

**The status and preparations of  
Thailand  
towards containment of  
drug resistance and elimination**

JITMM

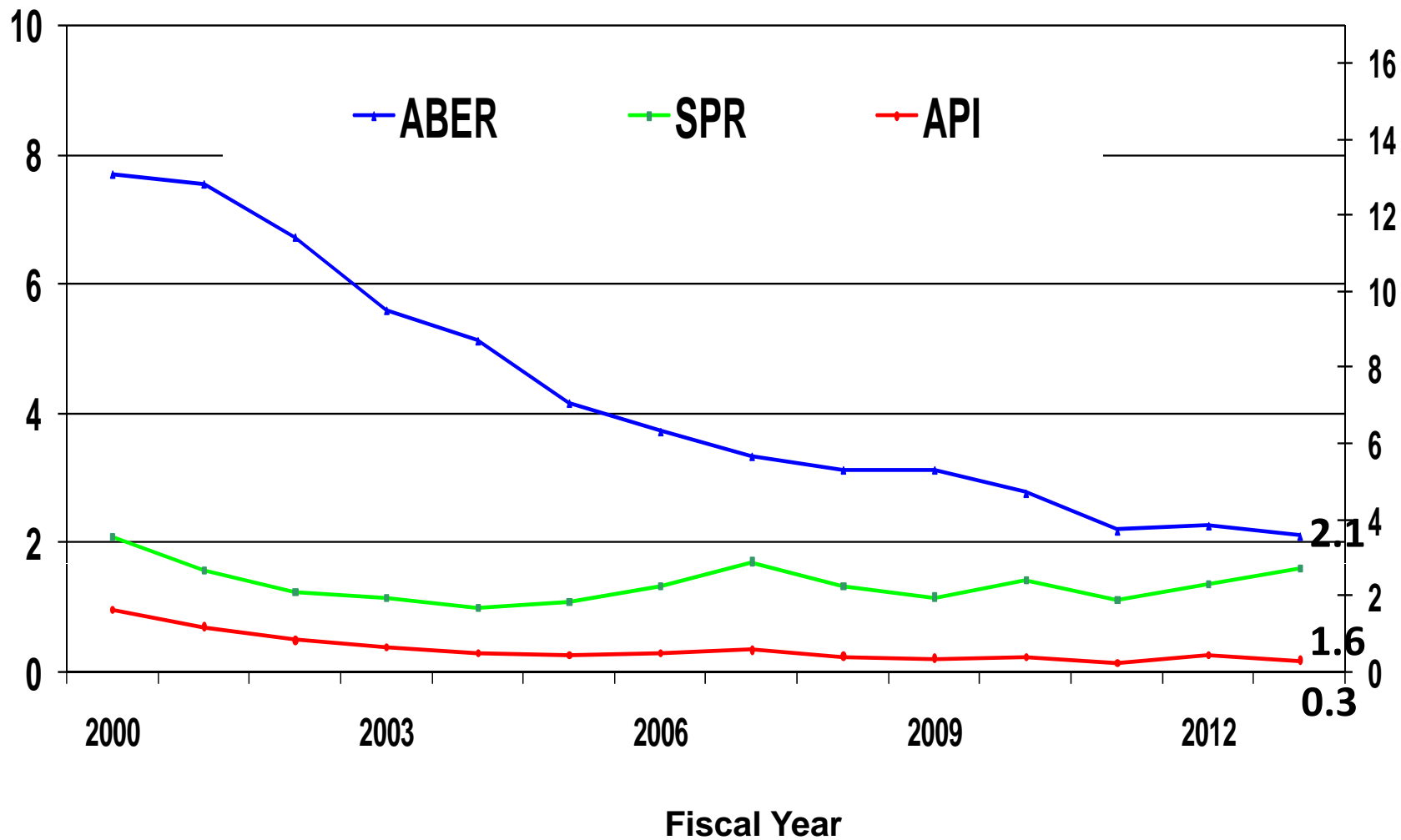
11<sup>th</sup> Dec 2013

Bangkok, Thailand

