

# Malaria elimination in Suriname

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THE APPROACH AND THE CHALLENGES

STEPHEN G.S. VREDEN, MD, PHD

MALARIA ELIMINATION TASK FORCE SURINAME

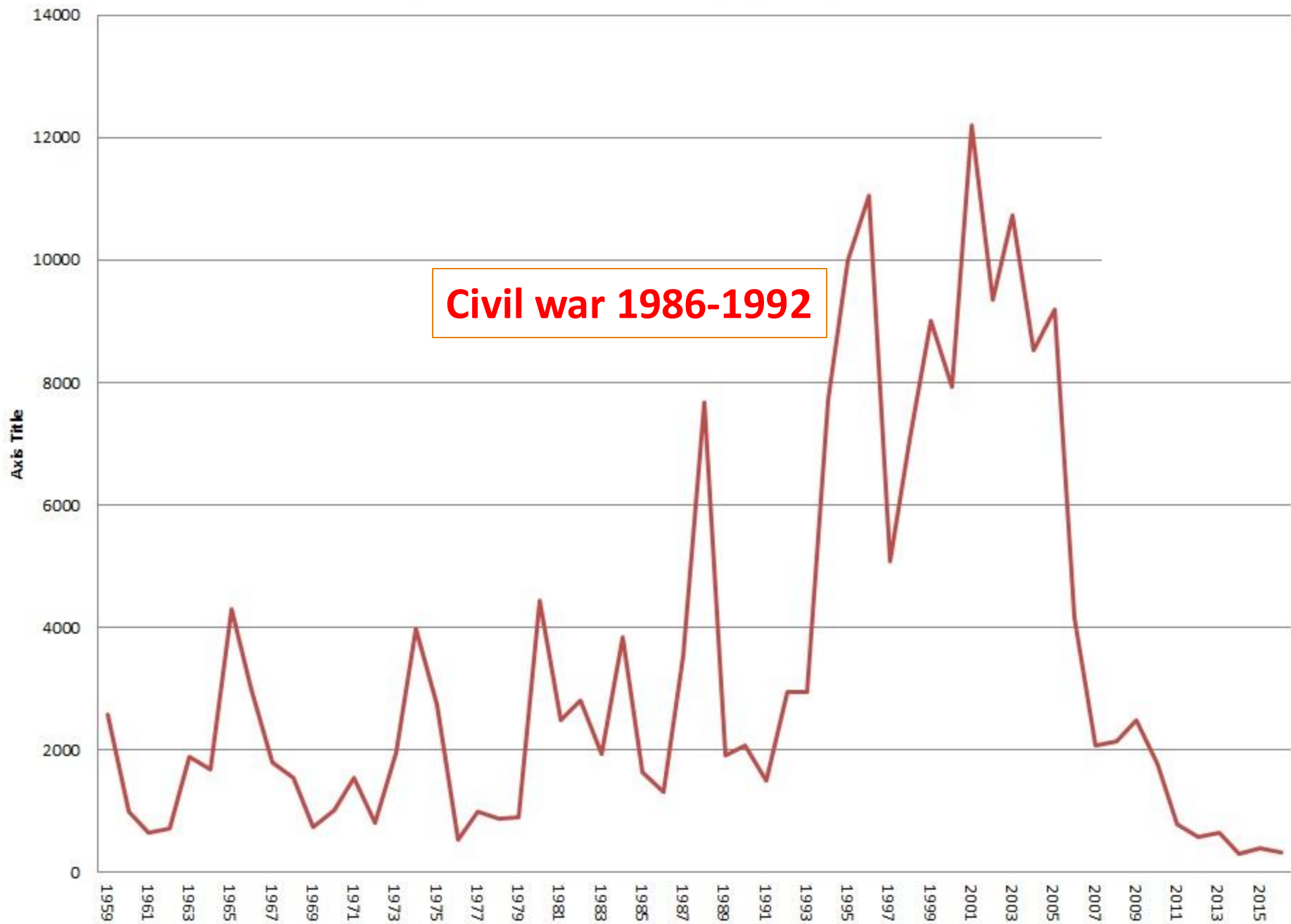


# Suriname is aspiring to request WHO's certificate of malaria elimination by 2025

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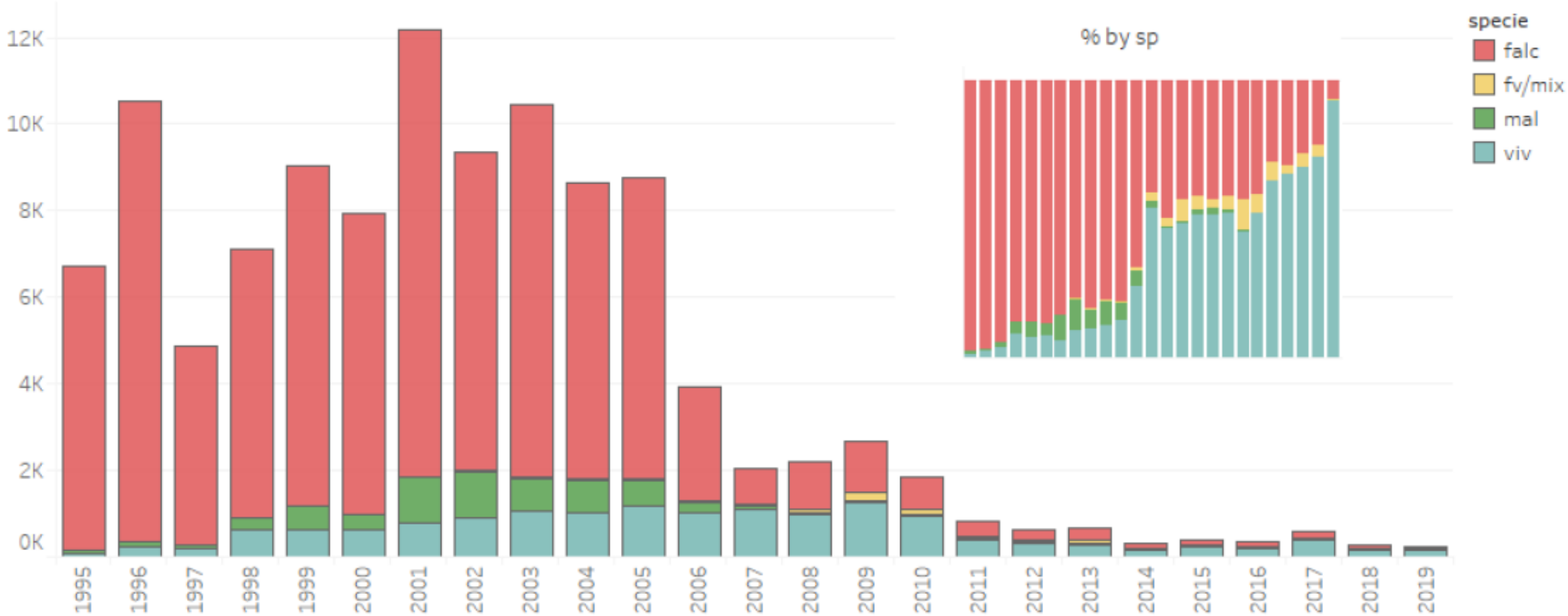
A SUMMARY OF THE PAST AND THE ROAD  
AHEAD

