

# Guidelines for the Treatment of Malaria

- *upcoming updates and guidance on access and substitution during COVID-19 related restrictions*

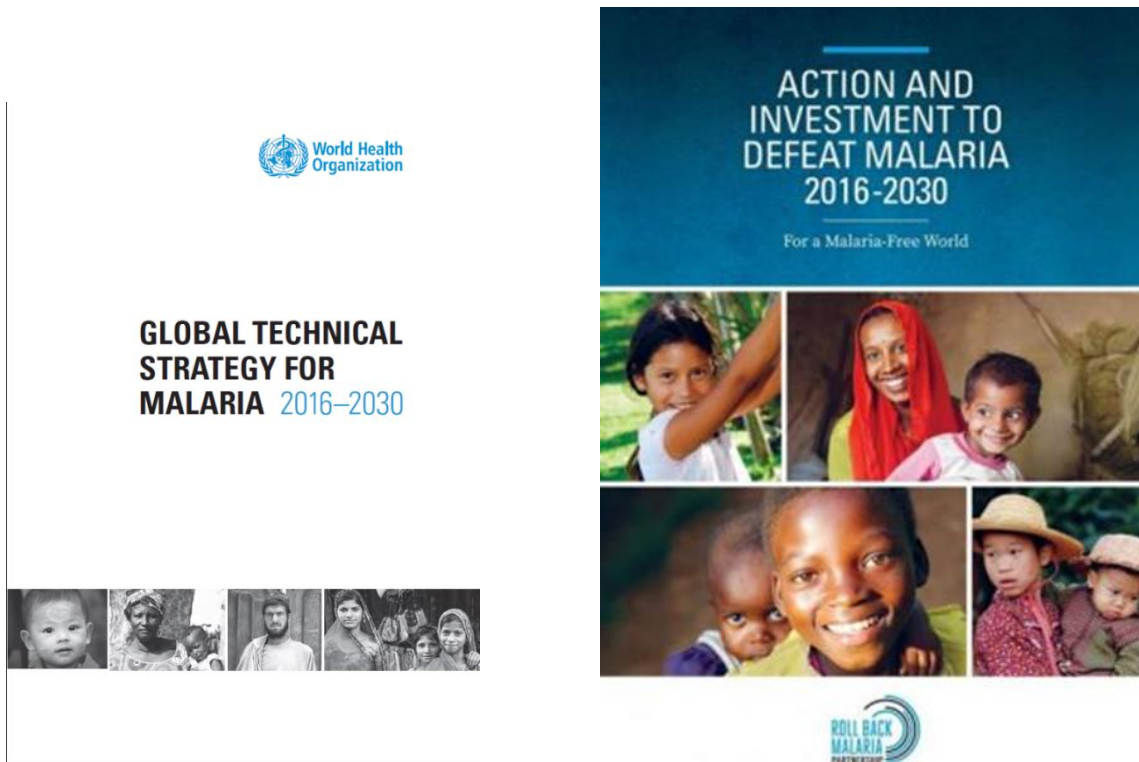
Dr. Peter OLUMESE,  
Global Malaria Programme  
WHO, Geneva, Switzerland.

# Estimated malaria cases & deaths (2019)

- **The Global Malaria Picture**
  - 87 countries and territories
  - Half world at risk (3.2 billion).
- **highly concentrated in sub-Saharan Africa**
  - Globally, there were an estimated 229 million cases of malaria  $\approx$  92% in Africa; 5% in South East Asia
  - Globally, 409 000 deaths - 94% in Africa
  - malaria was the 4th highest cause of death among children in Africa (10% of child death in sub-Saharan Africa), - claiming the life of 1 child every 2 minutes.

# Global Technical Strategy

- To achieve the future, synergy amongst stakeholders



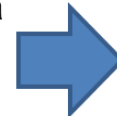
- ☐ Innovation
- ☐ Manufacturing
- ☐ Funding

# Global Technical Strategy -opportunities

- Increasing focus on elimination & surveillance
- Acceleration of efforts and a shift on strategic priorities

## 3 Key pillars

1. **Ensure universal access** to malaria prevention, diagnosis and treatment
2. **Accelerate efforts towards elimination** and attainment of malaria-free status
3. **Transform malaria surveillance** into a core intervention



## 2 supporting elements

1. **Harnessing innovation and expanding research**
  1. Basic and implementation research
  2. Action for rapid update of tools
2. **Strengthening the enabling environment**
  1. Strong political commitment/multisectoral / cross-border
  2. Capacity development/health system strengthening

## Attractive Market

- ☐ New medicines
- ☐ Manufacturing capacity
- ☐ New diagnostics
- ☐ Broader reach
- ☐ Funding

