

# Malaria 2016 - 2030: a problem to be solved

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Global **Malaria** Programme



World Health  
Organization

# Global Malaria Eradication Program (1955–1968)

In 1955, 8<sup>th</sup> World Health Assembly (WHA) held in Mexico, launched the first Global Malaria Eradication Program.

*“We have the tools. We know what needs to be done. It is simply a matter of going out to do it”*

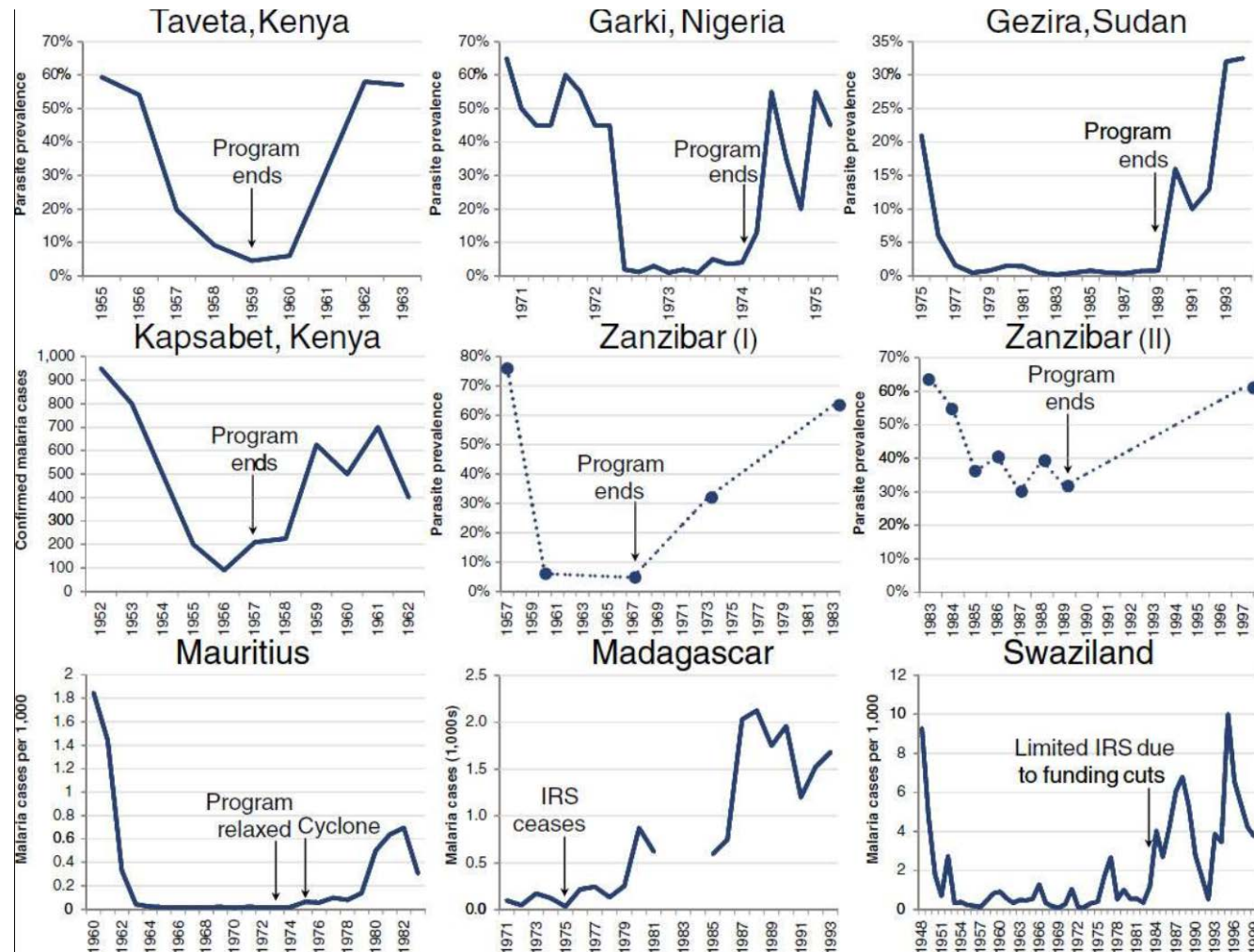
*Marcelino Candau (1955), launched the GMEP at the WHA*

# Global Malaria Eradication Programme (1955–1968)

In 1969, 22nd WHA adopted resolution WHA 22.39

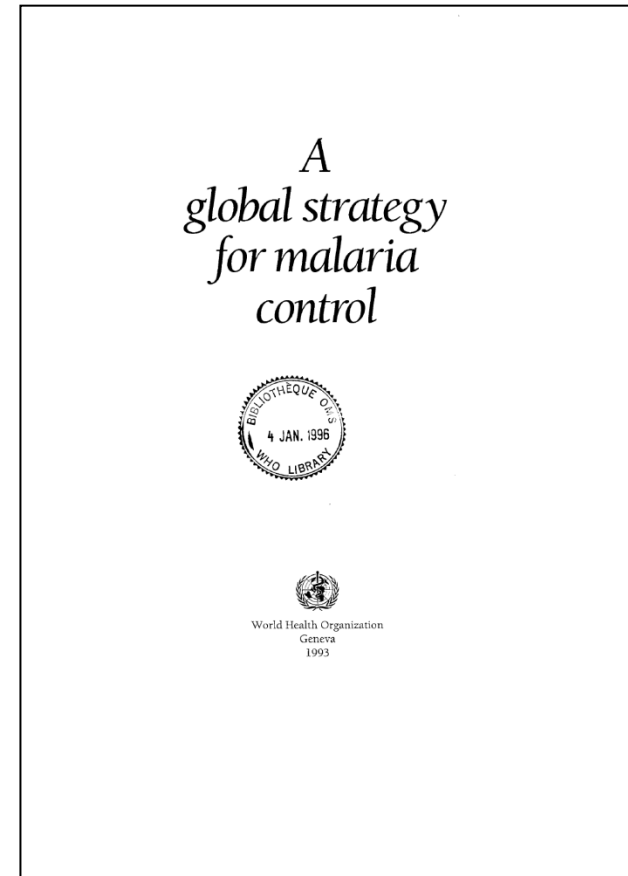
*“that complete eradication of malaria from the world remains a primary task of national public health organizations and that even in the regions where eradication does not yet seem feasible, control of malaria with the means available should be encouraged and may be regarded as a necessary and valid step towards the ultimate goal of eradication.”*

# What happens when we stop ?



# Ministerial conference on malaria, Amsterdam, 26-27 October 1992

At the 85<sup>th</sup> session of the WHO Executive Board in 1990 it was proposed that a global malaria conference should be convened at the levels of ministers of health to raise public awareness of the disease and stimulate national and international action to curb it



# What a difference 15 years makes

## 2000

- **262 million malaria cases**
- **839,000 deaths**
- No significant vector control
- Chloroquine resistance.
- Limited diagnostic testing available.
- No IPTp, IPTi or SMC
- Limited new product pipeline.
- No significant international funding.
- Limited political will and financial resources.

