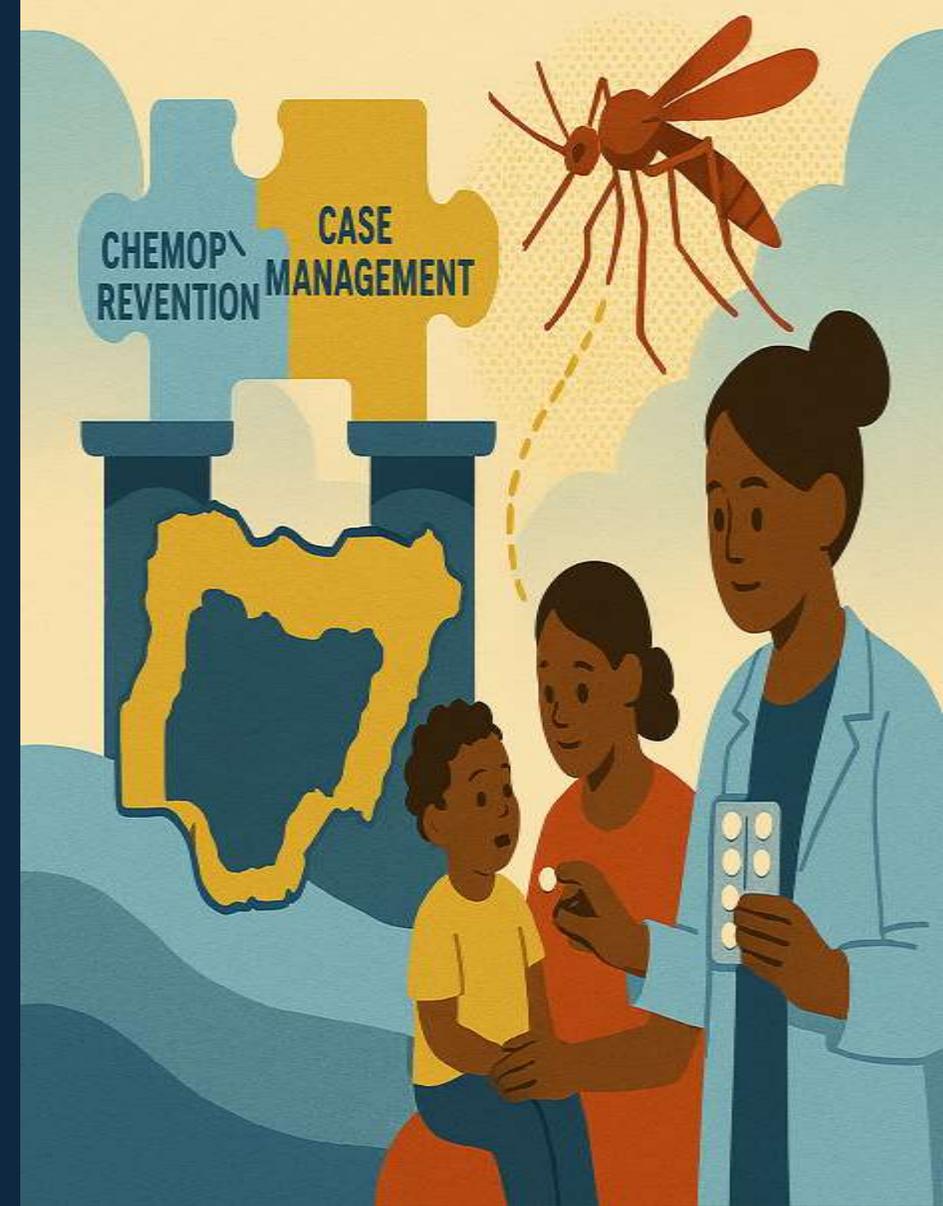


BRIDGING THE GAP IN MALARIA ELIMINATION: CURRENT PARADIGMS IN CHEMOPREVENTION & CASE MANAGEMENT IN CHILDREN UNDER 5 YEARS IN NIGERIA.

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NISPID Pre-Conference Workshop 2026



Background

- Malaria has exerted untold hardship and devastating effect on mankind.
- From efforts to elucidate the aetiology and transmission of the disease to those of seeking to treat and eradicate the disease, there has been a lot of intrigues in the engagement by man, the parasite and the vector.
- However, progress towards malaria-free status is a continuous process and not a set of independent stages.

Global Technical Strategies 2016-2030

- The World Health Organization's Global Technical Strategy for Malaria 2016-2030 has been developed with the aim of helping countries reduce the human suffering caused by the world's deadliest mosquito-borne disease.
- Adopted by the World Health Assembly in May 2015, the strategy provides comprehensive technical guidance to countries and development partners for the next 15 years, emphasizing the importance of scaling up malaria responses and moving towards elimination.
- Malaria transmission intensity and burden are often heterogeneous, depending on the natural variations in transmission suitability, urbanization, other changes in land cover and use, and the impact of increasing the coverage of interventions directed against

GTS-Vision: A World Free of Malaria

Goals	Mile Stones		Target
	2020	2025	2030
Reduce malaria mortality rates globally compared rates globally compared with 2015	At least 40%	At least 75%	At least 90%
Reduce malaria case incidence globally compared with 2015	At least 40%	At least 75%	At least 90%
Eliminate malaria from countries in which malaria was transmitted in 2015	At least 10 countries	At least 20 countries	At least 35 countries
Prevent re-establishment of malaria in all countries that are	Re-establishment prevented	Re-establishment	Re-establishment

Global technical strategy for malaria 2016–2030

Pillar 1

Ensure universal access to malaria prevention, diagnosis and treatment

Pillar 2

Accelerate efforts towards elimination and attainment of malaria-free status

Pillar 3

Transform malaria surveillance into a core intervention

Supporting element 1. Harnessing innovation and expanding research

Supporting element 2. Strengthening the enabling environment

Strategic Framework

Vision

A malaria-free Nigeria.

Mission

To deliver equitable, high-impact malaria interventions through context-specific, community-owned, and collaborative sector-wide approaches.

2030 Goals

- **National:** Reduce parasite prevalence and mortality by 60% compared to 2025 levels.
- **Subnational:** Achieve pre-elimination in low-burden states.



