Malaria Vaccine Implementation – An Independent Rapid Review

Prepared for Gavi
by Sabin Vaccine Institute

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SABIN VACCINE INSTITUTE

REVIEW APPROACH

Independent rapid review of MV implementation status across 4 domains

- A rapid assessment of early MV rollout evidence to inform vaccine decision-making and strengthen support for successful MV implementation and expansion across sub-Saharan Africa
- Results may inform rollout of future vaccines with novel schedules, such as candidate TB vaccines

Malaria vaccine program rollout, performance & drivers



Malaria program integration* & drivers



NMCP EPI

Stakeholder coordination including financing



Lessons for future vaccine introductions



*National immunization program leads vaccine implementation, while national malaria program leads malaria risk analysis and the subnational tailoring of malaria interventions. Integration activities described by MoH were broad, including joint strategy and financial planning, developing and delivering communication messages on vaccines and malaria interventions, leveraging resources, conducting research, screening for missed opportunities during malaria activities, etc.

Rapid review scope and evidence sources



25 African countries that introduced malaria vaccination; evidence availability varies by country and program maturity

Coverage analysis

- Used country-reported administrative data from the WHO/UNICEF Joint Reporting Form on Immunization (eJRF) for 2023-2025, cleaned by WHO for this analysis
- Included countries and each respective dose implemented at least 12 months to account for variation in vaccine introduction duration, phasing, and vaccination schedule

Literature review

- 44 documents: 27 peer-reviewed articles and 17 partner reports covering evidence Jan 2019–Aug 2026
- Partner reports include post-introduction evaluations (PIEs), Malaria Vaccine Learning Agenda (MVLA) reports from 7 countries, and Malaria Vaccine Coordination Team (MVCT) survey

Online survey

- Conducted 27 Sep–15 Oct 2026 in FR, EN and PT, targeted Ministry of Health staff at national and subnational levels, with >500 responses from 24 countries
- Convenience sampling with country-weighted estimates

Key informant interviews (KIIs)

- 21 interviews, including six small-group interviews, conducted in EN or FR, 1 Oct-21 Nov 2026
- Included 4 national EPI program staff, 6 national malaria program staff, 6 subnational staff (EPI and non-EPI), and 4 country-level partners across seven countries, plus 11 regional/global partner representatives

