeding sites.
- Promoting cross-border collaboration. This is essential to eliminate malaria on the Thailand-Myanmar border, as the country shares borders with several malaria-endemic countries.

Figure 1 The Thai government's National Malaria Elimination Strategy, 2017-2026



Source: Guide to Malaria Elimination for Thailand's Local Administrative Organizations and the Health Network 2019

Interventions:

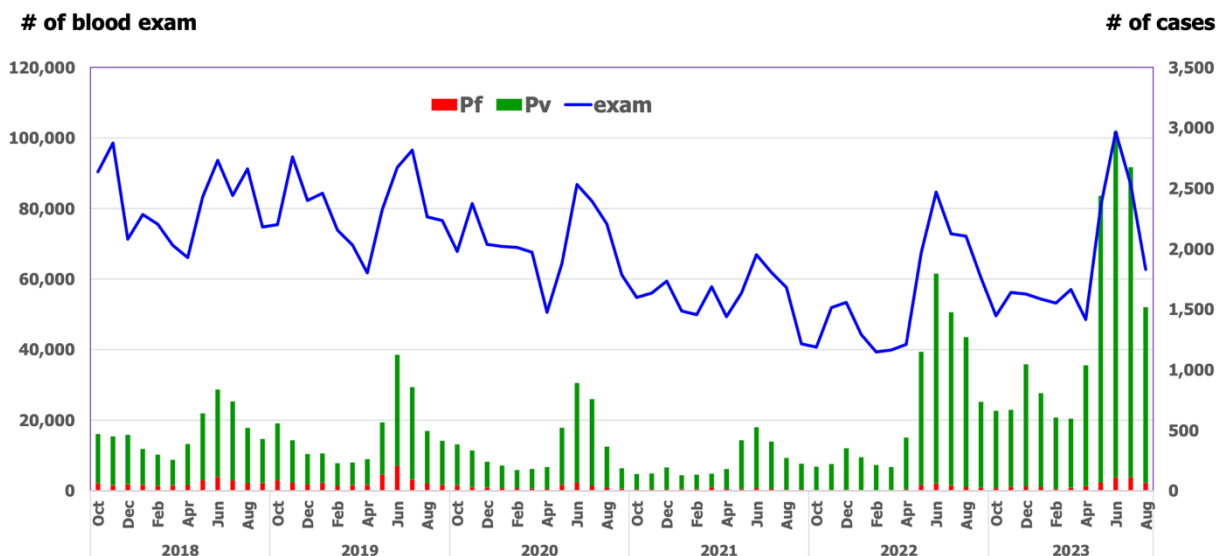
- **Prevention of Re-establishment (PoR)** the introduction of malaria from neighboring countries.
- **Outbreak response:** Rapidly identify and respond to malaria outbreaks.
- **Pf elimination:** Target and eliminate the Plasmodium falciparum parasite, which is the deadliest form of malaria.
- **School-based intervention:** Educate children about malaria prevention and treatment.
- **People-centered approach (VHVs):** Empower community volunteers to deliver malaria prevention and treatment services.
- **Real-time notification/investigation/response (1-3-7 strategy):** Use a rapid response system to identify and treat malaria cases within 7 days of diagnosis.
- **Improving Dx and Rx at HPHs/MPs/MCs:** Improve the quality of malaria diagnosis and treatment at health facilities.
- **Intensifying ACD:** Intensify efforts to control the mosquito vector that transmits malaria.
- **Increasing ITN coverage (1:1.8):** Increase the coverage of insecticide-treated bed nets to 1.8 beds per household.
- **iDES (integrated drug efficacy surveillance) :** Enhance the coordination and implementation of malaria elimination efforts.

The strategy also emphasizes the importance of community engagement and capacity building. SAO (Subdistrict Administrative Organization) plays a vital role in detecting and reporting malaria cases, and in implementing vector control measures. By investing in community capacity building, strategic technic can create a more resilient health system that is better able to prevent and respond to malaria outbreaks.

I. Thailand's approach to implementing the National Malaria Elimination Strategy

- The government has established a national malaria surveillance system that tracks all cases reported in the country. This system helps the government to identify areas where malaria transmission is occurring and to target interventions accordingly.
- The government provides free malaria diagnosis and treatment at all public health facilities. This ensures that everyone has access to the care they need, regardless of their ability to pay.
- The government distributes insecticide-treated nets to all people living in malaria-endemic areas. These nets help to protect people from mosquito bites, which is the main way that malaria is transmitted.
- The government works with communities to implement vector control measures, such as cleaning up mosquito breeding sites and spraying homes with insecticide.
- The government collaborates with neighboring countries to share information and best practices on malaria elimination.

Figure 2 Monthly Examination and Malaria Cause in Thailand (FY 2019-2023)



Source: malaria online, 15 Sep 23 Department of Disease Control, Ministry of Public Health Thailand

The graph shows the number of monthly examinations and malaria cases in Thailand from 2019 to 2023. The number of blood examinations has increased steadily over the past five years, from 20,000 in 2019 to 120,000 in 2023. This increase is likely due to a combination of factors, including increased awareness of malaria, improved access to healthcare, and increased efforts to control the mosquito vector.

The blue line on the graph shows the number of malaria elimination cases in Thailand. In 2018, 2019, and 2020, the number of Plasmodium vivax (Pv) malaria cases was very low. In 2021, the number of malaria

cases increased slightly. However, in 2022, the number of Pv malaria cases increased significantly between April - August. This increase is thought to be due to the outbreak in neighboring areas of Myanmar. The graph shows a list of more than 70 cases, but after the outbreak occurred, found almost 600 cases.

Thailand has made significant progress in reducing malaria transmission in recent years 2022. However, the country still faces some challenges on international borders.

For the first strategy, Thailand's National Malaria Elimination Strategy 2017–2026 (NMES) reoriented the malaria control program into an elimination program centered on upgraded surveillance. Thus, in 2017, Thailand adopted the 1-3-7 strategy from China to prioritize timely, evidence-based action^{2,3}. For each confirmed malaria case, notification occurs within 1 day, case classification within 3 days, and local response within 7 days. The resulting data guide district teams to conduct reactive case detection, coordinate across sites for patients with travel history, and identify vector control targets to further inhibit transmission. Adherence to 1-3-7 protocols exceeded 80% within the first few years, and preliminary results suggest the strategy is effectively driving elimination by encouraging rapid response, which has been effective in some provinces with high case numbers. However, if a province has more than 5,000 cases or even more than 1,000 cases, it can be a major challenge for everyone in that province.

To accelerate malaria elimination the key component is to improve malaria diagnosis. Below are some additional details about the specific activities that Thailand is undertaking to improve malaria diagnosis and surveillance:

- The government is working to train and equip more healthcare workers in both the public and private sectors to diagnose malaria. The government is also working to expand access to malaria testing in rural areas.
- In addition, Thailand is using technology to improve malaria surveillance. The BVBD has developed a new IT system that will help to track malaria cases in real-time. This system will help the government to identify areas where malaria transmission is occurring and to target interventions accordingly.
- The government is also working with communities to raise awareness of malaria and to promote prevention measures. This includes educating people about the importance of using insecticide-treated nets and sleeping under them every night.

Thailand is using a geographic information system (GIS) to monitor malaria activities and assess their effectiveness in the field. The government is also working with international partners to improve subnational malaria strategies in districts and areas. One of Thailand's key international partners is the Thailand International Cooperation Agency (TICA). TICA provides financial support and technical assistance for malaria elimination projects in Thailand and Cambodia. For example, TICA recently supported a project to train healthcare workers in malaria diagnosis and treatment in Cambodia.

Thailand's Subdistrict Administrative Organization (SAO) also plays a vital role in malaria elimination. The SAO is responsible for implementing malaria prevention and control measures at the community level. The government is working with SAO to strengthen its capacity to contribute to malaria elimination efforts. Thailand's international collaborations and its strong focus on local engagement are essential to its success in accelerating malaria elimination.

Thailand also engages in community-level malaria elimination activities, such as promoting malaria awareness and building community capacity. The Bureau of Vector-Borne Diseases (BVBD) and the Health Promotion Hospital (HBS) both play a role in these activities.

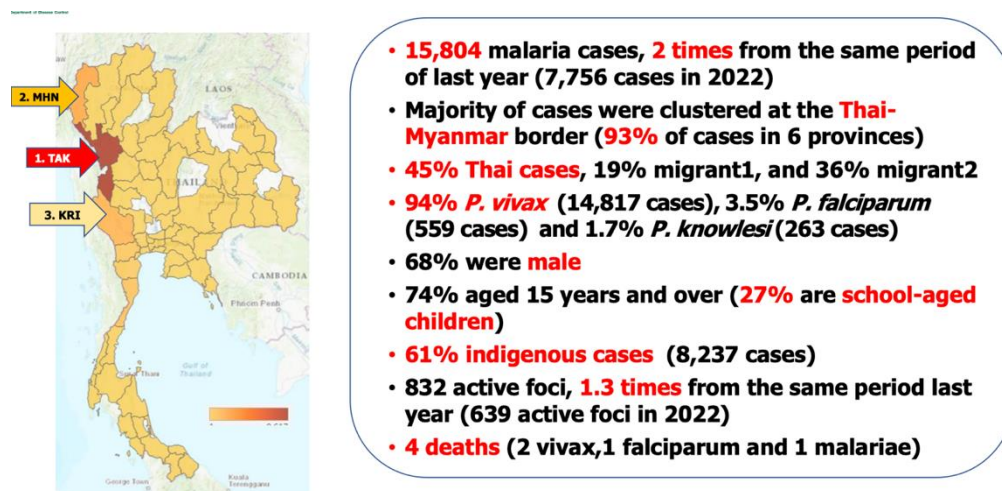
- The BVBD and HBS promote malaria awareness and build community capacity through a variety of activities, such as workshops, training programs, and educational materials.
- HBS provides financial support to local communities to implement malaria prevention and control projects, such as mosquito control and vector surveillance.
- Communities must submit a project proposal to receive funding from the HBS. This ensures that the projects are relevant to the needs of the community and will be effective in reducing malaria transmission.