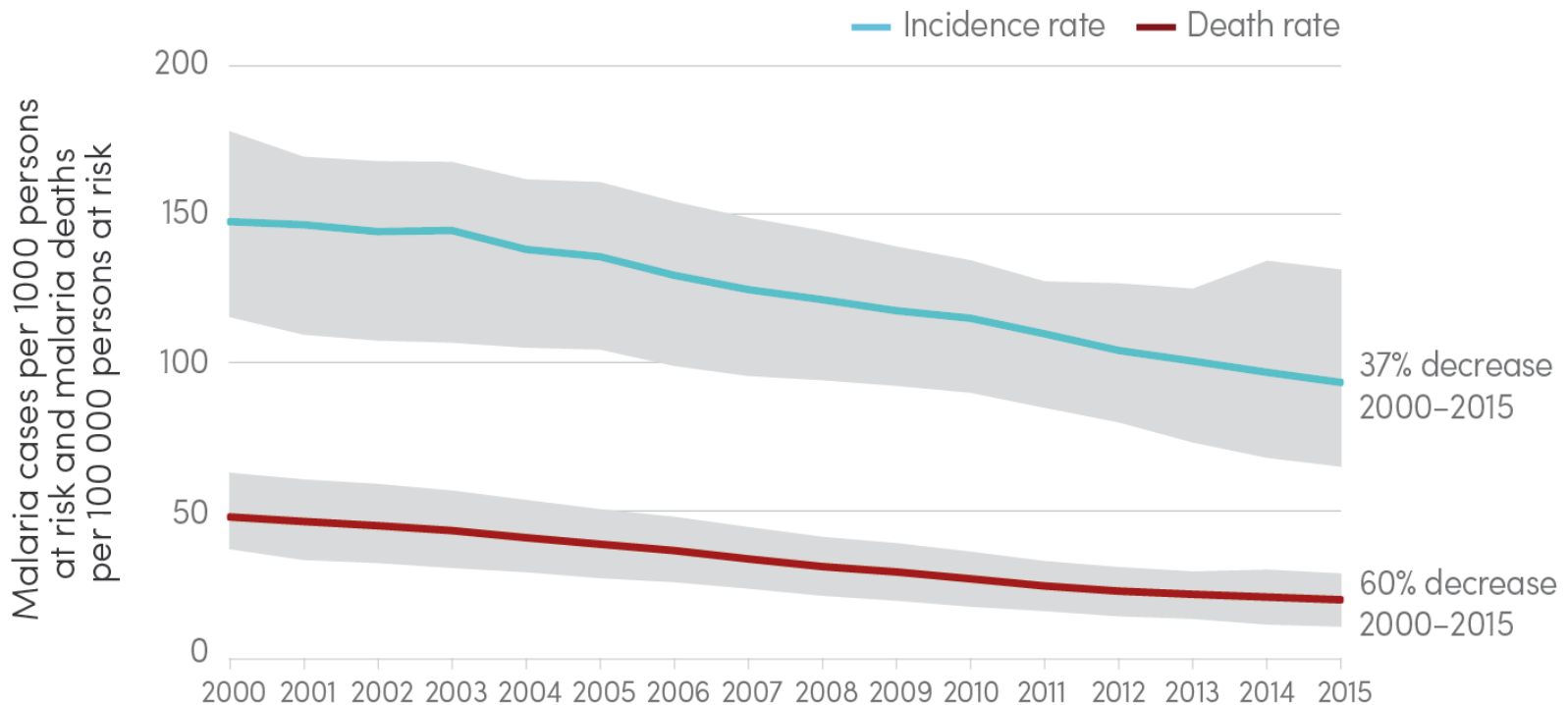


## 2015

- **214 million acute cases**
- **438,000 deaths**
- 200 million new **LLINs** distributed
- 135 million people protected by **IRS**.
- 331 million **ACT** courses.
- **RDTs**
- Targeted interventions for highest risk populations: **IPTp, SMC**
- Promising pipeline of diagnostics, drugs, vaccines, delivery strategies and innovative vector control tools.
- The Global Fund and the President's Malaria Initiative disburse > \$1 Billion/Year

# Global trends in malaria incidence and mortality

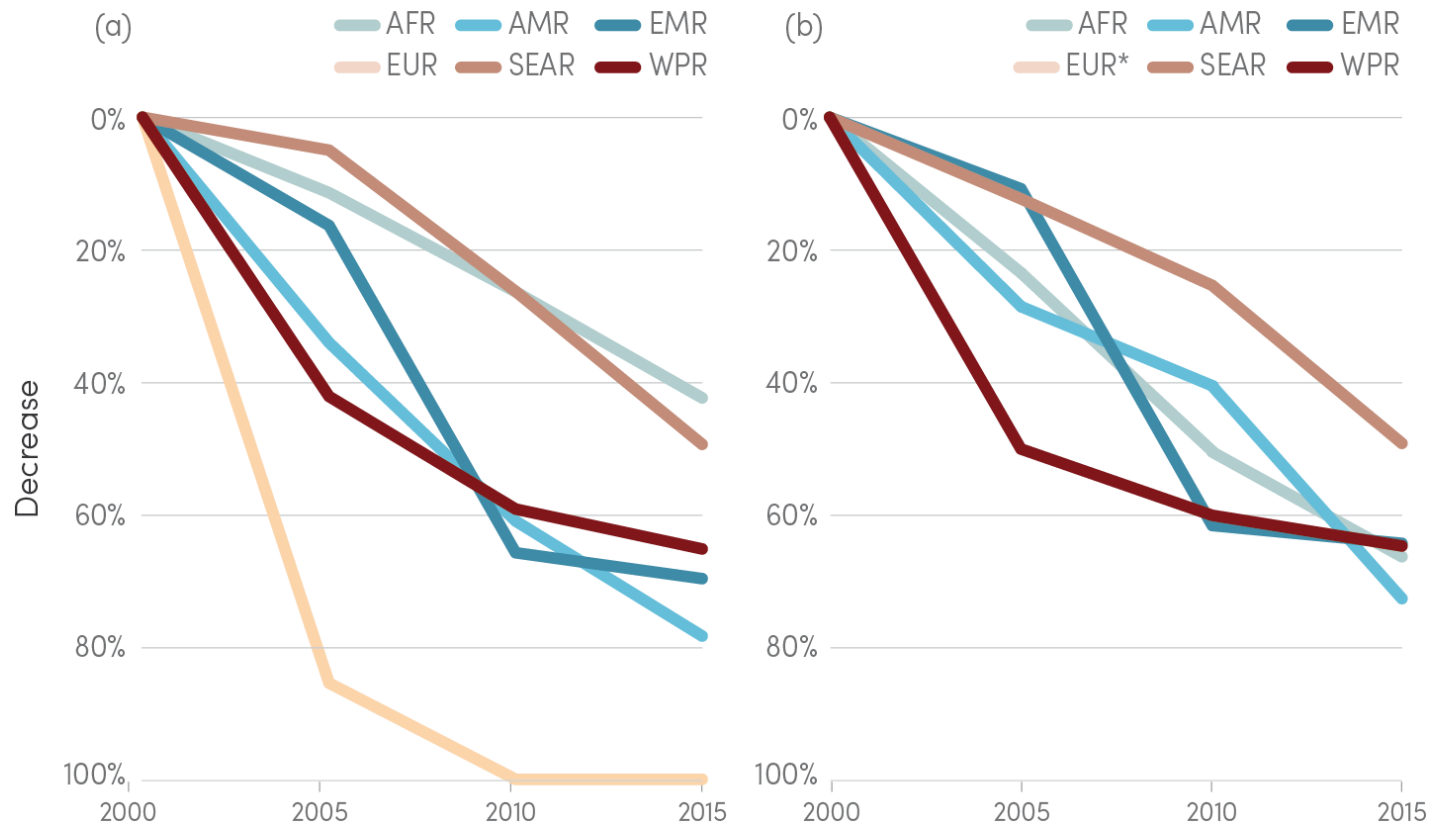
## Estimated malaria case incidence and death rate globally, 2000–2015



