WEBINAR

Malaria vaccines: Practical approaches to collaboration between malaria and immunization programs

Moderator

Dr. Rose Zulliger
Director of Technical Services and Innovation, Malaria Consortium

Speakers

Dr. Nnenna Ogbulafor
National Coordinator of National Malaria Elimination Program, Nigeria

Dr. Naziru Tanko Mohammed
Deputy EPI Manager, Ghana

AGENDA

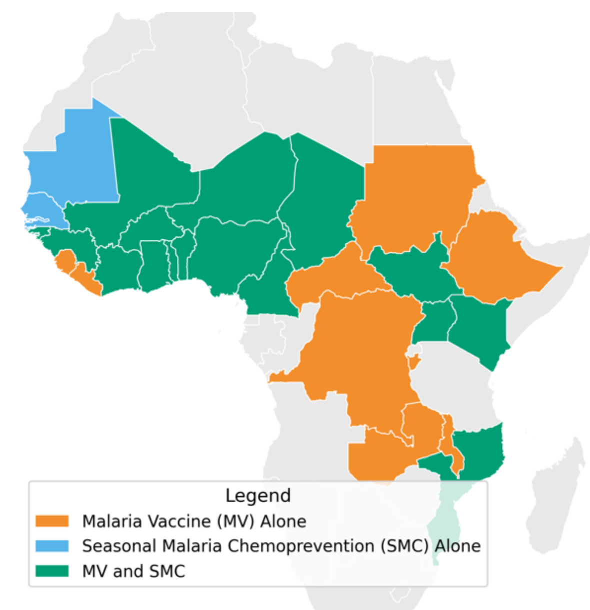
- Introduction
- Presentation by Dr. Nnenna Ogbulafor
- Presentation by Dr. Naziru Tanko Mohammed
- Q&A

Introduction

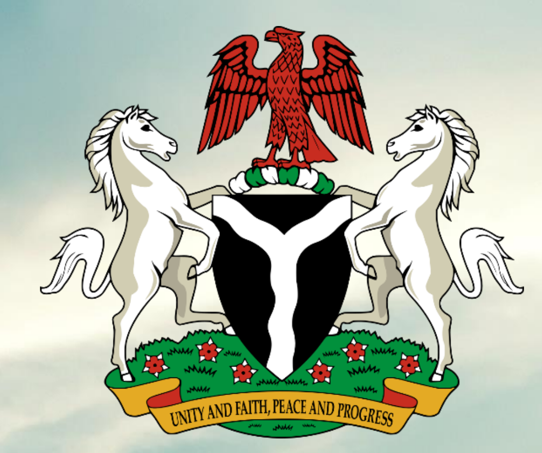
Dr. Rose Zulliger, Director of Technical Services and Innovation, Malaria Consortium

Why focus on malaria – EPI collaboration?

- Synergies and opportunities
  - Overlap in target population age groups and geography
  - Potential to reach unreached children, reduce strain on health system and communities, maximise impact of resources
- Growing integration experience (e.g. Vitamin A, ORS)
- Important lessons learned
  - Coordination, cadres, data systems, demand creation, communication, access constraints, costs
- Resource constraints necessitate finding efficiencies



Strengthening Malaria Vaccine Deployment in Nigeria through EPI – NMEP Collaboration