However, in 2022, the country experienced a surge in cases, particularly from the international border. This is likely due to the ongoing conflict in Myanmar, which has led to displacement and population movements in Thailand. One challenge was securing funding. Despite having a budget for malaria elimination, the government needed additional resources to respond to the emergency. The government is working to strengthen malaria surveillance and control measures in the border region.

The experience of the 2022 malaria outbreak highlights the importance of having contingency plans in place to respond to emergencies. It also highlights the importance of working closely with communities to prevent and control malaria. One of the challenges of controlling malaria in Thailand is the porous border with Myanmar. Many people cross the border illegally, and there are many unofficial checkpoints where people can cross without being screened for malaria. This makes it difficult to prevent the spread of malaria from neighboring countries to Thailand.

II. Malaria situation in Thailand, FY2023: Sep 23-Oct 22

Figure 3 Malaria situation in Thailand, FY2023 (Sep 23- Oct 22)



Source: malaria online, 15 Sep 23 Department of Disease Control, Ministry of Public Health Thailand

Figure 3 shows that the number of malaria cases in Thailand has increased significantly during the past year. In 2022, the number of cases was 7,756, which is a decrease from 10,369 cases in 2021. However, in 2023, the number of cases has increased to 15,804, which is a 2-fold increase from the previous year. The increase in the number of malaria cases is likely due to a number of factors, including:

- Increased travel and migration: Thailand is a popular tourist destination, and the country has a large migrant population. This increased movement of people can facilitate the spread of malaria.
- Climate change: Climate change is creating more favorable conditions for the Anopheles mosquito, which transmits malaria.
- Resistance to antimalarial drugs: Malaria parasites are becoming resistant to some antimalarial drugs, making it more difficult to treat the disease.

The majority of malaria cases in Thailand are now occurring at the Thai-Myanmar border. The province of Tak has the highest number of cases. In Tak, 45% of cases are Thai nationals and 61% are migrants. Thailand classifies migrants as those who have lived in Thailand for more than six months per year. This classification is used to determine who is eligible for malaria prevention and control interventions.

The National Malaria Elimination Strategy (NMES) also introduced sub village-level stratification of “foci” based on past or current malaria transmission. Components and frameworks include:

- Stratification is the process of dividing a population into groups based on shared characteristics. In the context of malaria, stratification can be used to divide areas into groups based on their past or current malaria transmission rates. The classified divide to 4 level (A1,A2,B1 and B2)
- Foci are areas with a high concentration of malaria cases. By identifying foci, public health officials can target their interventions to the areas where they are most needed.
- Data use is the process of using data to make informed decisions. By making information about malaria transmission available to local jurisdictions, the NMES is helping to ensure that malaria interventions are being used effectively.

For example, if a particular village in Thailand has been identified as a focus of malaria transmission, public health officials could use this information to target interventions such as insecticide-treated bed nets or indoor residual spraying in that village. By focusing their efforts on the areas where they are most needed, public health officials can more effectively reduce malaria transmission.

The NMES's focus on data use is a critical part of Thailand's efforts to eliminate malaria. By making information about malaria transmission available to local jurisdictions, the NMES is helping to ensure that malaria interventions are being used effectively and that progress towards elimination can be monitored closely.

III. Cross-continental trends in surveillance

Thailand has experienced a response for 6 border provinces and as surge in malaria cases in 2023. The majority of cases are now occurring in the provinces of Tak, Mae Hong Son, and Kanchanaburi.

Due to the increase in malaria cases at the Thai-Myanmar border, there are many people who are already infected with the parasite, and infecting mosquitos

DVBD and local authorities are trying to cooperate with vector control in the province to investigate the quality of IRS in 78 operations because even in some areas with high receptivity, there are still many cases. This also includes working with local NGOs and community networks for surveillance and response.

IV. The next step of Thailand's National Malaria Elimination Strategy 2017-2026

The political situation and human movement on the Myanmar side border of Thailand see a sudden influx of thousands of migrants, coming for a safe place, and seeking health services or jobs, which can put a strain on our resources.

To prepare a response, Thailand needs to have a logistics plan in place and involve other organizations, such as the Ministry of Interior and the military. Ensuring children have access to education, even if they are only in Thailand temporarily is also another challenge. Most school children are Increasingly Infected by Malaria.

Except for the border provinces rest of the country has very few cases. Some provinces implementing POR have experienced cases coming back. This shows the intensity of the transmission in the PoR provinces. The VBDC has verified 46-47 cases in the PoR provinces so far.

Question

What are the key concerns for mobile migrants in Thailand?

Answer

International collaboration in the context of mobile migrants in Thailand is based on the principle of ensuring that all migrants have access to essential services, regardless of their legal status. This is achieved through a variety of mechanisms, including:

- Service provision: Governments and international organizations work together to provide essential services to mobile migrants, such as healthcare, health insurance, education, and employment support.
- Capacity building: Governments and international organizations work together to build the capacity of local organizations to provide services to mobile migrants.

- **Advocacy:** Governments and international organizations work together to advocate for the rights of mobile migrants and to promote policies that support their well-being.

For example, Tak Provincial Health Office in Thailand is providing the following services to mobile migrants:

- **Treatment for malaria:** All mobile migrants who are diagnosed with malaria, regardless of their legal status, can receive free treatment at the provincial hospital.
- **Accommodation:** Mobile migrants who are sick with malaria can stay at a temporary shelter for two days to ensure that they complete their treatment.
- **Mosquito nets:** Mobile migrants can receive mosquito nets to help protect them from malaria.

Question:

What is the accuracy of microscopy in diagnosing malaria?

Answer :

Microscopy is a relatively simple and inexpensive method of diagnosing malaria, but it is not always accurate. For this reason, it is important to confirm any positive microscopy results with a PCR test. In the case of the MP (malaria post), it is reasonable to include people with a positive microscopy result as PV (presumptive cases) even if they do not have a PCR confirmation. This is because the MP (malaria post) is likely to be located in a remote area where PCR testing is not readily available.

Question :

1. It is possible to provide treatment for malaria without PCR confirmation?

Answer :

Yes, it is possible to provide treatment for malaria without PCR confirmation. However, it is important to note that PCR testing is the most accurate way to diagnose malaria. Therefore, it is always best to confirm a positive microscopy result with a PCR test before starting treatment. In remote areas, PCR testing may not be readily available. In these cases, it is reasonable to start treatment based on a positive microscopy result. However, it is important to monitor the patient closely and refer them to the hospital if their condition does not improve.

Question :

1. If a Pf/Pv Antigen Rapid Test is positive for malaria, but the patient does not have any symptoms of malaria and does not respond to malaria treatment, what are the possible explanations?
2. Why is it important to test for non-malaria diseases in addition to malaria?

Answer :

There are a number of things that can be done to ensure that malaria cases are correctly diagnosed and treated. These include:

- Training healthcare workers in the diagnosis and treatment of malaria.

- Making sure that healthcare workers have access to the necessary medications and supplies.
- Implementing quality control measures for malaria diagnosis and treatment.
- Educating the public about the signs and symptoms of malaria, and where to seek treatment if they get sick.

It is important to test for non-malaria diseases in addition to malaria because some people who are infected with malaria may also be infected with other diseases. If these other diseases are not treated, they can lead to complications and even death.

Session 2 : Malaria Situation in Cambodia: Cambodia explores innovative approaches to maintain accelerated malaria elimination efforts in a time of pandemic diseases.

Dr. Siv Sovannaroth, Malaria Program Manager of CNM, Cambodia

Cambodia National Strategic Plan for Elimination of Malaria 2011-2025 (NSP 2011-2025). Cambodia has a goal to eliminate malaria by 2025. The Cambodia National Strategic Plan for Elimination of Malaria 2011-2025 aims to achieve the following:

- Eliminate artemisinin resistance parasite 2015.
- Eliminate malaria with an initial focus on P.falciparum & Zero deaths from malaria in 2020.
- Eliminate all malaria species by 2025.
- Zero indigenous malaria cases by the end of 2023.

