

# How to achieve high uptake of malaria vaccines:

*A technical briefing hosted by the Demand Hub*

**5 December 2023**

Malaria vaccine uptake task team

# The Demand Hub: who are we?

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## A mechanism working to...

Provide **harmonization, alignment, coordination** and communication

Advocate to **raise awareness of demand** across countries, partner agencies, donors, etc.

Provide **evidence, resources** and support

We respect that countries set priorities and develop and implement their own programs

## We are *not*...

### An implementing body

Individual governments, agencies, CSOs implement within their own institutional capacities. The Hub harmonizes, aligns, and coordinates its support of these efforts

### A donor

The Hub follows existing agency and donor processes

### An approval body

Our role is alignment and technical expertise

## How we engage with countries...

**Seek to inspire** and show the art of the possible

**Be responsive** to countries (but not passive)

Provide **value**

Adopt a **learning** approach

Be transparent

Strive for ease of engagement

# Agenda

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Welcome	Deepa Pokharel (UNICEF)	5
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Overview of the guidance for demand planning	Lisa Menning (WHO)	5
Technical focus areas:		
- Community engagement	Deepa Pokharel (UNICEF)	5
- Risk communications	Yvette Collymore (PATH)	5
- Health worker capacity	Kim Dube (CDC)	5
- M&E and learning		
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# Update on the malaria vaccine programme

# Key findings from the RTS,S/AS01 Malaria Vaccine Implementation Programme (MVIP) 2019 - 2023

- **Over 2 million children reached** through implementation in routine immunization programmes in **Ghana, Kenya and Malawi** since 2019
- **Evaluation completed in 2023**



**High impact results:** 13% reduction in all-cause mortality among children age-eligible for vaccination<sup>1</sup>



**Vaccine uptake is high**, with no reduction in ITN use, uptake of other vaccines, or change in health-seeking behavior



**Community demand and health worker acceptability is high**



The vaccine continues to demonstrate a **strong safety profile**, after more than 6 million doses provided.



Vaccine delivery is **equitable** by gender and socioeconomic status; vaccine is reaching children who are not using other forms of malaria prevention (access to malaria prevention measure grows up to 94%).

<sup>1</sup> The reduction in mortality was achieved during a period of vaccine scale-up with coverage of the three primary doses of 63% - 75% and coverage of dose 4 of 33-54% (across countries at ~30 months since introduction). Impact is expected to increase further with increased vaccine coverage.

## WHO recommendation: malaria vaccines

**WHO recommends the programmatic use of malaria vaccines for the prevention of *P. falciparum* malaria in children living in malaria endemic areas, prioritizing areas of moderate and high transmission**

- The malaria vaccine should be provided in a schedule of 4 doses in children from around 5 months of age<sup>1</sup> for the reduction of malaria disease and burden
- A 5th dose, given one year after dose 4, may be considered in areas where there is a significant malaria risk remaining in children a year after receiving dose 4
- Countries may consider providing the vaccine using an age-based, seasonal, or a hybrid of these approaches in areas with highly seasonal malaria or areas with perennial malaria transmission with seasonal peaks
- Countries should prioritize vaccination in areas of moderate and high transmission, but may also consider providing the vaccine in low transmission settings
- Vaccine introduction should be considered in the context of comprehensive national malaria control plans

**This recommendation now includes 2 malaria vaccines:**

- **RTS,S/AS01**  
WHO pre-qualified in 2022
- **R21/Matrix-M**  
Currently under WHO pre-qualification review

More information on the WHO website:

[Immunization, Vaccines and Biologicals \(who.int\)](https://www.who.int/immunization/vaccines/biologicals)

<sup>1</sup> Vaccination programmes may choose to give the first dose at a later age based on operational consideration. Studies with RTS,S/AS01 indicated lower efficacy if first dose was given around 6 weeks of age. However, it seems unlikely that efficacy would be substantially reduced if some children received the first dose at 4 rather than 5 months, and providing vaccination at an age younger than 5 months may increase coverage or impact

## WHO recommendation: malaria vaccine dose schedule and delivery

- In areas of perennial malaria transmission, the malaria vaccine should be provided as a 3-dose primary series, starting from around 5 months of age, with a minimal interval of 4 weeks between doses
- The fourth dose should be given to prolong protection. There can be **flexibility to optimize delivery for dose 4 – for example:**
  - Alignment of schedule with other vaccines in the second year of life (e.g. with second dose of measles at 18 months of age)
  - Administration prior to seasonal peaks in malaria transmission to optimize efficacy
- Additional visits provide **opportunities for catch-up of missed vaccine doses and other health interventions** (e.g. health messages on malaria prevention, distribution of ITNs, etc.)

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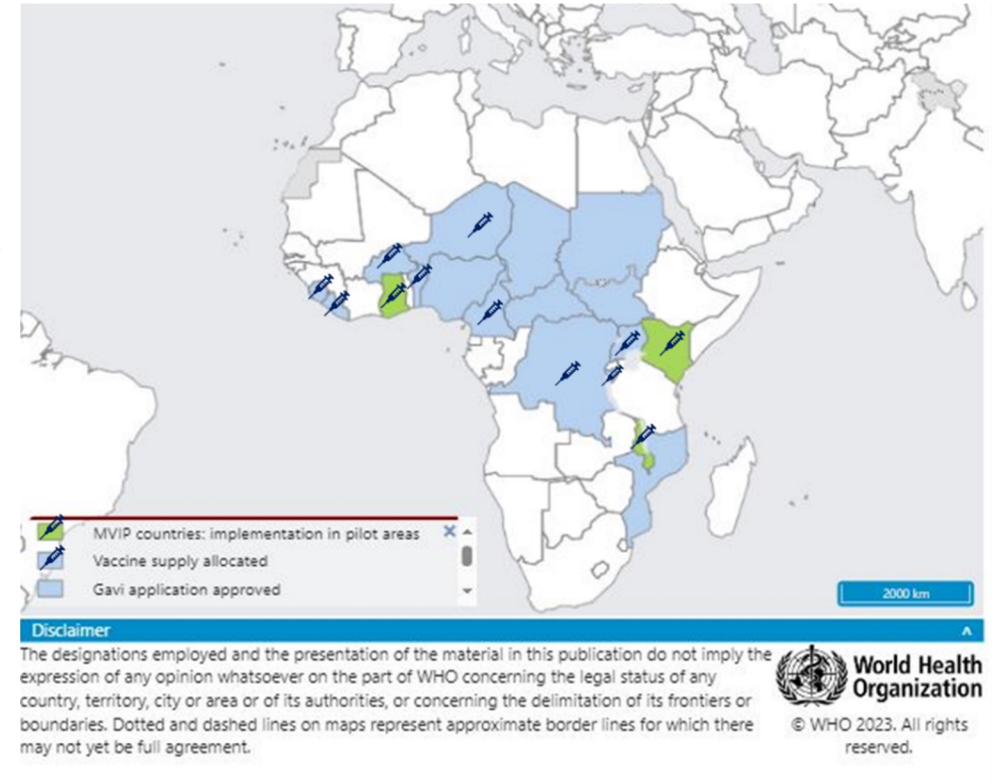
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## Preparation for malaria vaccines roll-out - as of early December 2023