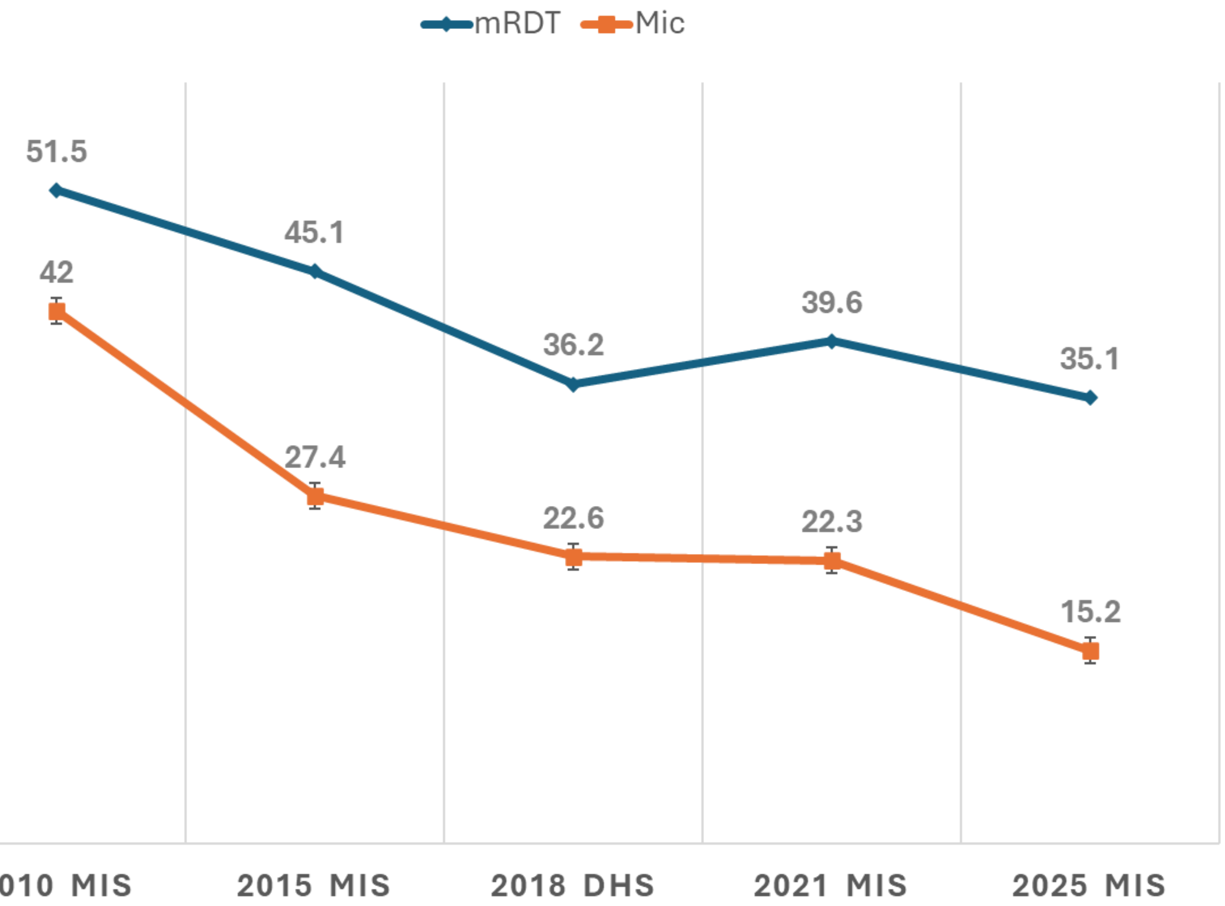


DR. NNENNA OGBULAFOR

DIRECTOR/NATIONAL COORDINATOR, NMEP

The context: Why collaboration matters

- Nigeria has steadily recorded a decline in malaria prevalence, from 42% in 2010 to 15% in 2025, according to the NMIS data.
- Despite this progress, Nigeria carries by far the highest burden of malaria globally.
- In 2021, the WHO recommended the use of malaria vaccines as an additional prevention tool for malaria, and Nigeria commenced phased rollout in 2024.
- Lessons from Nigeria's malaria vaccine rollout are especially valuable and can inform strategies in other countries.
- Nigeria's complex health system, spanning federal, state, and local governments alongside the private sector, presents both unique challenges and opportunities for rollout and scale-up.