I. Overview: Cambodia's Progress towards Malaria Elimination 2015 - 2025

Cambodia has made significant progress towards malaria elimination in recent years. The number of malaria cases has declined by over 90% since 2010. In 2021, there were only 5,849 malaria cases reported in Cambodia. However, Cambodia still faces some challenges to malaria elimination. One potential challenge is the presence of malaria in neighboring countries. Another challenge is the emergence of artemisinin resistance in malaria parasites. Cambodia can learn a number of important lessons from Thailand's experience with malaria elimination. Some of the key lessons from Thailand include:

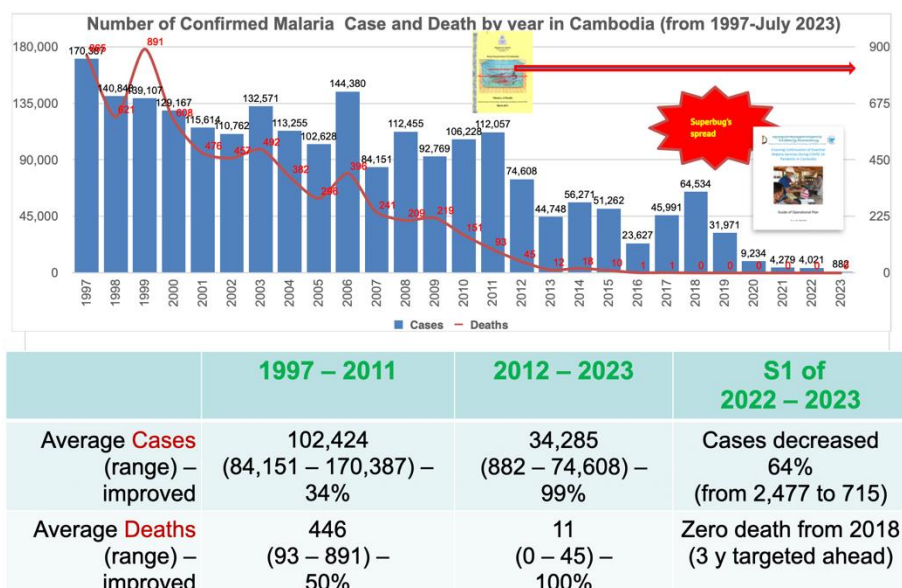
- The importance of strong political commitment and leadership
- The need for a comprehensive and integrated approach to malaria elimination
- The importance of community engagement and participation
- The need for sustainable financing

Cambodia's malaria elimination Action Framework (2021-2025) focuses on three key objectives:

1. **Provide early diagnosis and treatment:** This is essential for reducing malaria morbidity and mortality. Cambodia has a strong surveillance system in place to detect malaria cases early, and it uses artemisinin-based combination therapies (ACTs) as the first-line treatment for malaria.
2. **Interrupt transmission:** This is essential for preventing the spread of malaria. Cambodia uses a variety of vector control methods, including long-lasting insecticidal nets (LLINs), indoor residual spraying (IRS), and larviciding. It also focuses on mobile populations, who are at high risk of malaria transmission.
3. **Investigate and clear all malaria cases:** This is essential to prevent further transmission of malaria. Cambodia has a clear system in place to investigate and clear all malaria cases, including contact tracing and preventive treatment.

Enabling environment: Maintain effective program management and coordination at central and provincial levels and harness innovation and research. Cambodia is still finalizing its plan for the Province of PoR, which is a high-risk area for malaria. However, the overall program is well-coordinated and includes all levels of government, from the central level to the sub-national level.

Figure 4 Malaria Situation in 2023



Source: National Center for Parasitology, Entomology & Malaria Control, Cambodia

The graph shows a steady decline in the number of malaria cases in Cambodia over the past 30 years. In 1990, there were over 100,000 cases of malaria reported in Cambodia. By 2022, the number of cases had declined to just 1,200. As of July 2023, Cambodia has reported 882 malaria cases, including both *P. falciparum* and *P. vivax* cases. This is a significant decrease from the number of cases reported in previous years.

Cambodia is on track to achieve its goal of eliminating malaria by 2025. However, it is important to continue to support the country's malaria elimination program and to ensure that it has the resources it needs to succeed. Also, they have made significant progress in its malaria elimination program. Since 2011, malaria cases have decreased by 64%. There have been no deaths from malaria since 2018, three years ahead of schedule. However, Cambodia still faces some challenges to malaria elimination. One challenge is the presence of malaria in neighboring countries. Another challenge is the emergence of artemisinin resistance in malaria parasites.

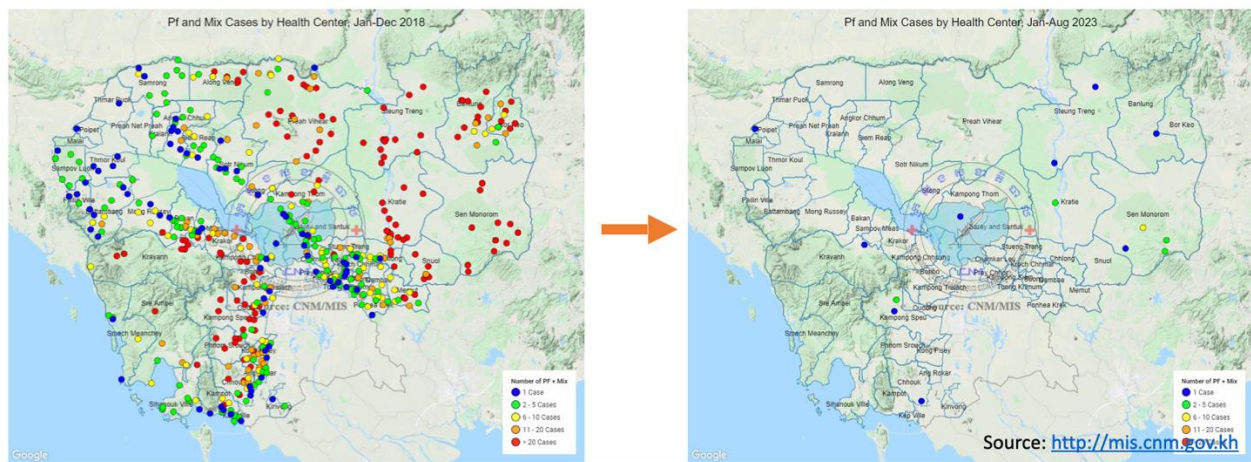
II. How Cambodia is implementing the National Malaria Elimination Strategy

Cambodia's Plan for the Province of Prevention of Re-establishment (PoR)

Cambodia is still finalizing its plan for the PoR, but it is expected to focus on early diagnosis and treatment, interrupting transmission and investigating and clearing all malaria cases.

The image shows a map of Cambodia with a focus on the border areas with Cambodia. The map is divided into two parts: the left side shows the situation in 2018, and the right side shows the situation in January-August 2023.

Figure 5 Intensification Activities "last mile approaches"



Source: <http://mis.cnm.gov.kh>

In 2018, malaria cases were reported in 21 provinces, 52 districts, 548 health centers, and 2,975 villages in Cambodia. The majority of cases were concentrated in the border areas with Cambodia. In January-August 2023, malaria cases were reported in only 9 provinces, 9 districts, 15 health centers, and 23 villages in Cambodia. The majority of cases were still concentrated in the border areas with Cambodia, but the number of cases had decreased by 99.8%.

In 2018, Cambodia introduced intensification activities, also known as "last mile approaches," to accelerate malaria elimination in the highest-burden areas. These approaches included:

- **Targeted mass screening and treatment:** This involved screening all people living in high-burden areas for malaria and treating those who were infected.
- **Enhanced vector control:** This involved using a combination of vector control methods, such as long-lasting insecticidal nets (LLINs), indoor residual spraying (IRS), and larviciding, to reduce the mosquito population.
- **Improved surveillance and response:** This involved strengthening surveillance systems to detect malaria cases early and respond to them promptly.

As a result of these last-mile approaches, Cambodia has made significant progress toward malaria elimination. The number of Pf/mix cases has decreased by 99.8% since 2018, from 17,830 cases to 27 cases in Jan – Aug 2023.

Pf elimination requires regional cooperation, as malaria can easily be reintroduced from neighboring countries. Cambodia is working with other countries in the region to develop a harmonized approach, which includes:

- Sharing information and best practices
- Coordinating vector control activities
- Enhancing surveillance and response systems

Specific interventions that Cambodia is implementing include:

- **Community network:** Cambodia has a network of community volunteers who provide malaria education and services in their communities.
- **Screening and treatment:** Cambodia is screening people for malaria and treating those who are infected, including mobile populations and forest goers.
- **Vector control:** Cambodia is using a combination of vector control methods, such as long-lasting insecticidal nets (LLINs), indoor residual spraying (IRS), and larviciding, to reduce the mosquito population.
- **Prevention:** Cambodia is providing malaria prophylaxis to forest goers and other high-risk groups.

Cambodia's approach to Pf malaria intervention is evidence-based and is tailored to the country's specific context. Cambodia is taking a number of innovative and pragmatic approaches to Pf malaria intervention, including:

- **Intermittent preventive treatment (IPT):** Cambodia is providing IPT to mobile populations, even if they are not eligible for the Targeted Drug Administration (TDA) program. This is because Cambodia recognizes that mobile populations are at high risk of Pf malaria.
- **Sentinel surveillance:** Cambodia is conducting sentinel surveillance in areas where mobile populations are present. This helps to identify malaria cases early and to respond promptly.