- **At least 28 countries** in Africa expressed interest in introducing a malaria vaccine
- Since opening the funding window in mid-2022, **Gavi approved applications from 18 countries** to introduce vaccine in routine immunization programmes<sup>1</sup>:  
Benin, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, DR Congo, Ghana, Kenya, Malawi, Niger, Nigeria, Liberia, Mozambique, Sierra Leone, South Sudan, Sudan, Uganda
- **First introductions expected in early 2024** (sub-national with RTS,S)  
Vaccine shipments in Nov-Jan<sup>2</sup>: Cameroon (arrived 21 Nov), Burkina Faso, Liberia, Niger and Sierra Leone (other countries to follow).
- **The combined supply availability of RTS,S and R21 is anticipated to be sufficient to respond to planned demand from countries starting from 2024**



<sup>1</sup> Gavi accepts new applications 3-4 times / year : next opportunity in January 2024

<sup>2</sup> Joint News Release. 22 November 2023.

<https://www.who.int/news/item/22-11-2023-shipments-to-african-countries-herald-final-steps-toward-broader-vaccination-against-malaria--gavi--who-and-unicef>



## Key technical resources

Available via the WHO Malaria Vaccines web site: [Immunization, Vaccines and Biologicals \(who.int\)](https://www.who.int/immunization/vaccines/biologicals)

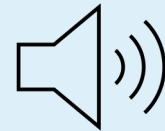
And also on the TechNet-21 malaria vaccine site: <https://www.technet-21.org/en/topics/programme-management/malaria-vaccine>



*(advanced draft)*

### **Guide for introducing a malaria vaccine into national immunization programmes**

- Including a chapter on: Demand promotion and communications



### **Promoting demand for malaria vaccination: A planning guide** **Risk communication on malaria vaccination: A guide**



### **Generic training materials for health workers – for country adaptation**

- Including a module on: Communicating about the malaria vaccine with caregivers



### **Malaria vaccine introduction readiness assessment tool**

# Guidance for demand planning

# Malaria vaccine uptake

- A package of practical tools and guidance was published in November 2023
- Guidance was **developed jointly by immunization and malaria partners** under the Malaria Vaccine Uptake Task Team (co-led by PATH and WHO)
- Guidance is informed by behavioural and social sciences evidence and experience
- English, French and Portuguese versions are available

## *What is included?*

- **Demand planning guide**
  - Coordination and planning
  - Gathering and use of data
  - Behavioural interventions
  - Adaptable content and templates
- **Risk communication guide**
  - Preparedness and response for vaccine-related events
  - Key messages
- **Health worker training modules**
  - Multiple topics

# Coordination and planning



**Convene partners** from immunization and malaria programmes and civil society.



**Connect national and subnational levels** to localize demand promotion and communication planning.



**Identify prioritized populations** and engage relevant stakeholders and partners



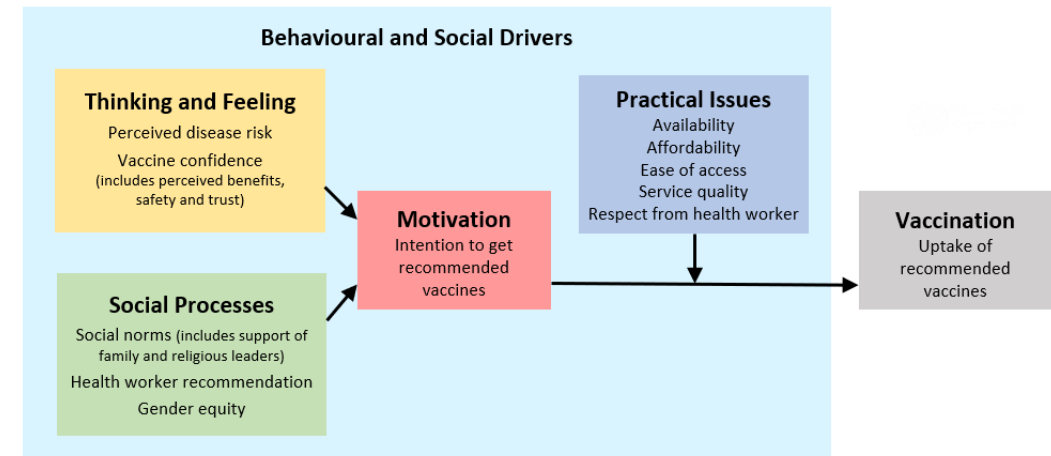
**Use local data** to guide tailored planning and implementation

**→ Activate the MoH-led advocacy, comms and social mobilization (ACSM) subcommittee (or equivalent) to carry out an initial briefing and begin planning**

# Gather and use data on behavioural and social drivers (BeSD) of vaccination

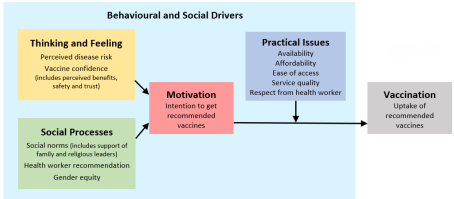
- Understand drivers of malaria vaccination – connected to and leveraging similar for childhood vaccination
- Coordinate data collection and use with digital listening and other programme data sources
  - Guide planning and evaluation
  - Tailor and evaluate specific interventions
  - Better allocate resources
  - Inform training of health workers
  - Strengthen stakeholder engagement

**→ Use and complement existing data collection plans to gather data on BeSD**



# Moving from data to action:

## *Promising interventions by BeSD domain to guide planning*



Domain where problem is identified	Interventions shown to increase vaccination
Thoughts and feelings and Motivation	<p>Campaigns to inform or educate the public about vaccination</p> <p>Dialogue-based interventions, including one-to-one counseling to encourage vaccination</p>
Social processes	<p>Community engagement</p> <p>Positive social norm messages</p> <p>Vaccine champions and advocates</p> <p>Recommendations to vaccinate from health workers</p>
Practical issues	<p>Reduced out-of-pocket costs</p> <p>Service quality improvements</p> <p>Reminder for next dose /recall for missed dose</p> <p>Onsite vaccination at home, work and school</p> <p>Default appointments</p> <p>Incentives</p> <p>School and work requirements (mandates)</p>

NB: Multi-component interventions more effective than single – and M&E always needed

# Tailor community engagement

... place community engagement at the heart and enlist the support of key community actors.