Nigeria's health system

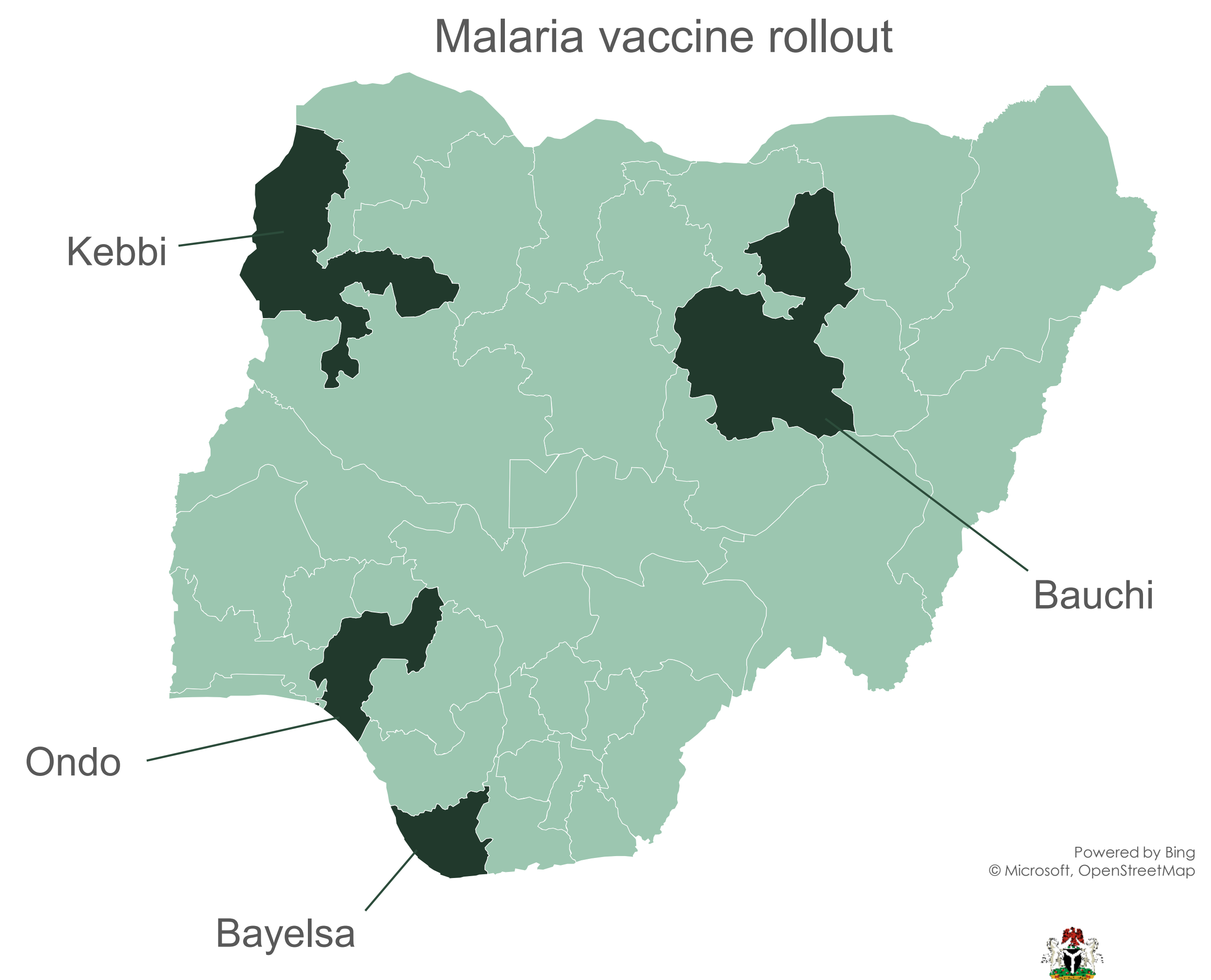
Nigeria's health care system is structured in three tiers: federal, state, and local government areas (LGAs).

The Expanded Programme on Immunization (EPI) sits under the National Primary Health Care Development Agency (NPHCDA), while malaria programming sits under the National Malaria Elimination Program (NMEP) – Federal Ministry of Health.

Malaria vaccine implementation thus requires collaboration between the EPI and NMEP at the federal, state, and local government levels.

Malaria vaccine introduction: Current status

- Nigeria introduced malaria vaccines in December 2024.
- A phased introduction. Currently in four states: Bayelsa, Kebbi, Bauchi, and Ondo.
- Early implementation experiences are yielding lessons on where collaboration has the greatest impact and how to improve vaccine access for hard-to-reach and underserved areas.



Dose completion challenge: Nigeria's dropout risk

- Routine immunisation dropout rates in Nigeria remain high.
- Many caregivers encounter barriers to completing the malaria vaccine four-dose schedule.
- In areas with the highest malaria burden and lowest immunisation coverage, standard EPI delivery may be inadequate, particularly given the scheduling and access challenges.
- Reducing dropout between doses 1 and 4 will require close, cross-sector collaboration between the EPI and NMEP at all levels of government.

Malaria vaccine schedule	
Dose	**Age**
Dose 1	From 5 months of age
Dose 2	4 weeks after Dose 1
Dose 3	4 weeks after Dose 2
Dose 4	15 months of age

The roles of EPI and NMEP

The EPI and NMEP each bring distinct responsibilities and capabilities.

National Primary Health Care Development Agency	National Malaria Elimination Program
• Routine immunisation delivery infrastructure • Ward Development Committees and community health extension workers • Coverage monitoring and reporting (DHIS2) • Gavi funding relationships • Established health worker training and supervision systems • Network for integration	• Malaria transmission data by state and LGA • Sub-national tailoring (guidance on deployment) • Network for integration ➢ Seasonal malaria chemoprevention (SMC) reaching children 3 months–59 months ➢ Indoor residual spraying (IRS) and bednet distribution • Case surveillance systems for tracking disease burden and vaccine impact • Global Fund funding and partners

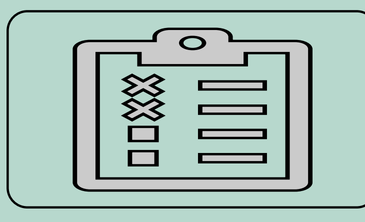
Priority collaboration opportunities

Leveraging SMC networks for dose completion

- Institutionalize the use of SMC platforms to reinforce follow-up vaccine doses, especially dose 4.
- Integrate malaria vaccine messages into annual SMC campaigns in malaria vaccine states.