Definition of Levels of Activity (WHO, 2017)

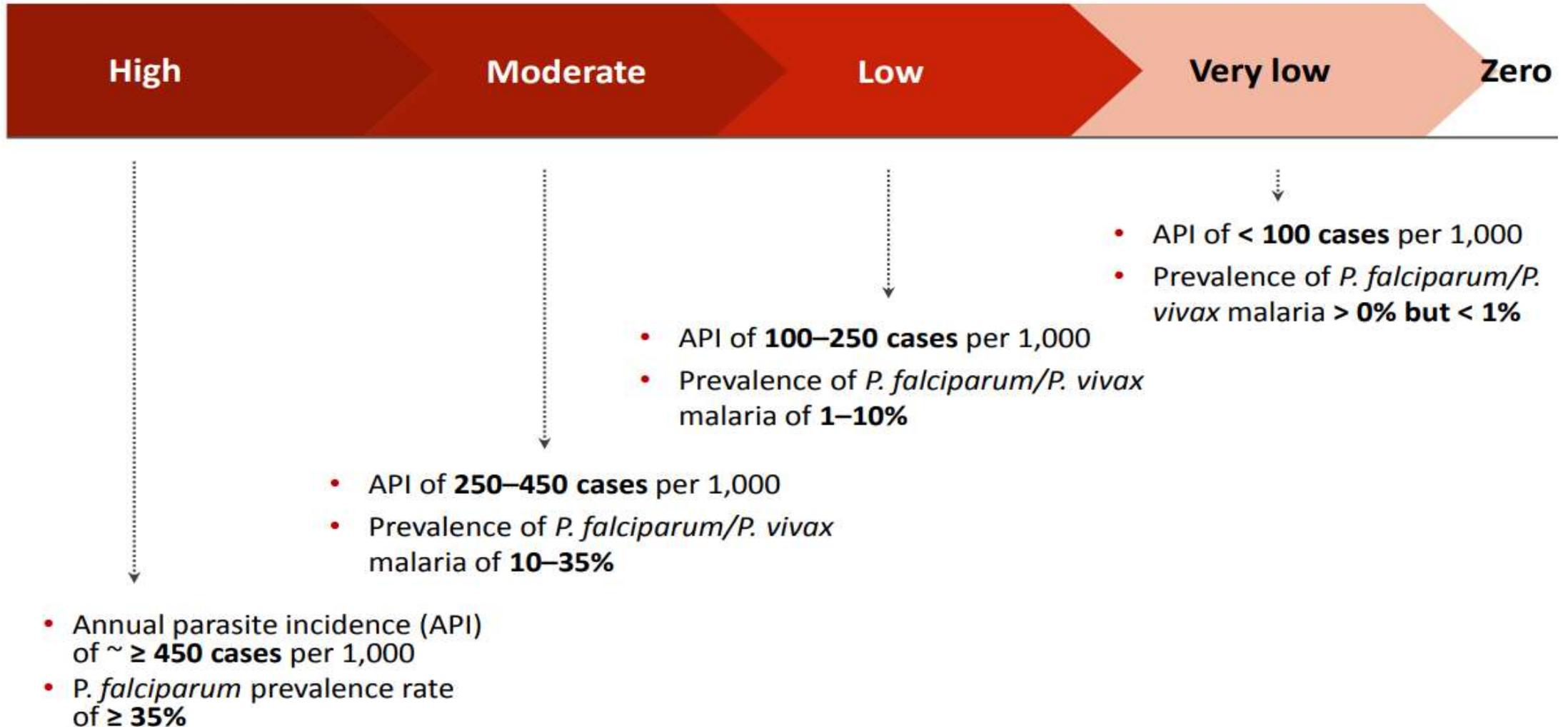
Level of Activity	Definition
Malaria control	Reducing the disease burden to a level at which it is no longer a public health problem
Malaria elimination	The interruption of local transmission (reduction to zero incidences of Indigenous cases [vs. locally acquired]) of a specified malaria parasite species in a defined geographic area as a result of deliberate efforts. Continued measures to prevent re-

Objectives of stages the continuum

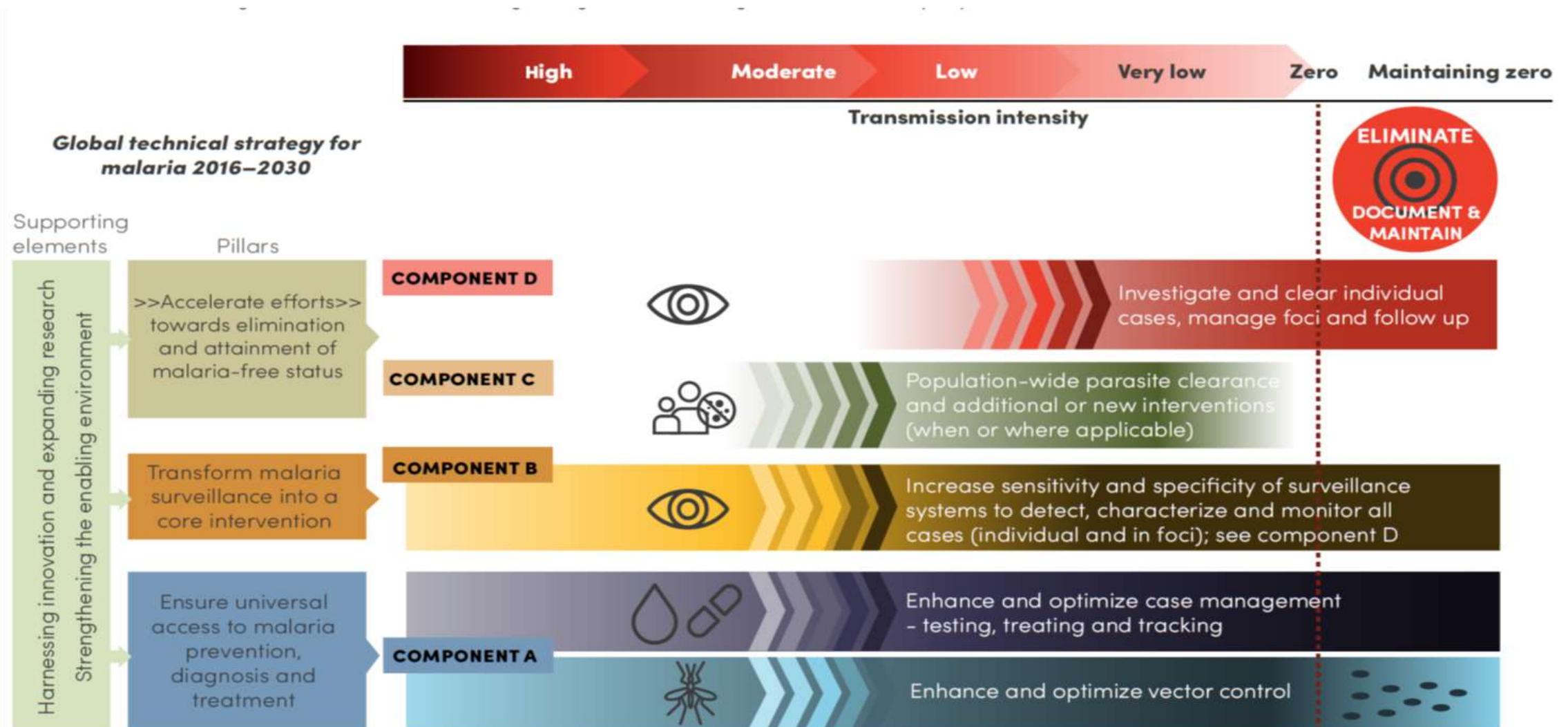
Stages	Key objectives
Control	Reduce mortality & morbidity to a defined level
Pre-elimination	1. Reduce mortality & morbidity to a defined level 2. Reduce transmission to a defined level
Elimination	Interrupt transmission and achieve zero local transmission a. Zero malaria transmission b. Zero malaria infection c. Zero malaria deaths