- **Co-create tailored plans** for malaria vaccine rollout.
- **Promote use of other malaria preventive tools**, including insecticide-treated nets.
- **Liaise regularly with health facilities** on any community concerns or needs related to the vaccine.
- **Help reach eligible children** and link caregivers to vaccination – **focusing on priority populations**
- Connect activities to local **community feedback mechanisms** for monitoring questions, concerns or rumours

*→ Identify and engage with local community organizations from the start of planning, e.g., women's groups, youth groups, religious leaders, etc.*



Coordination meeting of community members on COVID-19 vaccination.  
Photo: WHO/Uganda



# Engage hard-to-reach communities



Caregivers in rural Lilongwe bring children for vaccination. Photo/PATH

- **Co-design local solutions** with communities to increase ownership and accountability.
- **Collect social data as needed to** understand drivers of vaccine uptake and to inform interventions.
- **Integrate interventions with primary health care** to increase acceptance of vaccines and other essential services.

**→ Focus on zero-dose communities and prioritized populations and use participatory approaches to understand and address community concerns.**



# Develop a risk communications plan

- Build on any existing risk communication plan for EPI, or use this as an opportunity to create such a plan
- Ensure the plan contains key components:
  - Examples of scenarios as a reference for planning
  - Draft messages and FAQs
  - Process steps in the case of any event
  - Identified and trained spokespeople
  - Holding statements

→ ***Be prepared to respond in a timely and effective manner to any vaccine-related event, e.g., rumour, AEFI, etc.***

## ***Example of a scenario:***

Low-level AEFIs (swelling, low-grade fevers) occur at some facilities. Community members raise questions.

## ***Actions to consider:***

- Vaccinators and their supervisors respond to concerns, using key messages.
- Reference the communication plan, AEFI monitoring and reporting system, and links with media and partners.

# Risk comms: key messages and top tips

## Examples of key messages:

- Malaria is preventable. Use all WHO-recommended measures, including the malaria vaccine, to prevent malaria in children.
- Malaria can be treated. Fever is a common early symptom of malaria. Take your child with a fever to the nearest health facility for testing and appropriate treatment.
- The malaria vaccine substantially reduces severe malaria illness and child deaths.
- Four doses of the vaccine provide the best protection.

## ***Risk comms planning:***

1. Identify a team
2. Gather local data
3. Define strategic plan
4. Identify audiences
5. Build relationships
6. Prepare messages
7. Train spokespeople
8. Engage communities
9. Plan for risk scenarios
10. Monitor media & community conversations for progress

# Health workers: our most important asset

**To build confidence in vaccination and willingness to return for future doses, effective interpersonal interactions around vaccination are critical**

- Interpersonal communication training allows health workers to use “Triple A” communication:
  - ✓ **Advise** on the vaccine given
  - ✓ **Alert** on possible side effects following immunization and how to respond
  - ✓ **Arrange** for the next visit
- On-the-job mentoring and supportive supervision can include use of appropriate job aids to strengthen demand promotion

**→ Train and support health workers to deliver a positive experience of vaccination, including respectful responses to questions or concerns**



Six-month-old Andrew receives malaria vaccination in Ghana. Photo/PATH

# Health worker training content: examples... (1)

## Goal and learning objectives



### – At the end of the module, you will be able to:

- Effectively engage with caregivers and communities
- Share messages on malaria and the malaria vaccine
- Encourage caregivers to return for next visit and build confidence about the importance of completing all 4 doses
- Use motivational interviewing strategies to address concerns if they arise



### – Duration

- 45'

## Key issues

1

What's the best way to communicate with caregivers?

2

How can 'Triple A' communication be used to remember the key messages?

3

What are the key messages for stakeholders on malaria and malaria vaccination?

4

How can motivational interviewing be used to promote vaccine uptake?

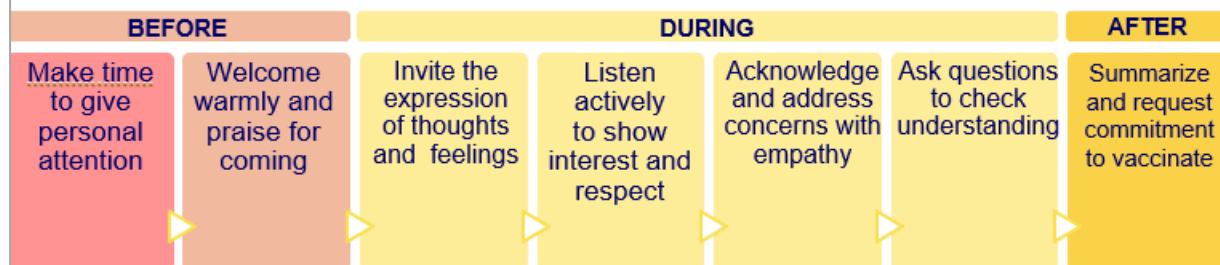


# Health worker training content: examples... (2)

## Good communication techniques

Good communication helps create and maintain respect and trust between health workers, families and communities.

It happens before, during and after vaccination sessions.