EVIDENCE SYNTHESIS

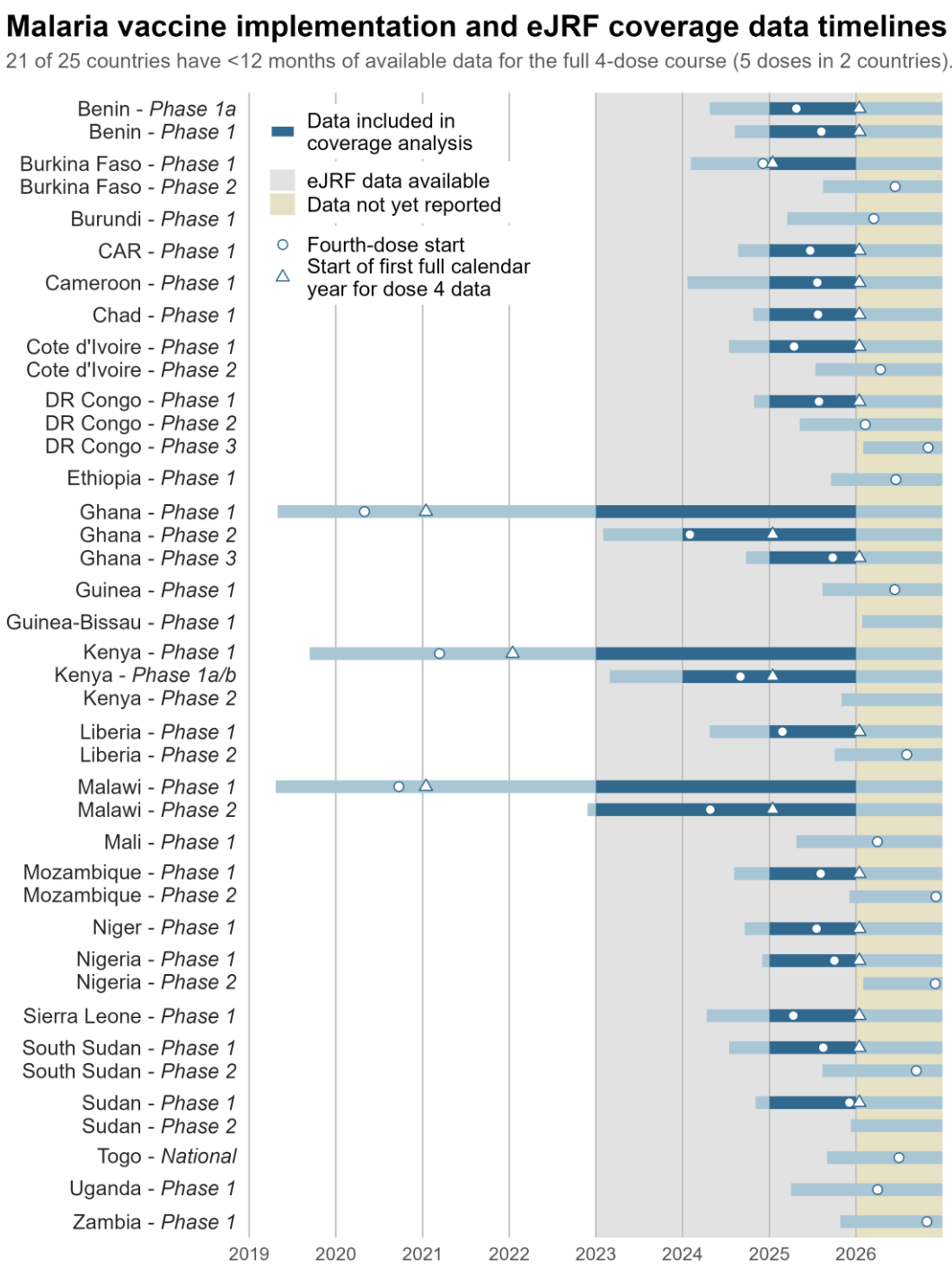
See Methods and Limitations slides for further information.

Main findings across the four focus areas

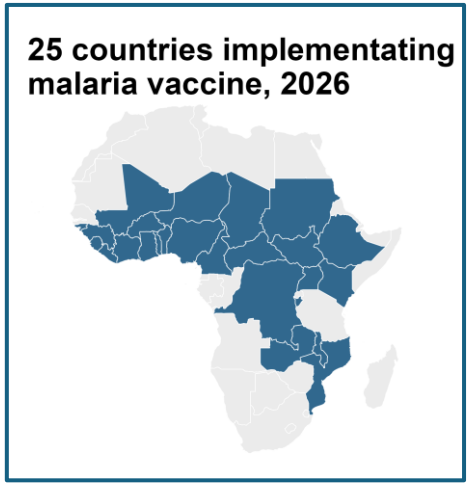
Rollout, performance & drivers	Integration & drivers	Stakeholder coordination and financing	Lessons learned
Malaria vaccine rollout achieved a median of 80% coverage for dose 1 of and 69% for dose 3 among countries with at least one year of experience implementing the vaccine. Limited implementation experience, particularly with Dose 4, constrains conclusions on coverage. Schedule completion appears limited primarily by broader immunization-system challenges.	Ministries of Health report integration between malaria immunization and control programs is overall very good; further integration is possible with technical and financial support. Malaria vaccine scale up helps realize shared disease prevention goals for both programs.	Government leadership, Gavi, Global Fund, and other partner support were widely viewed as critical enablers of malaria vaccine rollout. However, Gavi funding limits and uncertainty regarding future financing were reported as barriers to geographical expansion and risks to sustainable scale-up.	Future introductions should assure early establishment of roles and responsibilities in MOH programs and develop specific plans for communication, integrated delivery and contingencies. Sustained financial and technical support is needed for integration and delivery beyond launch. Practical opportunities to improve uptake include systematic defaulter tracing, sustained outreach, and use of other service-delivery platforms.