Indicative Metrics for Malaria Transmission

Transmission intensity



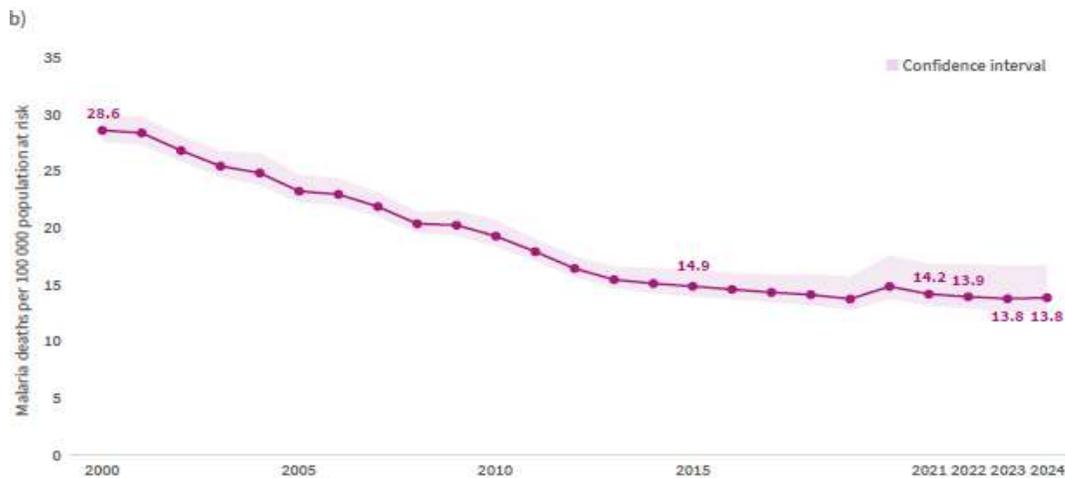
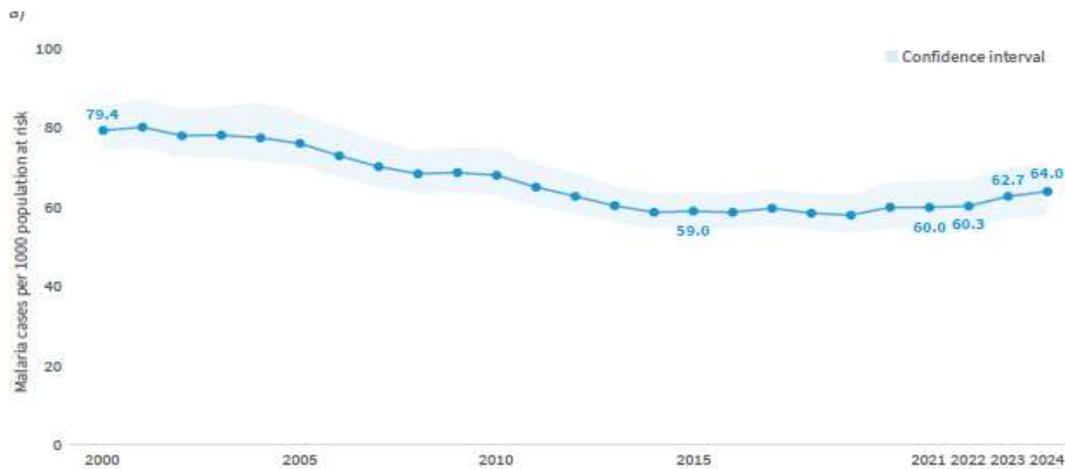
Framework for Elimination - summary



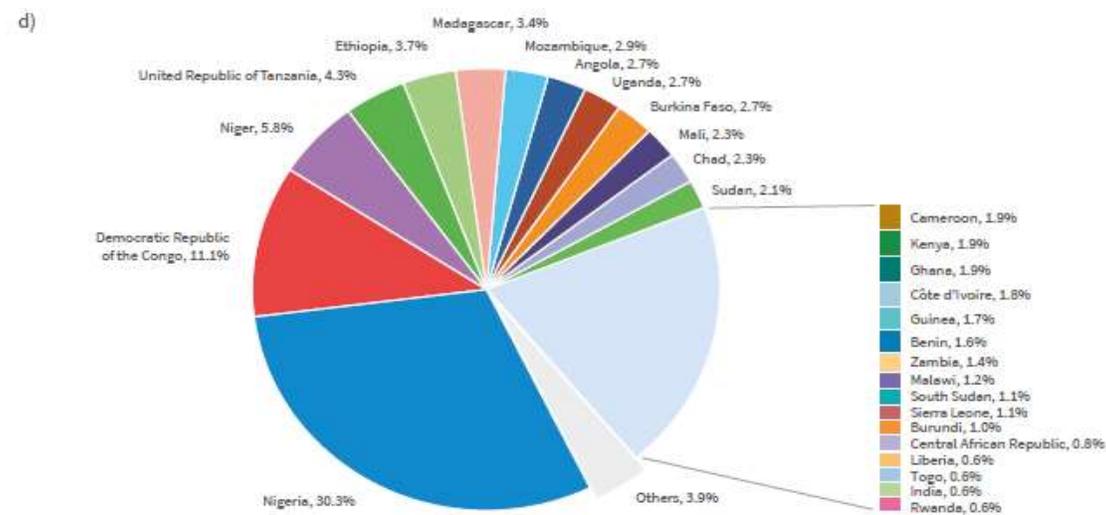
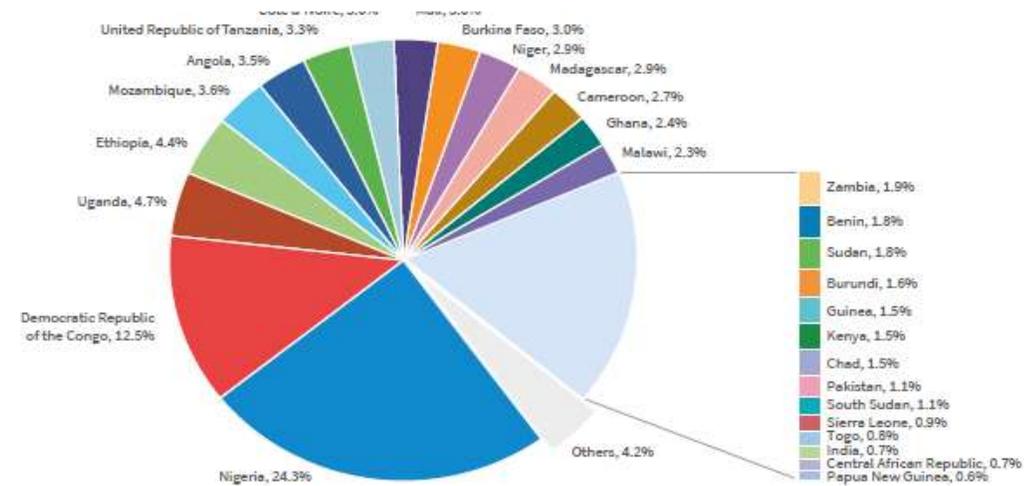
Global Malaria Burden (WMR 2025)

