MALARIA VACCINE MINI POST-INTRODUCTION EVALUATION (MINI-mPIE) GUIDE\*

# Preface:

This guide is a brief description of a rapid post-introduction evaluation following the introduction of the malaria vaccine in a country. The guide summarizes and accompanies the Malaria vaccine mini post-introduction evaluation (mini-mPIE) power point presentation linked here -[WHO Malaria Vaccine Implementation Programme - mini-mPIE - All Documents (sharepoint.com)](https://worldhealthorg.sharepoint.com/sites/ws-MVIP/WHO%20MVIP%20Documents/Forms/AllItems.aspx?id=%2Fsites%2Fws%2DMVIP%2FWHO%20MVIP%20Documents%2FVaccine%20implementation%20work%20stream%2FMalaria%20PIE%20tools%2Fmini%2DmPIE&p=true&ga=1)

# Introduction

WHO recommends that all countries which have introduced a new vaccine should evaluate the impact on their vaccination system. Such a review, called a Post-Introduction Evaluation (PIE), is normally conducted 6–12 months following introduction. The traditional PIE is a time and resource heavy activity that can take up to two months to plan and implement.

This malaria vaccine mini post-introduction evaluation (mini-mPIE) tool is designed to provide a rapid and flexible method for evaluating implementation of malaria vaccine early after introduction. Such evaluation will allow problems associated with the introduction of the vaccine to be identified quickly and allow course-correction. The results will identify successes and lessons learned to improve a country’s immunisation programme. Findings may also be shared with other countries to improve introduction experiences globally.

The mini-mPIE methodology is based on the COVID-19 vaccination mini post-introduction evaluation (mini-cPIE) (also known as the COVID-19 vaccine intra-action review (IAR)). Many countries have experience using this methodology during the COVID-19 pandemic. Tools have been adapted to address issues specific to malaria vaccine and the recommended childhood target population and four-dose immunization schedule.

**Objectives of the mini-mPIE methodology:**

1. To provide health ministries user-friendly tools to conduct a rapid evaluation of the malaria vaccine introduction based on a facilitated discussion to include key national and subnational stakeholders.
2. To identify challenges and lessons learned from the early vaccine introduction experience that can be addressed to improve ongoing programme performance
3. To document successes, challenges, and recommended actions.

**What is a mini-mPIE?**

A country-led, facilitated discussion that brings together key national and subnational stakeholders to:

* reflect on the ongoing vaccine rollout at the country level to identify current best practices, gaps and les­sons learned, and
* propose corrective measures and actions to improve and strengthen the vaccination programme

The mini-mPIE tools consist of:

* Trigger question database **(Appendix 1)**
* List of key documents/indicators from routine monitoring data **(Appendix 1)** for desk review
* A suggested questionnaire for field data collection, the “Malaria Rapid Mini Post-Introduction Evaluation (mini-mPIE) Health Facility Questionnaire” **(Appendix 2)**
* Caregiver questionnaire (**Appendix 3)**
* IAR Note taking template **(Appendix 4)**
* IAR Report Template **(Appendix 5)**

Mini-mPIE tools are meant to be flexible, feasible in a short period of time and fully adaptable to the phase(s) of malaria vaccine introduction, the local context and the objectives as defined by the country.

As part of the mini-mMPIE, countries may consider limited field data collection through use of tools such as the “Malaria Rapid Mini Post-Introduction Evaluation (mini-mPIE) Health Facility Questionnaire”, Caregiver Questionnaire, or other behavioral and social drivers surveys. Sufficient time should be allocated for any field work.

# When and where should a PIE be done?

Ideally, a mini-mPIE should be conducted 3-6 months after introduction of the malaria vaccine to identify any immediate issues that need correction. This early time period is defined to give the programme time to start up and ideally provide the first three doses in the series. This initial evaluation can then be complemented by a more detailed evaluation (i.e. a full or classic PIE) conducted after the fourth dose, and fifth dose where appropriate. A timeline and checklist for mini-mPIE activities are provided in at this end of this document (Table 1).