## Communicating using motivational interviewing

*What is motivational interviewing?*

- A specific style of communication and interpersonal interaction
- Requires working together in a caring and respectful manner
- Aims to understand and address any questions or concerns about vaccination

*Designed to move the caregiver to accept vaccination*

Declining

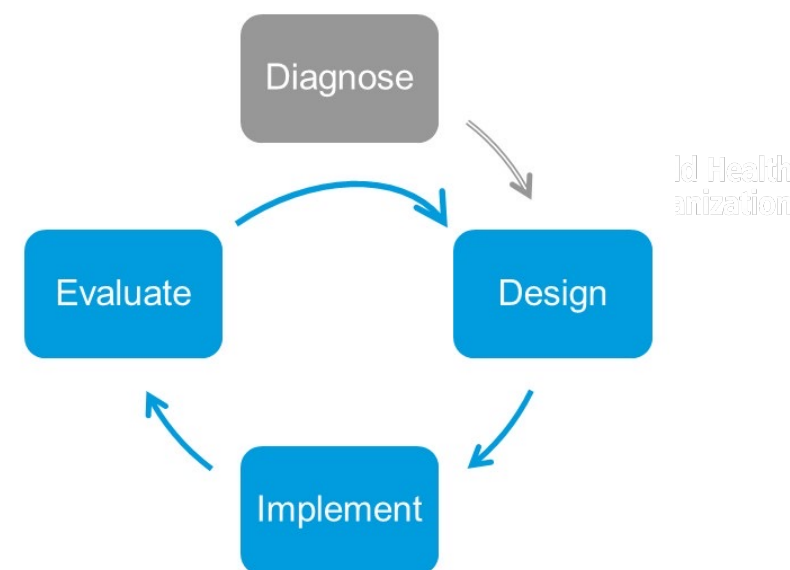
May delay or accept some

Accepting

# Monitoring, evaluation and learning

**Connect interventions to indicators to assess the effectiveness of demand promotion activities:**

- Establish a baseline against which to measure progress.
- Based on planning and existing EPI coverage, determine what level and frequency is needed, e.g., in priority settings, monthly or quarterly in first year.
- Consider multiple data sources: e.g., from supervisory reports, rapid surveys, monthly reporting.
- Build on existing EPI and malaria prevention reporting tools where possible, e.g., exit surveys, rapid community assessments, etc.



**→ Measure and monitor during implementation to understand outcomes and adjust interventions for continuous improvement**



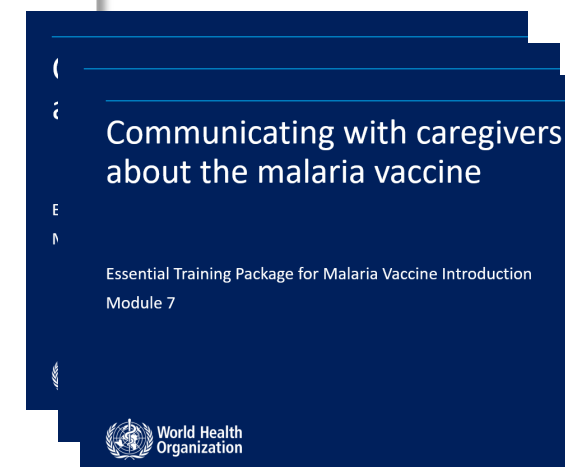
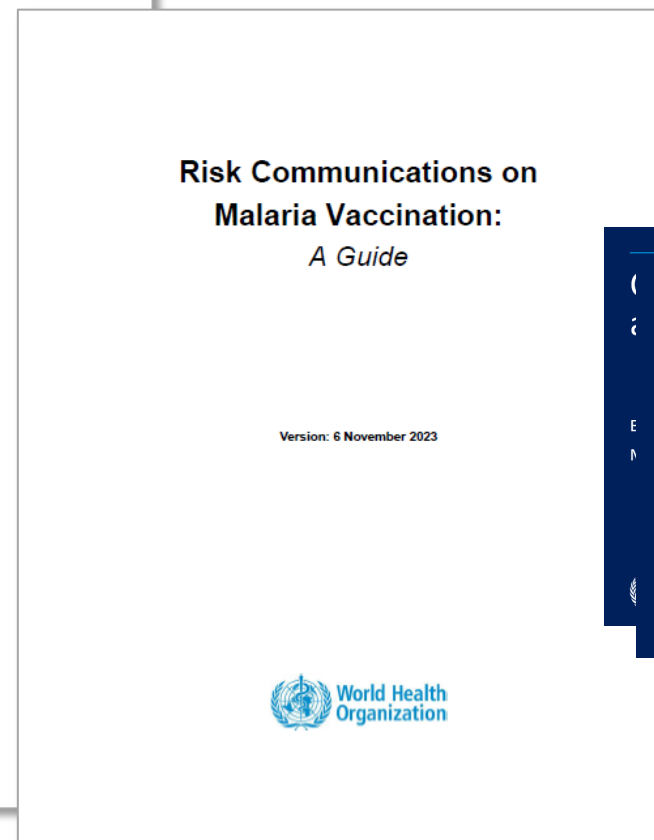
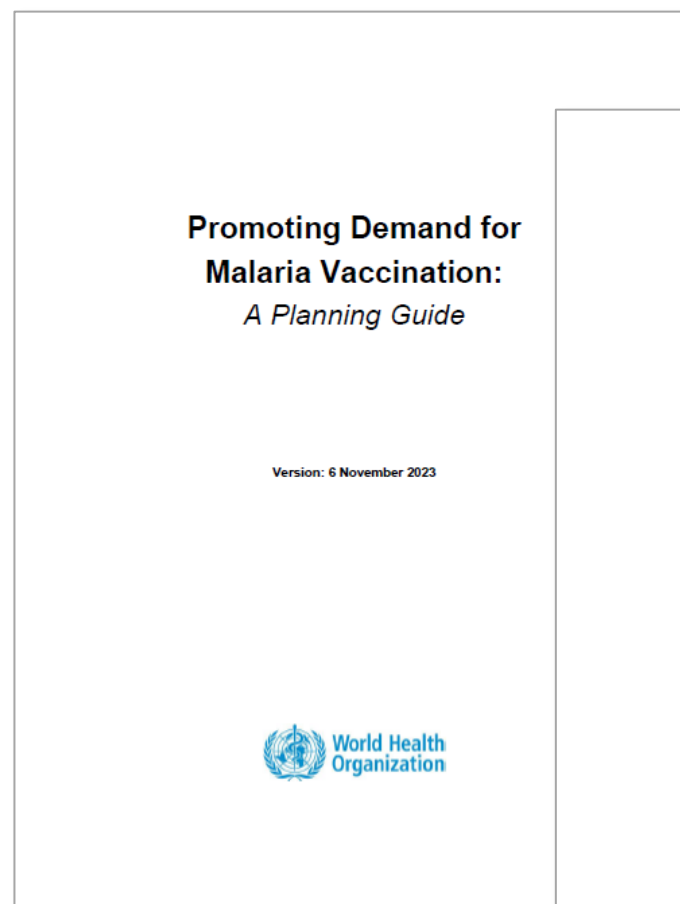
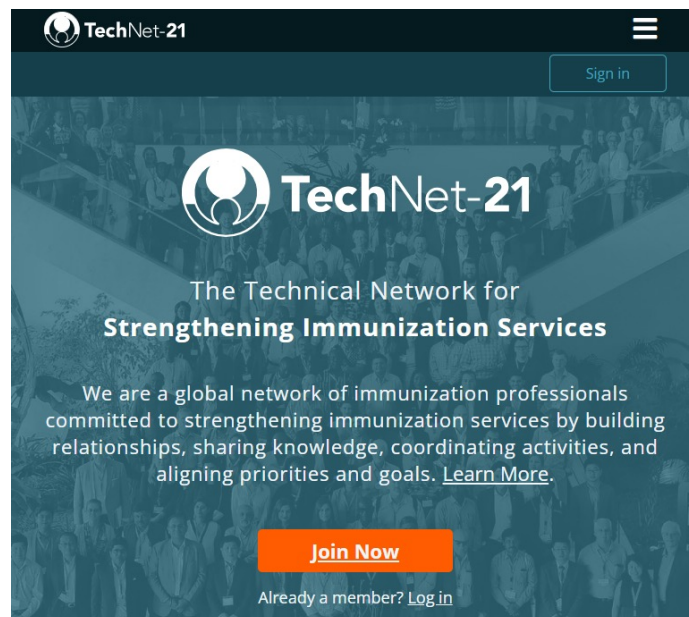
# How to get started?