- In 2024, there were an estimated **282 million cases** of malaria and **610,000 deaths**, marking an increase from the previous year. The WHO African Region continues to bear the highest burden, accounting for about 94% of global cases and 95% of deaths.
- Over **170 million cases and one million deaths** were prevented in 2024, thanks to the introduction of new tools such as dual-ingredient nets and WHO-recommended vaccines.
- However, children <5 years account for 61%

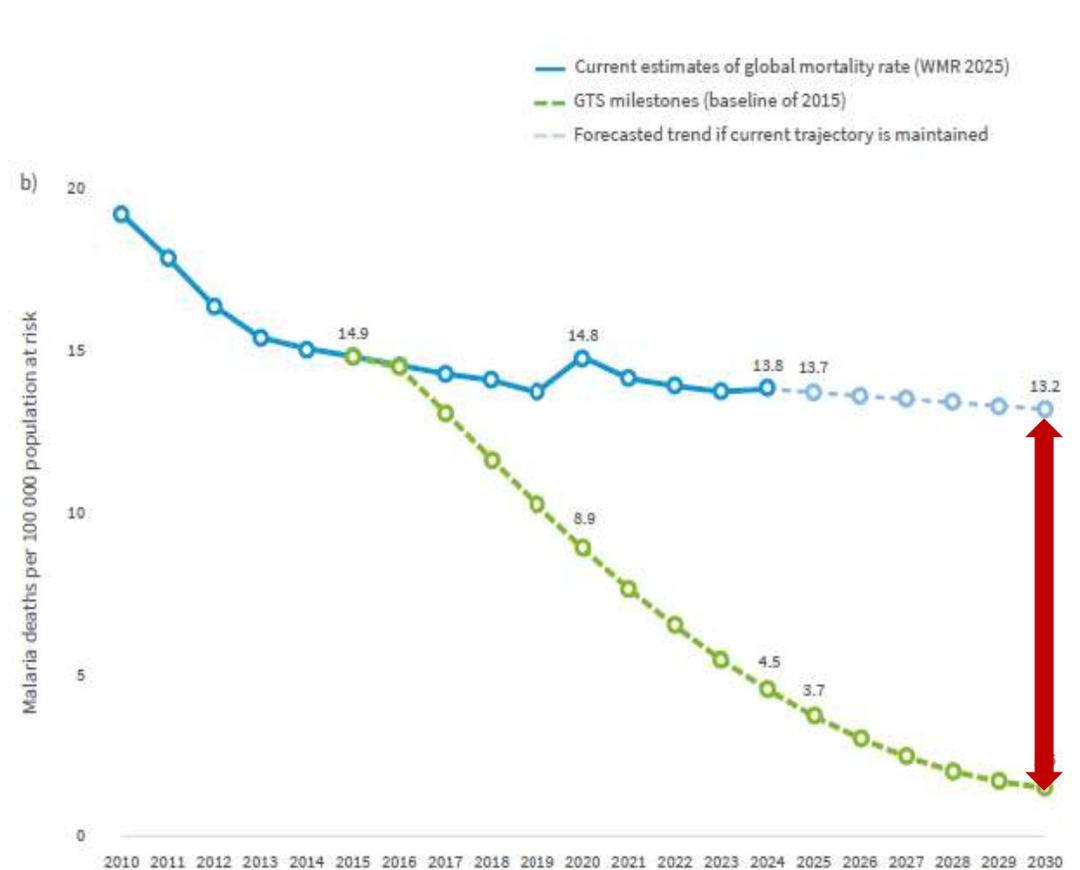
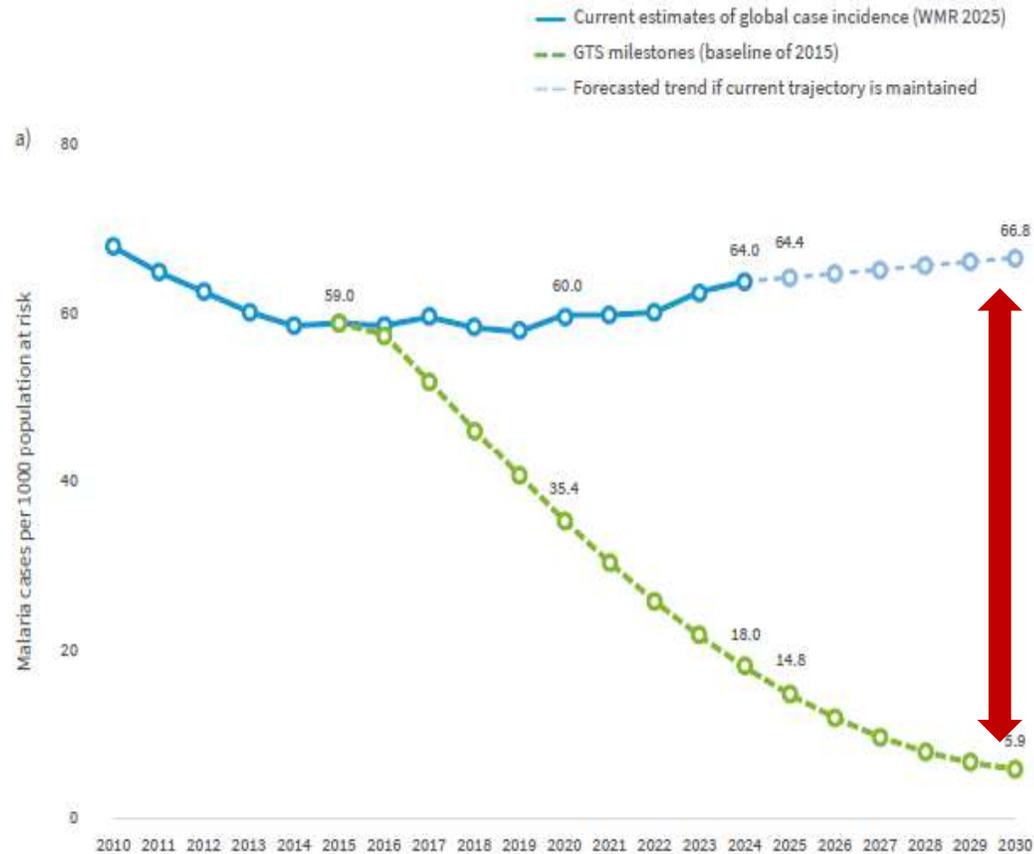
Global trends in a) malaria case incidence (cases per 1 000 population at risk) and b) mortality rate (deaths per 100 000 population at risk), 2000–2024; and c) distribution of malaria cases and d) deaths, by country, 2024



WHO: World Health Organization



Comparison of global progress in malaria a) case incidence and b) mortality rate considering two scenarios: current trajectory maintained (blue) and GTS targets achieved (green)



ITS: Global technical strategy for malaria 2016-2030; WHO: World Health Organization; WMR: World malaria report.

Contributory Factors Malaria Elimination Coverage Gaps

Healthcare Access Barriers -

Limited access to quality healthcare in Nigeria prevents timely and effective malaria treatment, endangering vulnerable communities.