# Suriname Malaria Situation 1959-2016



# The road to malaria control: shifting transmission from P. falciparum to P. vivax

## Suriname Summary of Main Trends 1995-2019 Species and Country of Infection

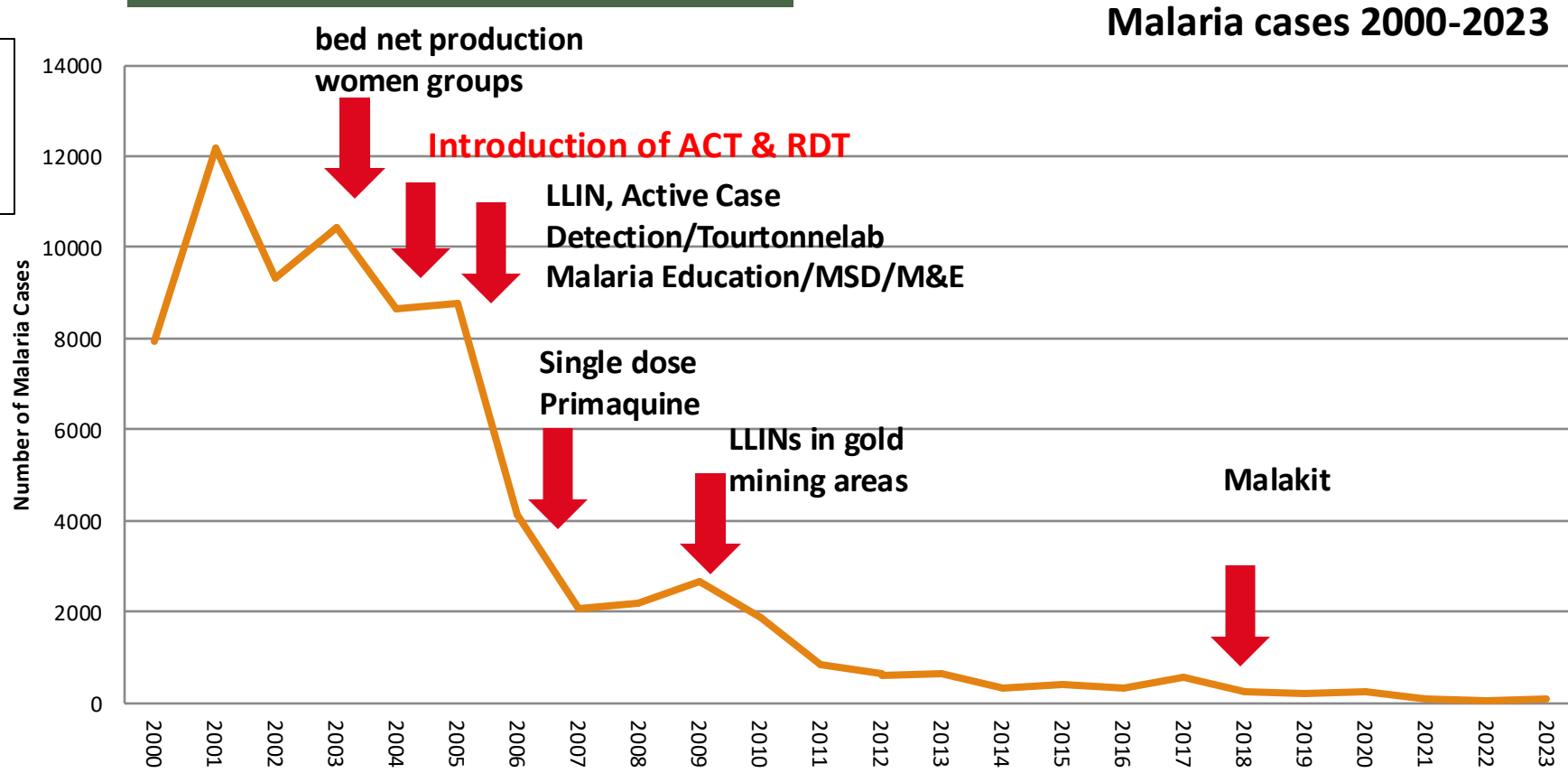