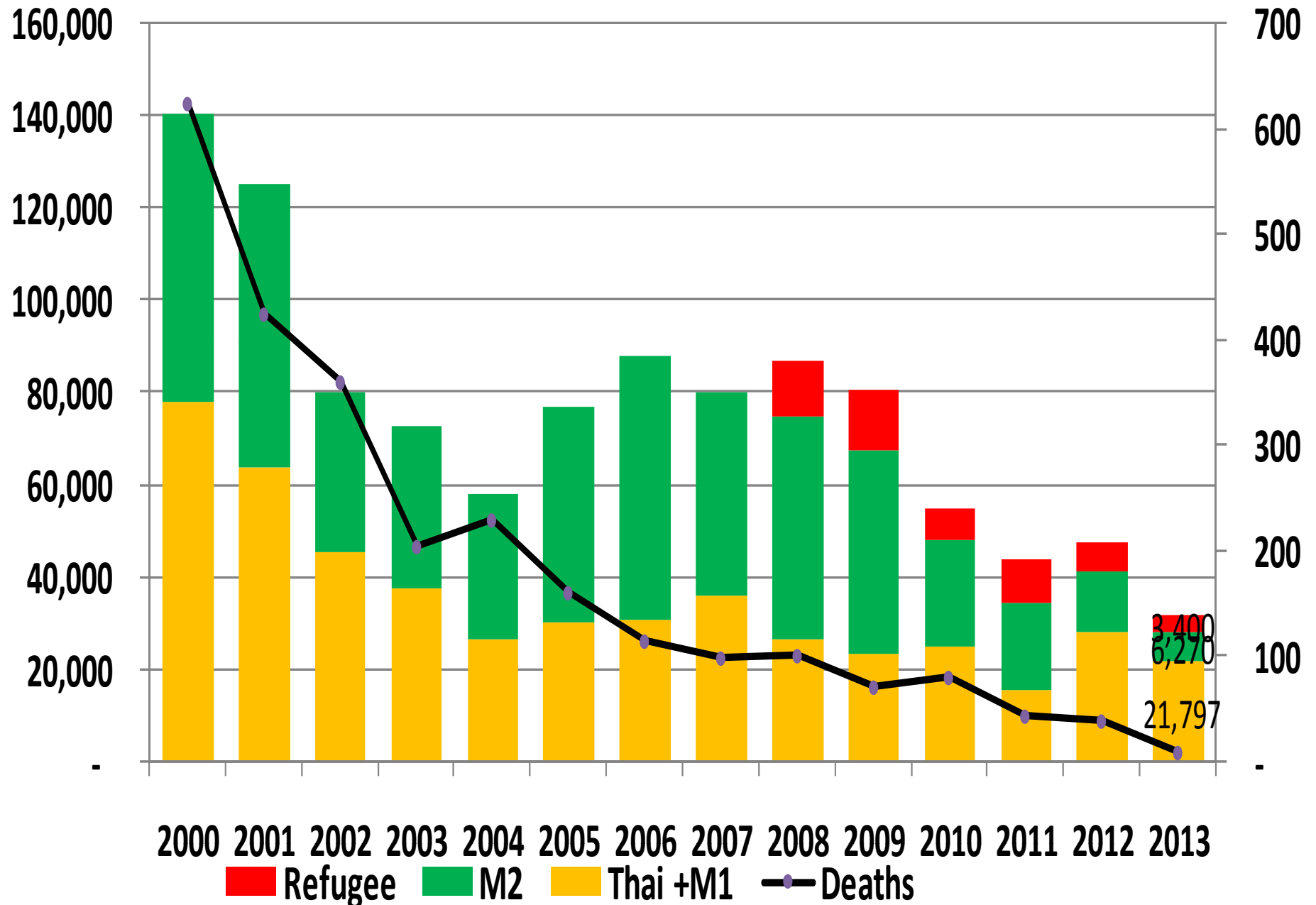
# Annual Blood Examination Rate (ABER), Slide Positivity Rate (SPR) and Annual Parasite Incidence (API/1,000), Thailand FY 2000 - 2013

ABER & SPR / 100 pop.

API / 1,000 pop.