1. Coordinate and plan with EPI partners and the malaria control programme
2. Gather local behavioral and social data, and update/establish listening mechanisms
3. Finalize the demand promotion plan
4. Implement the necessary tailored interventions
5. Measure and monitor activities

**Start early!**



# Where to find the guidance?



<https://www.technet-21.org/en/topics/programme-management/malaria-vaccine>



# Acknowledgements



**THANK YOU** to members of the malaria vaccine uptake task team for all the collaboration and contributions to our materials...



# Thank you

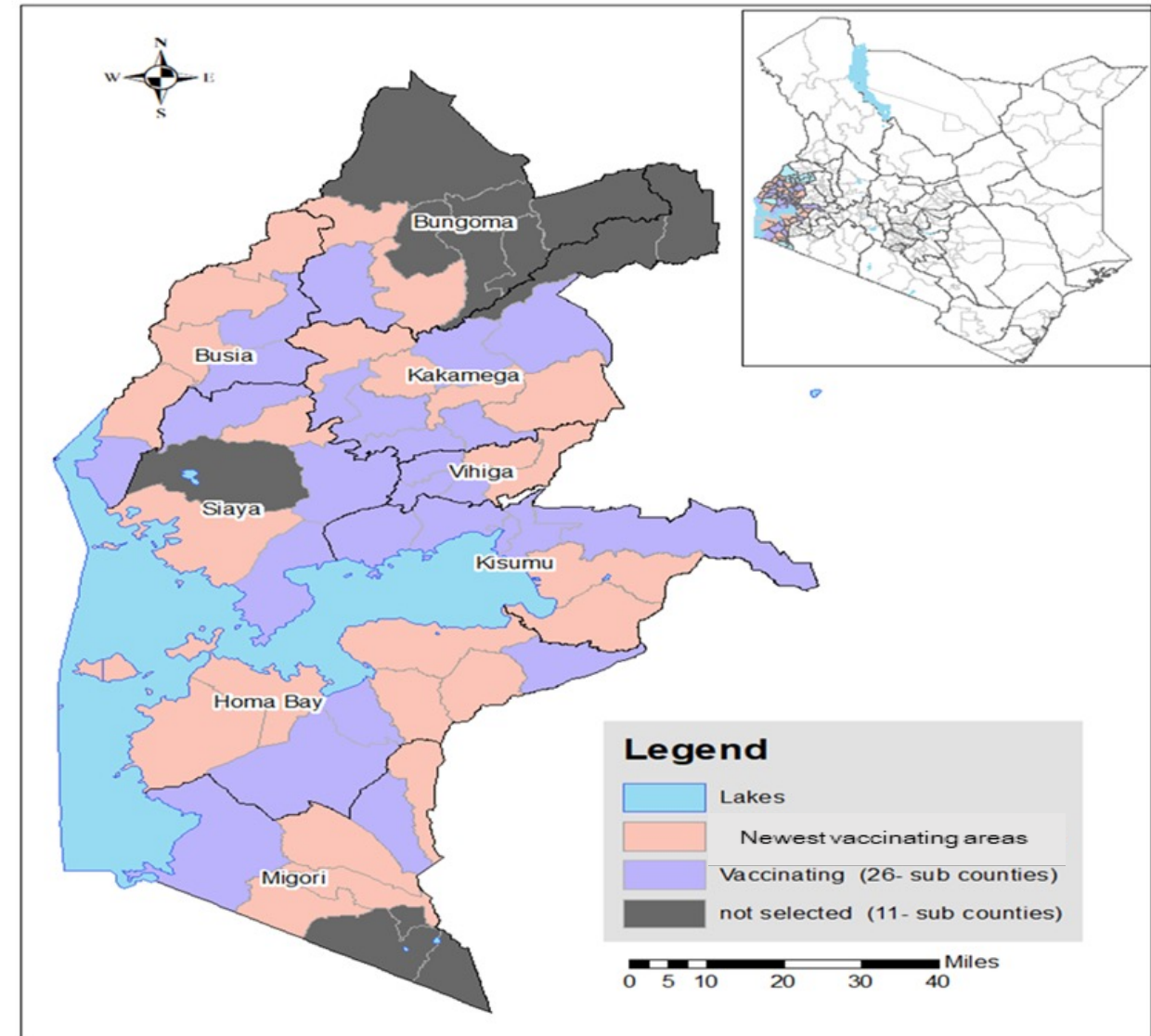
## QUESTIONS AND DISCUSSION

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# Malaria vaccine introduction in Kenya

- Malaria vaccine introduced into national routine immunization programme.
  - In 8 high-burden counties<sup>1</sup>.
  - More than 50 selected sub-counties now provide malaria vaccination (purple and orange on map).
  - First child vaccinated on 13th September 2019.
- Malaria vaccination will continue as part of routine immunization, following transition at the end of 2023 from pilot rollout to regular implementation supported by Gavi, the Vaccine Alliance.