- **Community engagement:** Cambodia is working with communities to identify mobile populations and to ensure that they have access to malaria prevention and treatment services.
- **Targeted malaria prevention:** Cambodia is using a map to target malaria prevention efforts to the areas where they are most needed. This includes targeting the 15-49 age group, as this is the group that is most likely to produce gametocytes, which are the parasites that are transmitted to mosquitoes.

III. Next steps of Cambodia's National Malaria Elimination Strategy

- Continue to implement and strengthen its current Pf malaria elimination strategies.
- Develop and implement a PoR plan.
- Continue to learn from the experiences of other countries.

Cambodia is working to collaborate with Thailand on Pf malaria elimination. Cambodia is interested in learning from Thailand's successful experience in eliminating malaria at the border. Cambodia is also interested in sharing its own lessons learned with Thailand.

Pf malaria hotspots: The majority of Pf malaria cases in Cambodia are concentrated along the international borders. Cambodia is working to target interventions in these hotspots.

In conclusion, Cambodia is on track to eliminate Pf malaria by 2025. The country has a strong commitment to malaria elimination, and it is investing in the necessary programs and resources. Cambodia is also working to collaborate with other countries, such as Thailand, to accelerate Pf malaria elimination.

Cambodia challenge:

- Data on Pf malaria at the community level is limited. This makes it difficult to assess the true burden of Pf malaria in Cambodia and other countries in the region.
- Pf malaria is a complex disease. There is no one-size-fits-all approach to elimination. Cambodia is taking a tailored approach to Pf malaria elimination, based on its own unique context.

One of the key success factors for Cambodia's Pf malaria elimination program is its strong collaboration with partners. The program has a good relationship with the Ministry of Health, the National Malaria Control Program, and other government agencies. It also collaborates with donor agencies and technical partners to ensure that it has the resources and expertise it needs to succeed. The program also focuses on rapid response to cases. The national malaria program has a system in place to alert the relevant authorities to new cases immediately. This ensures that cases are investigated and responded to quickly, which helps to prevent further transmission.

Question

Did you encounter any resistance from communities?

Answer

Conducting mass drug administration (MDA) and individual targeted administration (ITA) for malaria prevention in Cambodia is still a challenge. Reaching pregnant women with MDA and ITA is challenging, as they are not recommended to receive the drugs. Low completion rates for MDA, due to people's reluctance to take the drugs, and difficulty in motivating people to receive ITA before going to the forest, especially if they have to travel a long distance to do so.

Cambodia's experiences and lessons learned in encouraging the community to participate:

- Providing food or other incentives can help to increase participation in MDA and ITA programs.
- Working with local authorities to mobilize communities is essential for success.
- It is important to tailor the program to the specific needs of the community, such as by providing ITA to people before they go to the forest.
- Cambodia has successfully used the unique identifier (ID) system to track people who have received MDA and ITA. This has helped to ensure that people are adequately protected from malaria.

Question:

Can community networks in high-risk areas be trained to provide malaria treatment?

Answer:

Cambodia started with operational districts (ODs) for PoR, while Thailand started at the provincial level. ODs in Cambodia cover a population of 10,000 people. This is smaller and more manageable than provinces, which can cover a population of 2-3 ODs. As a result, it is easier to collect and analyze data and to implement and monitor PoR activities in ODs. Additionally, ODs are closer to the communities where malaria transmission is occurring. This helps to ensure that PoR activities are targeted to the areas where they are most needed.

Finally, Cambodia's decision to start with ODs for PoR may also be based on its experiences with other public health programs. Cambodia has successfully used a decentralized approach to implement its malaria elimination program, and it is likely that the country is taking a similar approach to PoR.

Question:

What are the skills recommendation and knowledge that are needed for community networks and implementers to be successful in malaria elimination for now and future?

Answer:

Cambodia's health system is not as strong as Thailand's health system. This can lead to delays in diagnosis and treatment for malaria patients. Cambodia has a large number of remote villages, which can make it difficult to reach people with malaria prevention and control services. Cambodia's community networks are relatively new, so they still need training and support. However, Community networks can play a vital role in malaria elimination by providing diagnosis and treatment for malaria patients, as well as education and awareness-raising about malaria prevention and control measures. It is important to provide community networks with the necessary training and support to ensure that they are able to provide effective malaria prevention and control services. It is also important to integrate community networks into other public health programs, such as the PoR program. This will help to ensure that community networks are sustainable and that they can continue to play a role in improving the health of their communities.

Session 3 : Thailand's Surveillance for malaria elimination: focus on zero case reporting and provinces on the international border

By Ms.Suravadee Kitchakarn

Public Health Officer, Professional Level, Malaria Group, Division of Vector-Borne Diseases, Department of Disease Control Ministry of Public Health Thailand

In addition to the existing national and provincial communicable diseases committees. Thailand has established a new subcommittee under the National Communicable Diseases Committee (NCDC) to drive malaria elimination activities in the six high malaria reporting provinces along the Thai-Myanmar border. The main purpose of the committee is to provide a more coordinated and effective response to the malaria outbreak along the Thai-Myanmar border.

Figure 6 National policy mechanisms to accelerate malaria elimination in Thailand



Source: Guide to Malaria Elimination for Thailand's Local Administrative Organizations and the Health Network 2019

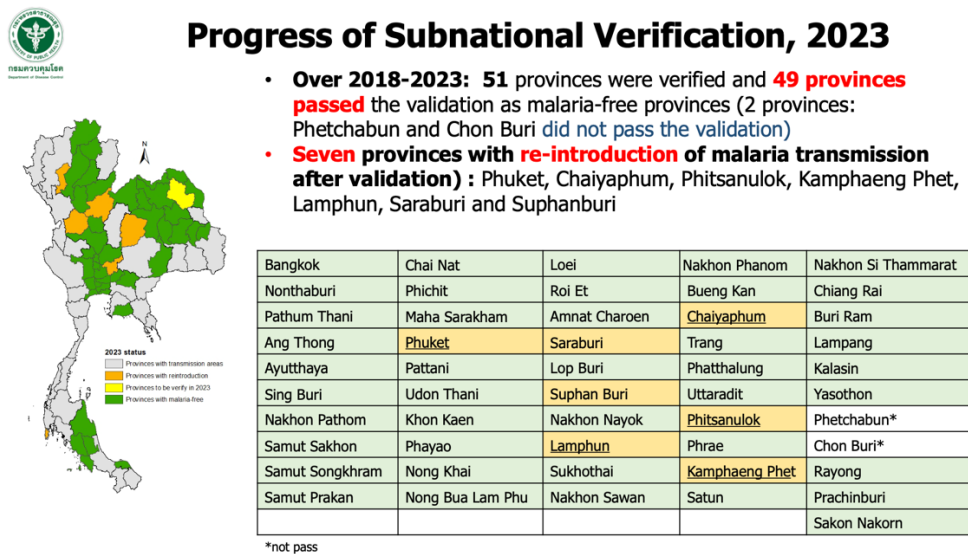
The National Communicable Disease Committee (NCDC) is a formal structure in response to the outbreak of malaria.

- Subcommittee for Malaria Elimination
 - Provincial Communicable Diseases Committees
 - Provincial Malaria Elimination Committees (in the six provinces along the Thai-Myanmar border)

I. Progress of Subnational Verification, 2023

Thailand has made significant progress towards malaria elimination in recent years. A total of 86% of districts are now free of malaria. This means that these districts have not reported any cases of malaria in the past three years. This is a significant achievement, and it shows that Thailand is making progress towards its goal of malaria elimination.

Figure 7 Progress of Subnational Verification, 2023



Source: DVBD, Department of Disease Control Ministry of Public Health Thailand

The image shows the progress of subnational verification of malaria elimination in Thailand as of October 2, 2023. As of October 2, 2023, 31 provinces have been verified for malaria elimination. A number of these, 9 provinces have passed the validation as malaria-free provinces. The remaining 22 provinces are still under verification. Seven provinces with re-introduction of malaria transmission after validation: Phuket, Chaiyaphum, Phitsanulok, Kamphaeng Phet, Lamphun, Saraburi and Suphanburi. Thailand has 77 provinces in total.

Thailand has been verifying subnational malaria elimination for the past five years. This image shows the number of districts in Thailand that have been verified as malaria-free, based on the incidence of malaria cases in the past three years.

- During 2017-2019, a total of 53 districts were certified, of which 19 were certified as malaria-free.
- During 2020-2025, a total of 51 districts were certified, of which 49 were certified as malaria-free. The difference between the 49 districts and the 3 districts that have not yet been clarified as malaria-free is that the 49 districts have had no A1 or A2 cases reported in the past year, while the 3 districts still have A1 or A2 cases reported.
- During 2026-2029, the goal for the future is to reduce the number of malaria cases to zero in Thailand. In 2029, a total of 48 districts in Thailand were certified as malaria-free.

A district is considered malaria-free if it has not reported any malaria cases in the past three consecutive years. However, the conditions which cause malaria to spread can change rapidly. Thus, the classification of villages by malaria situation must be conducted continuously as new cases are reported. If there is an indigenous case reported in A2, B1, or B2 villages, the response must take place urgently and the village will be reclassified as A1. The following section details intervention measures according to the four levels of classification.

