**ACTwatch Lite**

**Quantitative Training Manual**

**for Trainers**

**Information / Instructions for Users**

This document is designed to support national and regional training for ACTwatch Lite quantitative outlet surveys. It provides detailed guidance for the research team, training facilitators, and field team supervisors responsible for delivering data collection training using the ACTwatch Lite toolkit and methodology.

The manual is based on training materials used during pilot implementations in Benin, Cameroon, and Nigeria and includes suggested agendas, facilitation tips, and detailed session guidance.

Use this manual as a foundation and adapt it to your local context, language, and field team needs. Some sections should be updated based on country-specific protocols, regulatory requirements, and team structure.

All parts of the manual should be reviewed and customized before training delivery.

NOTES

* **ADAPT ALL TRAINING MATERIAL**: ALL POWERPOINT AND WORD DOCUMENTS NEEDED FOR TRAINING MAY BE FOUND IN THE TRAINING FOLDER. AT A MINIMUM, UPDATE ALL HIGHLIGHTED TEXT WITH RELEVANT IN-COUNTRY INFORMATION.
* **PRINTING:** ENSURE THAT ALL THE WORD FORMAT DOCUMENTS IN THE TRAINING FOLDER ARE PRINTED FOR ALL PARTICIPANTS. ALSO PRINT ONE PHOTO CONSENT FORM FOR EACH PARTICIPANT.

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# List of abbreviations

***Used in this manual or within training materials***

ADD ADDITONAL ACRONYMS OR KEY TERMS

|  |  |
| --- | --- |
| AL | *Artemether-Lumefantrine* |
| ASAQ | *Artesunate Amodiaquine* |
| ACT | *Artemisinin-based combination therapy* |
| AMFm | *Affordable Medicines Facility-malaria* |
| BMGF | *The Bill and Melinda Gates Foundation* |
| DHP | *Dihydroartemisinin-Piperaquine* |
| FDC | *Fixed dose combinations* |
| FPC | *Finite population correction* |
| GF | *Global Fund* |
| GMP | *WHO Global Malaria Programme* |
| GPS | *Global Positioning System* |
| KPI | *Key Performance Indicator* |
| IPTp | *Intermittent Preventive Treatment in pregnancy* |
| IPTi | *Intermittent Preventive Treatment in infancy* |
| IPTsc | *Intermittent Preventive Treatment in school children* |
| LGA | *Local government area* |
| MDG | *Millennium Development Goal* |
| MIS | *Malaria Indicator Survey* |
| NGO | *Non-governmental organization* |
| NMSP | *National Malaria Strategic Plan* |
| ODK | *Open Data Kit* |
| OTC | *Over the counter* |
| PMI | *US President’s Malaria Initiative* |
| POS | *Point of sale* |
| PPS | *Probability Proportional to Size* |
| PSI | *Population Services International* |
| QAACT | *Quality assured artemisinin combination therapy* |
| RDT | *Rapid diagnostic test for malaria* |
| SMC | *Seasonal malaria chemoprevention* |
| SP | *Sulfadoxine Pyrimethamine* |
| WHO | *World Health Organization* |

Additional terms and definitions are available in the study protocol.

# Introduction

This manual is designed to guide trainers in planning and delivering the ACTwatch Lite quantitative data collector training. It provides detailed instructions, facilitation tips, and session-by-session guidance to help ensure a consistent, high-quality training experience across countries and teams.

It outlines the full set of materials included in the ACTwatch Lite Quantitative Training Package and supports facilitators in using them effectively. These materials include:

* A sample agenda with facilitator notes
* Slide deck templates organized by module
* Pre/post-tests, quizzes, and exercises
* The survey questionnaire, study information sheets, and consent forms
* Quick reference job aids

This manual should be used alongside the full training package to guide preparation and execution of the training. It is intended to serve as a core reference document for research teams, training facilitators, and—where relevant—field supervisors and team leads.

**Note:** Both this manual and the training assume a basic familiarity with malaria, antimalarial medicines, and survey-based research. These qualification criteria are also recommended for study and training participants at all levels. However, **Annex 1** and **Annex 2** provide additional background on malaria case management, malaria commodities, and the ACTwatch Lite methodology for teams who require a refresher.