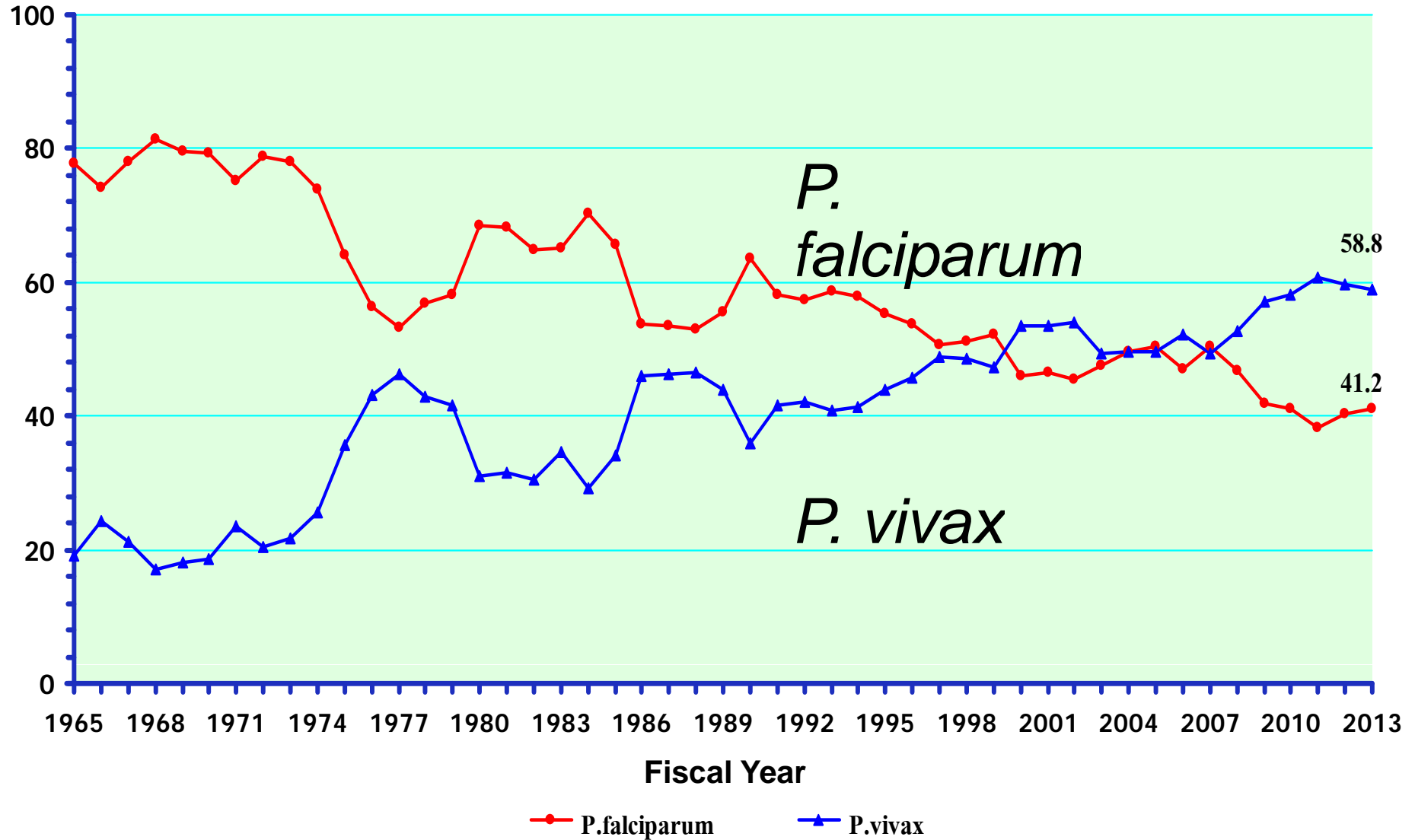


Positive malaria cases and deaths, 2000-2013 , Thailand

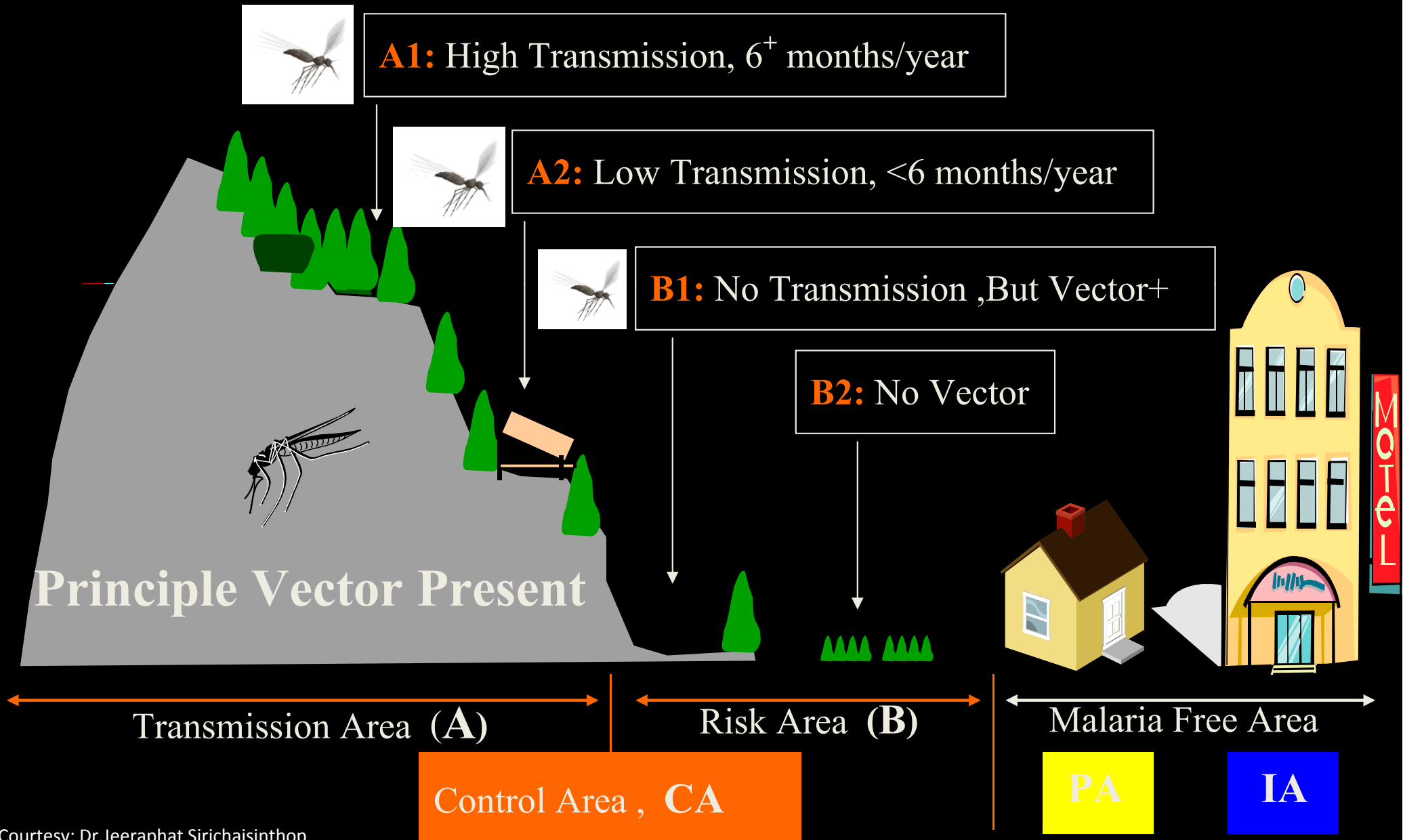


# Proportion of malaria parasite species, Thailand, FY 1965-2013

Percentage



# AREA STRATIFICATION



# Malaria transmission villages, 2012

SITE National, Province, Amphoe, Tambon, Village

Date 2012

Malaria Map Village Level

National (NAT) value **4,835 villages**