Source data: Malaria Program, MOH

# 1- Epidemiology

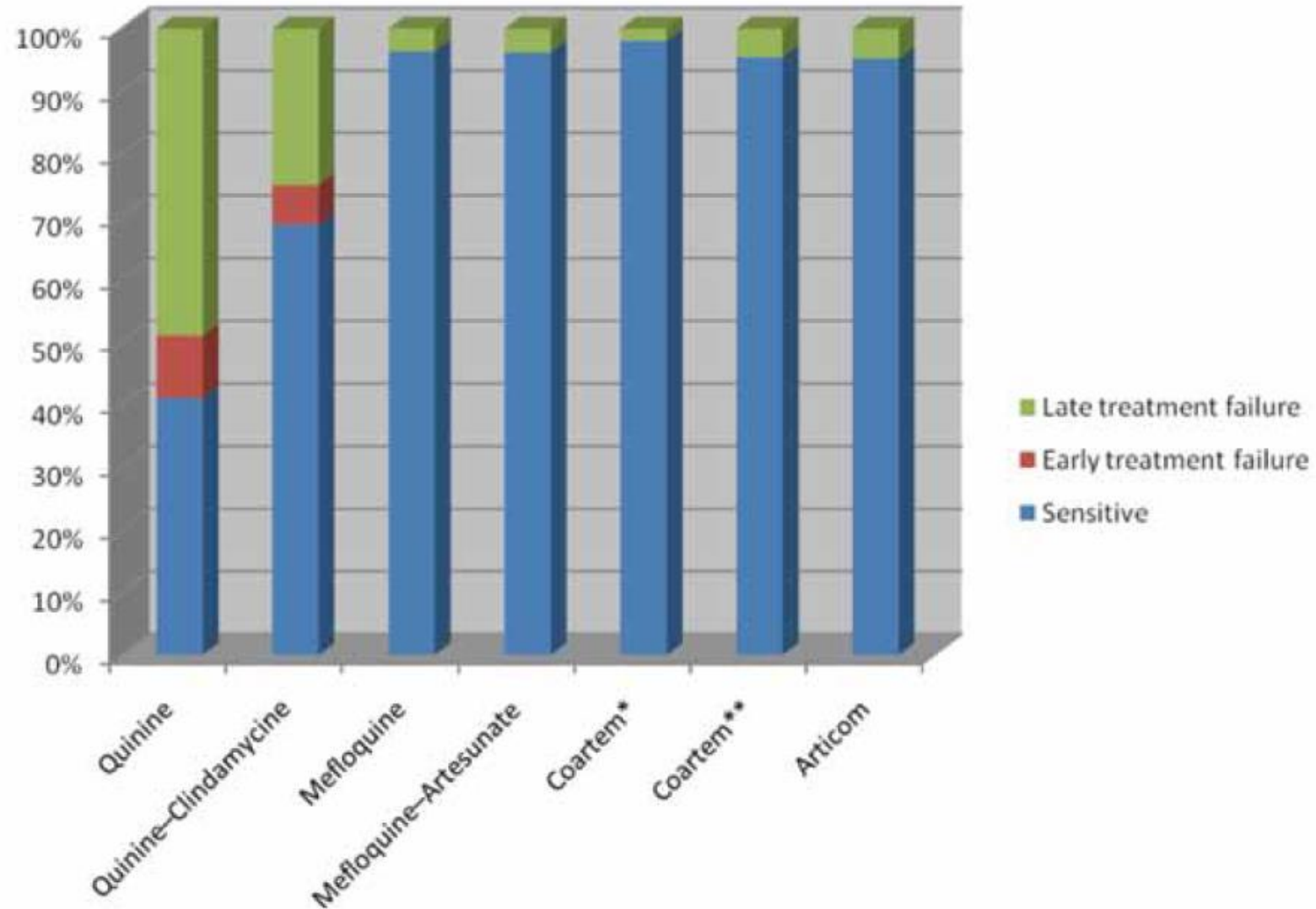
## Summary of interventions

**1996**  
**National**  
**Malaria Board**



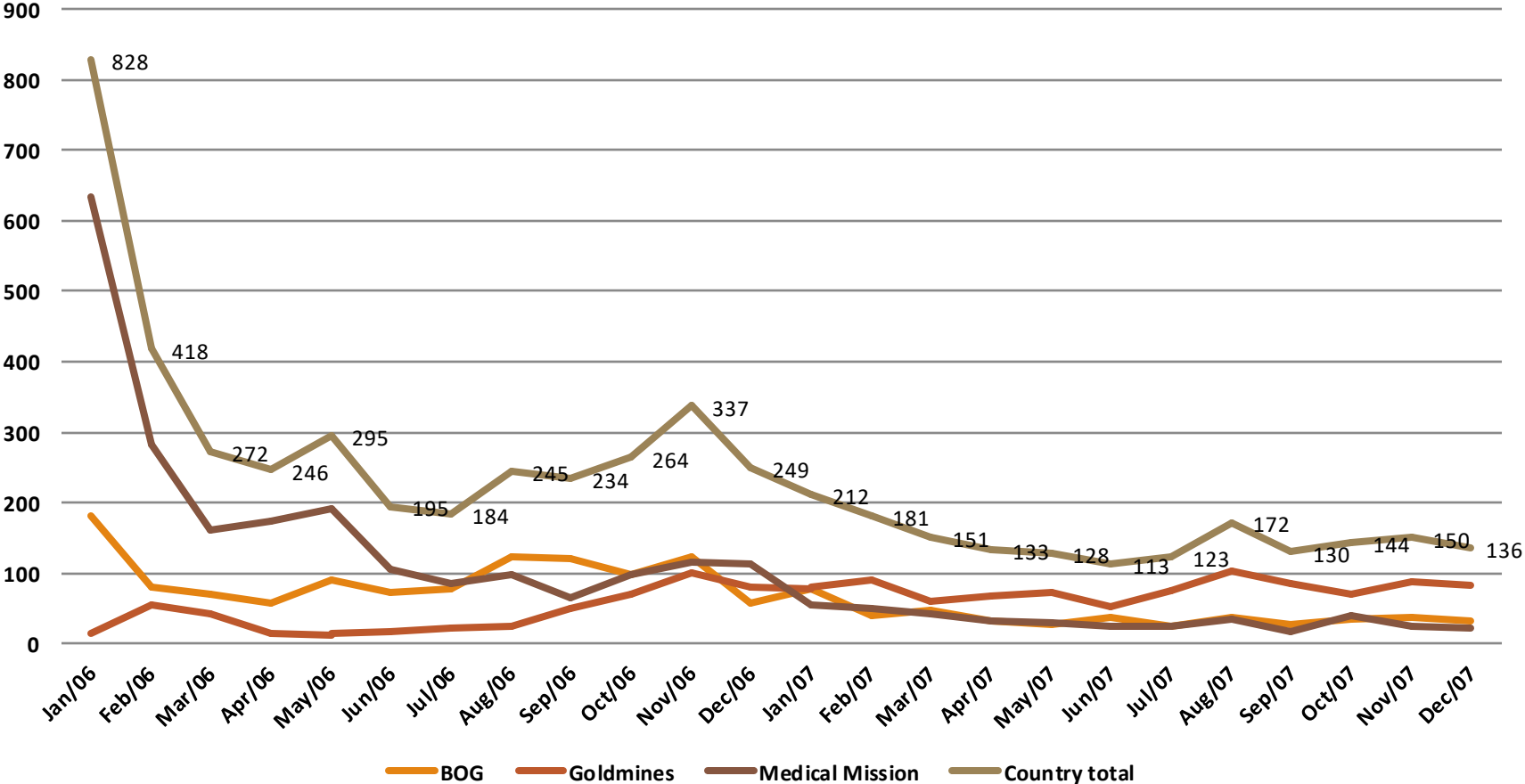
# Antimalarial efficacy studies in Suriname 2001-2006