- In 2025, integrating malaria vaccine delivery with SMC in Kebbi State achieved notable outcomes:
    - Dose 1 coverage rose from 53% to 94%.
    - Over 100,000 children were reached.
    - Uptake of other vaccines also improved.
- **Key success factors**:
    - Use of community drug distributors for referral, tracking and advocacy
    - Deployment of mobile immunisation teams
    - Community-level engagement through ward development committees and mobilisers as part of the follow-up system
- **Opportunity**: scale up this integrated approach in upcoming SMC rounds (Kebbi, Bauchi)

Priority collaboration opportunities

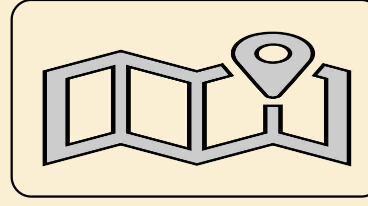


Microplanning

Integrate malaria vaccine into routine immunization microplans

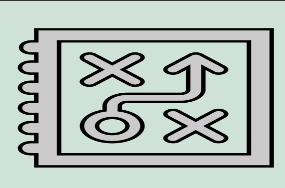
Harmonise outreach plans and schedules

Ensure alignment between NMEP, NPHCDA, and subnational teams



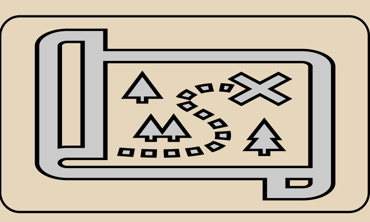
Subnational tailoring

Use local data and contextual information to tailor and layer appropriate mix of malaria interventions in different geographies for maximum impact



Addressing challenges

Address challenges in riverine areas and among nomadic populations and internally displaced people



Empowering states

Empower states and LGAs with data-driven decision-making authority

Priority collaboration opportunities

Linking malaria and immunization data for impact monitoring

- Integrate malaria vaccine indicators into routine immunization and malaria dashboards
- Track dose completion, dropout rates, and missed children across both systems
- Enable real-time and routine joint data review and use at all levels for decision-making

Learning from what already works

- Jointly institute mechanisms to document and share best practices across states within the country
- Learning across countries
- Scale proven approaches (house-to-house mobilization, town announcements, traditional leader endorsements, etc.) across both programmes.

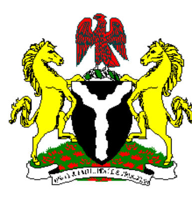
Priority collaboration opportunities

Governance and accountability structures (federal, state, LGA)

- Establish and optimise joint technical working groups at the federal and state levels.
- Integrate malaria vaccine into the Medium-Term Expenditure Framework for sustained domestic financing.
- Align partner investments with national priorities, using a sector-wide approach to strengthen accountability and progress toward Universal Health Coverage.

Leverage joint NMEP and NPHCDA membership on two strategic bodies to align priorities

- The Advisory on Malaria Elimination in Nigeria provides high-level strategic oversight, while the Malaria Elimination Task Force serves as a multi-stakeholder platform for coordinated implementation and reporting.
- Leveraging the Elimination Task Force as an advocacy platform, working through the Advisory, can help ensure aligned priorities, stronger joint ownership, and more effective resource mobilization for malaria vaccine scale-up and dose completion



THANK YOU

Ghana Malaria Vaccine Programme

Opportunities For EPI-NMEP Collaborations

Dr. Naziru Tanko Mohammed,
Deputy Program Manager, EPI
Ghana Health Service
15 April 2026

Outline

- Background: Ghana’s unique position
- Malaria vaccine coverage rates
- Key opportunities for collaboration
- Importance of effective collaboration and enabling factors
- Conclusion

