

OPT-MVAC webinar: Summary of the Webinar on Malaria Vaccine Case-Control Study (MVPE-CC) and Implementation Insights

**20 March 2026**

[Webinar recording](#): (password: #jX+0AwW)

## 1. Introduction and Objectives of the Webinar

The webinar convened experts from global health organisations, research institutions, and malaria-endemic countries to review findings from the Malaria Vaccine Pilot Evaluation Case-Control (MVPE-CC) study and discuss implications for malaria vaccine implementation.

The session had three main objectives:

- To present **key findings and operational insights** from the MVPE-CC study
- To discuss how these findings can inform **future malaria vaccine implementation strategies**
- To explore how lessons learned can support ongoing and future work under the **OPT-MVAC initiative**

A central theme of the webinar was the importance of translating **clinical and observational evidence into actionable programmatic decisions**, particularly in sub-Saharan Africa where malaria burden remains high.

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## 2. Background: RTS,S Malaria Vaccine and Pilot Implementation

The RTS,S/AS01 malaria vaccine is the first malaria vaccine recommended for widespread use in children living in areas of moderate to high transmission. Prior Phase 3 trials demonstrated:

- **Moderate protection against clinical malaria**
- **Greater protection against severe malaria when a fourth dose is administered**

Key efficacy findings included:

- Approximately **26% efficacy against clinical malaria** after 48 months with three doses
- Approximately **39% efficacy with four doses**, highlighting the importance of completing the full schedule

To evaluate real-world feasibility and impact, pilot implementation programmes were launched in selected African countries. These pilots aimed to assess:

- **Vaccine delivery through routine immunisation systems**
  - **Safety and acceptability in real-world settings**
  - **Impact on severe malaria and mortality**
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### 3. MVPE-CC Study: Design and Purpose

The Malaria Vaccine Pilot Evaluation Case-Control (MVPE-CC) study was designed to complement routine data from pilot programmes by providing **robust observational evidence** on vaccine effectiveness.

#### Study Design

- A **case-control approach** comparing vaccinated and unvaccinated children
- Focus on outcomes such as:
  - Severe malaria
  - Hospitalisation
  - Mortality

#### Objectives

- To estimate **real-world vaccine effectiveness**
- To assess **protection against severe disease**
- To better understand the role of the **fourth dose**
- To generate evidence relevant for **policy and programme decisions**

This approach allowed researchers to evaluate vaccine performance under real-life conditions, beyond controlled clinical trials.

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## 4. Key Findings from the MVPE-CC Study

### 4.1 Effectiveness Against Severe Malaria

The study confirmed that RTS,S vaccination provides **meaningful protection against severe malaria**, particularly among children who received multiple doses. Protection was consistent with, and supportive of, earlier clinical trial findings.

### 4.2 Importance of the Fourth Dose

A critical finding was the **added value of the fourth dose**:

- Children who received all four doses showed **higher and more sustained protection**
- Drop-off between dose 3 and dose 4 was identified as a key programmatic challenge

This reinforces that **full schedule completion is essential** to maximise public health impact.

### 4.3 Impact on Hospitalisation and Mortality

Evidence suggested reductions in:

- **Severe malaria hospitalisations**
- Potentially **malaria-related mortality**

Although some outcomes require further long-term monitoring, the findings support the vaccine's role in reducing **disease burden at the population level**.

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## 5. Operational and Implementation Insights

Beyond effectiveness, the webinar emphasised several **practical lessons from implementation**:

### 5.1 Coverage and Dropout Challenges

- Initial uptake (first doses) was generally strong
- However, **coverage declined for later doses**, especially dose 4
- Barriers included:
  - Caregiver awareness
  - Health system follow-up limitations
  - Scheduling challenges

### 5.2 Integration into Routine Immunisation Systems

- The vaccine can be successfully delivered through **existing immunisation platforms**
- However, it requires:
  - Strong coordination
  - Adequate training of health workers
  - Reliable supply chains

### 5.3 Community Engagement

- Acceptance of the vaccine was generally positive
- Continued **community sensitisation and communication** are essential to:

- Maintain trust
- Improve completion rates

## 5.4 Data Systems and Monitoring

- High-quality data collection is critical for:
    - Monitoring coverage
    - Evaluating impact
    - Guiding programme adjustments
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# 6. Implications for OPT-MVAC and Future Programmes

The findings presented in the webinar have direct implications for the **OPT-MVAC initiative**, which aims to optimise malaria vaccine delivery and impact.

## 6.1 Strengthening Dose Completion

- Strategies are needed to improve **retention between doses**, especially for the fourth dose
- Possible approaches include:
  - Reminder systems
  - Community outreach
  - Integration with other child health services

## 6.2 Enhancing Programme Design

- Implementation strategies should be **context-specific**, adapting to local health systems
- Operational research should continue to identify **best practices**

## 6.3 Scaling and Sustainability

- As countries expand vaccine use, focus should be on:
  - **Sustainable delivery models**
  - Long-term financing
  - Workforce capacity

## 6.4 Evidence-Informed Decision Making

- Continued use of **real-world evidence**, such as MVPE-CC findings, will be essential to:
  - Refine policies
  - Improve programme effectiveness
  - Support global recommendations

## 7. Conclusion

The webinar highlighted the significant progress made in malaria vaccine implementation and evaluation. The MVPE-CC study provides strong evidence that RTS,S:

- Reduces severe malaria
- Offers greater protection with full dosing
- Can be effectively integrated into routine immunisation systems

At the same time, the discussion underscored ongoing challenges, particularly in ensuring **completion of the full vaccine schedule** and strengthening health system delivery.

The lessons learned are highly relevant for the **OPT-MVAC initiative and broader malaria control efforts**, offering a clear pathway to improve vaccine impact and ultimately reduce the burden of malaria in endemic regions.