Findings derived from synthesis of coverage data, literature, surveys and KIIs.

Premature to draw conclusions on MV program performance from coverage data



- Most introductions occurred in 2024 (14/25 countries) with variation in geographic reach, phasing of introductions, MV schedule, and completeness of reporting
- WHO/UNICEF eJRF coverage data for MV is sparse due to recency of implementation
  - Only 1 non-pilot country (Burkina Faso) and the 3 pilot countries (Ghana, Kenya, Malawi) had ≥1 calendar year of data available for each of the 4 doses
- Coverage over single year during rollout, especially for vaccines with new visits, is not sufficient to inform policy or funding decisions



Graph interpretation: At the time of analysis, annual MV coverage data was available for 2023-2025. Coverage was calculated for 16 countries (dark blue bars) implementing for at least one year. Dose 4 data was calculated for 4 countries (white triangle) with ≥1 year of dose 4 implementation.

*Many countries adopted phased, subnational malaria vaccine introductions, initially targeting the highest-burden areas. While early supply constraints contributed to this approach, rollout strategies also reflected local malaria epidemiology, funding availability, and implementation considerations.

Source: Coverage analysis

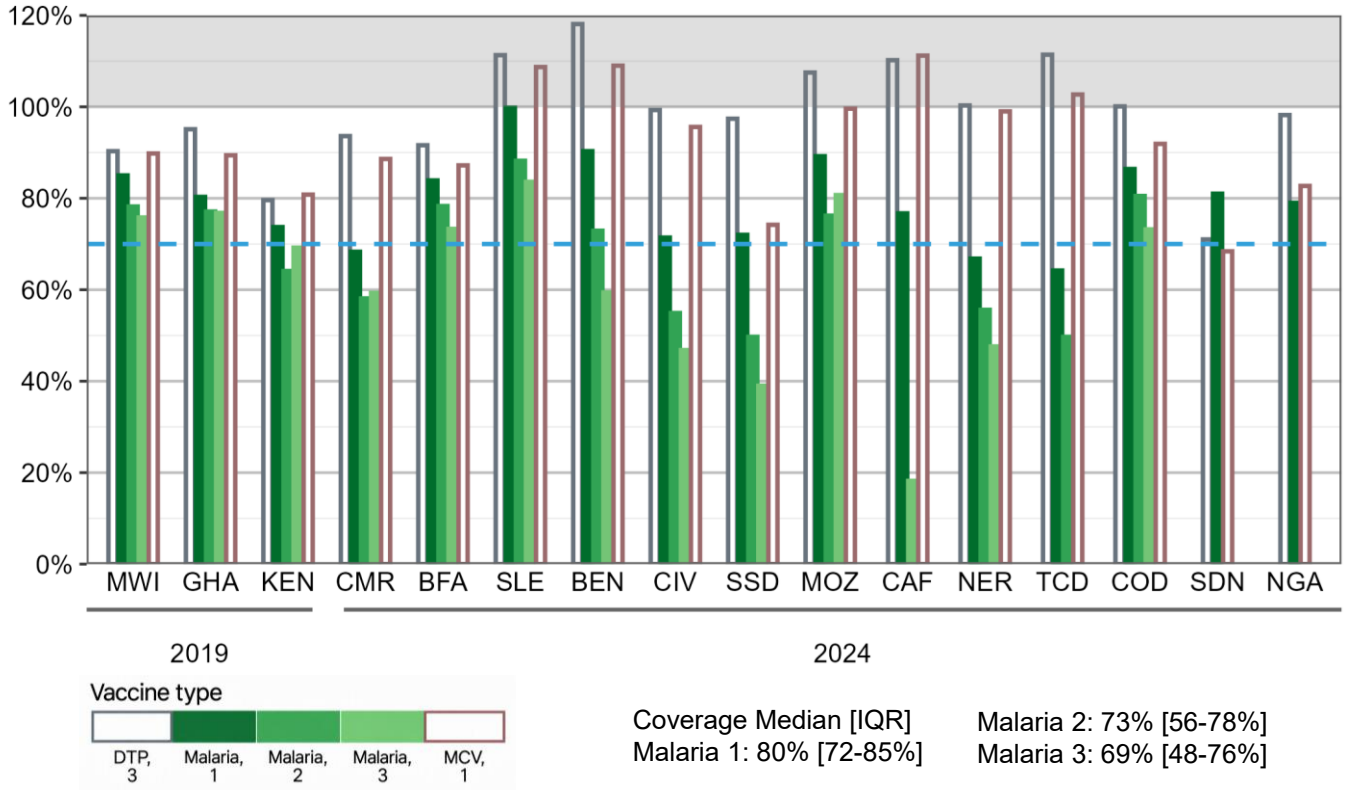
INTRODUCTION & PERFORMANCE FINDINGS

Malaria vaccine implementation ongoing and progressing well

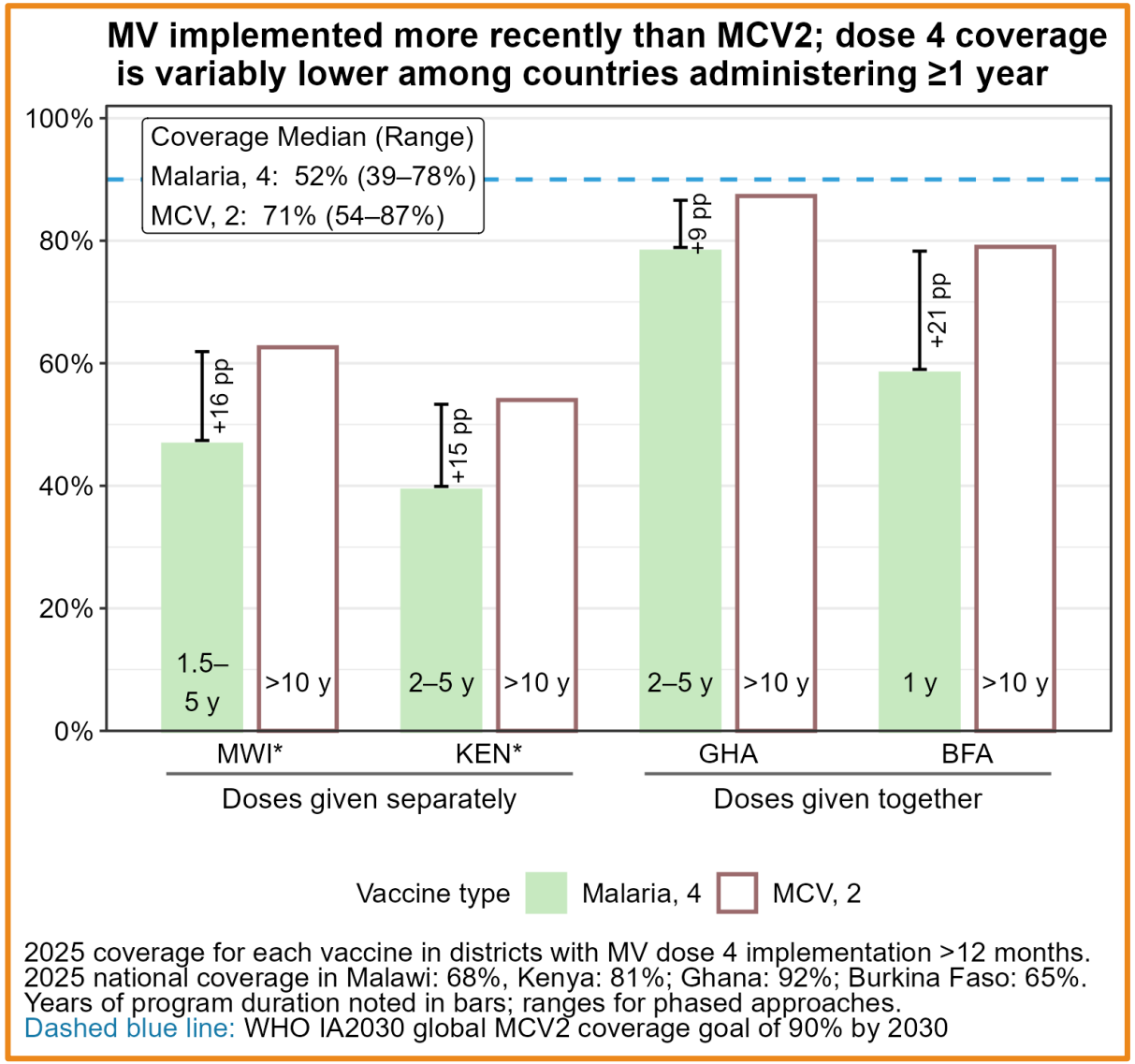
This analysis shows MV coverage in areas and doses with implementation >12 months. 2025 coverage marks the first time such criteria has been met for 1 or more doses among nearly all (13/16) countries implementing >12 months.