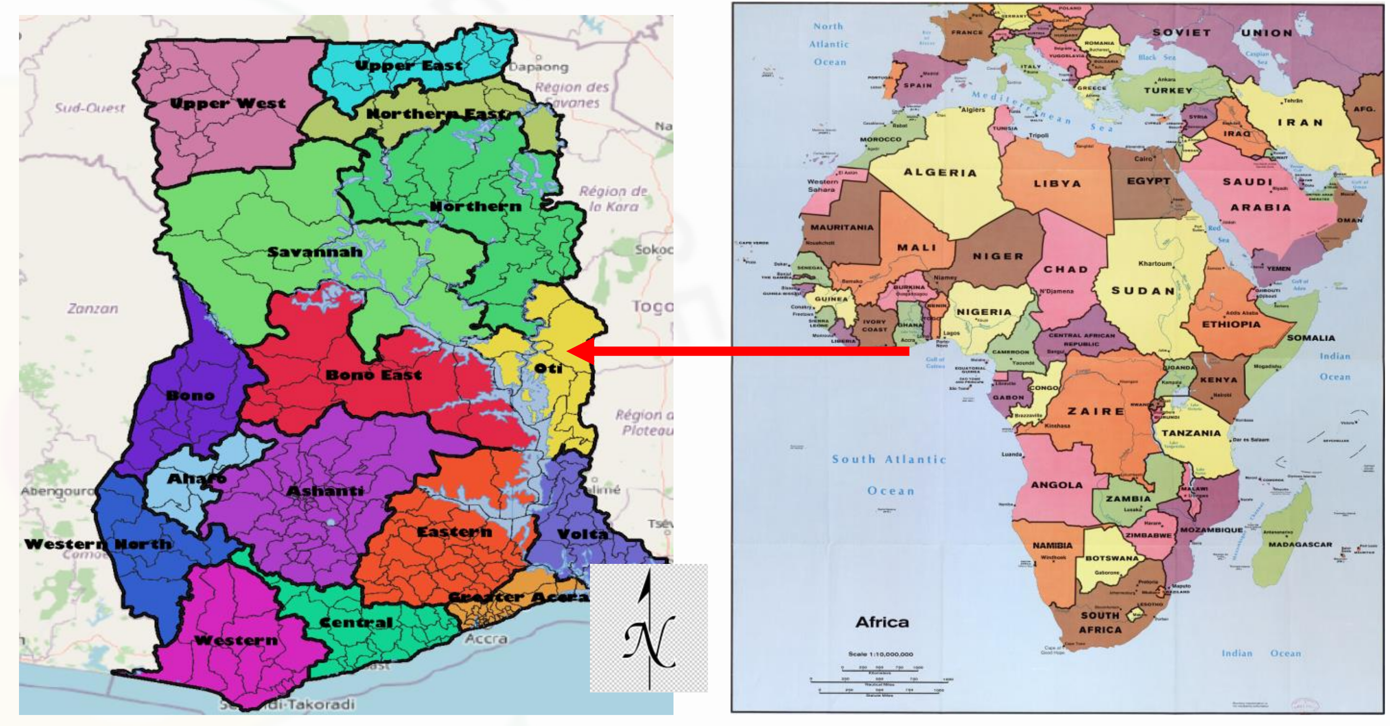
Background: Profile

Population profile; 2023

Total population	34,361,349
Pop under 15 years	14,431,766
Pop under 5 years	6,872, 270
Surviving Infants	1,340,092
Total Livebirths	1,374, 454
Preg. Women	1,374, 454

Administrative Structures

Regions	16
Districts	261
Subdistricts	1,399
Health facilities	11,284



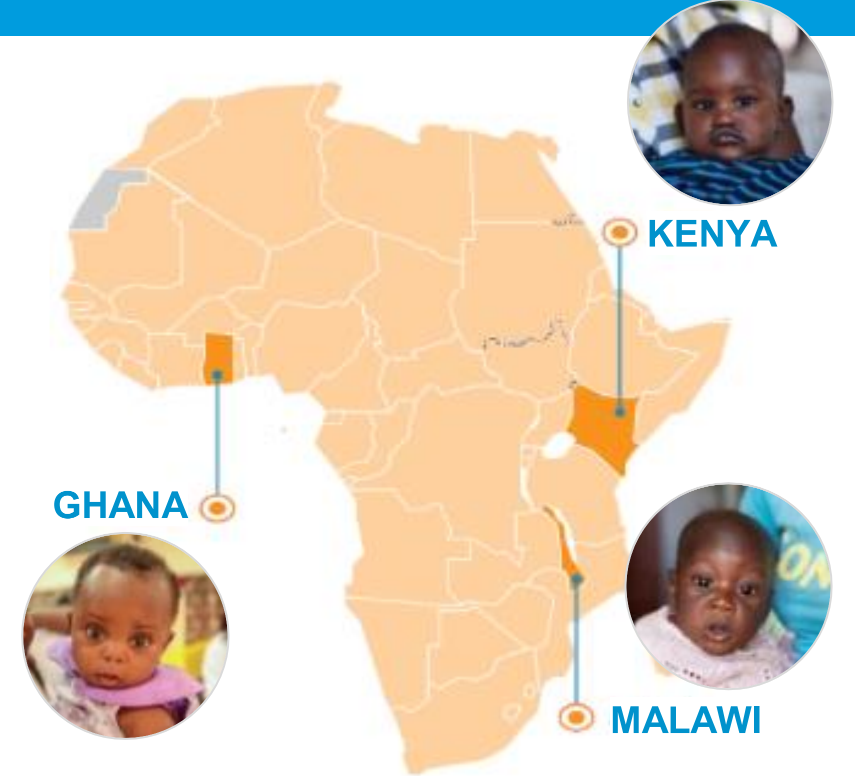
- Ghana's EPI: Vaccinates against 16 vaccine-preventable diseases in routine immunization (13 Vaccines).
- Key strategies: static, outreach, mobile, mop-up, campaigns.
- Decentralized immunization services free of charge at all levels.