# Before training checklists

Adequate preparation for training is essential to ensure a smooth training experience, high engagement, and readiness for field work. This section includes a series of checklists for key preparation steps that training coordinators and facilitators should review in advance of the training:

**Checklist 1: Research team checklist**

*All training material content should be reviewed and adapted by the research team managing this study. Specific content in the slides has been highlighted where country-specific contextualization is needed. At a minimum, update all highlighted slides/ section. In addition, it is advised that examples included in the slide decks particularly for product auditing (antimalarial and RDTs) are updated using locally found or locally common products. The checklist below is a high-level list of adaptions to consider for updating the training materials:*

|  |  |
| --- | --- |
|  | Customize the background slides with local malaria data (e.g. incidence, prevalence, treatment seeking behavior) and health system information (e.g. outlet types, national guidelines)  This information may have been compiled using the Desk Review tool. |
|  | Prepare examples of common provider types and product names in the study area; update example products in slides (Module 2 and 3) as relevant |
|  | Review and adapt language in slides based on ethical approval conditions (e.g. consent language, GPS data rules) |
|  | Adapt exercises to reflect local scenarios and outlets and update to local product types as relevant |

**Checklist 2: Training facilitators checklist**

*Training may be facilitated by the research team, or another group such as a contracted research agency. Regardless, the following checklist may be useful for the training facilitation team to prepare to implement the training:*

|  |  |
| --- | --- |
|  | Review the training package, including all slides, exercises, and tools |
|  | Make any additional adaptions to the training agenda to reflect country timelines, language, and participant experience – in collaboration with the research team |
|  | Identify and confirm training venue, dates, and logistics |
|  | Ensure data collection devices are procured for each participant and all digital questionnaire(s) and any forms (where applicable) are finalized and preloaded on devices   |  | | --- | | **Before the training begins:**   * **Ensure all smartphones/tablets are working, charged, and updated** * **Install and test the data collection tool on each device** * **Load the correct version of the survey form on each device** * **Create dummy “test” server logins for practice during training** * **Confirm stable Wi-Fi or mobile hotspot availability at the training venue** | |
|  | Acquire or prepare all additional material and equipment needed using Checklist 3 below |
|  | Finalize and print all training material using Checklist 4 below |
|  | Assign training roles (e.g. lead facilitator, session co-leads, IT support, logistics focal point) |
|  | Set up a system for feedback collection, pre/post-test and exam scoring, attendance tracking, etc. |

**Checklist 3: Training material and equipment needs:**

*This checklist may be useful in preparing the equipment and material needed for training, but should be adapted to setting specifics:*

|  |  |  |
| --- | --- | --- |
| From the venue: |  | WiFi or mobile hotspot(s) |
|  | Projector |
|  | Extension cords |
|  | Flipcharts, markers, sticky notes, etc. |
| For facilitators: |  | Laptop (with powerpoint and any software specific to the data collection tool/ server being used installed) |
|  | Copies of the agenda and facilitator notes |
|  | USB or shared folder access to all training materials |
| For participants (per person): |  | Printed questionnaire and consent forms |
|  | Printed copy of each quiz and exercise |
|  | Printed copy of pre/ post test |
|  | ODK or other digital data collection tool-enabled smartphone or tablet |
|  | Pens, notebooks |
|  | Quick reference guide(s) |
| For team exercises and pilot: |  | Dummy products (e.g. empty medicine packaging or mock RDT kits) |
|  | Field bags, clipboards, ID badges |
|  | (optional) hand sanitizer or wipes (for handling stock) |
|  | (optional) rain protection |
|  | (optional) sun protection |

# Training overview

The ACTwatch Lite quantitative training is designed as a comprehensive, modular program that builds fieldworker capacity in private sector outlet survey implementation. It includes classroom learning, practical exercises, and field-based piloting to ensure fieldworkers and supervisors are prepared for deployment.

By the end of the training, participants should be able to:

* Understand ACTwatch Lite methodology
* Identify eligible private sector outlets to be included in the study
* Screen providers, obtain informed consent, and conduct high-quality interviews
* Accurately complete product audits
* Navigate and use [digital data collection tool] confidently
* Follow protocols for field work, supervision, and troubleshooting
* Apply data quality and ethical research principles in practice

The standard training spans approximately **10–12 days** and is structured around the following phases:

|  |  |
| --- | --- |
| **Phase** | **Description** |
| Day 1–6 | Classroom learning on:   * ACTwatch Lite objectives, context, and methods * Conducting a census of outlets * Conducting product audits and interviews * Using digital data collection tools * Best practices   Activities are interactive may include small group work, role plays, hands-on survey practice, quizzes, and facilitated discussions. |
| Day 7–8 | Pilot field practice (dry run and supervised pilot interviews) |
| Day 9–10 | Reflection, feedback, and final preparation for deployment (e.g. roles, logistics, supervision) |

Classroom learning is structured into specific training modules (reflected in the slide decks and sample training agenda). The modular structure allows for customization based on team experience, substituting local examples, or adding deep dives.