The mini-mMPIE is designed around a facilitated discussion to be conducted at either a central or subnational level including inputs from both national and subnational immunization and malaria programme stakeholders. If a field component is included, teams should consider inclusion of a few site visits to identify any issues following the introduction of the malaria vaccine. The number of sites to be visited will depend on the scope of vaccine introduction, the heterogeneity of its health and vaccination services, and the human and financial resources available to conduct the evaluation.

# How is a mini mPIE conducted?

To have a successful rapid evaluation in a short time frame, pre-planning is crucial for a successful mini-mPIE. Prior to starting, EPI programs will have to identify the participants and define the scope of the evaluation which includes the period under review and the key functions/pillars to be evaluated. The key steps in conducting a mini-mPIE are as follows (a timeline and checklist of activities are provided in Table 1 below**):**

* Establish a Coordination Team
* Develop a concept note
* Convene the stakeholders
* Provide a mini-mPIE orientation
* Train and brief the facilitators
* Perform the Desk Review
* Conduct the mini-mPIE
* Finalize the report
* Follow up of prioritize activities

Once the participants have been identified, it is important that the roles and responsibilities of the mini-mPIE members are clearly identified making sure to note the lead coordinator, facilitators, note takers and report writers. Of note, there are four critical activities that are highlighted below which benefit from more clarification: adaptation of the tools; desk review; fieldwork and compilation of data; facilitated discussion with formulation of recommendations.

**Adaptation of the tools**

The trigger question database is the primary tool for the mini-mPIE **(Appendix 1)**. This is an excel-based file with a comprehensive list of questions organized by immunization programme pillar. Countries are advised to review all questions in advance and select the relevant questions based on their contexts, country priorities and current challenges. The selection of questions must be done in advance to save time. Question language may be adapted but ideally questions should be as open-ended as possible to elicit insights from the participants during the discussion.

**Desk review**

Documents and key indicators to consult during the desk review are shown under each pillar tab in the trigger question database **(Appendix 1)**. For certain pillars, a column indicates which indicators are likely to be most relevant for a given question. Desk review should focus on the documents and indicators that are available and relevant to the chosen trigger questions.

# Conducting fieldwork

The number of health personnel required to conduct the mini-mPIE effectively within a 3-to-5-day period will depend on if there will be a field component and the number of sites selected and whether multiple teams will visit sites simultaneously. The decision regarding which regions, districts and health facilities or vaccination sites to select for evaluation will vary based on country context but should be identified early to allow for site planning. Visiting hard-to-reach areas may be valuable if time permits so that the evaluation is geographically representative and takes equity issues into account. It is also important to consider sites that represent a range of programme performance.

Suggested tools for field data collection is the “Malaria Rapid Mini Post-Introduction Evaluation Field Questionnaire” **(Appendix 2)** and Caregiver questionnaire (**Appendix 3).**

All team members should have knowledge of the immunization programme – and of the malaria vaccine programme, its target populations, programme monitoring, and data analysis. It is useful to include a mix of local immunization partners WHO, UNICEF, other key in-country immunization partners and non-governmental organizations active in the malaria vaccine programme.

The mini-mPIE should be conducted in such a way that those being interviewed are not frightened of or intimidated by the evaluators. This is particularly important for health facility personnel. The team should explain who they are, why this region/district or health facility was selected for evaluation, and what the objectives of the evaluation are. Feedback to those interviewed should be given at the end of the visit, and advice should be given – in a constructive manner – about how to correct any inappropriate practices or misinformation observed. In the same way, correct practices observed should be commended.

# Data management

Data collection can be done using paper forms or electronically using tablets programmed with ODK software. Using electronic data collection is recommended where possible given the variety of circumstances between countries in terms of possible malaria vaccination strategies. Whether using paper or tablets, the questionnaires should be reviewed and adapted to the country context prior to implementation of field work.

# Discussion and reporting of findings

The facilitated discussion is a key component of a successful mini-mPIE. This process will follow the trigger questions that were pre-selected from the database. Discussion groups are not required to cover all the pre-selected questions in each pillar, and the order to address questions is at the discretion of the facilitator, depending on how the participants are engaging. Facilitators do need to ensure strict time management given the time available, while also encouraging active participation and open, frank discussions among participants to draw out important lessons. Based on prior experience with mini-PIEs, the median period to discuss one question is about 30 minutes. Teams are suggested to select 5-7 questions per pillar or less.