Source: https://dhims.chimgh.org/dhims/dhis-web-data-visualizer/index.html

Malaria Vaccine Implementation Programme (or pilots): 2019-2023

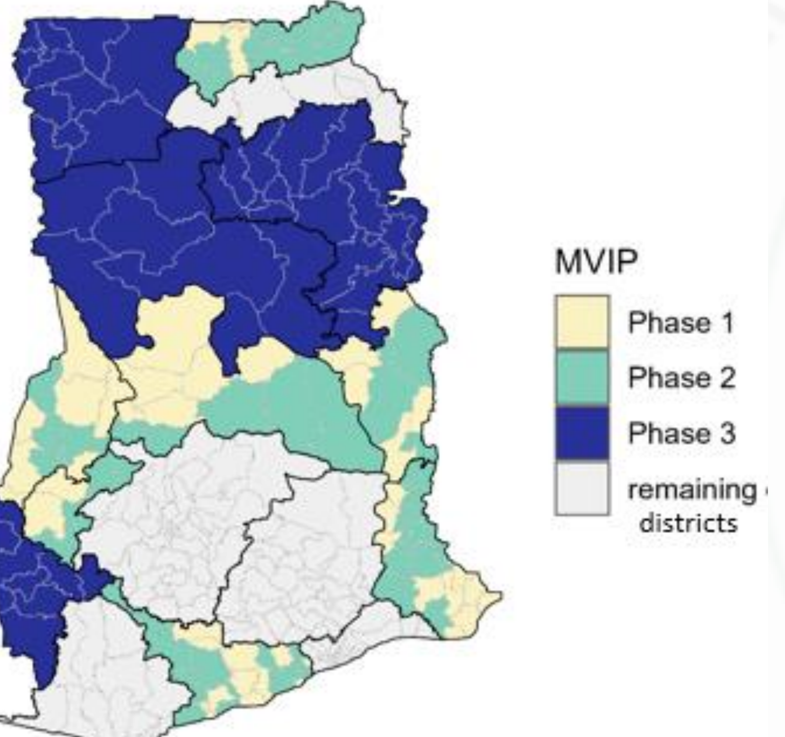
- **Ghana was a malaria vaccine pilot country alongside Malawi and Kenya**
- **Vaccine affirmed to be safe**
- **High uptake and high impact**
- No reduction in use of insecticide-treated nets (ITNs), care-seeking behavior, uptake of other vaccines
- Equitable: extends reach of malaria preventive tools
- Implementation involved multiple stakeholders, including **EPI, NMEP**, health promotion, partners, traditional authorities, and professional groups.
- Integrated service delivery at operational level: e.g., malaria vaccine and ITN distribution.

Malaria Vaccine Implementation Programme
> 2 million children vaccinated with RTS,S
> 6 million doses administered



Funded by Gavi, Global Fund, Unitaid

Phases of implementation in Ghana



01

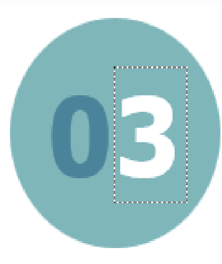
- Vaccine introduction in 42 districts (ongoing): May 2019
- Total doses=2,048,683

Pop: 176,900

02

- Expansion to other areas in the pilot regions: total of 51 add-on districts: Feb 2023
- Total doses= 472,912

Pop: 205,487



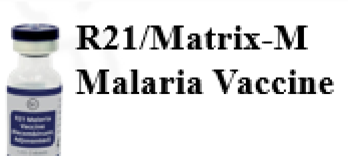
03

- Phased scale-up to additional 43 high priority districts: 25 Sept 2024

Pop: 208.450

- Ghana - first country to use both vaccines simultaneously

RTS,S/AS01 Malaria Vaccine



R21/Matrix-M Malaria Vaccine

≈6m doses (D1-D4) so far

Pilot ended on 31 Dec 2023

- **Now implementing: 136/261 districts in 11 /16 regions**
- **Annual target pop: 590,841**

Expansion to remaining 125 districts planned for 2024 - 2030

Doses administered May 2019 – Dec. 2025

MV Dose	Phases 1 and 2 (RTS,S)	Phase3 (R 21)	Total
MV1	1,687,788	222,290	**1,910,078**
MV2	1,551,688	184,523	**1,736,211**
MV3	1,499,773	147,552	**1,647,325**
MV4	1,026,336	51,643	**1,077,979**
Total	**5,765,585**	**606,008**	**6,371,593**