A1 992 Areas

A2 3868 Areas

B1 7144 Areas

B2 20379 Areas

Total 32383 Areas

▶ Patient Followup

▶ Map Layer



# Malaria transmission villages, 2013

map description

Micro-stratification of malaria risk areas

SITE National, Province, Amphoe, Tambon, Village

Date 2013

Malaria Map Village Level

National (NAT) value **4,845 villages**

A1 957 Areas

A2 4373 Areas

B1 7550 Areas

B2 23389 Areas

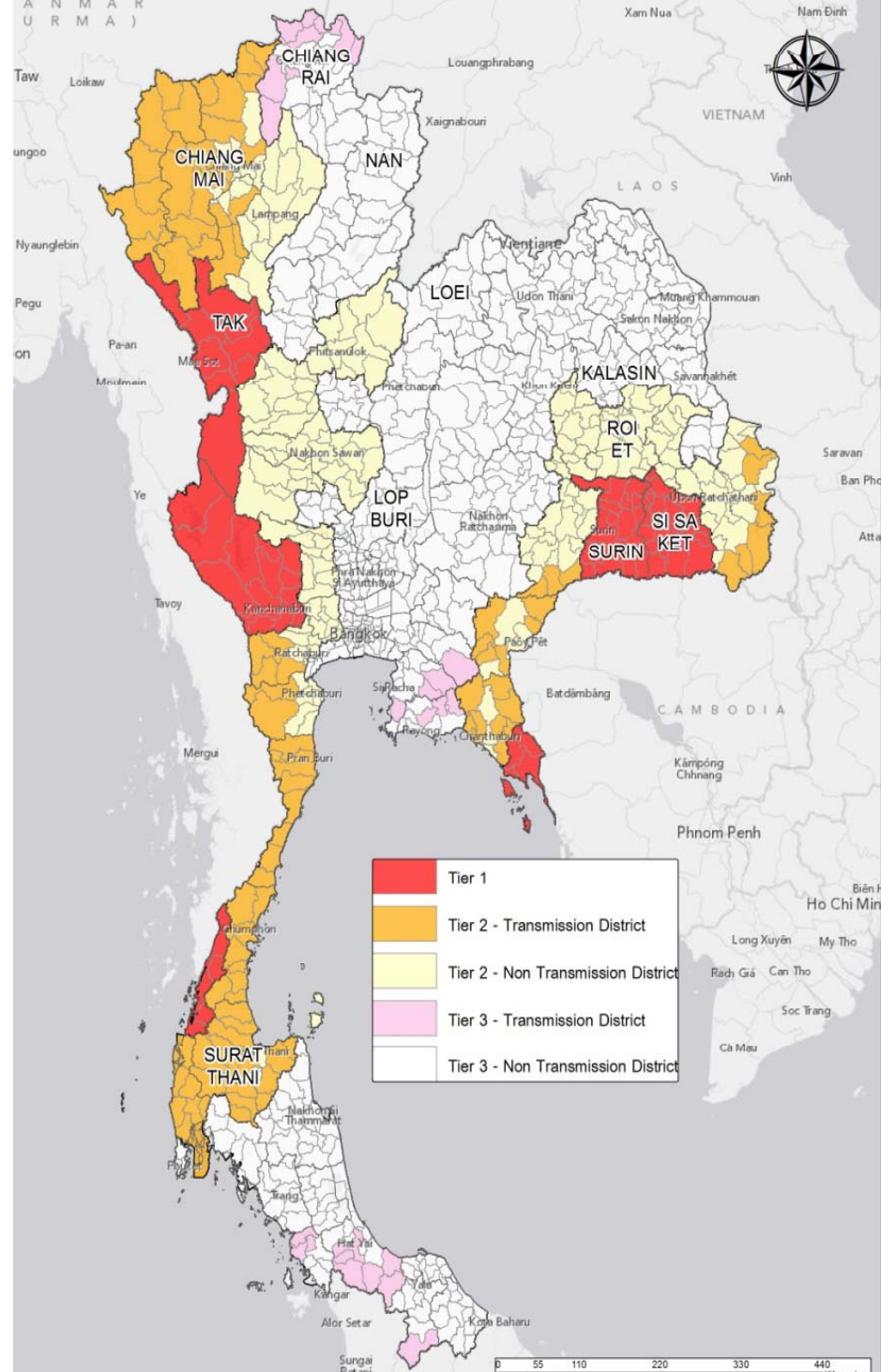
Total 36269 Areas

▶ Patient Followup

▶ Map Layer



# Artemisinin resistance areas classified by malaria transmission districts, Thailand 2012



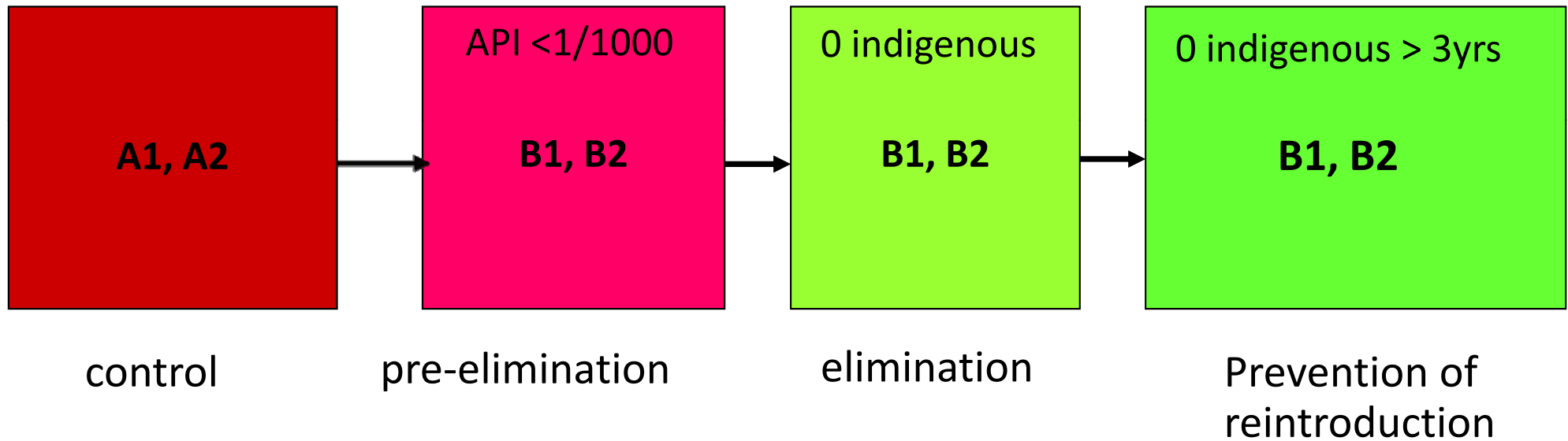


# Total Population At Risk vs Total Population in Thailand by Tier

Tier			1	2	3	Total
Thailand	Population	At risk	421,591	544,148	782,791	1,478,530
		Total	5,136,776	5,231,576	54,088,843	64,446,695