Figure 3: Efficacy rates of treatment regimens



# Malaria trend 2006 -2007 (Introduction of ACT)

Malaria Cases BOG, Medical Mission & gold mines  
2006 - 2007



# Assessment of Day 3 Parasitaemia in patients treated with Coartem

|                                       | 2005/2006 (n = 45) | 2011 (n = 48) |                        |
|---------------------------------------|--------------------|---------------|------------------------|
| <b>Day 2 Parasitaemia</b>             |                    |               |                        |
| Number of positive cases (percentage) | 9 (20 %)           | 36 (75 %)     | <sup>a</sup> p < 0.001 |
| <b>Day 3 Parasitaemia</b>             |                    |               |                        |
| Number of positive cases (percentage) | 1 (2.2 %)          | 15 (31.3 %)   | <sup>a</sup> p < 0.001 |
| <sup>a</sup> Fisher's Exact test      |                    |               |                        |

Note:

All patients followed until day 28 had cleared their parasites.\*

Molecular studies did not detect the K13 mutation.\*\*.

\*Vreden et al. Mem Inst Oswaldo Cruz, Rio de Janeiro, Vol. 108(8): 986-973, December 2013.

\*\* Adhin et al. Antimicrob. Agents Chemother. 2017; 61 (7): e02655-16.