Source: WHO estimates

# Regional trends in malaria incidence and mortality

Percentage decrease in (a) estimated malaria case incidence and (b) malaria death rate, by WHO region, 2000–2015

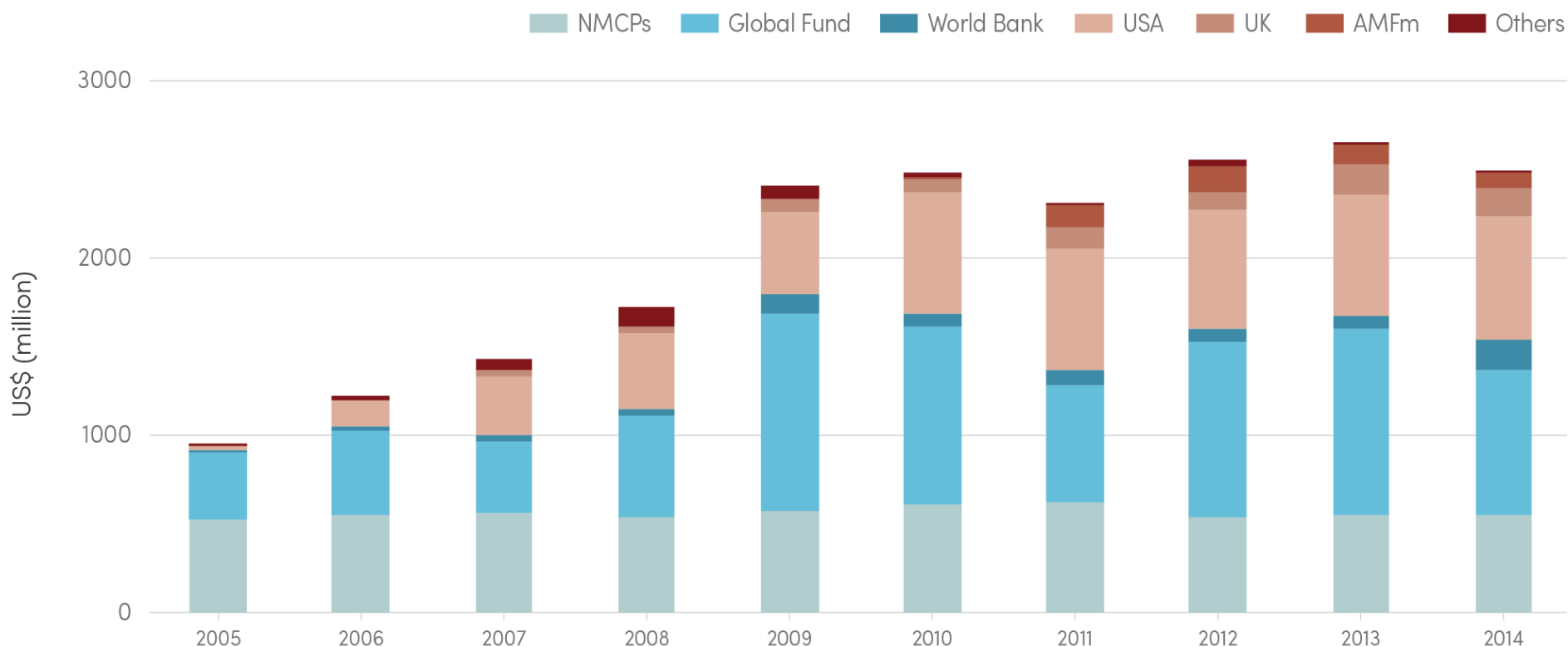


Source: WHO estimates



# Global trends in financing by funding source

## Investments in malaria control activities by funding source, 2005–2014



Investments in malaria have risen from US\$ 200 million in 2000 to US\$2.5 billion in 2015

# What made this progress possible?

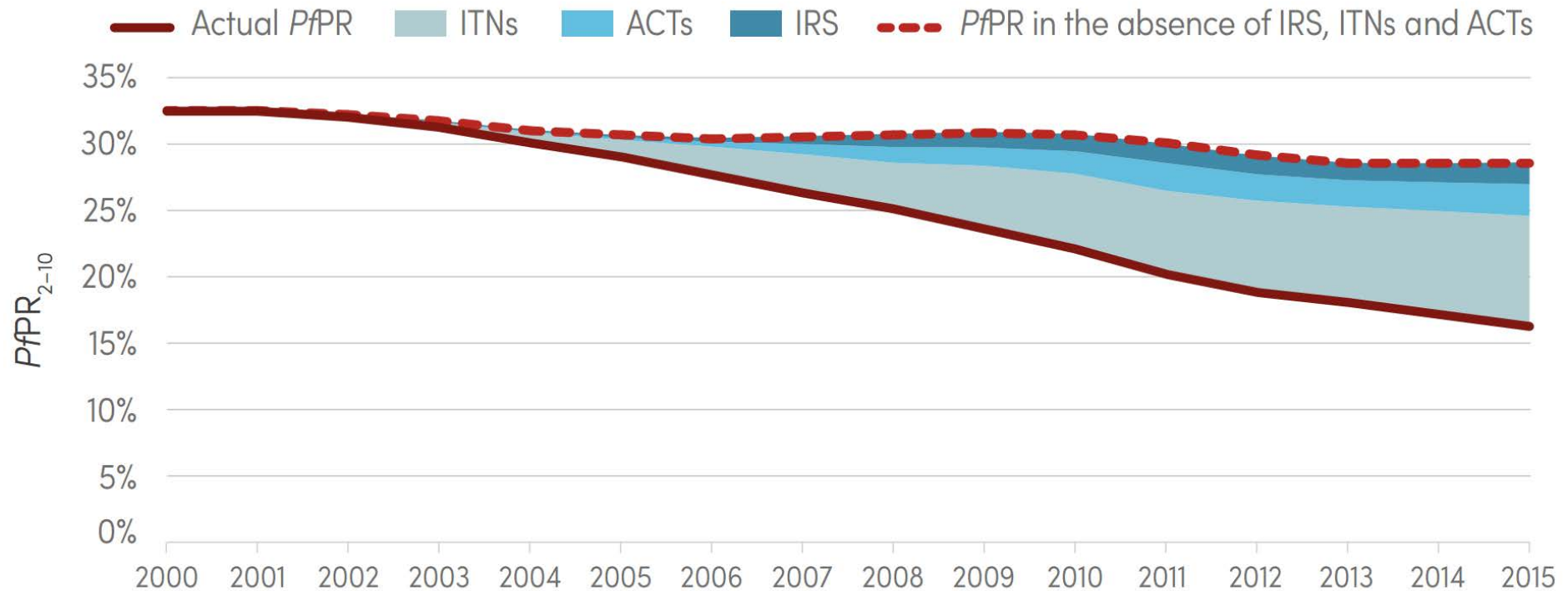
- New and better tools
- Substantial scale-up of core interventions
- Recognition that malaria is both a global health challenge and an impediment to economic development
- Economic and social development

