Harnessing surveillance data to improve active case detection in Thailand

May 23, 2023

Jui Shah
Chief of Party
Presentation outline

1. Program overview
2. Active case detection in Thailand
3. Results and recommendations
Program overview
Program purpose

Inform Asia promotes the generation and use of evidence-based strategic information to achieve malaria elimination in Thailand and Lao PDR.

Aligned with USAID’s journey to self-reliance principles, the program works alongside government counterparts to share knowledge and foster sustainability.
Intermediate results

1. Strengthened malaria surveillance systems in Thailand and Lao PDR
Intermediate results

1. Strengthened malaria surveillance systems in Thailand and Lao PDR

2. Evaluated strategies and tools for implementation and scale-up for malaria elimination
Intermediate results

1. Strengthened malaria surveillance systems in Thailand and Lao PDR

2. Evaluated strategies and tools for implementation and scale-up for malaria elimination

3. Strengthened capacity of national malaria programs to generate, analyze, and use strategic information
Inform Asia: USAID’s Health Research Program

Research topics

- Cost-benefit analyses
- Drug efficacy
- School-aged children
- Environmental factors
- Increasing border cases
- Malaria in the era of COVID-19
- Stratification for POR
- Active case detection
Active case detection in Thailand
Proactive and reactive methods

**Passive Case Detection**

- **Seeks new cases in high-risk areas and among specific high-risk groups based on national surveillance data**
  - Special Case Detection (SCD)
  - Malaria mobile clinic (MMC)
  - Fixed Schedule Malaria Clinic (FSMC)

**Active Case Detection**

- **Seeks new cases near a passively detected index case by screening nearby individuals. RACD triggers interventions to prevent further transmission.**
  - Reactive Case Detection (RACD)
    - Mass blood survey (MBS)
    - Case investigation survey (CIS)

Within endemic and high-risk areas, targets population with an unusual event (e.g., migration, increasing incidence, recent travel).

Ad-hoc events at unplanned sites to reach epidemic-prone, high-incidence, or endemic areas.

Planned events during malaria outbreaks with fixed schedule and place to encourage community participation (e.g., weekend market, village monthly meeting, temple).
Balancing surveillance needs and resources

Resources per case for elimination

Leaner staff at national program

Thailand elimination goal 2024

Inform Asia closeout 2023

Resources per case for elimination

Inform Asia closeout 2023

Leaner staff at national program

Thailand elimination goal 2024
Analysis to support program optimization

- Since FY20, incidence <0.1 per 1,000 population

- Resource-intensive surveillance strategies may yield diminishing returns for malaria elimination

- How can we assess and optimize ACD?
Results and recommendations
Malaria cases and test positivity, FY15–21

- TPR 1.06% (3.81% for passive, ACD 0.08%)
- ACD is 73.75% of blood tests but just 5.53% of confirmed cases
By FY21, PACD represented just 32.37% of ACD cases
- Results align with evidence from other low-burden settings
Contribution of tests and cases, by ACD method, FY15–21

Malaria tests

Confirmed cases

FY15 FY16 FY17 FY18 FY19 FY20 FY21

0% 20% 40% 60% 80% 100%

FY15 FY16 FY17 FY18 FY19 FY20 FY21

0% 20% 40% 60% 80% 100%

PACD SCD
PACD MMC
PACD FSMC
RACD CIS
RACD MBS
Enhanced surveillance infrastructure

- Utility of current ACD strategies is diminishing

- Further analyses could confirm how to optimize PACD and RACD, accounting for the variation in methods, subnational epidemiology, and costs

- ACD can continue to contribute to elimination but with more deliberate targeting, guided by the country’s high-quality surveillance data to balance known operational costs
Developing a PACD protocol

- Waning PACD yield could be an indication that this strategy is no longer relevant
- PACD is most likely to remain useful only in specific micro-contexts
- PACD could be alternatively implemented to maximize yield and reduce wastage
  - Identifying high-risk individuals and areas
  - Timing of blood draws
  - Flexibility in implementation cycles
Thank you
Thank you