Question:

What are the criteria for verification?

Answer:

Thailand uses five criteria to verify subnational malaria elimination, which is adapted from the World Health Organization (WHO) guidelines:

1. Zero indigenous malaria cases for three consecutive years
2. Strong surveillance system with weekly transmission and treatment reporting
3. Networking and investment from local organizations
4. Province-wide malaria elimination plan (PoR plan)
5. Implementation of the PoR plan

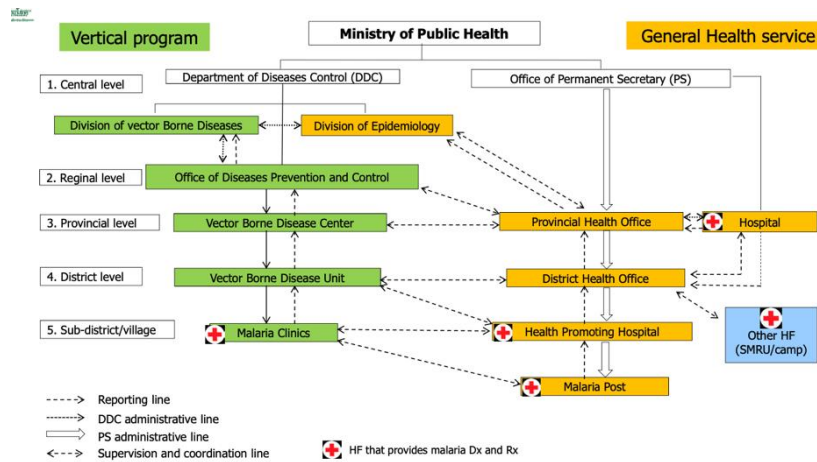
The PK (*Plasmodium knowlesi*) is a particular problem in the area of Koh Chang, an island province in Trat. This is likely due to the fact that Koh Chang is a popular tourist destination, and it is home to a large number of mosquitoes.

II. Structure of Malaria Elimination

Malaria is a notifiable disease in Thailand, which means that all cases of malaria must be reported to the Ministry of Public Health. This is important for tracking the spread of malaria and identifying areas where

interventions are needed. Thailand has two parallel surveillance systems for malaria: the malaria card system and the Integrated Disease Surveillance and Response (IDSR) system. The malaria card system is a passive system that relies on healthcare providers to report malaria cases. The IDSR system is an active system that uses a variety of methods to collect data on infectious diseases, including malaria.

Figure 8 Thailand malaria surveillance system



Source: DVBD, Department of Disease Control Ministry of Public Health Thailand

The malaria card system is still in use in Thailand, but it is being phased out in favor of the IDSR system. The IDSR system is considered to be more accurate and comprehensive than the malaria card system. Thailand has a network of malaria clinics and hospitals that provide diagnosis and treatment for malaria. These facilities are important for ensuring that people with malaria receive the care they need.

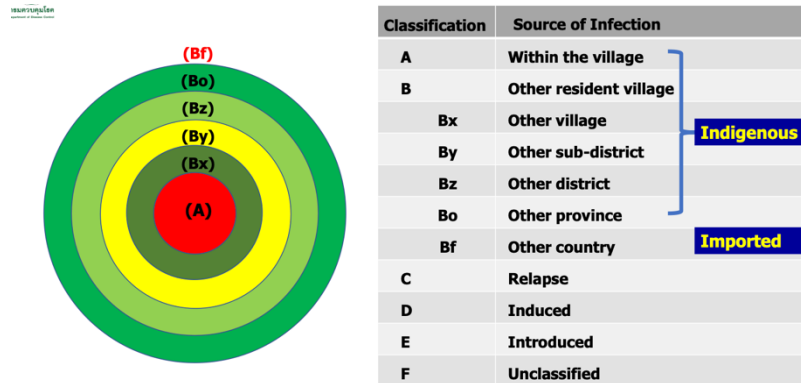
Thailand has two methods of case detection: active case detection and passive case detection. Active case detection involves health workers actively seeking out people who may have malaria. Passive case detection relies on people with malaria symptoms to seek care from a health facility. Also has a proactive case detection program (PACD), which is conducted before the high peak of malaria transmission. This program involves testing people for malaria even if they do not have any symptoms. When a case of malaria is detected, Thailand has a rapid response mechanism in place. The case is investigated within three days, and surveillance is conducted within seven days. Thailand also has a system in place to notify the relevant authorities of malaria cases.

III. Thailand 'S Classification system for malaria elimination

Thailand uses a different case classification system than the World Health Organization (WHO). The WHO system has only four categories: indigenous, imported, reintroduced, and unknown. Thailand's system has more categories, including other sources (OS), foreign workers, and visitors. This allows Thailand to track the movement of malaria cases more precisely. The database system also has a different system for the stratification of areas based on malaria risk. The WHO system has two categories: high risk and low risk.

Thailand's system has four categories: A1, A2, B1, and B2. This allows Thailand to target malaria interventions more effectively.

Figure 9 Case classification



Noted: Differentiation between Introduced, relapsing, and indigenous cases are problematic.

Source: DVBD, Department of Disease Control Ministry of Public Health Thailand

However, MIS uses the integrated disease surveillance and response (IDSR) system to monitor malaria cases. This system includes routine surveillance, active case detection, and passive case detection. The results of the IDSR system are used to guide the national treatment guideline. Thailand has a comprehensive system in place for malaria case investigation, classification, and surveillance. This system is essential for the country's malaria elimination efforts.

Question:

What was the reason for canceling active case detection in high-risk areas?

Answer:

Active case detection and vector control have been canceled in green areas, which are areas that have had no malaria cases for three consecutive years. However, the government will still conduct case investigation and classification in all areas, including green areas. This is because it is important to be able to identify and respond to any cases of malaria that do occur, even in green areas.

The government is also developing a new online system to track and manage malaria supplies (commodities). This system will help to ensure that all provinces have access to the malaria supplies they need, regardless of their malaria risk status. The application will collect data from local administrations and implement it to provide malaria control interventions to the targeted population. The application can be used to identify households that need malaria drugs and to ensure that the drugs are distributed evenly.

Questions:

1. Is national verification applied to all 51 provinces in Thailand?

How long will Thailand fight back malaria? Is there communication between Thai and Cambodian patients?

Answer:

1. National verification is applied to all 51 provinces in Thailand once. Provinces are assessed on their implementation of the PoR plan and may need to update their plan if their performance changes. Thailand aims to eliminate malaria within 5 years. There was only one case of malaria from Cambodia in Thailand in 2023. This case was likely indigenous to Thailand.

Question:

Is it possible that malaria could re-establish itself in an area that has been verified to be malaria-free?

Answer:

This is why it is important to continue surveillance in all areas, even those that are malaria-free. The challenge of surveillance at the central level is that it is difficult for the central level to monitor every single province on a daily basis. This is why it is important to have strong surveillance systems at the local level.

- Some of the specific challenges that Thailand faces in implementing malaria surveillance at the central level include:
 - The large size and geographic diversity of the country.
 - The limited resources available for surveillance.
 - The need to coordinate surveillance activities with a variety of stakeholders, including the Ministry of Health, provincial health offices, and local health facilities.
- Some of the things that Thailand is doing to strengthen its malaria surveillance system include:
 - Investing in training for health workers on malaria case detection and reporting.
 - Establishing strong surveillance networks at the local, provincial, and national levels.
 - Using technology to improve data collection and analysis.
- Some of the ways that Thailand can improve communication and collaboration between the central and local levels on malaria surveillance include:
 - Developing clear and concise guidelines for malaria surveillance.
 - Establishing regular communication channels between the central and local levels.
 - Providing training and support to local surveillance staff.

Question:

1. How can Thailand assess environmental changes and reclassify malaria risk areas based on entomological surveillance?

Answer

The question directly links to environmental factors and entomological surveillance. Entomological surveillance is used to monitor the population and distribution of malaria vectors, such as mosquitoes. Environmental factors, such as the presence of forests and rubber plantations, can be used to predict where malaria vectors are likely to be found. However, it is important to note that environmental factors are not perfect predictors of malaria vector distribution. It is possible for malaria vectors to be present in areas with low environmental risk. Even if environmental factors suggest that malaria vectors are unlikely to be present in an area, it is important to conduct entomological surveys to confirm this. This is because environmental factors are not perfect predictors of malaria vector distribution.

Cost-effectiveness and feasibility of entomological surveys. Entomological surveys can be expensive and time-consuming to conduct. This is why it is important to focus entomological surveys on areas that are at high risk of malaria transmission. Bangkok is a major city with a low risk of malaria transmission. However, it is important to conduct entomological surveys in Bangkok to ensure that malaria vectors are not present. Rubber plantations are a high-risk environment for malaria transmission. It is important to conduct entomological surveys in rubber plantations to monitor the population and distribution of malaria vectors. Thailand does not have the resources to conduct entomological surveys in every village. Therefore, it is important to prioritize entomological surveys in areas that are at high risk of malaria transmission.