# Malaria control to Elimination



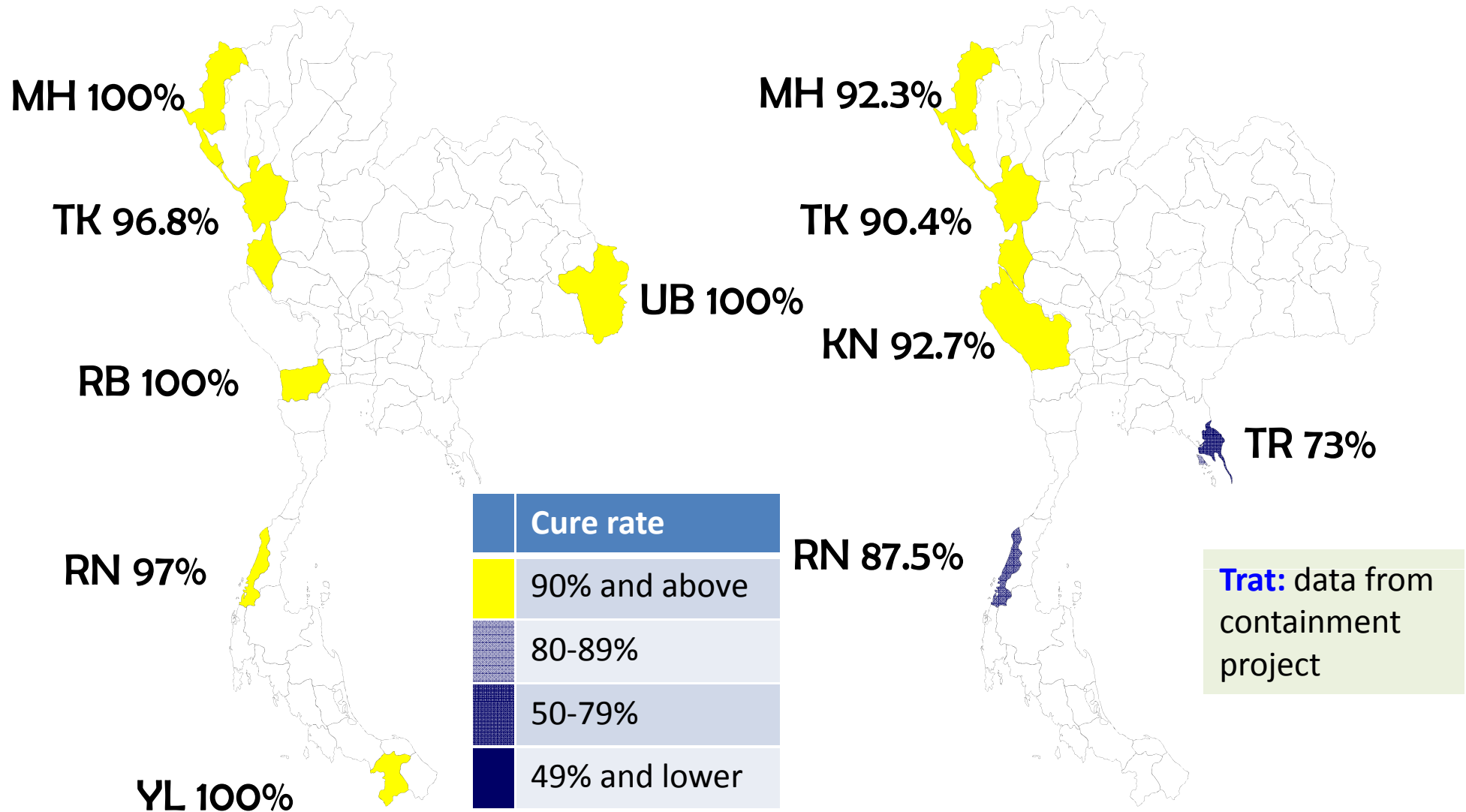
Unit of implementation = District

# 3-day ARS+M (falciparum malaria)

*(Data from therapeutic efficacy monitoring)*

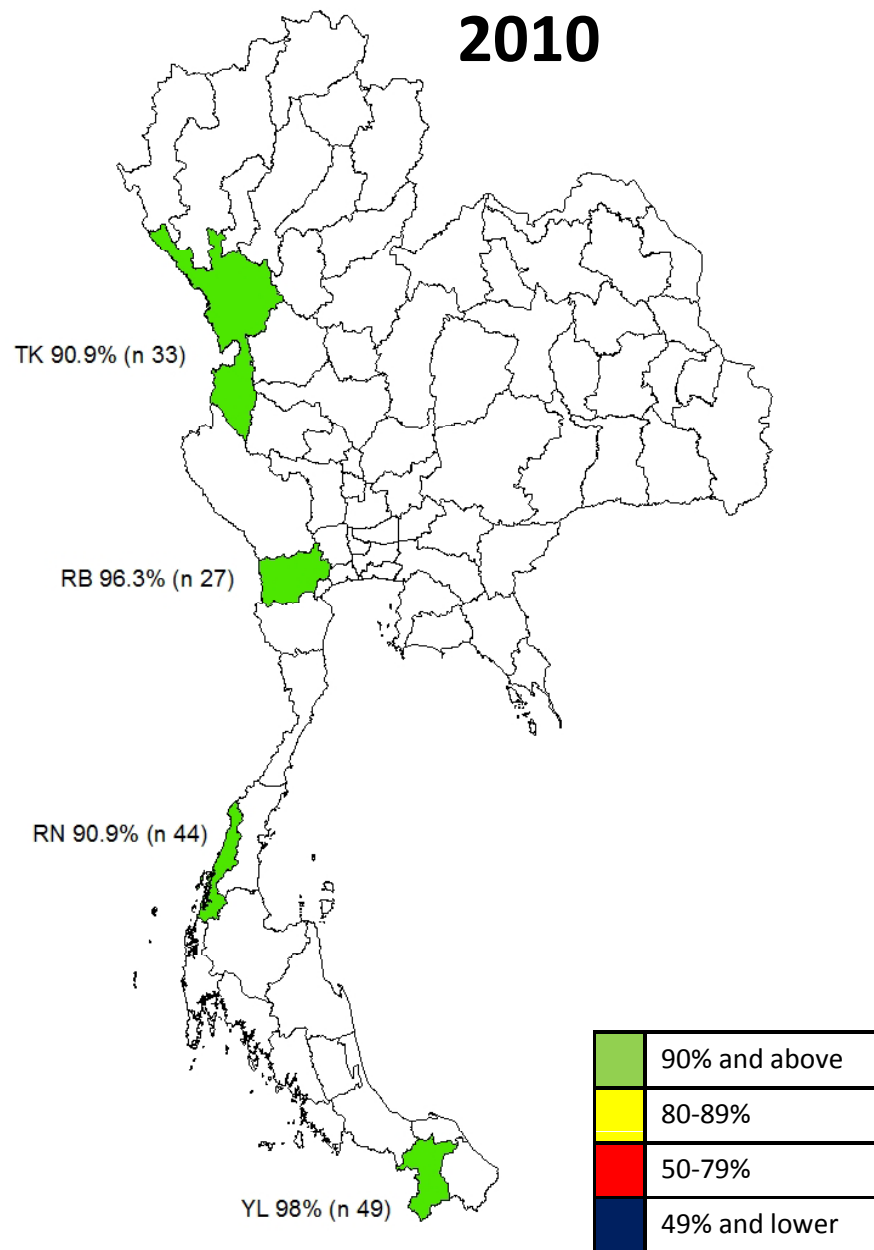