# 2000 – 2015: unprecedented progresses: innovation

## Current core global malaria control interventions



# Malaria interventions – ITNs, IRS, ACTs – are responsible for most of the decreases in malaria since 2000



# The challenges

## ➤ Funding gaps

- financing will need to **triple** from current levels.
- Current annual spending: US\$ 2.7 billion
- Annual spending required by 2030: US\$ 8.7 billion

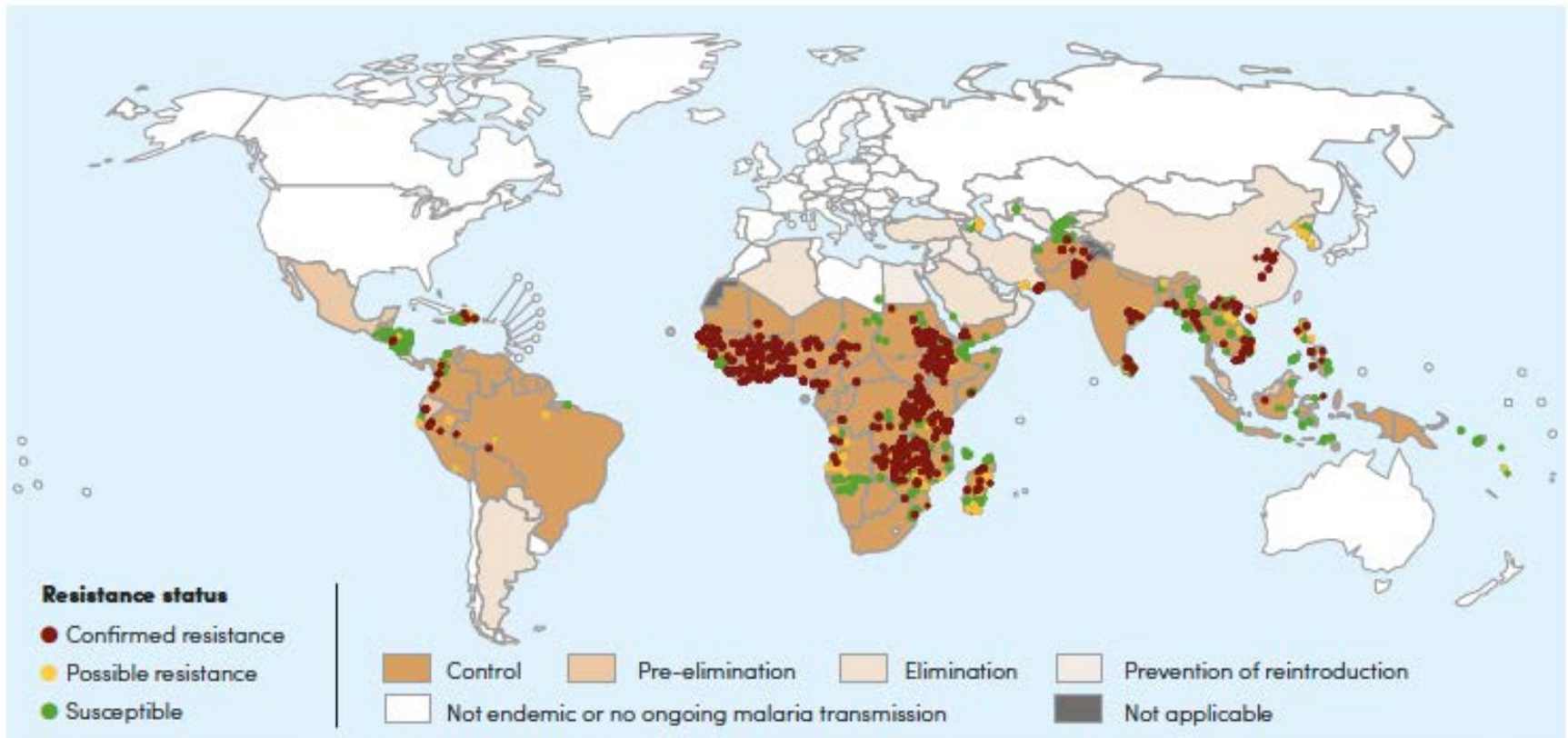
## ➤ Coverage gaps

- one in four children in sub-Saharan Africa are still living in a household without at least one ITN or protection from IRS.
- 60 million malaria cases go undiagnosed and untreated
- 15 million pregnant women do not receive a single dose of IPTp