The modular structure also allows for adaption of the standard training (above) for a condensed version when experience is high or time is limited. This is referred to throughout as a ‘refresher training’ as it is highly advised that first-time data collectors for an ACTwatch study participate in a full training.

|  |
| --- |
| **The Quantitative Training Package includes both a full and refresher sample agenda** |

# Facilitating classroom learning; by module

The ACTwatch Lite training is structured into six core modules delivered over during the classroom learning portion of the training (recommended 6 days). For each of these modules, template slide decks are available to refine to country-and-study-specific context. Each module builds data collector competencies in a step-by-step sequence aligned with the study’s data collection flow. The table below details each module, the sessions within, and the tools facilitators can use to implement each module. Tools include PowerPoint presentations (PPT) and quizzes, worksheets, and exams, which \*should be printed in advance of training per the instructions in the table below\*

|  |
| --- |
| **The facilitator notes included alongside the agenda are also organized by module and session and provide additional guidance to facilitators on materials and key messages** |

**Checklist 4: Material and printing checklist, by Module**

| **Module** | **Session** | **Tools and print list** |
| --- | --- | --- |
| **Module 1:** Introduction to ACTwatch Lite | 1. 1.1 Presentation of the training agenda 2. 1.2 Ground Rules and Expectations 3. Pre-test general knowledge quiz 4. 1.3 Training objectives 5. 1.4 Malaria context 6. 1.5 ACTwatch Lite overview | **PPT:**   * Module 1 Introduction to ACTwatch Lite-FINAL   **Printing:**   * Registration sheets * printed agenda * Quiz\_01 [PRINT one copy per participant; answer key provided in the folder] * Answers for general knowledge quiz provided in the folder “Pre-test post-test with answers.docx”   **Activities**   * **Setting ground rules and expectations**    + 1. Ask participants to share suggestions (5 min)   + 2. Present pre-defined expectations (5 min)   + 3. Seek group agreement and post visibly in room (5 min) * **Pre-test quiz**    + Use Quiz\_01. This is diagnostic only. Reassure participants it will not affect their participation.   **Facilitator Notes:**   * Create a welcoming environment; use an engaging icebreaker to build rapport. * Introduce the training schedule and emphasize key milestones (e.g., quizzes, pilot). * Clearly explain the training objectives and how they connect to fieldwork roles. * Present malaria context with local relevance; encourage participant reflections. * Highlight the importance of ACTwatch Lite in addressing private sector data gaps. |
| **Module 2:** Auditing Antimalarials | 1. 2.1 Generic and brand names 2. 2.2 Dosage form and strengths 3. 2.3 Pack type and size 4. 2.4 Quantity sold and stock outs 5. 2.5 Retail and wholesale prices | **PPT:**   1. Module 2 Auditing antimalarials-FINAL 2. Product audit example\_optional practice   **Printing:**   1. ***Activity Worksheet 2*** -Worksheet\_02 [PRINT one copy per participant; product photos for this activity are in the slides along with answers] 2. ***Activity Worksheet 3*** - Worksheet\_03 3. ***Activity Worksheet 4*** -Worksheet\_04 [PRINT one copy per participant; product photos for this activity are in the slides along with answers] 4. ***Activity Worksheet 5*** - Worksheet\_05 [PRINT one copy per participant; product photos for this activity are in the slides along with answers] 5. ***Quiz 2*** -Quiz\_02 [PRINT one copy per participant; answer key provided in the folder “Quizzes\_answer key;docx”   **Activities**   * Worksheets 2-5   **Facilitator Notes:**   * Focus on distinguishing co-formulated vs co-blistered, and understanding strength/salt labels. * Use quiz-style engagement to test recognition. * Use product images to reinforce understanding. * Ask participants to explain confusing examples aloud. * Facilitate pair work; review answers as a group. * Clarify labeling and count differences; use slide examples. * Provide examples of stock-outs and vague quantity estimates. * Role-play hesitant respondents; emphasize pack vs unit. |
| **Module 3:** Rapid Diagnostic Tests (RDTs) | 1. 3.1 RDT intro 2. 3.2 Brand names and manufactures 3. 3.3 Antigens and parasites | **PPT:**   1. Module 3 Auditing RDTs -FINAL   **Printing:**   1. ***Activity Worksheet 6*** -Worksheet\_06 [PRINT one copy per participant; product photos for this activity are in the slides along with answers]   **Activities**   * Worksheets 6 |
| **Module 4:** Outlet Census and Eligibility | 1. 4.1 Conducting a census 2. 4.2 Outlet types 3. 4.3 Wholesale identification and sampling methods 4. 4.4 Introducing yourself and the study 5. 4.5 Obtaining eligibility and consent 6. 4.6 Data collection flow 7. 4.7 Logistics and responsibilities | **PPT:**   1. Module 4 Conducting a census of private sector outlets- FINAL   **Printing:**   1. ***Flow chart activity*** - Module 4 Flow chart exercise [PRINT one copy per group for exercise “Module 4 Flow chart exercise.docx”] 2. ***Quiz 3*** - Quiz\_03 [PRINT one copy per participant; answer key provided in the folder “Quizzes\_answer key;docx”]   **Activity**   * Survey flow chart exercise |
| **Module 5:**  Questionnaire and Interview Techniques | 1. 5.1 Overview of questionnaire 2. 5.2 Differences for wholesale outlets 3. 5.3 Differences for informal outlets 4. 5.4 Interview technique and obstacles 5. 5.5 Discussion of the questionnaire in local language(s) | **PPT:**   1. Module 5 Questionnaire deep dive – FINAL   **Printing :**   1. Questionnaire 2. ***Quiz 4*** - Quiz\_04 [PRINT one copy per participant; answer key provided in the folder “Quizzes\_answer key;docx”]   **Activities:**   * Full walkthrough of the paper tool, skip logic, audit section * Breakout groups for language clarification * Role-playing for interviewing and overcoming obstacles |
| **Module 6:**  SurveyCTO and Digital Data Collection | 1. 6.1 Introduction to software and set up 2. Review of differ scenarios | **PPT :**   1. Module 6 Introduction to SurveyCTO -FINAL   NOTE THIS SHOULD BE UPDATED OR REPLACED WITH THE DATA COLLECTION TOOL USED FOR THIS STUDY  **Activities:**   * Review digital form as a group * Demonstrate syncing, saving, and submitting a form. * Paired practice and troubleshooting |
| **Exam** | 1. ***Audit Exam*** - Worksheet\_05 (again) [PRINT one copy per participant; product photos for this activity | **PPT :**   1. Product audit exam\_photos & answers   **Printing:**   1. Worksheet\_05 (again)   NOTE PLAN AHEAD FOR SCORING EXAMS – THIS TAKES CONSIDERABLE TIME |