## 2008

## 2009

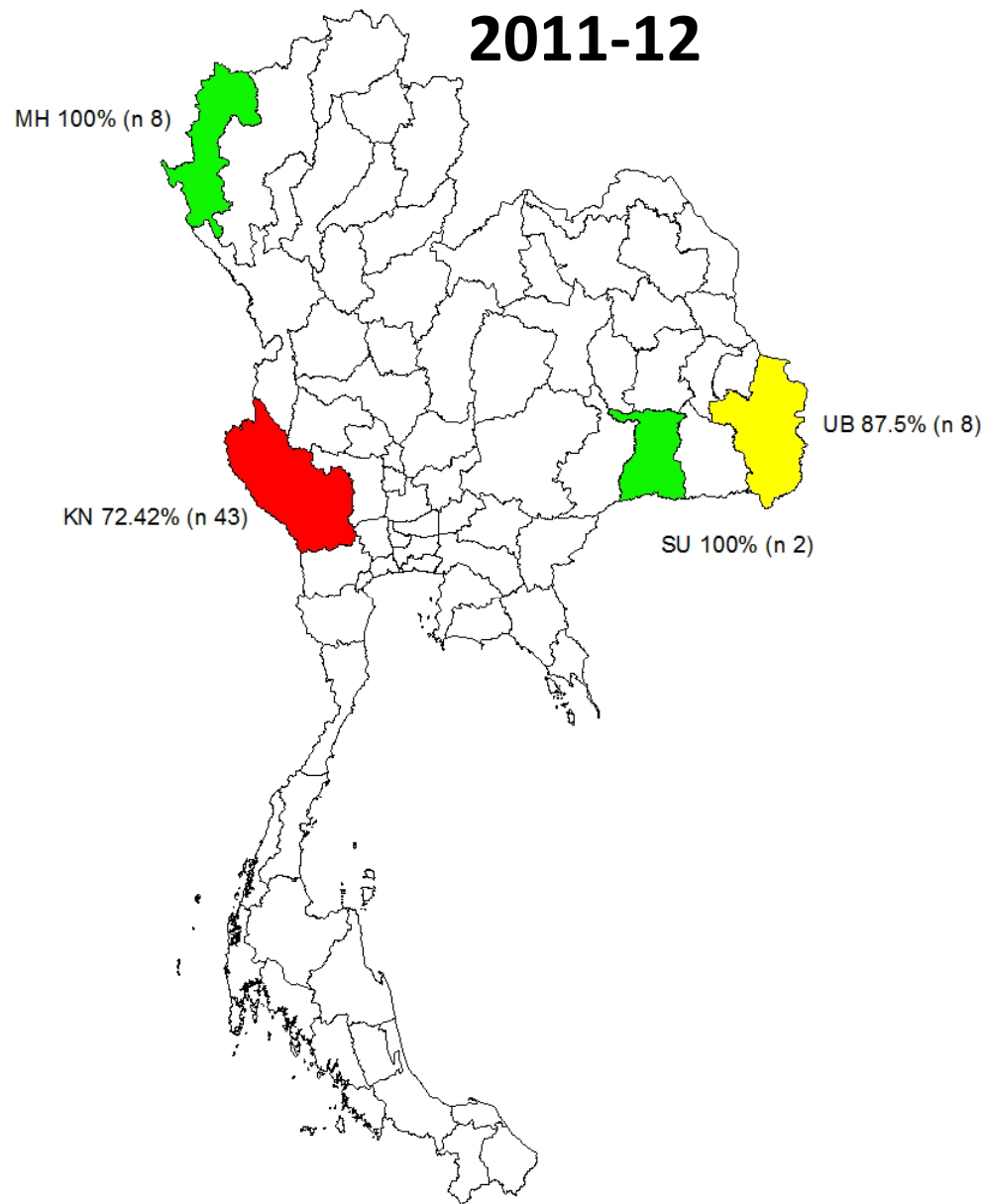


# Efficacy of 3-day ARS-MQ in the treatment of falciparum malaria

**2010**



**2011-12**



Source: therapeutic efficacy monitoring

# Challenges

- **Drug resistance**
- **People migrates to endemic area**
- **Conflicted area**