Session 4 : WHO perspective and references on the POR

Dr. Deyer Gopinath, WHO Thailand

The current WHO recommendations for the prevention of re-establishment of malaria (PoR) are based on the following principles:

- Understanding the scientific basis of PoR. This includes understanding the factors that contribute to receptivity and transmission of malaria, as well as the risk of importation of parasites.
- Ensuring adequate access to service delivery. This includes having a well-functioning health system that can detect, investigate, and respond to malaria cases promptly and effectively.
- Maintaining vigilance. This means being on the lookout for malaria cases and taking immediate action to prevent them from leading to onward transmission.

The prevention of re-establishment of malaria is a complex challenge that requires a multi-pronged approach. This includes understanding the scientific basis of PoR, ensuring adequate access to service delivery, and maintaining vigilance. Interventions should be tailored to the specific context of each country or region. Also highlights the importance of integrating PoR planning into the general health system. This is because, once a country reaches the PoR stage, it will no longer have the same level of resources that it had during the control and elimination phases. Therefore, it is essential to have a system in place that can sustain PoR activities over time. All of the countries are encountering challenges in verifying the elimination of malaria and preventing its re-establishment. One of the challenges is that the

documentation of malaria cases may not be complete or accurate. This can be due to a number of factors, such as lack of access to health care, language barriers, and cultural factors.

Another challenge is that the malaria parasite can persist in the environment for long periods of time, even after there have been no locally transmitted cases for several years. This means that there is always a risk of re-establishment, even in countries that have been declared malaria-free. The importance of starting prevention of re-establishment (PoR) activities as early as possible, even before a country has been declared malaria-free. This is because it takes time to implement and institutionalize PoR measures.

The early of program by states that different countries may have different approaches to PoR, depending on their specific context. For example, in the Philippines, provinces that have eliminated malaria in some districts can start PoR activities for those districts right away, even if the province as a whole has not yet been declared malaria-free.

In conclusion, Verifying the elimination of malaria and preventing its re-establishment are challenging tasks. Documentation of malaria cases may be incomplete or inaccurate, and the malaria parasite can persist in the environment for long periods of time. It is important to start prevention of re-establishment activities as early as possible, even before a country has been declared malaria-free. Different countries may have different approaches to PoR, depending on their specific context.

Session 5 : Thailand PoR (Prevention of Re-establishment) Plan: Strategy and implementation criteria including the role of local stakeholders.

By Ms.Jerdsuda Kanjanasuwan

Public Health Officer, Senior Professional Level, Malaria Group, DVBD

Thailand is making significant progress towards its malaria elimination targets. By 2021, 42 out of the 77 provinces had been declared malaria-free. The government is working to implement a number of measures to prevent the re-establishment of malaria, including:

- Stakeholder engagement.
- Poverty alleviation.
- Strengthening of the health system.
- Surveillance and monitoring.
- Preparedness and response.
- Launching responses when a case is detected.

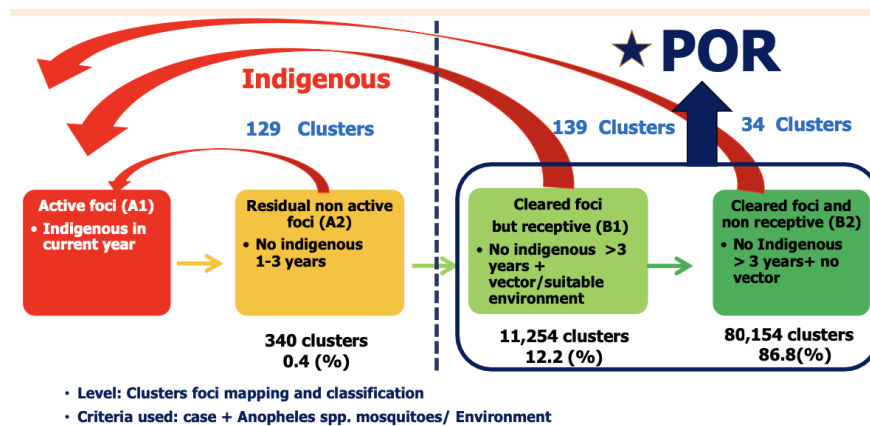
The government has also developed a new classification system for provinces based on their malaria risk. This system will be used to target prevention and response measures to the areas where they are most needed. Some of the key challenges to preventing the re-establishment of malaria in Thailand include:

- Parasite importation.
- Population movement.
- Resource constraints.

The government is working to address these challenges by developing and implementing new strategies and tools. For example, the government is developing a model to predict the risk of malaria re-introduction and re-establishment. This model will be used to target prevention measures in the highest-risk areas. The government is also working to strengthen surveillance and monitoring systems. This will help to ensure that any cases of malaria are detected and responded to quickly and effectively.

Finally, the government is working to build the capacity of the health system to prevent and respond to malaria. This includes training healthcare workers and ensuring that there is a sufficient supply of medical supplies and equipment.

Figure 10 Foci Classification FY2022



Source: malaria online, 15 Sep 23 Department of Disease Control, Ministry of Public Health Thailand

Specific challenges of PoR, such as:

- How long should PoR interventions be continued?
- What is the minimum level of activities that need to be contained in a PoR plan?
- How can we integrate PoR planning into the general health system?
- How can we monitor changes in the security situation and adapt our PoR plans accordingly?

Question:

What are the criteria for selecting areas for vector surveillance in Thailand?

Answer:

The working group has a vector surveillance plan that is being estimated. The areas will be selected based on various criteria, including the annual budget. Therefore, the framework and resources from the central level will be used to develop an action plan that will be implemented in some areas, especially in the B1 areas that may become A1 and A2 this year and next year. This is because, for A1 and A2, it means that there are existing vectors in those areas. That is why there are cases in those areas currently and in the

previous year. However, for B2, the working group may need to use vector surveillance because there are always results to be transferred.

Question:

How to select areas for vector surveillance under prevention of re-establishment (PoR) of malaria in Thailand.

Answer:

Thailand Malaria Elimination Programme (TMEP) is using a risk-based approach to select areas for vector surveillance. The criteria for selecting areas include the number of malaria cases in the previous year, the presence of risk factors such as mosquitoes and breeding sites, and the level of access to healthcare. Also mentions that the TMEP is working to strengthen cross-border collaboration with neighboring countries to prevent the re-establishment of malaria. The PoR plan should be comprehensive and include a variety of activities, such as vector surveillance, case investigation and response, and public education. The PoR plan should also be integrated into the general health system.

It concludes by mentioning that the TMEP is developing a new system to monitor the implementation of PoR plans. This system will help to ensure that PoR activities are being carried out effectively and that any gaps in implementation are identified and addressed.

The TTO (Technical Training Office), is responsible for providing technical support to the provinces on PoR activities. The SO (Subnational Office) is responsible for coordinating and implementing PoR activities at the subnational level. The TTO and SO work together to develop and implement the PoR plan. They collect data on the implementation of PoR activities and the prevalence of malaria, and they use this data to identify areas where the PoR plan needs to be improved. The TTO provides guidance and training to the SO, and the SO provides feedback to the TTO on the implementation of the PoR plan and monitor and evaluate the PoR plan.

Finally, Thailand has two certification processes for malaria: one for malaria elimination and one for prevention of re-establishment (PoR).

Question:

What is the difference between a map for malaria elimination and a map for PoR?

Answer:

The answer is that the two maps are not the same. The map for malaria elimination is based on the presence or absence of malaria cases, while the map for PoR is based on a risk assessment that takes into account factors such as the presence of mosquitoes and breeding sites, the level of access to healthcare, and the population density.

Question:

What additional activities are required to improve the PoR plan to obtain recertification for malaria elimination?

Answer:

The PoR is not a recertification for malaria elimination, but rather a set of activities that are implemented in areas that are at risk of re-establishment of malaria. PoR activities are already underway in areas that have been classified as A2, even though these areas have not yet been certified as malaria-free.

The area classification systems for malaria-endemic areas in Thailand

- A1: Areas with recent indigenous malaria cases.
- A2: Areas that have been malaria-free for at least one year but are still at risk of re-establishment due to factors such as the presence of mosquitoes and breeding sites, the level of access to healthcare, and the population density.
- B1: Areas that have been malaria-free for at least two years and have a low risk of re-establishment.
- B2: Areas that have been malaria-free for at least three years and have a very low risk of re-establishment.

The PoR activities are most important in A2 and B1 areas. In these areas, the goal is to prevent the re-establishment of malaria by implementing activities such as vector surveillance, case investigation and response, and public education.

Question:

Do areas with no cases of malaria for three years still need to implement PoR?

Answer:

It is important to continue to monitor and implement PoR activities in areas that have been declared malaria-free, even if there have been no cases of malaria in those areas for three years. This is because there is still a risk of re-establishment, especially in areas with moderate to high risk factors such as the presence of mosquitoes and breeding sites, the level of access to healthcare, and the population density.

The speaker also mentions that it is important to get the buy-in of local governments when implementing PoR activities. This is because local governments are responsible for implementing and coordinating many of the activities that are essential for PoR success, such as vector surveillance and case investigation and response.