## ➤ Biological challenges

- HRP2 deletions
- Drug and Insecticide resistance

# Reported pyrethroid resistance status of malaria vectors, measured with insecticide bioassays since 2010



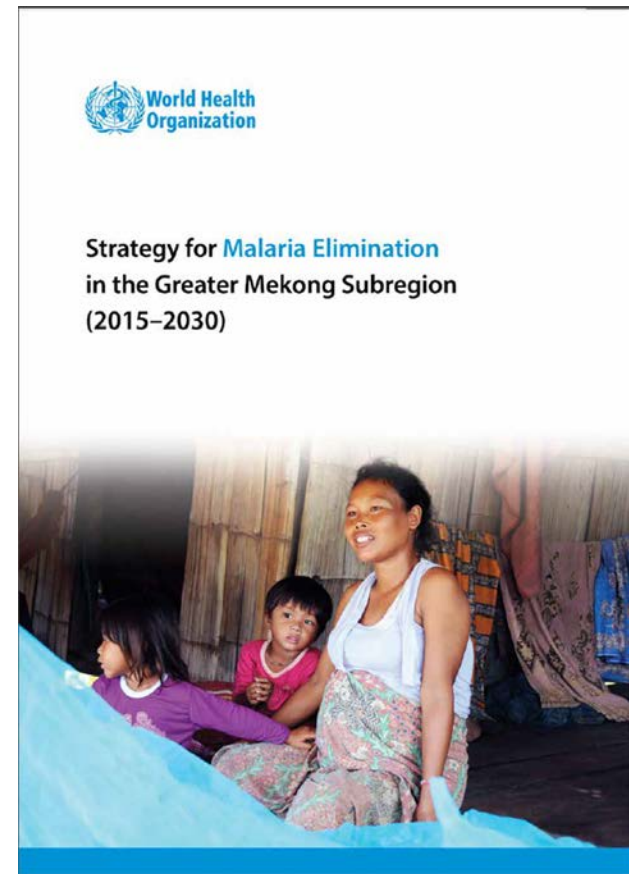
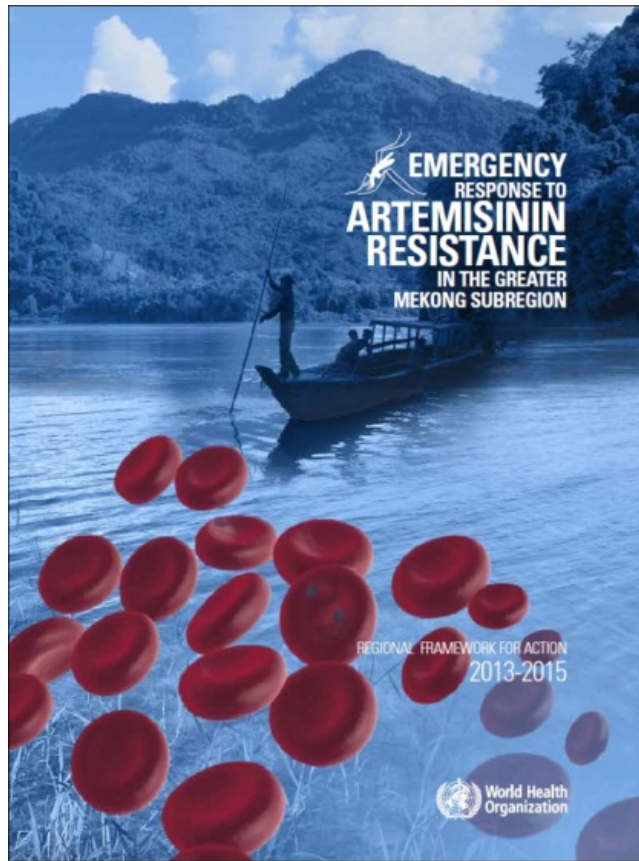
Data shown are for standard bioassays. Where multiple insecticide classes or types, mosquito species or time points were tested, the highest resistance status is shown.

**Source:** National malaria control programme reports, African Network for Vector Resistance, Malaria Atlas Project, President's Malaria Initiative (United States), scientific publications.



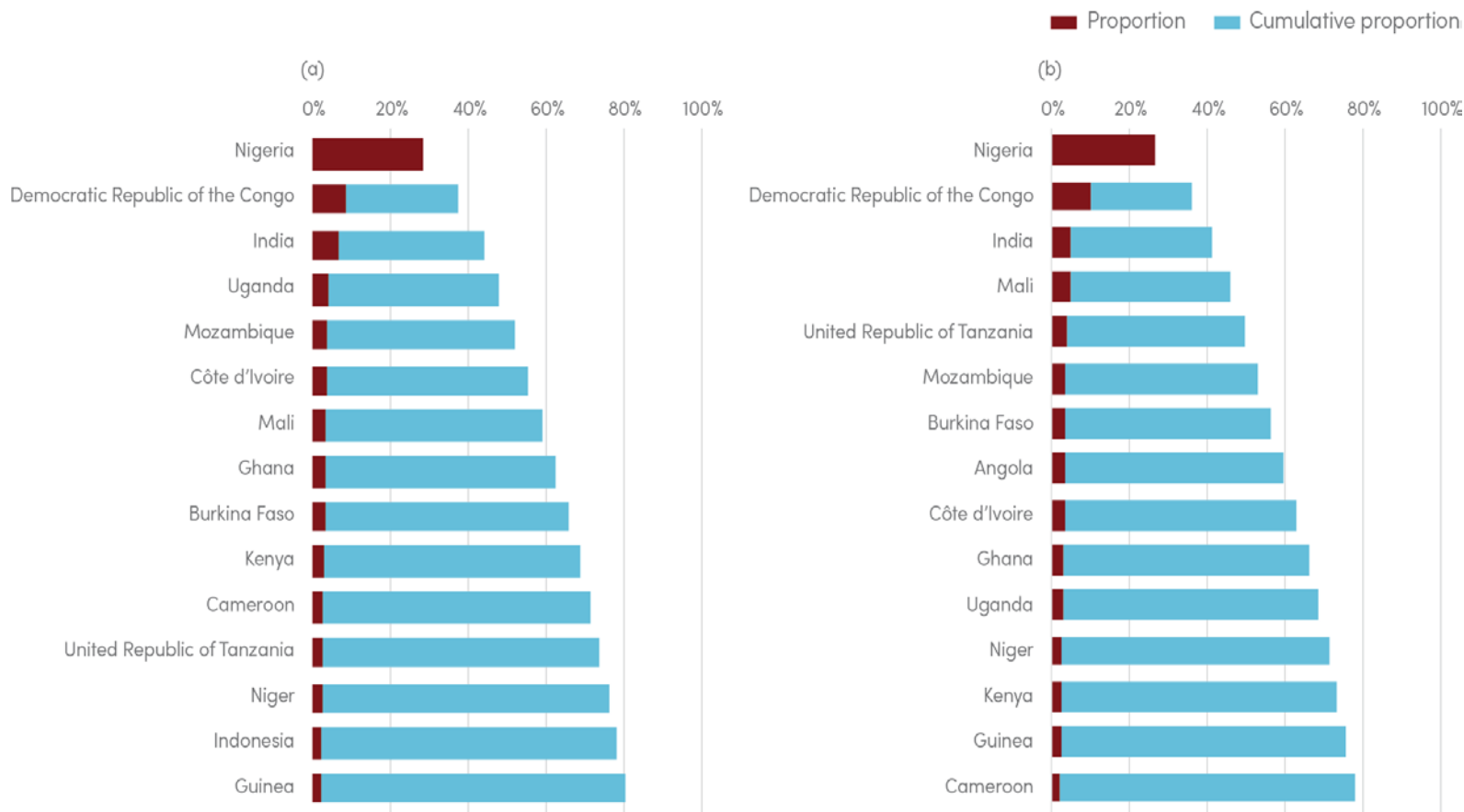
# Multi drug resistance

*P. falciparum* partial resistance to artemisinin has been detected in five countries in the Greater Mekong subregion. Chloroquine resistance in *P. vivax* in 10 countries