# Clinics of Medical Mission Primary Health Care in the interior of Suriname

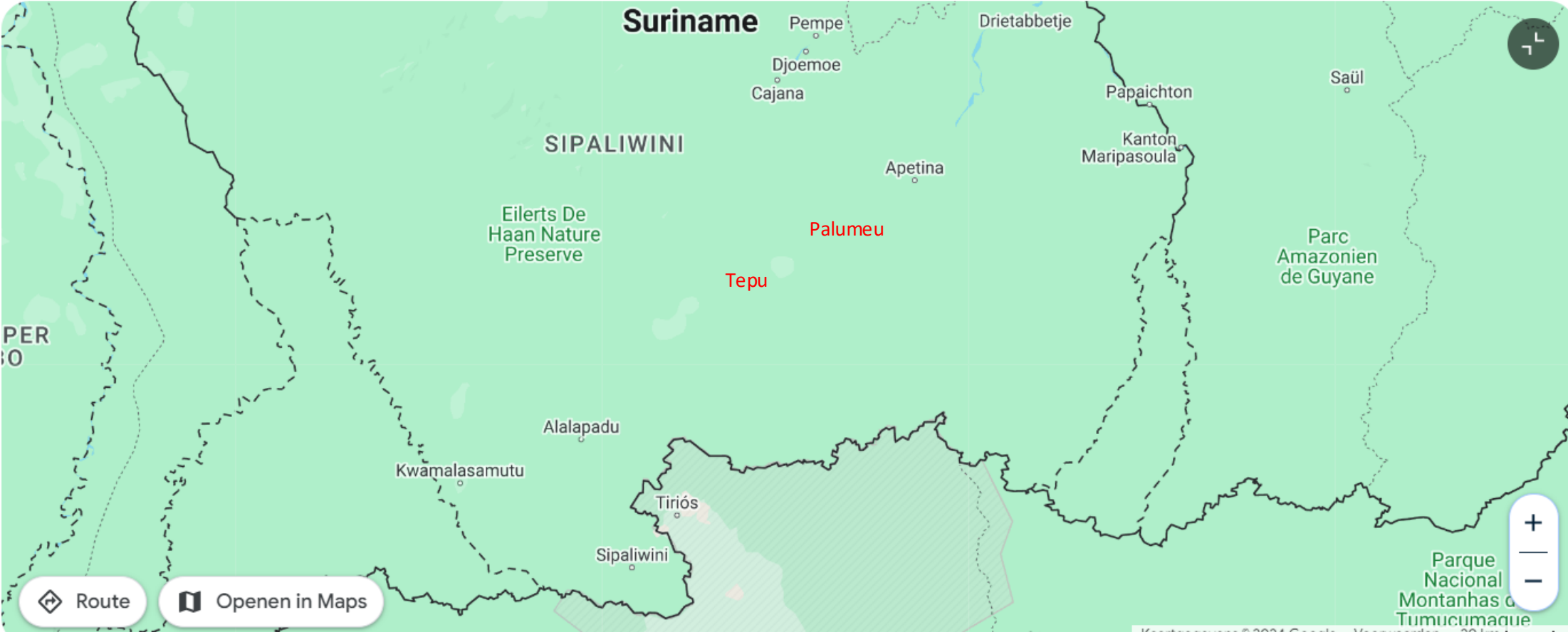


# Improving access to malaria diagnosis and treatment in communities of ITP

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IMPLEMENTATION OF EARLY DETECTION AND PROMPT TREATMENT OF MALARIA IN VILLAGES IN THE INTERIOR, BY MEDICAL MISSION PRIMARY HEALTHCARE ELIMINATED MALARIA FROM THESE POPULATIONS IN 2015.