Answer:

Managing receptivity to malaria is a complex challenge, and there is no one-size-fits-all solution. However, some possible interventions include:

- Matching the level of prevention to the level of risk. For example, people traveling from a low-risk area to a high-risk area may need different interventions than people traveling from a high-risk area to a high-risk area.
- Deciding where to implement interventions. This will depend on a variety of factors, such as the location of breeding sites and reservoirs of infection.
- Using a combination of interventions. This may include environmental control measures, such as mosquito control, as well as personal protective measures, such as mosquito nets and insect repellent.

Additionally, the importance of integrating PoR planning with other health programs. This is because many of the factors that contribute to malaria receptivity, such as poverty and lack of access to healthcare, are also associated with other health problems.

There is no clear blueprint for PoR planning, and the best approach is to learn from mistakes and adapt as needed. Then, the information on coverage and effective public service was brought back to their focus group discussion again. Foresight and backcasting frameworks can be used to construct future scenarios by clarifying the practical operation scenarios of service systems and defining their implementation interventions to malaria receptivity.

Session 6 : Malaria elimination mechanisms and task forces/working groups involved stakeholders and their roles at the local level

By Ms. Rungrawee Tipmontree

Division of Vector-Borne Diseases

Department of Disease Control Ministry of Public Health Thailand

The national classification system (A1,A2, B1 and B2) for malaria in Thailand is a system used to identify provinces that are on track to achieve and maintain malaria elimination. The system has two objectives: verification and preparation for certification.

The classification process begins in the second year after a province has achieved zero local transmission of malaria. The province must then maintain zero local transmission for two more years in order to be classified as malaria-free. Certification is a process by which the World Health Organization (WHO) recognizes that a country has achieved malaria elimination.

Thailand has adopted a sub-national classification process to identify provinces that have achieved and maintained malaria elimination. This process is overseen by a national committee consisting of experts in malaria control and elimination.

To be classified as malaria-free, a province must meet the following criteria:

- Have zero local transmission of malaria for at least two years.
- Have a functioning malaria control and elimination program.
- Have a plan for preventing the re-establishment of malaria.

The classification process begins with a self-assessment by the province. The province then submits a verification results report to the national committee. The committee reviews the reports and conducts a field visit to verify the province's malaria-free status.

If the province meets all the criteria, it is classified as malaria-free. The province remains classified as malaria-free as long as it continues to meet the criteria. Benefits of the sub-national classification process

The sub-national classification process has several benefits, including:

- It helps to ensure that provinces are taking the necessary steps to achieve and maintain malaria elimination.
- It identifies provinces that need additional support to achieve malaria elimination.
- It raises awareness of malaria and the importance of malaria elimination among provincial and local governments.

It motivates and rewards provinces for their malaria elimination efforts.

The sub-national classification process is an important tool for preventing the re-establishment of malaria in Thailand. By identifying provinces that have achieved and maintained malaria elimination, the process helps to ensure that all Thais are protected from this preventable disease. There are a few mechanisms, one of the key mechanisms is the National Malaria Committee, which is responsible for developing and implementing national malaria policies and strategies. The committee is chaired by the Minister of Public Health and includes representatives from a variety of government agencies, civil society organizations, and the private sector. Another important mechanism is the National Malaria Information System, which collects and analyzes data on malaria cases, trends, and interventions. This data is used to inform decision-making and to track progress towards malaria elimination.

In addition, there are a number of working groups and committees that focus on specific aspects of malaria control and elimination, such as surveillance, case management, vector control, and social mobilization. These groups are made up of experts from a variety of fields and work together to develop and implement effective malaria interventions.

At the provincial level, malaria control and elimination activities are coordinated by the provincial health offices. These offices work with local communities to implement malaria prevention and treatment programs. The malaria control and elimination program in Thailand is also supported by a number of international partners, including the World Health Organization, the United States Agency for International Development, and the Global Fund to Fight AIDS, Tuberculosis and Malaria.

Thailand's malaria elimination program involves a complex network of local mechanisms and working groups at the national, provincial, regional, and district levels.

National level:

- National Malaria Committee: Sets the tone and charts the course for malaria control and elimination nationwide.

- National Malaria Information System: Provides vital intelligence on malaria cases, trends, and interventions.
- Working groups and committees: Focus on specific aspects of malaria control and elimination, such as surveillance, case management, vector control, and social mobilization.

Provincial level:

- Provincial health offices: Coordinate malaria control and elimination activities in their respective provinces.
- Provincial Communicable Diseases Committee: Oversees malaria control and elimination efforts, ensuring that they are aligned with other communicable disease prevention and control programs.

Regional level:

- Prevention and Control of Disease Offices: Coordinate malaria control and elimination activities across multiple provinces.

District level:

- Vector Borne Disease Control Units: Provide malaria prevention and treatment services to local communities.

Other mechanisms:

- Department of Disease Control and Division of Malaria Control: Develop and implement national malaria control and elimination strategies.
- National Communicable Diseases Committee: Oversees malaria control and elimination efforts at the national level.
- Communicable Disease Law (2015): Provides the legal basis for malaria control and elimination efforts.
- Global Fund to Fight AIDS, Tuberculosis and Malaria: Provides financial support for malaria control and elimination efforts.

Recent developments:

- In response to the recent increase in malaria cases, Thailand has established a Malaria Crisis Committee under the leadership of Deputy Prime Minister and Minister of Public Health Dr. Sophon Iamsirivath.
- The Malaria Crisis Committee is tasked with developing and implementing a comprehensive plan to address the malaria situation in Thailand.

The Ministry of Public Health is working to develop guidelines for how the PHO can contribute to malaria information and education. These guidelines will be written in simple language so that they are easy to understand.

The role of local governments in malaria elimination is not just limited to the SAO. Other local government agencies, such as the Department of Education, the Department of Health, and the civil society organizations, also play an important role.

It is important to note that malaria elimination is a complex task that requires the collaboration of all stakeholders, including the government, the private sector, and the community. The PHO, the Ministry of Public Health, and other local government agencies can play a leading role in coordinating and supporting malaria elimination efforts.

Question:

Based on Thailand's experience how Cambodia can engage the Commune Council (CC) in malaria elimination effectively?

The CC is the lowest level of government in Cambodia and is responsible for managing local affairs, including healthcare. The CC receives a budget from the central government, which can be used to fund a variety of projects, including malaria elimination activities. To get the CC involved in malaria elimination, the National Malaria Program (NMP) has developed a new community-led malaria elimination plan. This plan encourages the CC to identify and address the local malaria challenges in their community. The NMP provides technical and financial support to the CC to implement malaria elimination activities.

Answer:

In Thailand, the SAO plays an important role in malaria elimination. For example, the SAO can:

- Provide financial support for malaria elimination activities, such as mosquito net distribution and community awareness campaigns.
- Coordinate malaria elimination activities with other stakeholders, such as the provincial health office and the community.
- Engage the community in malaria elimination activities.

Thailand has one challenge that the SAO faces in malaria elimination is that the migrant population is not always covered by the Thai budget. This is because the plan usually does not include malaria at the first rate and the first place. The solution to address this challenge is to submit proposals to the SAO for funding for malaria elimination activities that target the migrant population. It is important to convince the SAO that it is important to contain the transmission of malaria among the migrant population to prevent it from spreading to the local population.

One example of a malaria elimination activity that the SAO could fund is the distribution of mosquito nets to migrant workers. This would help to reduce the risk of malaria transmission among the migrant population and protect the local population from malaria.

Question:

When will the budget be considered for SAO?

Answer: Annually, we review the budget during July and August. However, if an outbreak occurs, they can request emergency funding at any time.

Question:

What is the Ministry of Public Health's involvement with the SAO in the development of SoPs.

Answer:

When the National Malaria Program developed the SoP for malaria elimination, we first met with the SAO to discuss their needs and concerns. The SoP is drafted and shared with the SAO for feedback. We also consulted with the Ministry of Public Health to ensure that the SoP was feasible and aligned with goals. Once we had received feedback from the SAO and ministry, we finalized the SoP and distributed it to all relevant stakeholders.

Question:

What are the criteria that the SAO uses to determine whether or not the PoR for malaria elimination has been implemented?

Answer:

In the past, we would simply review the SAO's plan for malaria elimination before releasing funding. However, we learned that this was not enough to ensure that the plan was actually being implemented effectively. As a result, we now require the SAO to provide proof of implementation (PoR) before we release funding. This helps us to identify and address any challenges early on, and also mentions that the requirement for PoR is consistent with best practices in international development. Many donors now require recipients to provide PoR before releasing funding. This helps to ensure that the donor's money is being used effectively and that the expected outcomes are being achieved.

Question:

How do you ensure that a sub-national area that has been certified malaria-free, such as a province or district, remains malaria-free?

Answer:

In the past, the Vector Borne Disease Centre (VBDC) only required provinces and districts to submit a plan for malaria elimination. However, the technical officer learned that this was not enough. That's why the

VBDC now requires provinces and districts to have a proof of implementation PoR plan in place before the VBDC certifies them as malaria-free. The VBDC also started the PoR verification process in the second year, instead of the third year. This is because the VBDC wants to identify and address any challenges early on. The VBDC also learned with SAO and stakeholders because technical officers have to review information and specific tactics to fit with each SAO's condition (tailor-made). So, it is important to verify all data sources, not just the Ministry of Public Health's data system. This is because there may be cases of malaria that are not reported to the Ministry of Public Health.