Discussion should use principals of root-cause analysis. When considering each area for discussion, three pivotal questions are asked in order to gather insights and generate actionable feedback:

1. What went well? This aims to identify the strengths of the malaria vaccine introduction. Understanding what aspects were successful helps to recognize effective strategies, practices, or resources that contributed positively to the program.
2. What went less well? And why? This focuses on uncovering the challenges, obstacles, or aspects of the introduction that did not meet expectations. Understanding both the shortcomings and their underlying causes is crucial for making informed improvements.
3. What can be done to improve? With a clear understanding of strengths and weaknesses pertaining malaria vaccine introduction, this question shifts the focus towards forward-looking solutions and strategies to enhance the vaccination effort.

**Appendix 4** is the note taking template.

**Appendix 5** is the report template.

After the mini-mPIE, findings should be presented at a high-level meeting with the Interagency Coordination Committee (ICC), key MoH officials and other entities key to the planning, management and deployment of malaria vaccine. Recommendations should be achievable, based on the evaluation findings and take into account recommendations from any other earlier evaluations conducted. It is critical that the immunization programme manager and key MoH staff lead the formulation of the recommendations. It is recommended that countries share the report and data with WHO and UNICEF regional offices and headquarters to inform collective learnings on trends, common themes, and challenges related to malaria vaccine roll-out.

# How much does it cost to conduct a mini-mPIE?

The mini-mPIE has been designed for countries to self-administer. Costs will vary depending on the size of the country, the number of participants invited for the discussion and the number and location field sites selected. Costs may include allowances for personnel, training, transport and supplies.

# How long should a mini-mPIE take?

With advance planning and adequate resources, the mini-mPIE can be completed within 3-5 days. Field work might prolong the timeline. Planning for the mini-mPIE should start in earnest at least 2 weeks prior to the start date of the evaluation. An initial team meeting 1–2 days in advance should take place to finalize the tool will allow for travel to the field over the weekend and maximize weekdays in the field. Staff should plan to spend a half day at each site. The questionnaire takes approximately one hour to complete. It should be noted that, in many countries, vaccination sessions only take place in the mornings, so it is necessary to plan the timetable with this in mind. However, delays, such as waiting for the appropriate person to become available for an interview, must be accounted for, and some time should be spent giving feedback, particularly if any practices need correcting. An overview of a possible 5-day timeline is outlined in Table 1. Countries may consider conducting the field work portion of the mini m-PIE the week before to allow time for visiting multiple sites, travel and the compilation of data.

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| **Table. Possible mini-mPIE implementation timeline** |
| **2 weeks before** | * Identify and confirm core mini-PIE participants (include key immunization and malaria programme staff and in-country partners)
* The team leader should be confirmed well in advance.
* Finalize concept note
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| **1-2 weeks before start of mini-mPIE** | * Team meeting to review objectives, trigger questions and areas for desk review
* Adaptation of tools for country context
* Meet with MoH, EPI officials and key partners for planning
* Identify and confirm mini-PIE participants (include key immunization and malaria programme staff and in-country partners)
* Train facilitators
 |
| **1 week before** | * Conduct Desk Review
 |
| **Days 1-2** | * If field work is included, travel to field
* Field visits to region(s), district(s) and health facilities

***If field sites are expected to take more than 2 days, consider conducting field visits the week prior the mini-mPIE rather than as part of the 5-day week.*** |
| **Days 3** | * Return from field
* Data compilation and analysis
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| **Day 4-5** | * Facilitated discussion
* Identify best practices, lessons learned
* Prioritize follow-up activities
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| **Within 2 weeks of completion of the mini-mPIE discussion** | * Writing report and recommendations
* Reporting to MoH and ICC
* Finalization of report and recommendations
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# Mini-mPIE Appendices

**Appendix 1:** Trigger question database

**Appendix 2:** Malaria Rapid Mini Post-Introduction Evaluation (mini-mPIE) Health Facility Questionnaire

**Appendix 3:** Caregiver questionnaire

**Appendix 4:** IAR Note-taking template

**Appendix 5:** IAR Report template