<sup>1</sup> Bungoma, Vihiga, Kakamega, Busia, Kisumu, Homa Bay, Siaya and Migori counties

# Key lessons from Kenya

## Close collaboration between immunization and malaria programs

- Key in planning and implementing malaria vaccination.
  - *Data-driven decision making*: Identification of malaria-endemic sub-counties to introduce the vaccine done jointly.
  - *Integrated service delivery work*: Immunization service delivery points (MCH) used by healthcare workers to reinforce use of malaria prevention tools.
  - *Advocacy on World Malaria Day*: annual platform to jointly increase visibility for malaria vaccine as an additional prevention tool.

## Stakeholder mapping and continuous engagement

- Engaging religious, opinion, and political leaders and health worker associations is critical and was done prior to malaria vaccine introduction in Kenya.

## Engaging community health volunteers/promoters

- They play a key role in defaulter tracking, household screening, and outreach activities.



Nurse Lucy Igunga Muhonja vaccinates baby Aden in Kenya's Vihiga County. Photo credit: PATH



# Integrated malaria messaging



Complete malaria vaccination = 4 injections



Malaria is a dangerous disease that kills young children. Fever is a key symptom of malaria.

A CHILD with FEVER should be tested immediately for malaria.

A malaria vaccine is now available in this area.

## The Malaria vaccine is not a stand-alone intervention

In addition to vaccination, continue to use other recommended methods to protect your child from malaria.

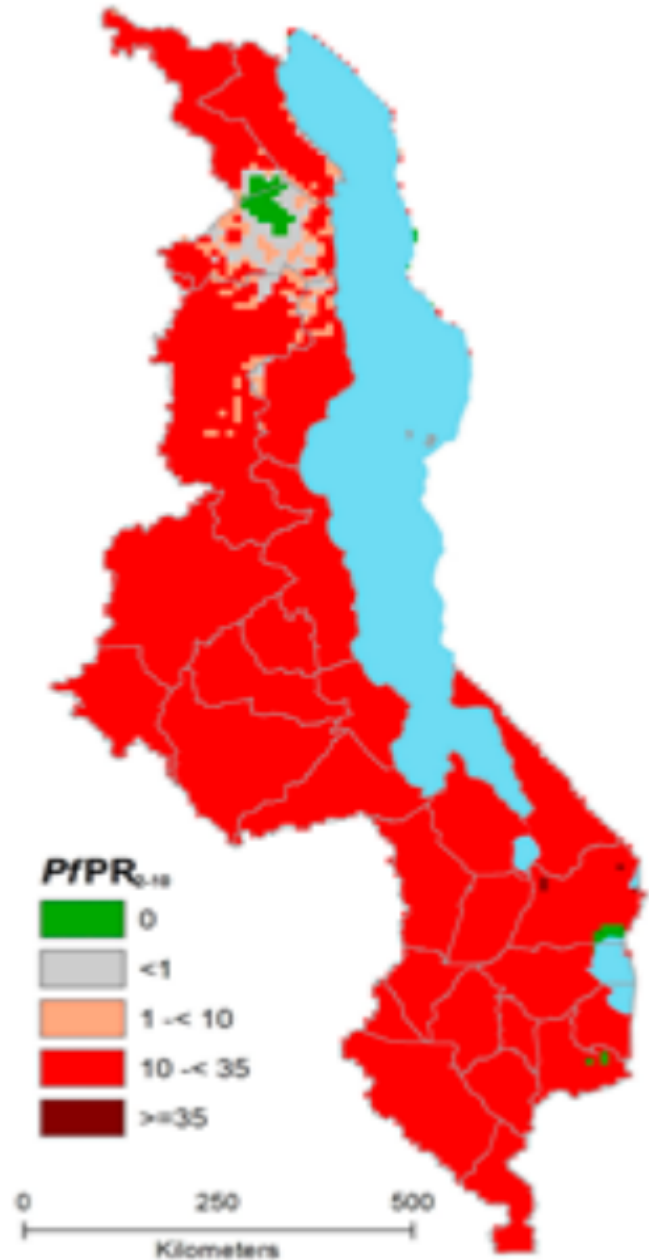
- Your child should sleep under an insecticide-treated mosquito net every night.
- Allow your home to be sprayed during indoor spraying periods.
- Take your child for all four doses of the malaria vaccine, if the vaccine is available in health facilities in the area.



# Vaccine Demand and Uptake for Malaria Vaccine

Malawi

# Malaria among the three most significant public health issues in Malawi



*Plasmodium falciparum* malaria prevalence in children in Malawi in 2020. Estimates from the Malaria Atlas project