# High burden countries

**Estimated proportion, and cumulative proportion, of the global number of (a) malaria cases and (b) malaria deaths in 2015 for countries accounting for the highest share of the malaria disease burden**

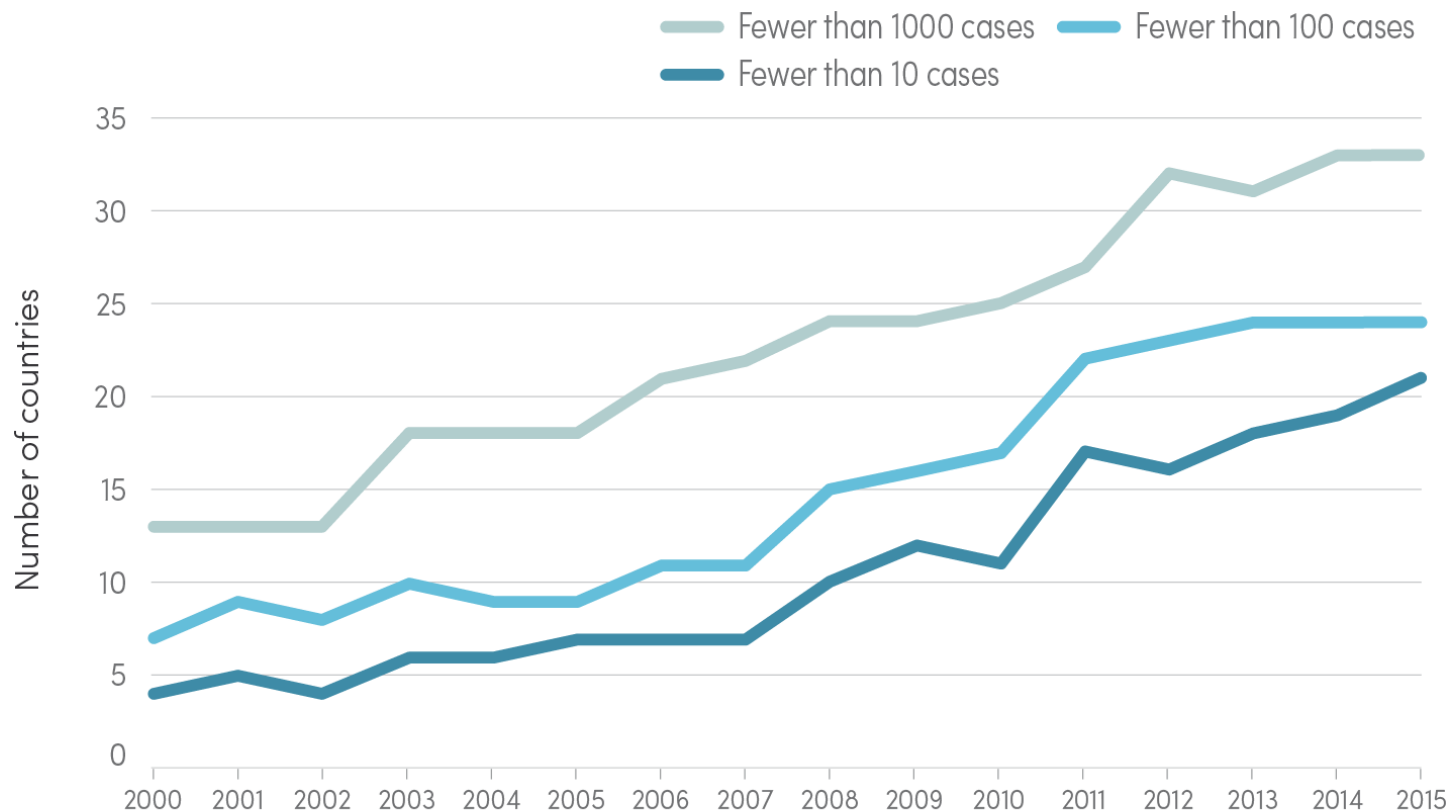


Source: WHO estimates



# Elimination countries

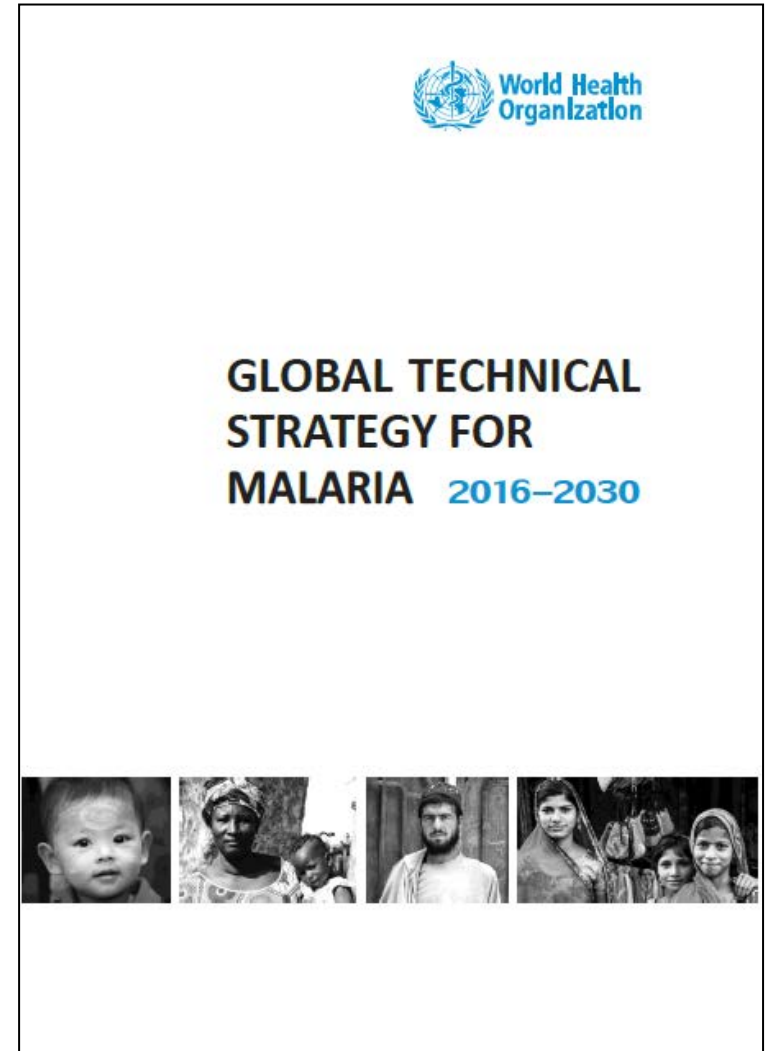
**Number of countries with fewer than 1000, 100 and 10 cases, 2000–2015**