## **Malaria Strategies, Thailand, 2012-2020**

1. Enhance **National Malaria Management** with community participation and involvement of all partners.
2. Implement program for **sub-national elimination** of malaria in country and accelerate the integration of malaria control into public health systems.
3. Establish malaria control **collaboration mechanisms** for special risk populations and border areas.
4. Perform **enhanced surveillance**, prevention and control of drug resistant malaria parasites.
5. Promote **human capacity building**
6. Support **malaria research** and development

# **Malaria containment project**

1. To eliminate artemisinin-resistant parasites by detecting all malaria cases in target areas and ensuring effective treatment and gametocyte clearance
2. To decrease drug pressure for selection of artemisinin-resistant malaria parasites
3. To prevent transmission of artemisinin-resistant malaria parasites by mosquito control and personal protection

# **Malaria containment project**

4. To limit the spread of artemisinin-resistant malaria parasites by mobile/migrant populations
5. To support containment/elimination of artemisinin-resistant parasites through comprehensive behavior change communication (BCC), community mobilization, and advocacy
6. To undertake basic, operational research to fill knowledge gaps and ensure that strategies applied are evidence-based
7. To provide effective management and coordination to enable rapid and high quality implementation of the strategy



# Partnership for Containment of Artemisinin Resistance and Moving Towards the Elimination of Plasmodium in Thailand

- Department of Disease Control
- Bureau of Vector Borne Disease
  - (The center of excellence for biomedical and public health informatics – BIOPHICS)
  - (Kenan Foundation Asia – KFAsia)
  - Office of Disease Prevention and Control
  - Provincial Health Office
- Malaria Consortium (MC)
- International Organization of Migrant (IOM)
- American Refugee Committee (ARC)
- (Raks) Thai Foundation (RTF)
- Shoklo Malaria Research Unit (SMRU)
  - Malteser International (MI)
  - Aide Medical International (AMI) American Refugee Committee (ARC)
  - Mae Tao Clinic

**To eliminate artemisinin resistant parasites by detecting all malaria cases(both asymptomatic and symptomatic) in target areas and ensuring effective treatment and gametocyte clearance using combination therapies**

- ACT
- DOT
- Border malaria posts
- Active case detection
- Foci investigate, case investigate surveys

**To prevent transmission of malaria parasites through improve access to vector control and personal protection measures among target populations**

- Personal protection: Long-Lasting Insecticidal Treated Nets(LLINs))
- Foci Indoor Residual Spraying – Foci IRS / Focal Spray
- Mapping and distribution of a dynamic potential malaria vectors along the Thai-Myanmar border, behavior, bionomics and their insecticide susceptibility, way forwards for effective control

# **BCC, Community mobilization, Advocacy**

- Key messages
- Mass media
- Village health volunteer, Community Health worker, Migrant health volunteer, Malaria post worker

**To provide an effective management system (including surveillance, monitoring and evaluation) to enable rapid and high quality implementation of the strategy**

- Coordination and partnership development (national, community, public-private, cross border and migrant)
  - Annual cross-border progress review meeting
- Web based information system
  - Real time

**The elimination of *falciparum* malaria  
from the GMS  
and  
to prevent the emergence or spread of  
Artemisinin resistance to new areas**



 **EMERGENCY**  
RESPONSE TO  
**ARTEMISININ**  
**RESISTANCE**  
IN THE GREATER  
MEKONG SUBREGION

REGIONAL FRAMEWORK FOR ACTION  
2013-2015



# Regional Artemisinin Initiative

- migrant behavior towards seeking diagnosis and treatment of malaria
- Focal Screening and treatment (FSAT) using PCR to detect sub-microscopic parasitemia and asymptomatic carriers
- monitoring of insecticide resistance
- study of vector bionomics in re-forested areas (e.g. rubber plantations)
- feasibility study and field implementation of insecticide treated materials/clothing for personal protection

# Targets

Annual Parasite Incidence (API) (all species) per 1000 mid-year population among Thai + non Thai M1 migrants reduced from **0.4** per 1000 (baseline 2010) to **0.2** per 1000 population (2016)

Malaria Mortality Rate reduced from **0.14** per 100,000 (baseline 2010) to **0.05** per 100,000 population (2016)

Percent of districts achieving interruption of malaria transmission (no indigenous cases of malaria for three years) increased to **60%** by 2016 and **80%** by 2020

**Full malaria elimination  
in  
Thailand**