POPULATION OF MALAWI

**20.40 million**

POPULATION AT RISK IN 2022

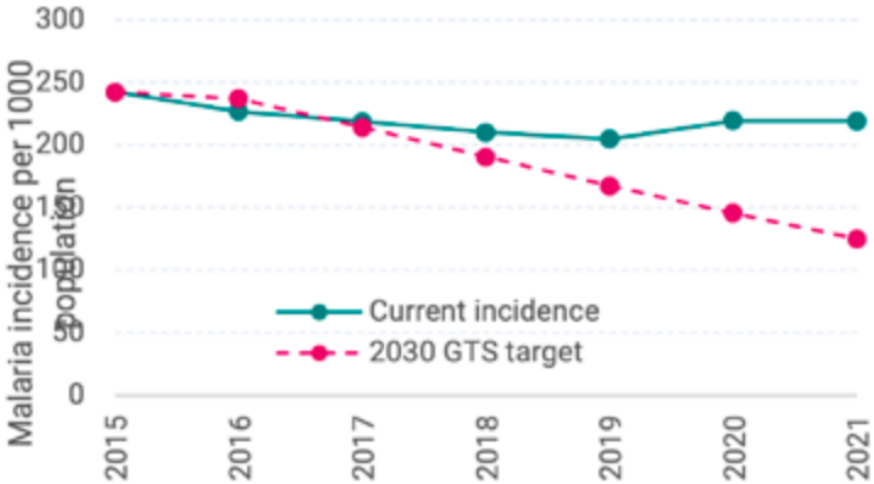
**19.9 million**

TOTAL MALARIA CASES IN 2021

**4.4 million**

TOTAL MALARIA DEATHS IN 2021

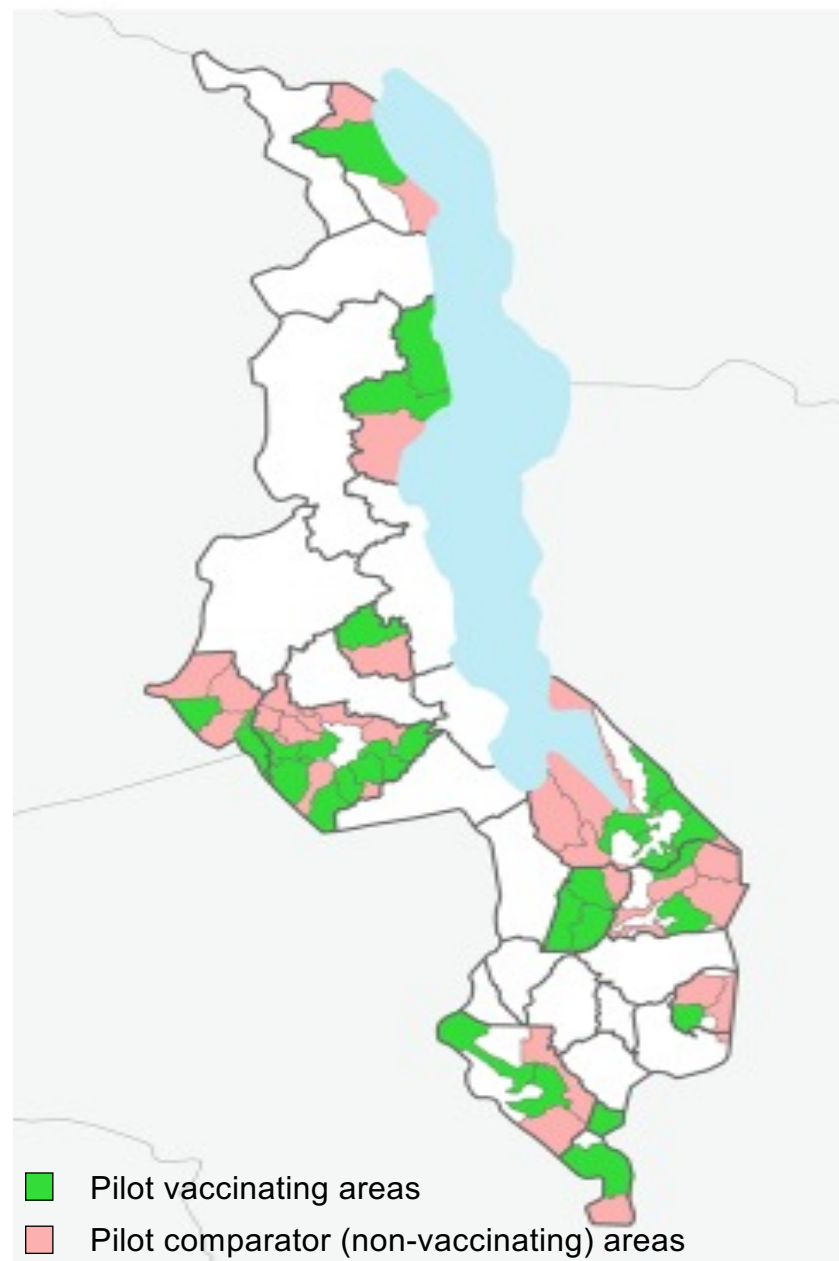
**7,392**



Malaria incidence in 2021 compared to GTS targets shows that the country was initially target but has since reversed targets since the 2016-17 period