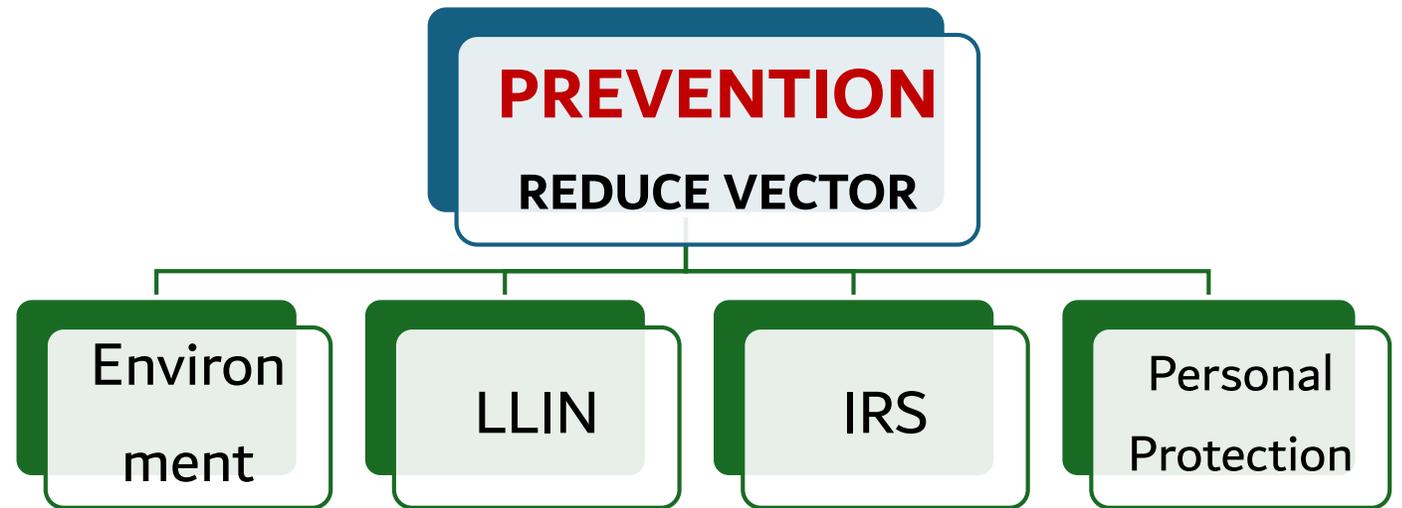
Issues about Vector Control

Inconsistent distribution and improper use of mosquito nets allow malaria transmission to persist in many Nigerian regions.

Funding and Awareness Deficits

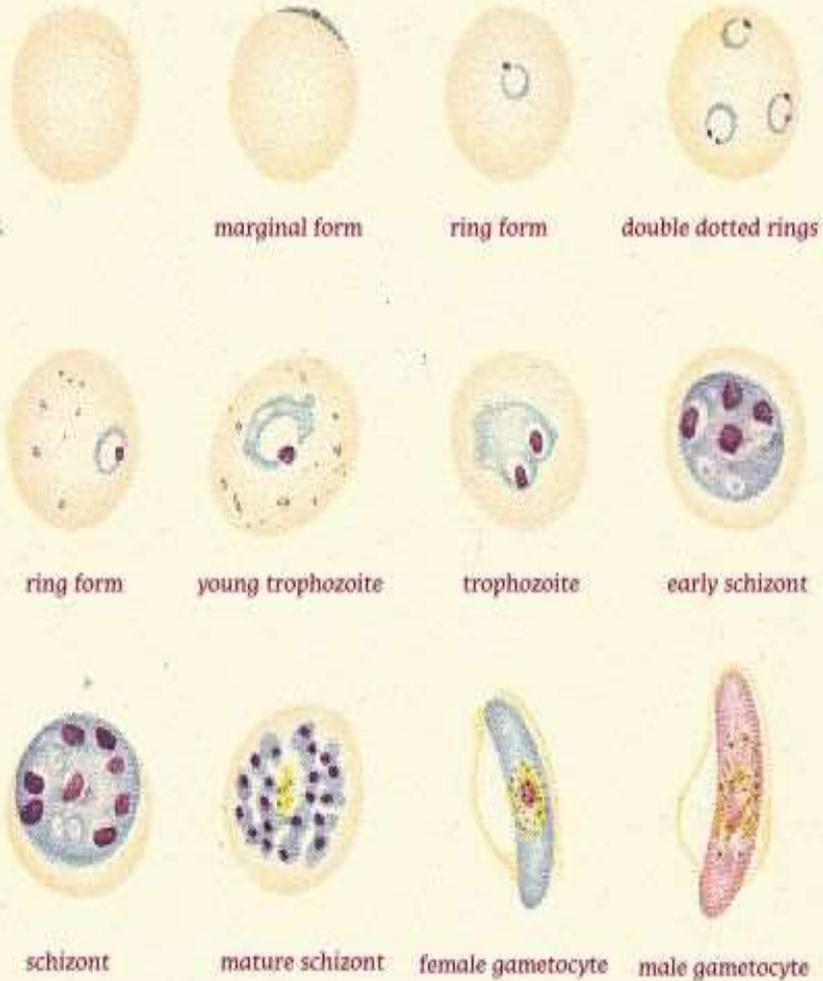
Low funding and limited community awareness slow Nigeria's progress toward malaria elimination and sustained prevention.





- Maximize the impact of vector control.
- Maintain adequate entomological surveillance and monitoring
- Manage insecticide resistance and residual transmission
- Strengthen capacity for evidence-driven vector control.
- Implement malaria vector control in