Coverage rates by region and dose (Phases 1&2), Jan-Dec 2025

Phases 1 & 2	Target pop.	MV1		MV2		MV3		MV4	
		Doses	Cov (%)		Cov (%)		Cov (%)		Cov (%)
Ahafo	24104	21906	90.9	20517	85.1	21944	91.0	20872	86.6
Bono	53740	41494	77.2	40656	75.7	42024	78.2	39892	74.2
Bono East	53779	47069	87.5	45042	83.8	48290	89.8	46241	86.0
Central	126801	105456	83.2	101434	80.0	105982	83.6	102426	80.8
Oti	31971	27404	85.7	26481	82.8	27212	85.1	26559	83.1
Upper East	56852	43489	76.5	40345	71.0	42438	74.6	38320	67.4
Volta	69712	44310	63.6	42956	61.6	44825	64.3	43119	61.9
Total	**416959**	**331128**	**79.4**	**317431**	**76.1**	**332715**	**79.8**	**317429**	**76.1**

Coverage rates by region and dose Jan-Dec ‘25

	Target pop.	MV1		MV2		MV3		MV4*	
Region		Doses	Cov (%)		Cov (%)		Cov (%)		Cov (%)
Northern	106,882	84244	78.8	79749	74.6	67792	63.4	23641	22.1
Savannah	29,597	23978	81.0	22928	77.5	20584	69.5	8744	29.5
Upper West	39,820	28964	72.7	28680	72.0	27078	68.0	8956	22.5
Western North	38,433	26059	67.8	25771	67.1	24652	64.1	9546	24.8
Total	214,732	163245	76.0	157128	73.2	140106	65.2	50887	23.7
Overall (Phases 1,2&3)	631,691	494,373	78.3	474,559	75.1	472,821	74.9	368,316	58.3

*Most children not yet eligible for dose 4

Key collaboration opportunities

Planning and coordination

- Coordination between national malaria and immunization programs is key, since the vaccine and other malaria interventions complement each other.
- Malaria vaccination requires new collaboration between malaria and immunization stakeholders.
- National coordination mechanisms helped address that need.
  - ✓ Both programmes are core members of the Malaria Vaccine Technical Working Group.
  - ✓ Communication and demand generation activities are coordinated through the advocacy, communication, and social mobilization working group.

KEY MESSAGES

Malaria is preventable and treatable:

- Complete all four doses of the malaria vaccine for the best protection.
- The malaria vaccine reduces the number of times a child gets malaria, including severe malaria, and it reduces child deaths.
- Ensure the child sleeps under an insecticide-treated net every night and throughout the night.

Key collaboration opportunities

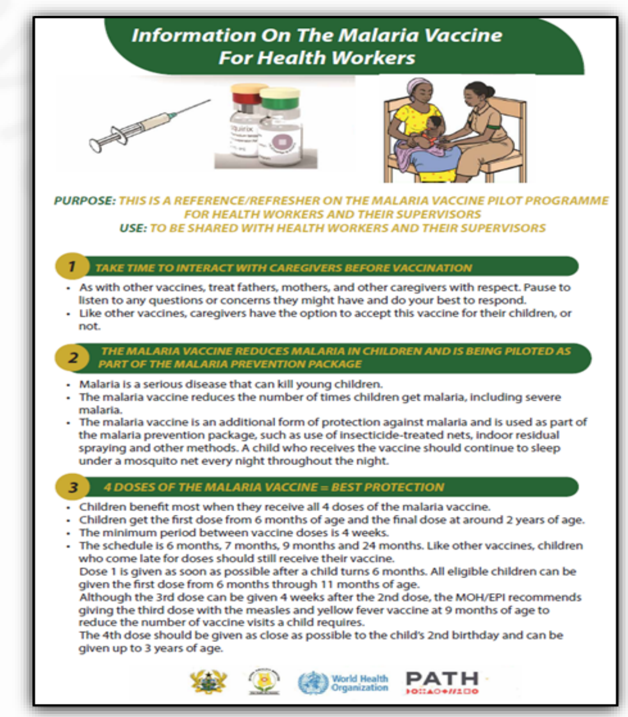
Planning and coordination

- Areas of collaboration included:
  - Identifying areas for vaccine implementation: informed by malaria risk stratification
  - Developing introduction plans and job aids
  - Training health workers and subnational health supervisors
    - ✓ Health workers are the interface between both programmes and the community
    - ✓ Joint capacity ensures consistent messaging and delivery
    - ✓ Training of spokespersons to promptly address rumours, mis- and disinformation at national and sub-national levels

Key collaboration opportunities during implementation

Joint sustained communication and stakeholder engagements, including on phased introduction, is necessary following introduction

- Communication related to phased vaccine introduction was not immediately clear to some stakeholders.
- However, early mapping and ongoing engagement of national and subnational stakeholders enhanced high-level and community support for vaccine rollout in selected areas of the country.
- Community engagement strategies were developed for all levels, and messages emphasized the phased introduction and **continuous use of existing malaria control interventions.**
- Malaria risk stratification data and advocacy efforts from both EPI NMEP was very critical



Information On The Malaria Vaccine For Health Workers

PURPOSE: THIS IS A REFERENCE/REFRESHER ON THE MALARIA VACCINE PILOT PROGRAMME FOR HEALTH WORKERS AND THEIR SUPERVISORS
USE: TO BE SHARED WITH HEALTH WORKERS AND THEIR SUPERVISORS

1 TAKE TIME TO INTERACT WITH CAREGIVERS BEFORE VACCINATION

- As with other vaccines, treat fathers, mothers, and other caregivers with respect. Pause to listen to any questions or concerns they might have and do your best to respond.
- Like other vaccines, caregivers have the option to accept this vaccine for their children, or not.