These modules are followed by a multi-day field pilot and optional deployment preparation with team leaders (detailed in the next sections). Slide decks with high-level outlines for content of these sessions are also available in the training package.

# Setting up and executing pilot field practice

After the classroom training, participants conduct a multi-day **field pilot** to practice applying the tools and procedures in a real-world setting. The pilot is essential for identifying issues with understanding, logistics, data collection tools, or device functionality before data collection.

The objective is to practice the complete data collection process and gain experience identifying and interacting with the various outlet types included in the study. It is also an opportunity to troubleshoot digital data collection tools and resolve technical issues, refine team coordination and supervision, and establish communication procedures.

The pilot should be set up based on the feasibility and best practices in a given country/ context. It is suggested that piloting occur for 3 full days; however in settings with tight timelines, the pilot may be condensed but a minimum of one full field day is strongly recommended.

*In advance of the pilot:*

Research coordinators and stakeholders are advised to work together to select outlets to be included in the pilot that are NOT included in any sampled study areas. Stakeholders may be essential in conducting sensitization with outlets to notify and obtain consent for the pilot to be conducted. A list of outlets or areas should be determined and shared in advance of the pilot.

In addition, one tablet per training participant needs to be pre-loaded with the questionnaire and ensure that GPS and data transmission are working properly.

*On pilot days:*

Each participant will need a data collection device with the questionnaire pre-loaded (and available offline where necessary) as well as printed study information sheets and consent forms. Teams may also need field ID badges or vests in many contexts, as well as field bags, umbrellas, etc.

Each pilot day can follow a consistent structure: data collection in the morning, followed by a team debrief in the afternoon to review experiences, discuss challenges, and provide feedback to improve performance on the following day.

Suggested instructions include:

* Confirm that all selected outlets have been informed about the study and are aware of the planned visit before teams depart.
* Organize trainees into small groups of 3–4 people, ensuring each group visits a variety of outlet types.
* Develop a field visit and supervision plan in advance, assigning facilitators or supervisors to monitor different teams.
* Ensure each data collector conducts a full interview and audit supervised by a team leader/ supervisor.
* Designate one note-taker per group to document feedback on the questionnaire, interview experience, challenges encountered, and any issues with procedures. This feedback should be shared with the full team during the afternoon debrief sessions.
* After the field pilot, allocate time to debrief with all participants. During this time, discuss any outstanding questions, lessons learnt, and refinement of team roles or data collection procedures.

# Optional team leader sessions

Following the classroom and pilot sessions, additional sessions may be held for team leaders, field team supervisors, and any other relevant study staff or stakeholders. These sessions are optional but highly recommended to ensure field teams are fully equipped and aligned on expectations before deployment.

These focused sessions allow team leads to consolidate their understanding of study process and procedures, finalize field work planning, supervision structures, and communication plans, and/ or discuss anticipated challenges and mitigation strategies. Suggested Topics have historically included:

* Team structure and field roles: Clarify reporting lines, team responsibilities, and rotation schedules
* Deployment strategy: Finalize outlet assignments, routing, and transport planning
* Census implementation: Reinforce sampling and listing procedures, especially for informal outlets
* Common data quality challenges: Review typical errors and how to spot/fix them
* Digital tool troubleshooting: Walk through common tech problems and support workflows
* Supervision and spot-checking: Review supervision checklists and escalation procedures
* Engaging informal providers and depots: Strategies for approaching harder-to-reach providers respectfully and effectively

Trainers are encouraged to adapt content from earlier modules or include additional materials from prior studies to support these sessions.