# Reintroduction of *P. vivax* due to an imported case from Brazil, 2019



## Strategy to prevent reintroduction in ITP communities

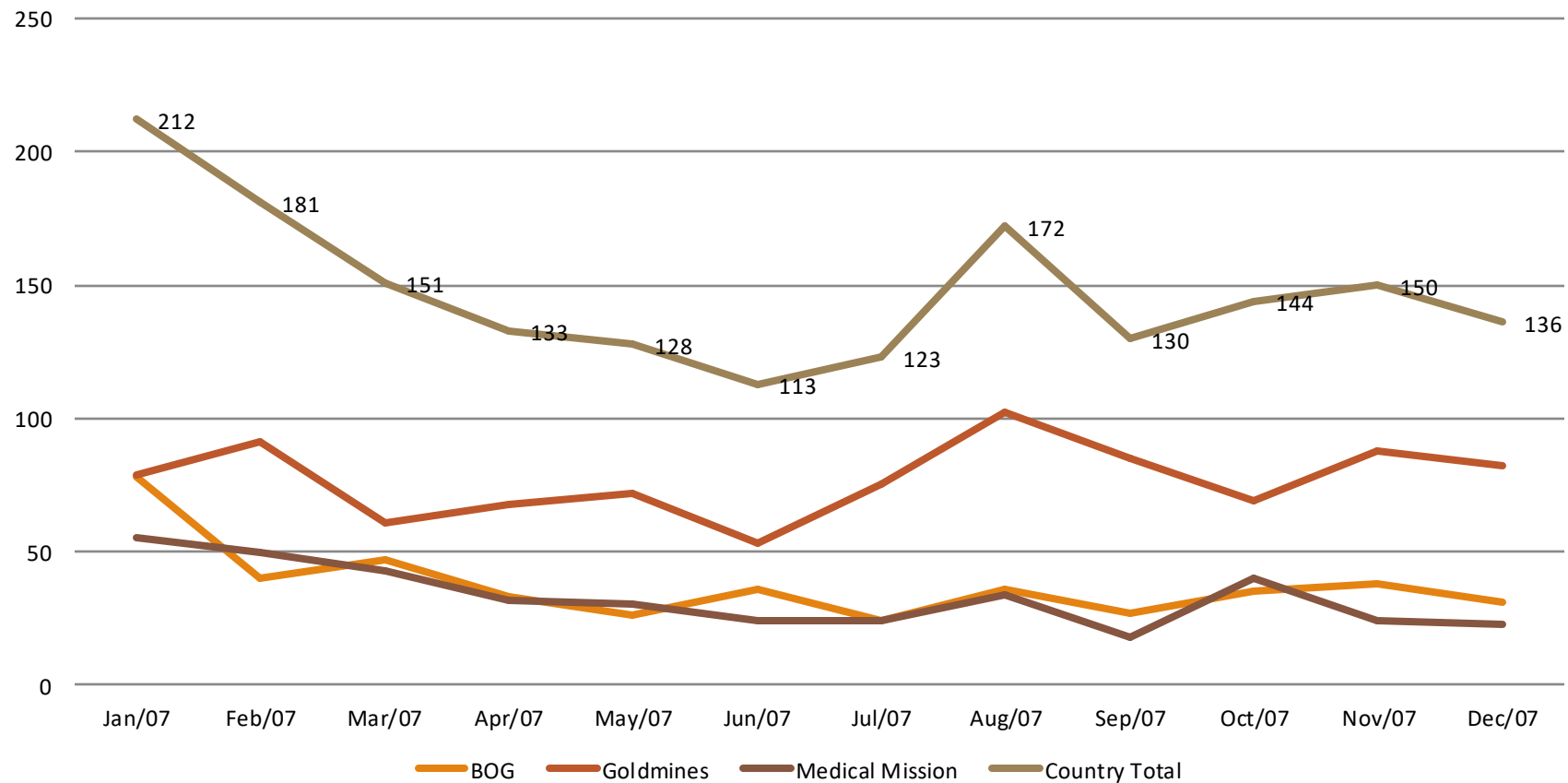
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INSTRUCTING VILLAGERS FOR THEIR OWN SAFETY, TO REFER ALL VISITORS COMING FROM MALARIA ENDEMIC AREAS IMMEDIATELY TO THE HCW FOR TESTING!