2 THE MALARIA VACCINE REDUCES MALARIA IN CHILDREN AND IS BEING PILOTED AS PART OF THE MALARIA PREVENTION PACKAGE

- Malaria is a serious disease that can kill young children.
- The malaria vaccine reduces the number of times children get malaria, including severe malaria.
- The malaria vaccine is an additional form of protection against malaria and is used as part of the malaria prevention package, such as use of insecticide-treated nets, indoor residual spraying and other methods. A child who receives the vaccine should continue to sleep under a mosquito net every night throughout the night.

3 4 DOSES OF THE MALARIA VACCINE = BEST PROTECTION

- Children benefit most when they receive all 4 doses of the malaria vaccine.
- Children get the first dose from 6 months of age and the final dose at around 2 years of age.
- The minimum period between vaccine doses is 4 weeks.
- The schedule is 6 months, 7 months, 9 months and 24 months. Like other vaccines, children who come late for doses should still receive their vaccine.
  Dose 1 is given as soon as possible after a child turns 6 months. All eligible children can be given the first dose from 6 months through 11 months of age.
  Although the 3rd dose can be given 4 weeks after the 2nd dose, the MOH/EPI recommends giving the third dose with the measles and yellow fever vaccine at 9 months of age to reduce the number of vaccine visits a child requires.
  The 4th dose should be given as close as possible to the child's 2nd birthday and can be given up to 3 years of age.

World Health Organization PATH

Jointly addressing rumours and misinformation promptly and effectively

KEY MESSAGES
Build trust for malaria immunization.
- The vaccine is recommended and prequalified by WHO.
- The malaria vaccine is safe and effective.
- The vaccine reduces child illness and deaths from malaria.

- Early and periodic preparation of stakeholders to respond to concerns, rumours, or negative reports about the new intervention is key to building trust and confidence in the vaccine.
- EPI, NMEP, Health Promotion Department, among others, collaborated to plan and address rumours.
- A wave of anti-vaccination activity on social media soon after introduction in 2019 initially affected uptake in some districts.
  - Early planning and involvement of malaria, immunization, and other sectors prior to introduction allowed us to mount a swift and effective response.

Key collaboration opportunities during implementation

- Planning and participation in joint review meetings

- Joint monitoring systems including AEFI surveillance
  - ✓ DHIS2 reporting platform
  - ✓ Same HCWs responsible for recording and reporting at subnational levels
  - ✓ Regular data sharing across programs to track progress of implementation

- Joint onsite supportive supervisory visits
  - ✓ Planning
  - ✓ Field visits
  - ✓ Review of findings and jointly developing action plans to address gaps

- Leveraging integrated service delivery platforms, including ITN distribution during child welfare clinics, **SMC implementation and vaccine defaulter tracing,** and home visits.

- Joint budgeting and financial management and accountability
  - ✓ Funding sources: Gavi, PMI, Global funds, etc.
  - ✓ Ghana is in accelerated transition phase to exit from Gavi support

Why effective EPI-NMEP collaboration matters

- Shared infrastructure and leveraging existing platforms reduce costs and improve efficiency and outcomes across malaria and immunization services especially within the context of dwindling funds (SMC, ITN distribution at 18 months, e.g.)

- Harmonized communication from both programmes builds trust and reduces misinformation → increasing vaccine confidence and uptake

- Enhanced district/community level ownership and practical integration of malaria vaccine delivery into routine services

- Better coordinated planning, tracking of coverage, and improving outcomes.

Enabling factors

- Plan of Action with defined roles and responsibilities of stakeholders
- Existence of formal collaboration frameworks (e.g., malaria vaccine technical working group, communication and social mobilization sub-committee, etc.) strengthens joint planning and decision-making
- Shared urgency between NMEP and EPI motivates coordinated action
- High leadership support and goodwill alongside continuous engagement and support
- Existence of integrated service delivery platforms

Conclusion

- Malaria vaccine implementation is a shared responsibility
- Collaboration between NMEP and EPI remains critical for successful vaccine deployment to ensure high coverage, equity, and reduced malaria burden
- Integrated approaches with effective collaboration maximize the life-saving potential of the malaria vaccine

Thank you

Comments & questions

Q&A

PATH