P. falciparum



PREVENTION

STOP PARASITE

IPTp

SMC

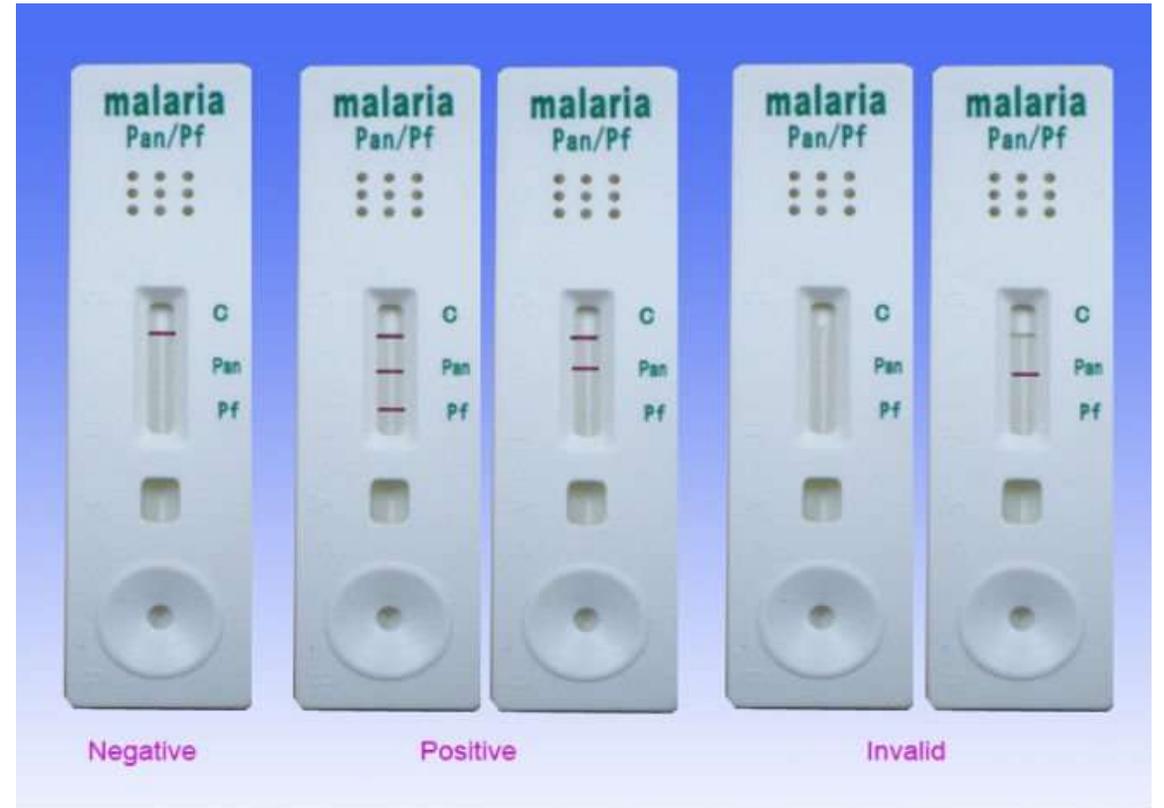
CHEMO-
PROPHY
LAXIS

VACCIN
E

- Expand preventive treatment to prevent disease in the most vulnerable groups.
- Protect all non-immune travellers and migrants.
- Systematically deploy vaccines as added tool

Testing

TEST all suspected cases of malaria **before** the institution of **antimalarial treatment** at **all levels** of health care delivery in the country; except in extraordinary circumstances where diagnostic facility is not accessible.



Good quality and effective

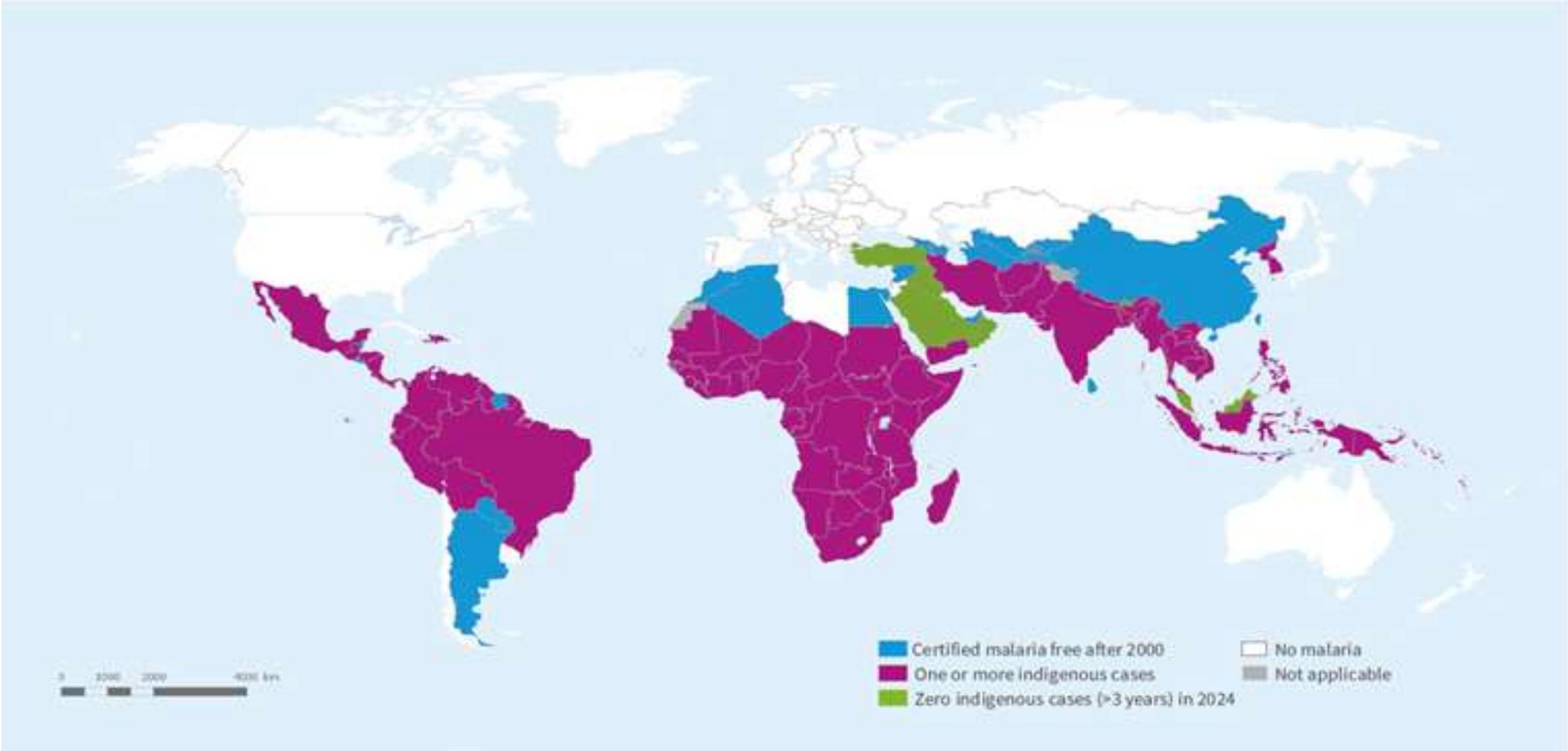
Treatment Artemisinin- based Combination Therapies (ACTs)

are the
recommended
treatment for
uncomplicated
malaria

*The use of
antimalarial
monotherapies for
the treatment of
uncomplicated
malaria is*

- Recommended ACTs
 - Artemether-
Lumefantrine
 - Artesunate-
Amodiaquine
 - Artesunate-
Mefloquine
 - Dihydroartemisinin-
Piperaquine
 - Pyronaridine-