# Country Total 2007

(BOG, Medical Mission & gold mines)

**Malaria cases 2007**  
(BOG, Medical Mission & gold mines)





10 Year Gold Price in USD/oz

Last Close: 1687.00

High: 1889.70 Low: 319.90 ▲1331.15 374.08%



An estimated 20,000 people currently working in ASGM in Suriname

# Malaria Service Deliverers Bringing back malaria in mining fields



# Profile of a Malaria Service Deliverer (MSD)

In 2006 start of pilot recruitment of lay persons living in the gold mining areas

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Adequate capability to read and write

Have a source of income in the mining area, other than

A monthly stipend offered by MP

Willing to operate as an MSD

- Offering services for free
- Completing forms and report timely



# Training Topics and Roles of the MSDs

## Malaria Service Deliverers (MSD)

- Perform malaria RDT
- Preparing and staining blood smears
- Treat uncomplicated malaria
- Case Investigation
- Basic biosafety
- Basic Stock management
- (Micro) RACD
- Distribution of LLIN
- Distribution of Malakit (border)



# Tasks of MSD Supervisors (one per region)

See to immediate reporting of positive cases (and CI)

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See to sending of slides to MP for reading

Weekly calls (no. of tests done, influx of people, syndromes)

Regular supervisory visits

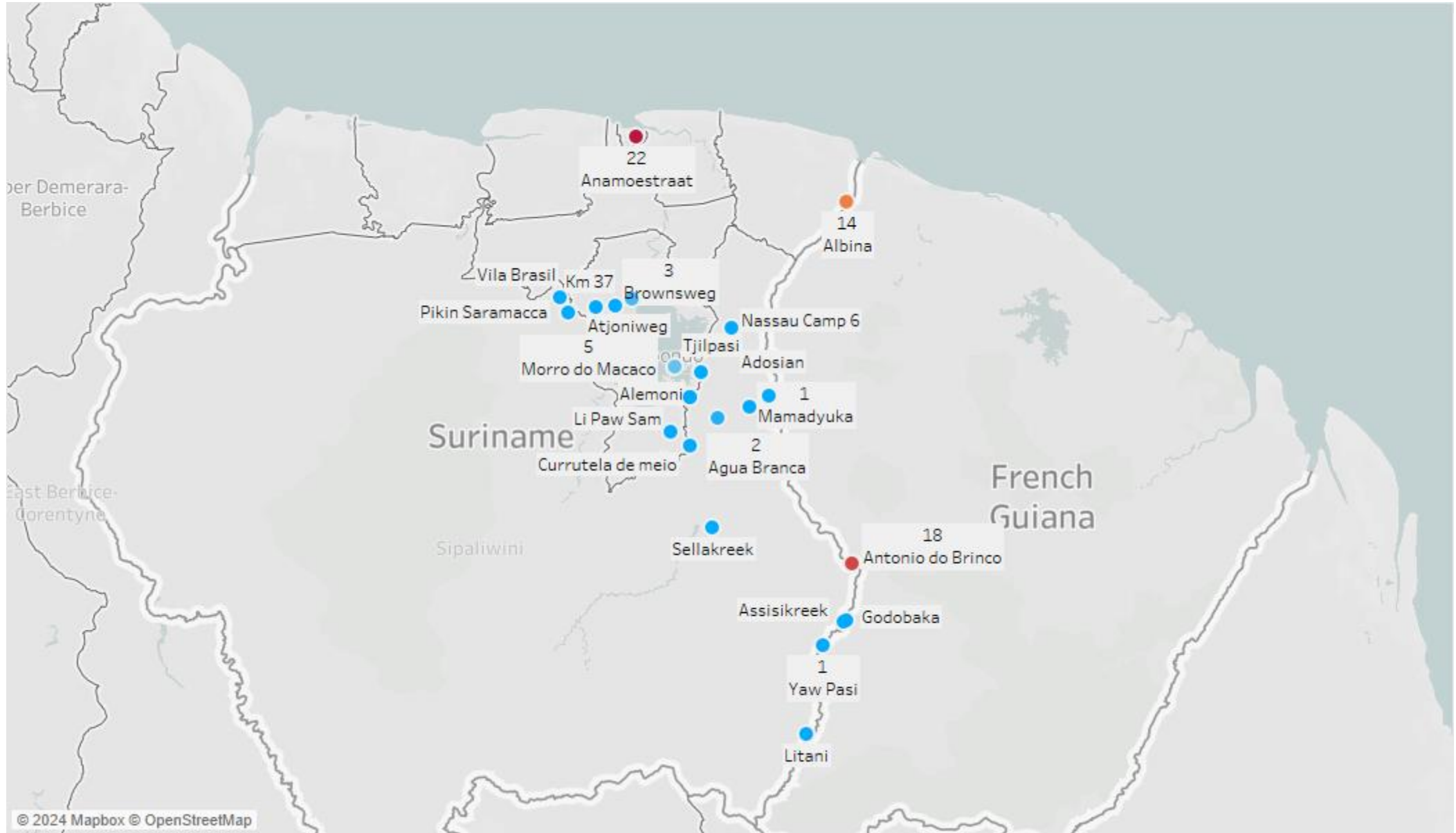
- Replenishment of stocks
- Addressing problems encountered