- By early 2026, MV had been introduced in 25 countries, representing two-thirds of the global malaria burden
- **More than 2.1 million children received at least one dose during 2024**; following expansion, by late 2025, implementing programs targeted more than 10 million children annually
- In 2025, half (8/16) of countries implementing at least one full year reported coverage >80% for dose 1; almost two-thirds (12/16) reported >70%; and all (16/16) reported over 60%
- Drop off between dose 1 and 3 varies, but is less than 15 percentage points among half (7/13) of countries implementing both doses >12 months
- Compared to well-established DTP3 (given at ~3 months of age) and MCV1 (9 months of age), coverage for recently-implemented MV1 (given ~5 months of age) is lower

MV coverage is strong considering recency, though lower than long-established vaccines



2025 coverage for each vaccine in districts where MV implementation >12 months. Ordered by MV introduction date. Only dose 1, 3 national data are available for CAF and SDN, lowering SDN MV estimates, which implemented sub-nationally. Target cohorts, vaccine schedules, program maturity differ by antigen. For ≥40 years, national immunization schedules included DTP3 (~3m) and MCV1 (~9m). MV introduced with new vaccine visits. Median MV implementation duration is 12 months.



2025 coverage for each vaccine in districts with MV dose 4 implementation >12 months.
2025 national coverage in Malawi: 68%, Kenya: 81%; Ghana: 92%; Burkina Faso: 65%.
Years of program duration noted in bars; ranges for phased approaches.
Dashed blue line: WHO IA2030 global MCV2 coverage goal of 90% by 2030

Too early to assess dose 4; suggestion of shared 2nd year vaccination challenges

- **Dose 4 data is limited due to recency of implementation** and long vaccine schedule
  - First full year of dose 4 data for implementation phase 1 in all currently implementing countries will be 2028
  - 2YL vaccines take years to routinize
- **Aligning dose 4 with other 2YL vaccine visits and ITN distribution can help promote uptake**
  - In Ghana, coverage increased from 50% in 2022 to 82% in 2023 after aligning dose 4 with other 18-month vaccinations
- **Health workers describe shared challenges reaching children beyond infancy,** including the novelty of 2YL visits, transport costs, knowledge gaps around return dates and poorly functioning defaulter tracing or screening

Sources: Price et al., Malar J, 2025; Grant et al., 2022; Jalang'o et al., Malar J, 2025; Hill et al., 2024; Nyaku et al., 2017; Wolff et al., 2023; KII; Coverage analysis

Generally, MOH staff across EPI and malaria programs reported MV implementation was as successful as other recent introductions

"We managed to cover all our high-moderate districts. Not in phases, but in one go. I think to us that is the **major success.**

…it was—it was **just as good.**

I would say the malaria vaccine introduction has gone… slightly better than previous introductions, mostly because… actually, no, **considerably better**…the introduction of the malaria vaccine vis-a-vis other introductions, I would say it has been, **a lot better** because, first, the benchmarking that was done from countries that already introduced the vaccine…It has been a **great** introduction compared to other new vaccines.

So the way introduction of malaria vaccines when it was from my side, I'm seeing was **very good** because we start with the analysis, especially the disease burden, and then we decide which county to go first.

I think the introduction of the **malaria vaccine was not very different from the other vaccines** which the EPI program rolled out. So generally for us, I think it was just another vaccine, you know, being added to the national expanded program on immunization.

…it has gone down **well.** I wouldn't say that it's better than what we had before, because of the challenges that we encountered.