***... with less risk***

# Global Technical Strategy

## - Progress towards first Milestone point (2020)

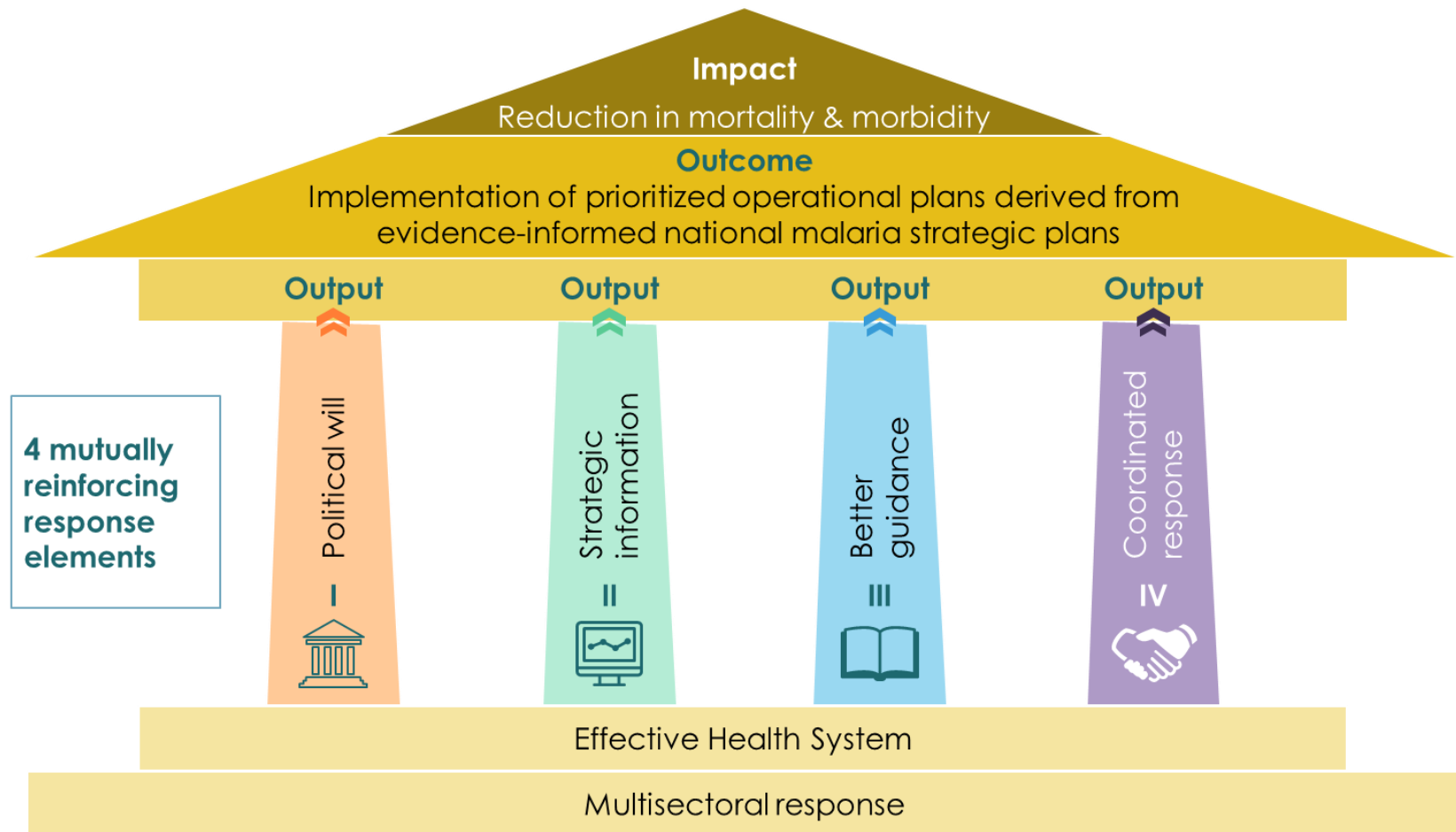
Goals	Milestones		Targets
	2020	2025	2030
1. Reduce malaria mortality rates globally compared with 2015	At least 40%	At least 75%	At least 90%
2. Reduce malaria case incidence globally compared with 2015	At least 40%	At least 75%	At least 90%
3. Eliminate malaria from countries in which malaria was transmitted 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

- Mortality reduction
  - 18% reduction achieved, **but 22% off track**
- Malaria cases
  - 3% reduction achieved, **but 37% off track**

*Global Technical Strategy for malaria 2016-2030*

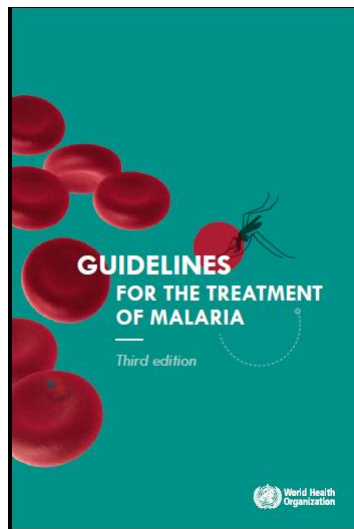
# Off track to meet global targets

# High Burden to High Impact: a targeted malaria response – was launched in 2018 to get back on track



# Guidelines for the Treatment of Malaria (3<sup>rd</sup> ed), 2015

## Diagnosis and Treatment with Effective Medicines (Malaria Case Management)



Several changes in guidelines have implications for manufacturers ...