*Source:* WHO estimates

# The renewed response

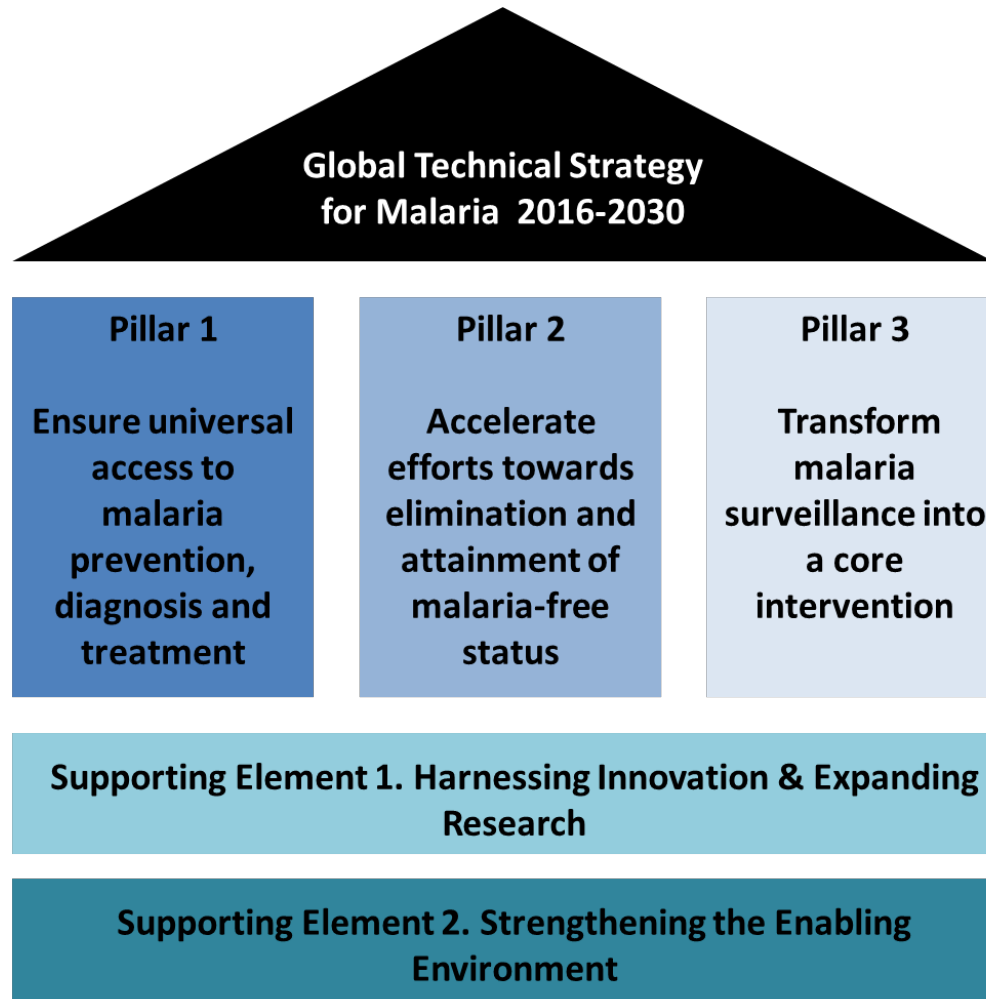
1. **All countries can accelerate** efforts towards elimination through combinations of interventions tailored to local contexts.
2. **Country ownership and leadership**, with involvement and participation of communities, are essential to accelerating progress through a multisectoral approach.
3. **Improved surveillance, monitoring and evaluation**, as well as **stratification** by malaria disease burden, are required to optimize the implementation of malaria interventions.
4. **Equity in access to services** especially for the most vulnerable and hard-to-reach populations is essential.
5. **Innovation in tools and implementation approaches** will enable countries to maximize their progression along the path to elimination.



# Global Technical Strategy

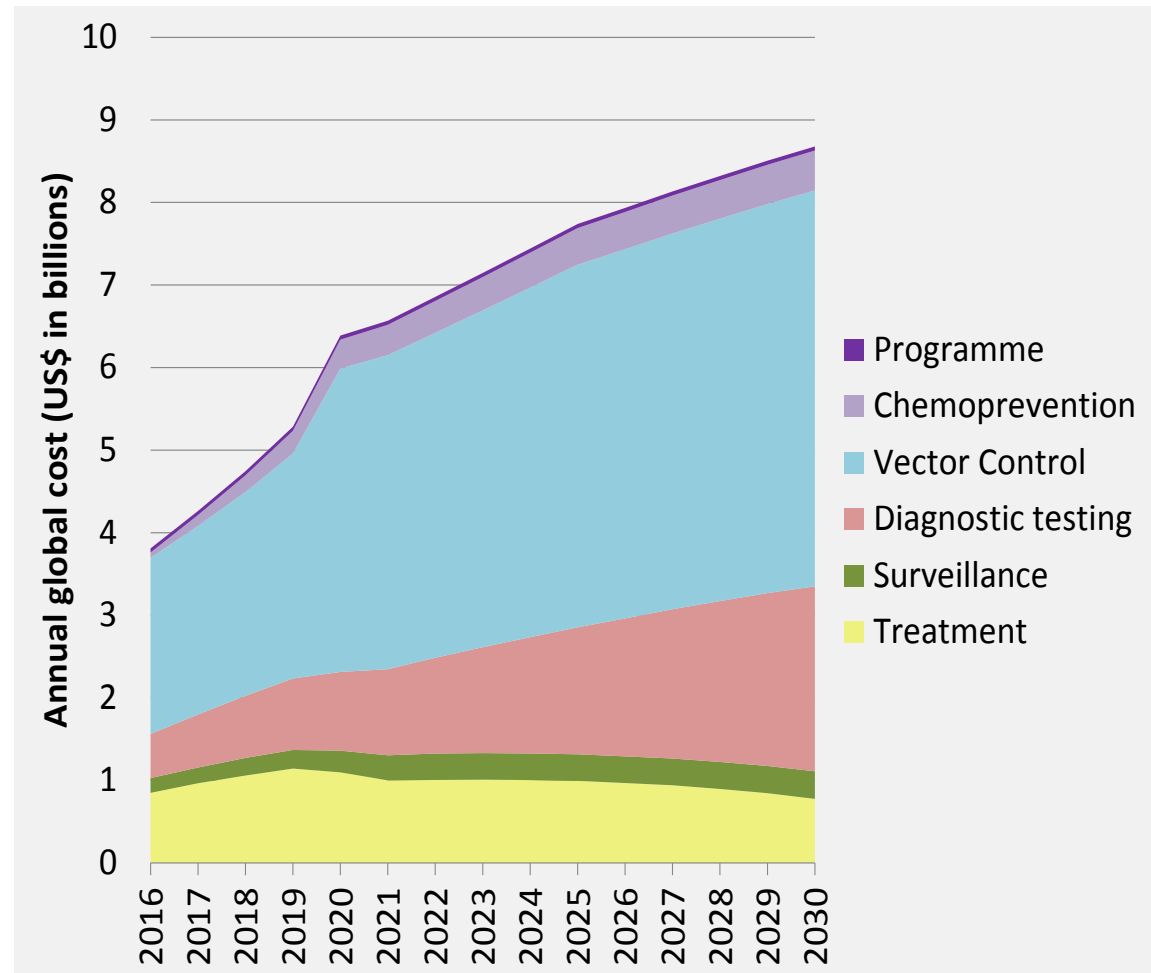
Vision: A world free of malaria			
Goals	Milestones		Targets
	2020	2025	2030
1. Reduce malaria mortality rates globally compared with 2015	≥40%	≥75%	≥90%
2. Reduce malaria case incidence globally compared with 2015	≥40%	≥75%	≥90%
3. Eliminate malaria from countries in which malaria was transmitted in 2015	At least 10 countries	At least 20 countries	At least 35 countries
4. Prevent re-establishment of malaria in all countries that are malaria-free	Re-establishment prevented	Re-establishment prevented	Re-establishment prevented