Countries and areas with indigenous cases in 2000 and their status by 2024

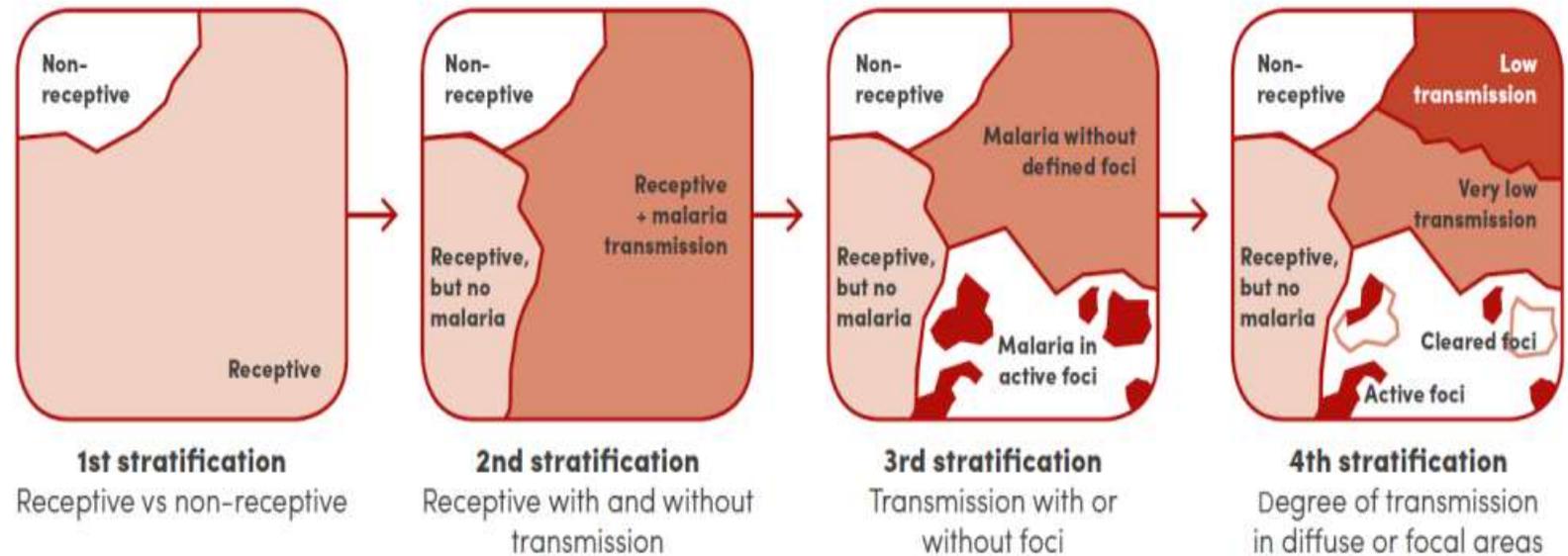


Bridging the Gap

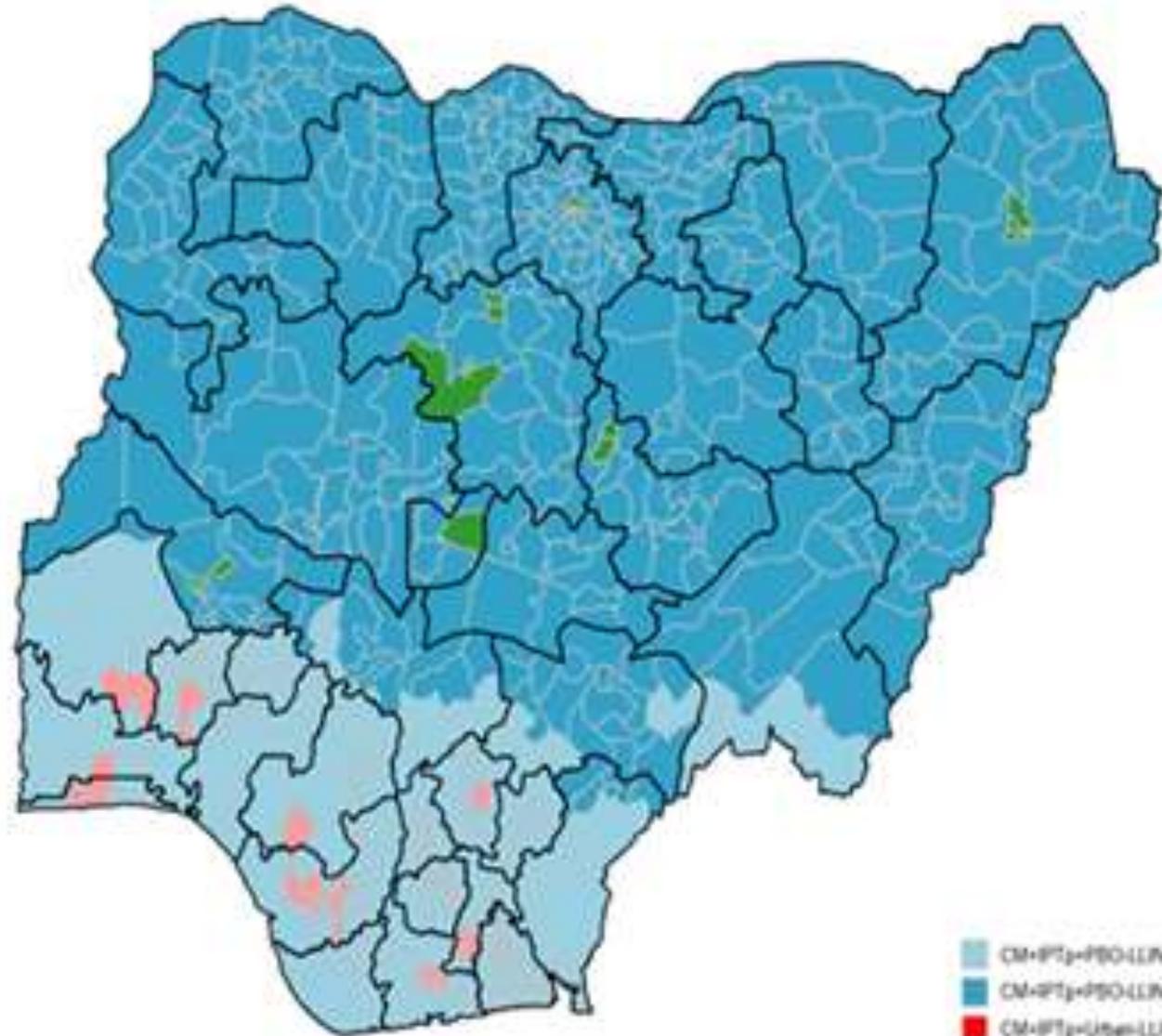
Local Stratification by Transmission Intensity

- SNT

- National maps should be stratified into discrete areas based on
 - receptivity and transmission characteristics.
 - Stratification allows for better targeting and improved efficiency of malaria interventions



Sub-
National
Tailorin
g



- CM+PTj+PSO+LLPa+PTI
- CM+PTj+PSO+LLPa+SMC
- CM+PTj+Urban+LLPa
- CM+PTj+Urban+LLPa+PTI
- CM+PTj+Urban+LLPa+SMC

Malaria Chemoprevention in Children Under 5

KEY CHEMOPREVENTION STRATEGIES: SMC, PMC, AND NOVEL APPROACHES



Seasonal Malaria Chemoprevention (SMC)

SMC is widely used with up to 75% efficacy in reducing clinical malaria episodes during high transmission seasons.

Perennial Malaria Chemoprevention in Children less than 2yrs (IPTi)

PMC combined with routine vaccinations reduces malaria episodes by approximately 30%, enhancing infant protection.

Novel Chemoprevention Approaches

New strategies include long-acting injectable antimalarials and monoclonal antibodies targeting parasite invasion mechanisms.

Combined Vector Control

Integrating chemoprevention with vector control measures like mosquito nets enhances overall malaria protection in high-risk zones.