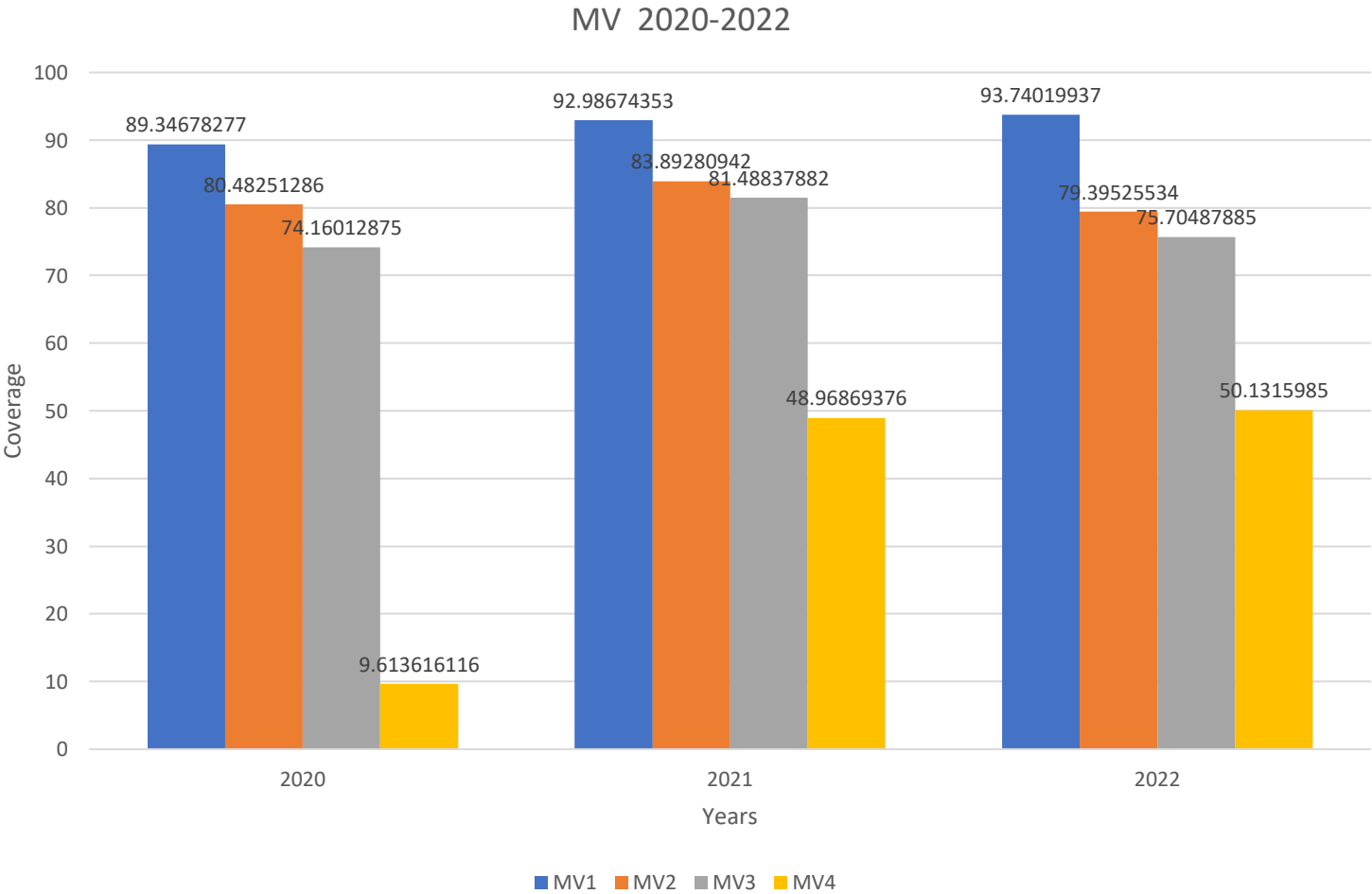


# Context



- Malawi accounts from 2% of Malaria cases worldwide
- Top 15 countries with a high malaria burden
- Children under 5 years and pregnant women are at a high risk of malaria morbidity compared to other groups
- RTS'S launched on 23 April 2019 in selected TA of 11 districts
- Decision to expand MVIP to comparator areas in November 2022.
- Engagement of malaria control policy change process – unanimously agreed to adopt malaria vaccine as additional malaria control strategy
  - Stakeholder engagement
  - EPI and Malaria technical sub-working group
  - Joint Malaria and Malawi Immunization Technical Advisory Groups (MAB and MAITAG)
- The Ministry of Health Senior Management Team recommended expansion of malaria vaccine to all eligible children across Malawi
  - Current expansion plan focused on comparator areas in 11 pilot districts

# Coverage and Performance



District	2023			
	RTS, S 1	RTS, S 2	RTS, S 3	RTS, S 4
Balaka	86	78	69	45
Chikawawa	112	85	70	49
Lilongwe	89	80	68	108
Karonga	87	76	66	44
Mangochi	90	68	56	48
Machinga	72	61	49	62
Mchinji	68	52	42	29
Ntchisi	76	68	60	57
Nsanje	104	87	76	46
Nkhatabay	91	83	75	52
Phalombe	93	75	58	51

# PROGRAMME OBJECTIVES



- Further characterize vaccine safety in the context of a routine immunization programme, with special attention to the safety signals observed in the phase 3 trial.
- Evaluation the vaccine's impact on severe malaria and all-cause mortality areas
- Assess the programmatic feasibility of delivering the recommended four dose including new immunization contacts, in the context of routine health service delivery.

# Malawi Vaccination Schedule

Child Age Vaccine/1	Birth	6 wks	10 wks	14 wks	5 mo	6 mo	7 mo	9 mo	12 mo	15 mo	18 mo	22 mo	24 mo
BCG	1												
Oral polio		1	2	3									
DTP-HepB-Hib (penta)		1	2	3									
Pneumococcal conj.		1	2	3									
Rotavirus		1	2										
Inactivated Polio				1									
Measles-Rubella								1		2			
Typhoid Conjugate Vaccine (TCV)								1					
<b>Malaria Vaccine</b>					1	2	3					4	
Vitamin A						1			2		3		4

# Interventions for vaccine demand

Social and behavioural assessment: to understand the demand and acceptance of malaria vaccine among the caregivers of children under 5

Revision of national malaria vaccine communication strategy in process

Development of communication assets: radio, television, print (FAQs)

Mobilisation of community mobilisers, Health Surveillance Assistance and youths for reaching out families with the reminder

Engagement with the care groups

Partnership with faith and religious leaders for vaccine acceptance

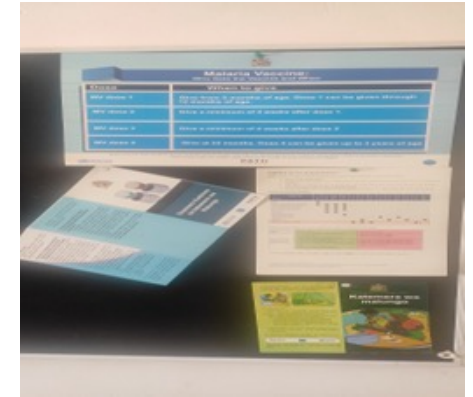
Strengthening existing feedback mechanism to collect and address rumours, misinformation and concerns/questions

Behaviour Monitoring



# Key Messages

- malaria vaccine reduces malaria in children and is part of the malaria prevention package”
- “a child gets 4 malaria vaccine doses, with the first dose given from 5 months of age, and the 4th dose around 2 years of age”
- “once your child receives the malaria vaccine, continue using other malaria preventive measures such as sleeping under a bednet”



# Challenges

**Initial challenges in understanding age eligibility** since the dose schedule was different from most of the other childhood vaccines

**Low uptake of the fourth vaccine dose:**

- ✓ Inadequate follow up and default tracing strategies to promote uptake of dose 4

**Missed opportunities:** Dose 3 coverage (administered at 7 months) below MR1 coverage. MR vaccination visits provides the opportunity to screen and vaccinate malaria vaccine defaulters

**Data quality and documentation:** Challenges with documentation of routine immunization data – leading to missing data in immunization registers ( not peculiar to malaria vaccines)

**Too Many Vaccines and campaigns:** TCV, Malaria, HPV, Polio, cholera

**Health and natural emergencies affected uptake of routine immunization vaccines** including malaria vaccine

- ✓ Covid-19 Pandemic
- ✓ Polio and cholera outbreak
- ✓ Cholera outbreak affecting 6 of the 11 Malaria vaccine implementing districts
- ✓ Tropical storm Ana, Gombe and Freddy in 2022 and 2023 affecting 3 of the implementing districts with disruption to service delivery

# Thank you

## QUESTIONS AND DISCUSSION