The implementation of the vaccine has **gone on well** … so the implementation has been **successful.**

I would say that the malaria vaccine worked **better** in terms of, you know, rollout as compared to other[s].

Malaria vaccine introduction **has not gone well**…the first dose, we start with around 60%. Second dose goes to half, like, 30%.

Generally good, in some aspects **better.**

INTEGRATION FINDINGS

MOH immunization and malaria control program stakeholders report frequent integration between programs and wide variety in number and type of activities

Figures shows % of respondents that reported integration occurring, according program area or activity

Nearly all (>98%) respondents reported making decisions together in ≥1 area; primarily planning, communication and supportive supervision



Forecast & Supply

- **51%** Budgeting and resource mobilization
- **42%** Vaccine forecasting, supply, and logistics

Planning

- **70%** Geographic targeting for MV introduction or expansion
- **67%** Data review, monitoring, performance management
- **66%** Microplanning for MV

Prepare Services

- **72%** Supportive supervision
- **65%** Training and refresher training
- **54%** Development/adaptation of guidelines, tools, job aids

Engage & Deliver

- **56%** Planning integration with other malaria interventions
- **72%** Community engagement, demand generation, communication



Follow Up

- **51%** Defaulter tracing and catch-up / identifying and following up on children missed for vaccination or for malaria interventions

Context matters	Integrated activities differed by country. Coordination was more variable locally
Examples	Planning and implementing MV launch; leveraging resources for events; screening immunization cards during SMC or ITN campaigns
Sustainability	Sometimes weakened after launch; reliance on time-limited expanded partner funding and limited local resources threatened continuity

Source: Sabin 25-Country Survey, country-weighted percentages. Multiple responses permitted. Survey question: In your level of work, which malaria vaccine delivery decisions do immunization and malaria programme staff make together?

Integration leveraged existing resources without evidence of reduced uptake or use of other malaria control interventions

- Based on available evidence, **there is no indication that malaria vaccine implementation has negatively affected** the uptake or use of other **malaria control interventions**
- MOH EPI and NMCP staff reported **perceptions that MV has had a positive impact** on uptake of other malaria control and child health interventions
- Evidence shows coordinated approaches added opportunities to reach children and leveraged existing program resources, resulting in improved coverage
- Sustaining **integrated services requires reliable supplies and adequate staffing** to avoid stockouts and displacement of other planned activities
- **Clear communication should continue** to reinforce SMC and ITN use after vaccination

> "The MV introduction has really helped strengthen the general routine immunization program and the malaria elimination program …it has helped with the distribution of the ITNs...we were messaging that yes, malaria vaccine is very important, but its effect is maximized, its impact is highest, when the other malaria interventions are also added."
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> **—MOH, EPI Program**

> "Not on a single day did people decline IRS because … their children have been vaccinated."
>
> **—MOH, Malaria Program**