***Tips:  
- Use real scenarios.  
- Reinforce rapid problem solving and support.***

# Additional cross-cutting guidance

Data collector training should be as engaging and “fun” as possible – the training is quite long, technically challenging, and should be focused on ensuring comprehension, and engagement of all participants. Every facilitator/ trainer has their own style and favorite approaches. Training materials have been designed to allow for some adaptation according to each facilitator’s preferences, but the overall content should be covered.

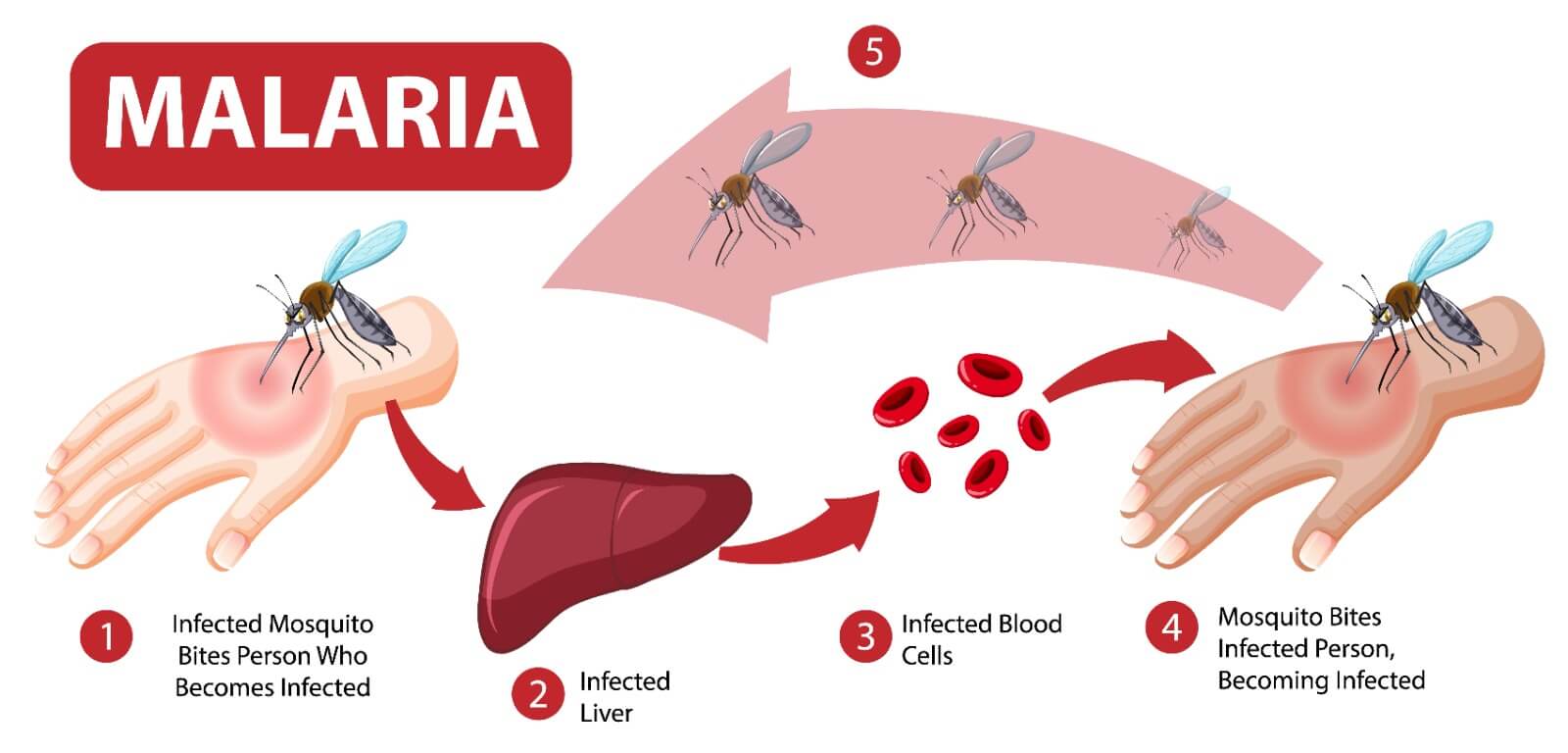
|  |
| --- |
| Tips for facilitating training sessions:   1. Have rapporteurs identified for each day, who can report back the following morning 2. Start the training by agreeing on the rules of the road; ask participants for their suggestions for these rules so that everyone feels ownership of the rules 3. Monitor the energy levels in the room. If people are looking tired (after lunch is always a sleepy time), then:    1. Ask someone to lead an energizer    2. Do an exercise that involves discussion, questions and answers    3. As the facilitator – change your energy too – move around the room, stand nearer to the participants, etc. your energy can change the energy of the room. 4. Monitor engagement in the room. If people are having side conversations, checking phones/ emails...    1. Encourage side discussions to be shared with the larger group    2. Ask if there are questions or need for clarification 5. Instead of asking “do you understand?” (everyone ALWAYS says yes), ask specific question to probe knowledge... ask open questions to encourage discussion: Why...? How...? What...? 6. Avoid long periods of just presenting slides – this is not engaging and may not be effective for learning. Instead, use question and answer formats, and encourage discussion. 7. Pause to check for questions frequently; remind everyone that there is no such thing as a stupid question. The questions will help you to understand which areas need to be discussed in more detail. 8. Competition and incentives – some of your best tools in a workshop. Competition through tests and exercises, reward the best performing participants– e.g. with chocolate! Recognize correct responses and good results with rewards. |