- ☐ Products
- ☐ Quantities
- ☐ new indications

<http://www.who.int/malaria/publications/atoz/9789241549127/en/>



# Core Principles: Guides to the development of products

Early diagnosis and prompt effective treatment

- within 24-48 of the onset of malaria symptoms

Combination therapy

- improved efficacy; prevent or delay resistance

Rational use of antimalarials

- reduce the spread of drug resistance, limit wastage, and ensure effective case management of febrile illnesses

Appropriate weight-based dosing

- prolong the useful therapeutic life of medicines,



**For market success,  
manufacturers must consider**

- ☐ Products that can be used at the community level with minimal or no training of the provider
- ☐ Pediatric formulations



## Rational Use of Diagnostics

All cases of suspected malaria should have a parasitological test (microscopy or RDT) to confirm the diagnosis.


- The results of parasitological diagnosis should be available within less than two hours of the patient presenting.



Major opportunity for companies with appropriate specifications and quality RDT's

# Uncomplicated falciparum malaria

## Therapeutic objectives

- – Cure the infection as rapidly as possible (elimination of the malaria parasites that caused the treated infection), thus preventing progression to severe disease
  - reduce transmission (reduce infectious reservoir)
  - Prevent the emergence and spread of antimalarial drug resistance
- 
- ☐ Expansion of indication
  - ☐ Wider use of primaquine
  - ☐ We need a pediatric formulation for primaquine

# Uncomplicated falciparum malaria

## Treat with an ACT.

- The recommended ACTs are:
  - artemether plus lumefantrine
  - artesunate plus amodiaquine
  - artesunate plus mefloquine
  - dihydroartemisinin plus piperaquine
  - artesunate plus sulfadoxine-pyrimethamine.



## *challenge ...*

production of  
dihydroartemisinin plus  
piperaquine  
→ an additional  
manufacturer just being  
PQed

**We need additional  
capacity and suppliers!**

## Uncomplicated falciparum malaria

Reducing transmissibility of treated *P.falciparum* infections

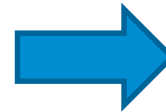
- In low transmission areas, give a single dose of 0.25mg/kg primaquine with ACT to patients with *P. falciparum* malaria to reduce transmission.

An additional indication of disease transmission is leading to ...

**Expanded market AND opportunities for pediatric formulations**

## Uncomplicated non-falciparum malaria

- ❑ ACT use in the treatment of non-falciparum malaria.
- ❑ To prevent future relapse, treat people with vivax or ovale malaria with primaquine
- ❑ *The G6PD status of patients should be used to guide the administration of primaquine*



- ❑ Wider use and increased volumes of ACT for the treatment of non-falciparum malaria
- ❑ Incremental use of diagnostics
- ❑ Need for G6PD quantitative test – point of care tests

# Severe malaria treatment

Treat severe malaria with intravenous or intramuscular artesunate for at least 24 hours and until able to tolerate oral medication and complete with and ACT.

## Pre-referral treatment

- a single rectal dose (10mg/kg) of artesunate before referral



## Opportunities for Manufacturers ...

- ☐ For injection only 1 PQ'd manufacturer  
**Only drug for this indication**
- ☐ In rural and hard to reach areas, need anti malarial before brought to a clinic  
**2 PQed suppliers of rectal artesunate**

## Reviews of guidelines on-going

- On-going policy reviews
  - Treating in the 1<sup>st</sup> trimester of pregnancy – Use of ACTs
  - Use of artesunate+pyronaridine in the treatment of malaria
- Reviews in the pipeline
  - Tafenoquine for anti-relapse treatment for vivax malaria
- Malaria diagnosis
  - Evaluations of *Pfhrp* 2/3 gene deletions and implications for case management and policy
  - G6PD quantitative point of care test



## Progress with access

- The creation of new funding mechanisms – such as Global Fund to Fight AIDS, Tuberculosis and Malaria and the US President's Malaria Initiative – allowed for the wide-scale deployment of case management tools. Between 2000 and 2019, more than 2.7 billion RDTs and 3.1 billion ACTs were delivered to malaria-endemic countries (Public sector).

# Thank you