# Global Technical Strategy



# Global Technical Strategy

- US\$ 6.4 billion by 2020
- US\$ 7.7 billion by 2025
- US\$ 8.7 billion by 2030



# Elimination & Eradication

- **Malaria elimination:** the interruption of local transmission (reduction to zero incidence) of a specified malaria parasite in a defined geographical area as a result of deliberate activities.
- **Malaria eradication:** a permanent reduction to zero of the worldwide incidence of infection caused by human malaria parasites as a result of deliberate activities.”

# Countries certified as malaria-free

## Global Malaria Eradication Programme: 1955-1969

1955

1972

### 15 COUNTRIES AND 1 TERRITORY

- Bulgaria
- Cyprus
- Dominica
- Grenada
- Hungary
- Italy
- Jamaica
- Netherlands
- Poland
- Romania
- Saint Lucia
- Spain
- Taiwan
- Trinidad and Tobago
- United States of America
- Venezuela

**Certification of malaria elimination:** Countries that achieve at least 3 consecutive years of zero indigenous malaria cases are eligible to apply for a WHO certification of malaria-free status. Between 1955 and 1972, 15 countries and 1 territory received this WHO certification.

# Countries certified as malaria-free

## 1972-1987

1972

1987

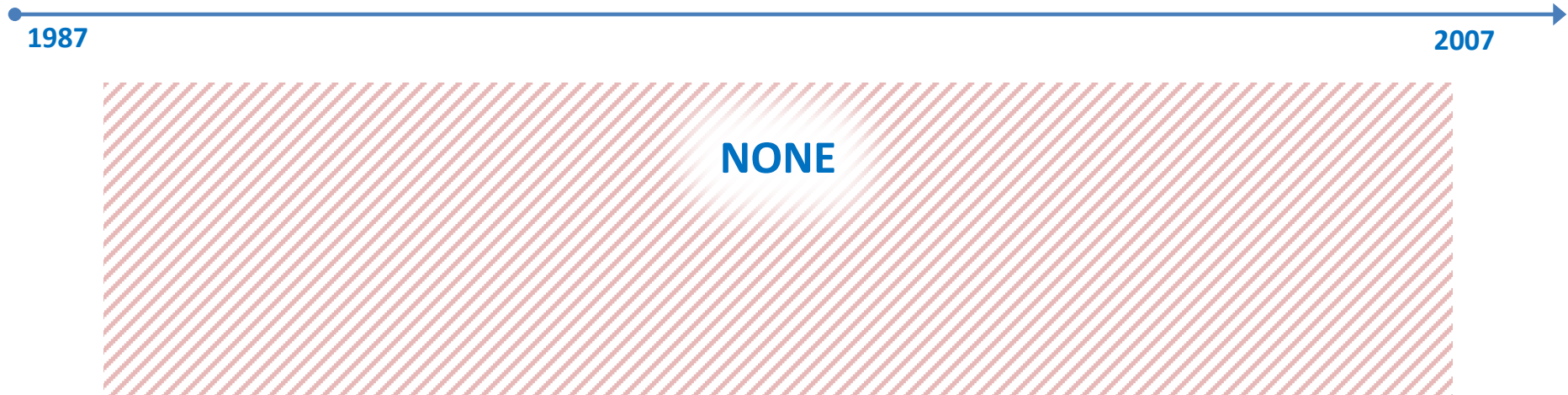
### 7 COUNTRIES AND 1 TERRITORY

- Australia
- Brunei
- Cuba
- Mauritius
- Portugal
- Réunion (France)
- Singapore
- Yugoslavia (Bosnia-Herzegovina, Croatia, The former Yugoslav Rep. of Macedonia, Montenegro and Serbia)



# Countries certified as malaria-free

**1987-2007**



# Countries certified as malaria-free

**2007-2016**

2007

2016

## 7 COUNTRIES

- Armenia
- Kyrgyzstan
- Maldives
- Morocco
- Sri Lanka
- Turkmenistan
- United Arab Emirates

Over the last decade, 7 countries were certified by WHO as malaria-free.

Global **Malaria** Programme



# A framework for malaria elimination



World Health  
Organization

# What is new?

1. builds on progress during the last decade
2. addresses all malaria-endemic countries
3. the continuum of malaria transmission from very high to very low
4. Critical requirements to achieve and maintain elimination
5. health systems requirements and programmatic aspects that are essential
6. critical role of information systems and surveillance as an intervention
7. planning for systems required to document
  - a) certification;
  - b) the new role of verification
8. Acceleration and the speed of change
9. Rapid diagnostic tests and light microscopy are both recommended for malaria diagnosis
10. The focus classification has been simplified.
11. Updated strategies
12. certification of malaria elimination is simplified,
13. a country's malaria-free certification status can be lost

# Strategic Advisory Group on malaria eradication



1<sup>st</sup> Meeting – 28 August 2016

# Strategic Advisory Group on malaria eradication

Will analyze future scenarios for malaria, taking into consideration a broad set of biological, technical, socioeconomic, political and environmental determinants, including potential products of innovation. Based on these analyses, the SAG will provide advice to WHO on the feasibility, expected cost and potential strategies of malaria eradication over the ensuing decades.

# A few initial clarifications

The vision is unequivocally one of a malaria free world i.e. eradication

Biological versus operational feasibility

A long term path versus a campaign (the end game)

Achieving the GTS is in the path to elimination

# Learning from the past. Planning for the future

*Malaria control should not be a campaign, it should be a policy, a long term program. **It cannot be accomplished or maintained by spasmodic effort.** It requires the adoption of a practicable program, the reasonable continuity of which will be sustained for a long term of years.*

*Boyd (1939) Malaria: Retrospect and Prospect. Am. J. Trop. Med., 19 : 1*



# Malaria in the next decades

a problem to be solved – not simply a task to be performed