# Annexes

## Annex 1. Background - Malaria

Malaria is a life-threatening disease caused by Plasmodium parasites, transmitted to humans through the bite of infected Anopheles mosquitoes. It is a leading cause of illness and death in many parts of Africa and Asia.

**Life cycle:**



**Key facts**:

* **Symptoms:** Includes fever, chills, headache, nausea, and muscle pain; severe cases can lead to organ failure.
* **Geographic Distribution**: Common in tropical and subtropical regions, especially Sub-Saharan Africa
* **Impact:** Affects millions annually, especially young children and pregnant women in endemic areas.
* **Types of Plasmodium:** Five species infect humans;. The most deadly form is Plasmodium falciparum, most common in Africa.
* **Prevention:** Use insecticide-treated bed nets, indoor spraying, and take antimalarial drugs in high-risk areas.
* **Testing:** WHO recommends parasitological confirmation of malaria before treatment—via microscopy or RDT.
  + Microscopy: Requires laboratory setup and trained personnel. Thick and thin blood smears are examined under a microscope to identify malaria parasites and determine the species.
  + **Rapid Diagnostic Tests (RDTs):** Easy-to-use, point-of-care tests that detect malaria antigens in blood using a finger-prick sample.
* **Treatment:** Treatable with antimalarial medications; early diagnosis is crucial.
  + If not treated promptly, malaria can progress to severe illness and death—especially in children under 5 and pregnant women.
  + **Artemisinin-based Combination Therapies (ACTs)** are the global standard for treating P. falciparum malaria.
  + Common ACTs include Artemether–lumefantrine (AL), Artesunate–amodiaquine (ASAQ), Dihydroartemisinin–piperaquine (DHA-PPQ), and Artesunate–mefloquine (ASMQ)
  + Other treatments include non-artemisinin therapies (e.g., chloroquine, quinine), injectable artesunate for severe malaria, or SP (sulfadoxine-pyrimethamine) for interventions like intermittent preventive treatment in pregnancy (IPTp)

## Annex 2. Background - ACTwatch Lite

**At a glance:**

[RESEARCH TEAM: Update this section of the manual based on your study protocol and any additional best practices, guidance, or procedure relevant to this implementation ]

|  |  |
| --- | --- |
| **What is ACTwatch Lite?** | * [ACTwatch Lite](https://www.psi.org/actwatch-lite/) is a private sector malaria market study where all private sector outlets that have the capacity to stock antimalarial medicines and/or malaria testing (microscopy and/or rapid diagnostic tests) are censused and surveyed. * Through provider interviews and product audits at eligible outputs, the study generates data on antimalarial and rapid diagnostic test (RDT) availability, price, and sales volumes in the private sector, alongside information on outlets and their supply chains |
| **Why ACTwatch Lite?** | * Many malaria-endemic countries lack robust, timely data on the private sector, even though the private sector is the first source of care for many people * National programs need up-to-date, representative market data to inform policy, allocate resources, and improve case management strategies. * ACTwatch Lite aims to fill this gap by providing actionable insights into private sector readiness, product access, and performance. * [RESEARCH TEAM: Insert additional justification for study from perspective of the implementing organization or agency. It is essential for training facilitators and participants to be clear and able to articulate the core goal and objectives of this study to outlet staff they encounter to interview.] |
| **How is the data from these studies used?** | * The data will be used to 1) inform national / subnational decision-making, 2) understand drivers of market performance and target areas and channels for intervention, and 3) provide the National Malaria Control Program with essential (and currently unavailable) market data as they develop private sector strategies. |

**Overview of ACTwatch Lite methods**

ACTwatch Lite uses a representative, cross-sectional probability sample, with national /subnational and urban/rural quantitative estimates. The project conducts a census of all private sector outlets, in the sampled areas, with the potential to stock antimalarials/testing and then conducts an audit of all antimalarials and RDTs in stock. This allows for full private sector market estimates (volumes and market share estimates), as well as measures of product availability and price.

Typically, the types of outlets/wholesalers included in the study include: Pharmacies, private for-profit health facilities, religious/NGO-run private health facilities, informal outlets (including, e.g. itinerant drug vendors, general retailers); terminal and intermediate wholesalers and importers.[[1]](#footnote-2) We also collect data on business characteristics and practices, data reporting/surveillance, stockouts and suppliers. The project has rigorous in and out of field quality control and data cleaning/ management processes.