Participating in annual refreshment training of MSDs



Annual Formal certification of MSD, as a proof of attending (re-)training

# Locations of Malaria Service Deliverers in ASGM fields (2024)



# Highlights from 2023 surveillance data

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63% of all slides in Suriname made by MSD

This includes slides made during pro-active and reactive case detection campaigns.

41 malaria diagnoses in 2023 (40% of total) detected by MSD,... in a malaria receptive area: risk of re-introduction

# Malaria in transborder migrants

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Risk of serious illness or death due to malaria, while residing in places where no DTIR services available

Inadequate use of counterfeit antimalarials without prior testing, inducing a risk for development of resistance.

Contributing to malaria import in neighboring countries.

# The Malakit Project

2018 - 2020

Pilot project of Brazil, French Guiana, Suriname



# Suriname specific results from MALAKIT Pilot 2018 -2020

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PCR confirmed malaria prevalence at French/Surinamese border dropped from 22.3 to 5.3 %

Proportion of *P. f.* in malaria cases at French/Surinamese border dropped from 58 to 15%

Based on these results, MP Suriname in 2020 formally included MALAKIT as a tool in its malaria elimination efforts (now available in Chinese, English, Portuguese and Spanish).



# Addressing *P. vivax* malaria

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Relapses related to this parasite compromise its treatment.

Adherence to 14 days of primaquine is challenging, more so in mobile populations.

Tafenoquine (if available) could solve this problem, but the requirement of prior G6PD testing is still another hurdle.

# Justification of Pre-emptive screening for G6PD deficiency to allow Tafenoquine use

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Providing all clinics in the interior with testing material is not cost-effective, given the elimination status of villages in the interior.

Containment of outbreaks requests being able to rapidly implement Mass Drug administration.

Knowing the rate of G6PD-deficiency provides a tool to assess the safety of Tafenoquine use.

# Preliminary results of G6PD screening in indigenous villages

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In 5 Indigenous villages 1126 persons were tested

Deficient: 50 (4.4 %)

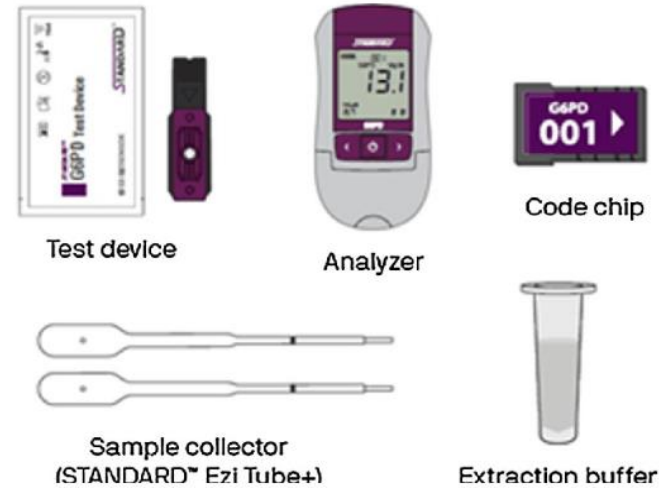
Intermediate activity: 60 (5.3%)

Normal activity: 1016 (90.3%)

# Tafenoquine use in the migrant populations

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All MSD have been trained in using the quantitative G6PD RDT device.



Test devices will be distributed

Tafenoquine will be registered in Suriname and limited quantities will be provided by the Brazilian MOH. achieved,

# The last, but not final stretch

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Prevention of reintroduction by thorough case investigation, ongoing surveillance and Active Case Detection (Pro-Active CD, cohort RACD, community RACD).

A nationwide preparedness campaign for the health sector and beyond.

Collaboration with neighboring countries to further roll back malaria and to prevent reintroduction of malaria.

Elimination requests not just a national, but rather a regional approach.

Thank you!

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