Question:

Why is it important to provide training to the SAOs on other relevant diseases, for example, HIV, TB and etc in addition to malaria training?

Answer:

The DVBD is a vertical program for malaria, so only focuses on malaria. The DVBD does not have the expertise to approve projects that deal with other diseases, such as TB and HIV. However, The DVBD encourage health centers to submit proposals for malaria-related projects, and the technical officer can provide them with guidance on how to develop and implement these projects. For example, if a health center submits a proposal for a project that deals with multiple diseases, we may suggest that they break the project down into smaller, more manageable projects, or that they focus on the malaria component of the project.

If the SAO submits a proposal for a project that addresses multiple diseases, including malaria, with a budget of 100,000 baht, then the DVBD would ask the SAO to provide a percentage of the project budget that is specifically for malaria. For example, the SAO might say that 40% of the project budget is for malaria. In this case, the DVBD would include 40,000 baht in the budget for malaria elimination. This approach is fair and transparent, and it helps to ensure that the DVBD is accurately tracking the amount of money that SAOs are contributing to malaria elimination efforts.

Two key findings from a transition readiness assessment are the need to integrate malaria programs into general health services and the need to mobilize local resources.

Thailand has a training program that the VBDC has developed to help SAOs understand malaria and how to support malaria elimination activities. The training program covers a variety of topics, including the basics of malaria transmission, the early elimination strategy, and the different types of funding that SAOs have available.

There is a community health promotion fund that is funded by the National Health Security Office (NHSO) at 45 baht per capita, together with a contribution from the Bangkok Metropolitan Administration of not less than 60%. This fund is used to support community health promotion and disease prevention activities, with a total budget of 590 million baht per year. The fund was established in 2018, and as of 2023, there is a total of over 1.7 billion baht in the fund.

Question:

There is currently no system in place to account for money that SAOs spend on malaria elimination activities without submitting a proposal. Is this a challenge that is being worked to address?

Answer:

Important point about the challenge of accounting for money that SAOs spend on malaria elimination activities if they do not have a dedicated person for health projects. This is a challenge that many countries face. One possible solution to this challenge would be to develop a simplified reporting system for SAOs to report on their malaria elimination activities, including those that are not conducted by a dedicated health education person. This reporting system could be designed to be easy to use and to minimize the burden on SAOs. Another possible solution would be to provide SAOs with a small amount of funding for flexible activities. This funding could be used by SAOs to support malaria elimination activities that are not conducted by a dedicated health education person.

Question:

What percentage of their annual budget do SAOs allocate to malaria elimination activities?

Answer:

SAOs use their budget to fund a variety of health services, including malaria elimination activities. The amount of money that SAOs allocate to malaria elimination activities varies depending on the level of malaria transmission in the area, the availability of funding from other sources, and the priorities of the SAO. SAOs are also responsible for providing other essential health services, such as maternal and child health care, immunization, and infectious disease control. SAOs also play a role in promoting healthy lifestyles and preventing chronic diseases. SAOs are an important part of the Thai healthcare system. They play a vital role in providing health services to the community and in preventing and controlling diseases.

Question:

Can SAOs develop and implement their own provincial PoR guidelines?

Answer:

SAOs should adopt the national PoR endorsed by the central agency as a strategic problem orientation. This means reorienting targeting goals and re-assigning appropriate strategies and tactics for risk groups to fit in each SAO's context.

The DVBD can help SAOs to develop and implement their own provincial PoR guidelines by:

- Providing them with a template or framework for developing their guidelines.
- Helping them to collect and analyze data on the risk of malaria reintroduction in their province.

- Helping them to identify and prioritize the sub-districts in their province that are at the highest risk of malaria reintroduction.
- Providing them with technical assistance and support in developing and implementing their guidelines.

Question:

What is the role of the health volunteer in PoR, and Can their level of participation be increased or maintained?

Answer:

The DVBD is recognized malaria elimination is a long-term process. Even after a province has been declared malaria-free, there is still a risk of malaria reintroduction. Therefore, it is important to continue to invest in PoR activities in high-risk sub-districts. There are a few ways to ensure that high-risk sub-districts continue to receive funding for PoR activities, even if the province as a whole has been declared malaria-free.

- Develop a provincial PoR plan that identifies and prioritizes high-risk sub-districts. This plan should be based on a thorough assessment of the malaria situation in the province.
- Advocate for funding for PoR activities in high-risk sub-districts. This can be done by working with government officials, donors, and other stakeholders.
- Develop innovative financing mechanisms for PoR activities in high-risk sub-districts. For example, SAOs could partner with the private sector or community organizations to raise funds.

Reference

1. Guide to Malaria Elimination for Thailand's Local Administrative Organizations and the Health Network. Bureau of Vector Borne Diseases Department of Disease Control, Ministry of Public Health 2019
2. Cao, J. et al. Communicating and monitoring surveillance and response activities for malaria elimination: China's "1-3-7" strategy. *PLoS Med.* **11**, e1001642 (2014).
3. Lertpiriyasuwat, C. et al. Implementation and success factors from Thailand's 1-3-7 surveillance strategy for malaria elimination. *Malar. J.* **20**, 201 (2021).

Annex 1. Meeting agenda

AGENDA
Prevention of Re-establishment (PoR) workshop and field visit
27 – 29 September 2023
Venue Oakwood Suite Tiwanon, Nonthaburi province Thailand,
and Prachinburi province, Thailand

Time	Details	Facilitators
26 September 2023 Participants arrive at BKK		
27 September 2023 Workshop: Prevention of Re-establishment (PoR) workshop Venue: Oakwood Suite Tiwanon, Nontaburi, Thailand		
8.30 - 8.45	Registration	
8:45 – 9:00	Agenda and PoR workshop program overview	Shreehari Achaya Project Manager, CSO Platform
9.00-9:30	Welcome Opening	Dr.Rungrawee Tipmontree Chief of Malaria Group, DVBD
9:30 – 10:00	Overview of Thailand National malaria Strategic Plan and malaria situation	Division of Vector-Borne Diseases (DVBD), Department of Disease Control (DDC), Ministry of Public Health
10:00 – 10:15	Group Photo	
10.15 – 10:30	Coffee break	
10.30 – 11:15	Cambodia malaria situation and elimination strategy	CNM representative
11:15-12:00	Thailand Surveillance for malaria elimination: with focus on low burden or zero case reporting province and provinces on the international border	Ms.Suravadee Kitchakarn Public Health Officer, Professional Level, Malaria Group, DVBD
12:00-13:00	Lunch break	
13:00-13:30	WHO perspective and references on the POR	Dr. Deyer Gopinath, WHO Thailand
13.30-15:00	Thailand PoR (Prevention of Re-establishment) Plan: Strategy and implementation criteria including role of local stakeholders	Ms.Jerdsuda Kanjanasuwan Public Health Officer, Senior Professional Level, Malaria Group, DVBD
15:00-15:15	Coffee break	
15:15-16:30	Existing local mechanism and taskforce/working group for malaria elimination, involved stakeholders and their role	Dr.Rungrawee Tipmontree Chief of Malaria Group, DVBD

Time	Details	Facilitators
28 September 2023 - Field visit Venue: Bu Phram Subdistrict Administration Office, Na Di District, Prachinburi province, Thailand		
8:00-12:00	Depart to Prachinburi province	1 st van: pick up at Oakwood 2 nd van: pick up at DVBD office
12:00-13:00	Lunch	ร้านคำวันวาน
13.00-14.00	The Provincial PoR plan: developing and implementing process	<ul style="list-style-type: none"> Mr. Dansroung Wannawongsorn Public Health Officer, Professional Level, Head of communicable disease unit.

		<ul style="list-style-type: none"> • Mr. Sarawut Nasahwan Public Health Officer Practitioner Level. Prachinburi Provincial Public Health Office
14.00-15.00	The Collaboration between Subdistrict Administrative Organization (SAO) and health networks in PoR implementing program.	<ul style="list-style-type: none"> • Chief Executive of the Bu Phram SAO • Ban Thap Ian District Health Promotion Hospital
15.00-17.00	Community visit: Learning community preparation for PoR	Ban Thap Ian District Health Promotion Hospital
17.00	Back to hotel	The Canal 304 Hotel, Sri Mahapho District, Prachinburi province
9:00-10:30	The community collaboration in health service module development for PoR implementing program	<ul style="list-style-type: none"> • Miss Namthip Yimyam Public Health Officer Professional Level • Miss Prapavee Pansuk Registered Nurse Professional Level Ban Hin Tern District Health Promotion Hospital
10:30-11:00	PoR workshop Wrap up	CNM, DBVD, CSO Platform
11:00-12.30	Community visit: Learning community preparation for PoR at Community Health facility with village health volunteer.	Kaeng Dinso Subdistrict area. <ul style="list-style-type: none"> • Kaeng Dinso SAO • Kaeng Dinso Subdistrict Headman • Head of Ban Hin Tern Village Health Volunteer
<i>12.30-13.30</i>	<i>Lunch</i>	<i>ร้านอาหารริมเขื่อน</i>
13.30-18.00	Back to Bangkok	



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