Stakeholder engagement is key, at every stage of project development and implementation. ACTwatch Lite’s stakeholders typically include: National Malaria Programs, national pharmacy regulators and pharmacy councils, Ministries of Health, key supply chain actors, other non-governmental organizations (NGOs) and donors.

#### **Retail outlets**

In each of the selected clusters of [insert sampled region/province/state], the following methods will be used before and during data collection to ensure that all outlets with the potential to sell or distribute antimalarials and diagnostic tests in the sampled cluster are visited:

* Field team supervisors and data collectors will be provided with an introduction letter. Once in the field, the field team supervisors will go and see the local [region/province/state] leaders to obtain approval. The field team supervisors should contact the competent local authority to find out where antimalarials are usually sold.
* The research team will provide interviewers with any available lists of private clinics, hospitals, and pharmacies registered in the selected [study area/ cluster][[2]](#footnote-3)
* After confirming the boundaries of each selected ward, field supervisors and data collectors will identify all outlets, including those known areas for mobile outlets, with the potential to store, sell and distribute antimalarials and RDTs.

Then at each outlet encountered with the potential to sell antimalarials or have malaria blood testing, data collectors will

1. Complete census information for the outlet (name, type, GPS if applicable)
2. Screen the outlet for eligibility. Screening questions will be administered to the most senior provider or staff person[[3]](#footnote-4) to determine the eligibility of the outlet. These screening questions include:

* Do you have any antimalarial medicines in stock today?
* Are there any antimalarials that are sold out today that you have stocked in the past three months?
* Are malaria screening services (RDTs or microscopy) available today?
* Have there been malaria screening services (RDTs or microscopy) at this outlet in the past three months?

*Inclusion/ exclusion criteria*

|  |  |  |
| --- | --- | --- |
|  | Inclusion | Exclusion |
| Retail outlets | * Located in specific selected [study area/ cluster] * Provider/ representative/ outlet owner consents to participate. * Has one or more antimalarial in stock AND/ OR offers malaria blood testing on the day of the survey OR during the three months preceding the survey. | * Outlet located outside of selected [study area/ cluster] * No representative available to consent to participate or does not consent. |
| Wholesalers | * Identified by an included retail outlet or another source as a source of antimalarials and/or RDTs (may be located outside study area) * And/or is inside study area and supplies antimalarials and/or RDTs to wholesale customers. * Provider/ representative/ outlet owner consents to participate | * No representative available to consent to participate or does not consent. |

1. If the outlet is eligible, the salesperson or care provider will first ask for his or her agreement to participate, using the information sheet and informed consent form.
2. Once verbal consent has been obtained and the data collector signs the consent form, the provider interview will be conducted and then antimalarials and RDTs will be audited. Once an outlet has been surveyed and the provider interviewed, the data collectors should ask the owners of the outlet or their staff to indicate the other private sector outlets in the ward that provide antimalarials/ malaria testing.

In summary. the questionnaire used has the following flow:



*Important additional notes:*

If a retail outlet is closed or the provider is too busy, the data collector will return at another time. A maximum of three visits will be made to a given outlet. Records of refusals, reasons for refusal, and of outlets closed at the time of the survey must be kept. The geographical coordinates (latitude and longitude) of each formal facility, outlet and business will be recorded using a Global Positioning System (GPS)[[4]](#footnote-5).

As some vendors may be informal and possibly unlicensed, field team supervisors and/or data collectors will approach providers with sensitivity and caution, and will emphasize the voluntary and anonymous nature of participation. Field team supervisors and/or data collectors will be encouraged to schedule appointments for informal vendors if participants prefer to meet at a time when they feel more comfortable participating.

In all cases, informal retail outlet operators will be reassured that the interview and audit are to understand the malaria commodity market and that personally identifying information such as GPS, outlet name, location will be kept confidential and will not be reported per the terms of the study protocol.

*Notes on booster sampling*

*To ensure adequate representation of health facilities and pharmacies, the sample was supplemented with a booster sample of these outlet types located within or near the selected study areas. These outlets were identified in advance by the research team. The research team will monitor submissions daily to track the number of health facilities and pharmacies included in the study. If additional boosting is needed, supervisors will be provided with a list of additional health facilities and pharmacies to visit via email or WhatsApp.*

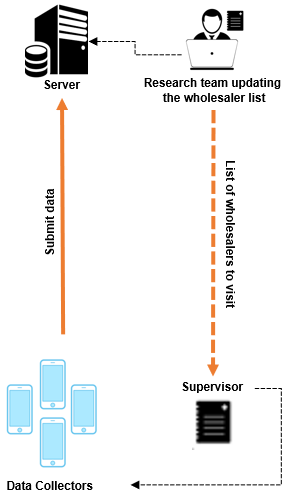
#### **Wholesale outlets**

Field procedures for wholesale outlets are similar to those for retail outlets. The same field team supervisors and data collectors will be responsible for interviewing wholesalers and retail outlets.