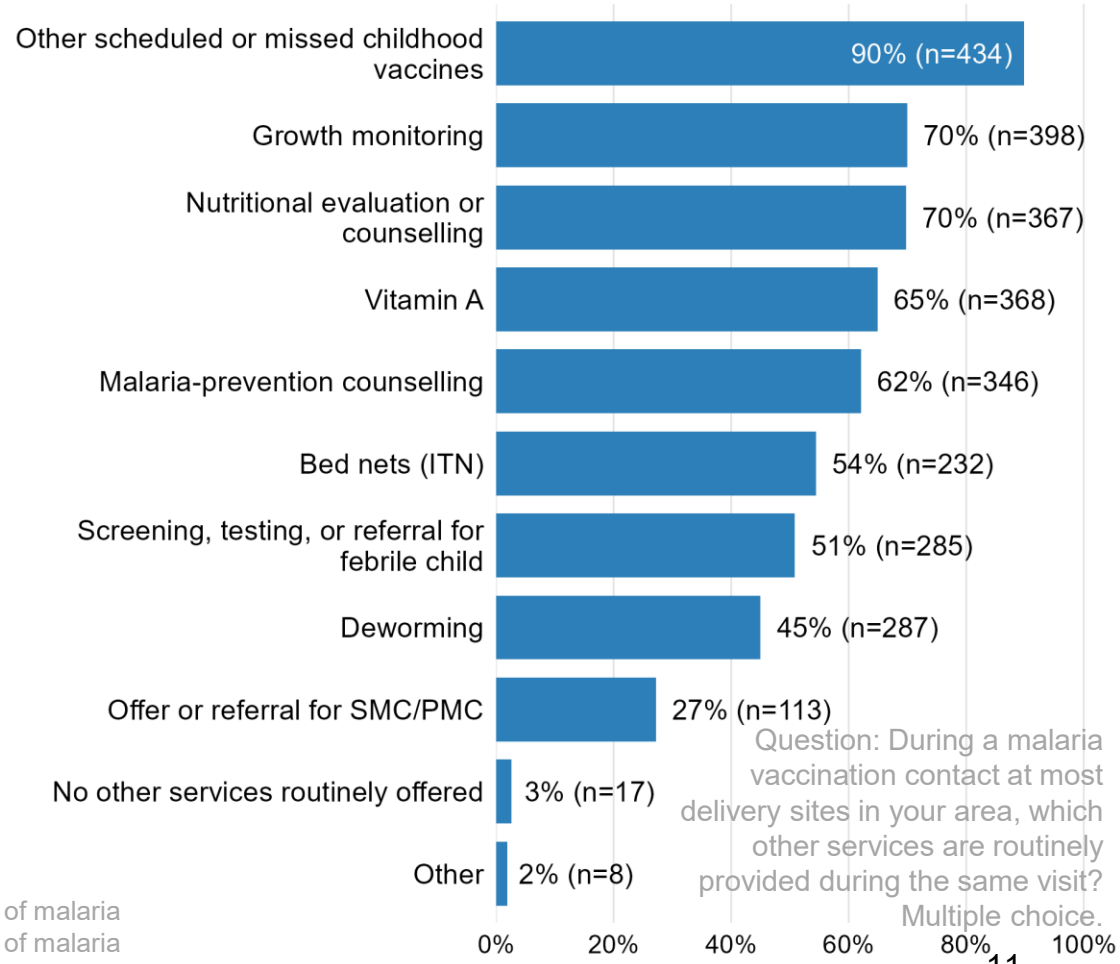
Sources: Malaria Vaccine Learning Study in Liberia, 2026; Grant et al., 2022; MVCT survey; Malaria Vaccine Post-Introduction Evaluation, Uganda, 2026; KII; Sabin survey; Diawara et al., BMJ Glob Health, 2025; GAVI Malaria Vaccine Introduction Grant, 2026; KII

Coordination and integration of program activities can increase delivery of comprehensive health services

- **MV visits provide a platform to deliver other interventions,** such as other vaccines, growth monitoring and nutritional services, and other malaria prevention interventions
  - More than half of survey respondents described providing malaria prevention counseling, ITN delivery, or screening, testing or referral of febrile children
- Many countries use malaria activities (ITN registration, SMC) as household touchpoints to identify and refer under-vaccinated children
- **Linking dose 4 to a tangible benefit can encourage attendance**
  - ITN-linked delivery, incorporation of Vitamin A, deworming in Kenya
  - Alignment with existing vaccines, growth monitoring, vitamin A, and ITN distribution in Ghana

Services routinely provided during a malaria vaccination visit

Sabin 25-Country Survey, country-weighted percentages



Question: During a malaria vaccination contact at most delivery sites in your area, which other services are routinely provided during the same visit? Multiple choice.

Sources: Sabin Survey; Investigating approaches to increase the uptake of malaria vaccine and other childhood interventions, 2026; Seasonal intensification of malaria vaccine delivery in Benin, 2026; MVCT Survey; KII; Jalang'o et al., Malar J, 2025

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Particularly for vaccines, particularly for malaria, it’s the life of children that is at risk. And if the world believes that these children are vulnerable, and their survival is what guarantees the continuous existence of the human race, then **we need to do a lot more to get those who have the resources,** if they be philanthropists, billionaires, and country governments, to secure more resources, **to make more vaccines available.**

—MOH, NMCP Program