Seasonal Malaria Chemoprevention in Nigeria

Targeted Medication Administration

SMC involves giving antimalarial drugs to children at intervals during malaria peak seasons, reducing disease risk. The medication is **Sulphadoxine-pyrimethamine and Amodiaquine (SPAQ)**

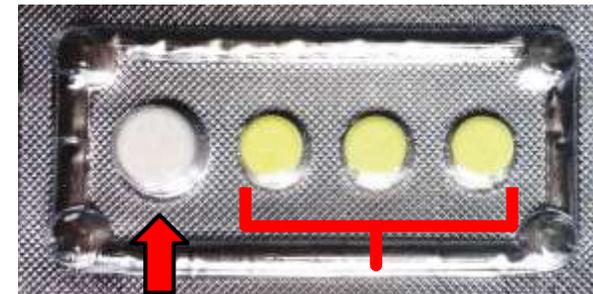
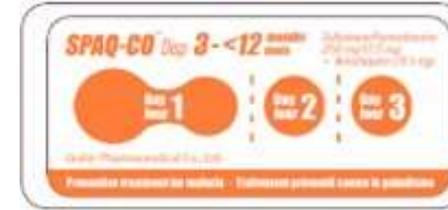
Focus on Young Children

The program targets children aged 3 to 59 months, who are most vulnerable during malaria transmission periods.

Seasonal Treatment Cycles

SMC is delivered in four monthly cycles during the rainy season, maintaining protective drug levels in children. **About 25-29 million** doses are administered

Sulphadoxine-Pyrimethamine +Amodiaquine



SP

A

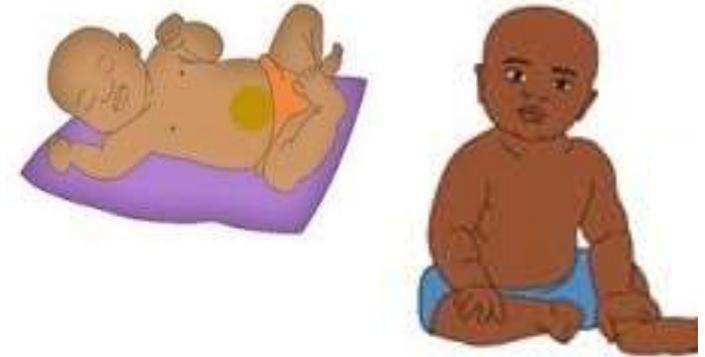
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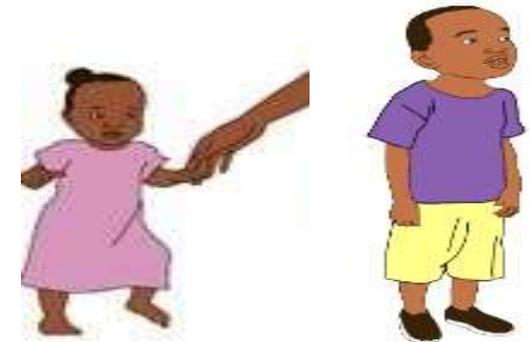
Seasonal Malaria Chemoprevention



- SMC is recommended in areas of highly seasonal malaria transmission throughout the **Sahel sub-region and areas where >60% of rainfall occurs within 4 consecutive months.**
- A complete treatment course of **sulfadoxine-pyrimethamine (SP) plus amodiaquine (AQ) should** be given to:
 - **Children aged 3–59 months**
 - **At monthly intervals, beginning at the start of the transmission season**
 - **Up to a maximum of four doses during the transmission season**



Infant 3 to <12 months



Child 12 to 59 months

Our Vision - a malaria free Nigeria; Our goal - to reduce malaria burden to pre-elimination levels and bring malaria-related mortality to zero

WHO Recommends PMC for Infants



PMC Recommendation for Infants

WHO now recommends perennial malaria chemoprevention for children under two years in areas with moderate to high malaria transmission.



How PMC Works

PMC uses regular administration of antimalarial drugs to prevent infections during periods of high malaria risk.



Goal: Reduce Malaria Burden

The new guideline aims to lower malaria cases and deaths among infants, the most vulnerable population group.

OPTIMIZING CASE
MANAGEMENT:
DIAGNOSTICS,
TREATMENT
PROTOCOLS, AND
DRUG RESISTANCE



RAPID DIAGNOSTIC TESTING AND LABORATORY ADVANCEMENTS

Rapid Diagnostic Tests (RDTs)

RDTs provide quick, reliable malaria diagnosis within 15-20 minutes enabling timely treatment decisions.

High-Sensitivity Diagnostics

New high-sensitivity RDTs detect lower parasite levels improving malaria detection accuracy.

Microscopy Techniques

Microscopy remains essential in referral centers, providing detailed parasite analysis for diagnosis.

Mobile Diagnostics and Digital Reporting

Mobile diagnostics and digital data



EMERGING DRUG RESISTANCE AND IMPLICATIONS FOR CASE MANAGEMENT

Artemisinin Resistance Surveillance

Partial resistance to artemisinin in Nigeria is limited but requires vigilant monitoring to prevent spread.

Partner Drug Resistance

Resistance to partner drugs like amodiaquine causes increased treatment failures in some regions.

Case Management Implications

Revising treatment algorithms and enhancing pharmacovigilance are critical to manage resistance effectively.

Health System Preparedness

Health systems must adapt protocols and educate providers to prevent drug resistance resurgence.

IMPLEMENTATION
STRATEGIES AND
PROGRAMMATIC
CHALLENGES



COMMUNITY AND HEALTH SYSTEM DELIVERY MODELS

Decentralized Health Delivery

Community health workers improve healthcare access and coverage, especially in rural and remote areas.

Integration with Maternal and Child Health

Combining services for maternal and child health increases service efficiency and overall health outcomes.

Challenges in Delivery

Supply chain issues, quality assurance variability, and limited infrastructure remain significant obstacles.

Innovative Solutions

Public-private partnerships and digital

FORMULATION
ISSUES AND DRUG
DELIVERY ACROSS
THE UNDER 5 AGE
SPECTRUM



PEDIATRIC-FRIENDLY FORMULATIONS AND DOSING CHALLENGES

Child-Friendly Formulations

Formulations must ensure good taste, stability, and ease of administration for young children.

Storage and Consistency Issues

Liquid suspensions and tablets face challenges related to storage in tropical climates and maintaining consistency.

Accurate Weight-Based Dosing

Proper dosing requires calibrated tools and caregiver education to prevent dosing errors.



SAFETY, ADHERENCE, AND ACCEPTABILITY OF ANTIMALARIAL DRUGS

Safety Profiles

Current antimalarial drugs generally have favorable safety profiles but vomiting can reduce adherence in young children.

Improving Acceptability

Taste masking and simplified drug regimens improve patient compliance and drug acceptability.

Community Education

Community education and caregiver support are vital to overcoming adherence barriers and



ADDRESSING GAPS IN ACCESS FOR NEONATES, INFANTS, AND TODDLERS

Access Gap in Chemoprevention

Neonates and infants under 6 months are often excluded from chemoprevention due to limited safety data and dosing challenges.

Need for Specialized Formulations

Specialized drug formulations and dosing guidelines are urgently required to safely protect young infants from disease.

Improving Access Strategies

Integrating malaria interventions into neonatal care and enhancing outreach improves access for marginalized

Thank you