During data collection, data collectors will ask each retail outlet to identify their suppliers and provide key details, including the supplier’s company name, type, location (state, city, etc.), and contact information. This step is essential for accurately mapping and identifying unique wholesalers.

Supplier information is submitted alongside the retail outlet data to the central server, allowing for the compilation of a comprehensive list of wholesalers operating in or supplying to the study areas.

A remote research team will review the submitted data daily and maintain an up-to-date list of eligible wholesalers, including those based outside the study communes but supplying outlets within them. Based on this list, the remote research team will select wholesalers to visit and share this information with field team supervisors via email or WhatsApp.



Once sampling and selection have been carried out by the ACTwatch Lite research team remotely, wholesalers will be approached by members of the field team supervisors and/or data collectors, who will present the survey to the wholesale staff member responsible for malaria-related sales. Wholesalers will be selected for inclusion by checking whether the establishment has antimalarials or RDTs in stock at the time of the interview or at any time in the 3 months prior to the interview.

#### **Product audits**

Following informed consent (confirmed in the questionnaire), an audit of all available antimalarials and RDTs will be carried out. Digitized questionnaires capture details of current products including dosage form, brand name, active ingredient information, and simple packaging characteristics (such as pack type and size). Data collectors will capture point-of-sale and product-specific information, such as sales over the last 7 days, retail price and wholesale price. The digital questionnaire will allow photos to be taken of antimalarial products and RDTs where necessary and with the participant's permission, to facilitate survey quality and data processing.

The antimalarial and RDT audits are a very important part of the study. The survey tool has been pre-programmed with a large number of the products that are likely to be found, but there will be many instance in which products do not appear in the dataset. In these cases, the data collectors should do the following:

* Take a picture of the product (front and back of package, sides too if there is relevant information)
* Share it with their field team supervisor to check the product (depending on the workflow, the supervisor may check then, or teams would be advised to send a picture but proceed with manual entry)
* If the supervisor also cannot find the product in the database, send the photo to the research team, who will remotely update the database periodically during data collection.

If confirmed that this product is not in the database at that time, they should manually enter the information into the audit form.

**Key areas of the antimalarial audit are explained in more detail below:**

|  |
| --- |
| **Dosage form:** there are 8 potential dosage forms (plus “other specify”) in the antimalarial audit. These are tablets, suppositories, granules, syrups, suspensions, liquid injections, powder injections, and drops. The correct choice of dosage form is essential as it affects later response options in the form.  **Brand name:** this is the name used to market the product, and often has ™ or ® next to it. Other information, such as age groups, children’s weight, “pediatric”, “dispersible”, “DS”, etc. should also be captured  **Manufacturer:** this is the manufacturing company that holds the license to make the product. If more than one company is listed on the packaging, this is often in the format:  Manufactured by X company for/ on behalf of Y company. Y company is the manufacturer to include in the audit. Sometimes there is a third company listed, for example it says: “marketed by Z company” – Ignore Z company.  **Country of manufacture:** this is the country where the product was physically made, not the country where the license holder is based.  **Active ingredients:** there may be 1, 2 or 3 active ingredients. These are the actual antimalarial chemical names and are always listed on the packaging. Examples of active ingredients found in malaria drugs include artesunate, artemether, lumefantrine, chloroquine, sulfadoxine pyrimethamine, etc.  **Strengths:** there should be one strength for every active ingredient. If the product is a tablet, suppository, granule or powder, the strength is just given in mg (pronounced: milligrams). If the product is a type of liquid, the strength is given in mg/ml (pronounced: milligrams per milliliter).  Where strengths are given for an active ingredient with a salt (see below), ALWAYS write the BASE STRENGTH.  **Salts:** some products list their active ingredients with a salt. Salts include: hydrochloride, dihydrochloride, sulphate, phosphate, biphosphate, etc. these should be noted where they occur.  If the product has a salt, double check the strength information and record the BASE STRENGTH.  **Fixed dose combination (FDC):** antimalarial drugs in tablet form with more than one active ingredient most commonly have the active ingredients combined together in the same tablet – these are called FDCs. Sometimes the different drugs are co-packaged so there are 2 or more different types of tablets in the same pack. These tablets might be different colors, shapes, or sizes. These are non-FDC drugs. If in doubt, ask a supervisor.  **Pack type:** antimalarials can be packaged in different ways.  Tablets and suppositories are packaged most commonly in “individual packets” (i.e. a small box, containing 1 or more blister strips). Sometimes they are sold without a packet – either as a blister strip, or as loose tablets out of a bigger pot.  Granules are usually sold in individual packets (i.e. a small box containing several sachets), but they can also be sold as individual sachets.  Suspensions, syrups and drops are sold in bottles. Suspensions are often dry powder, in a bottle that the customer then adds water to. This is still a bottle.  Injectables are sold in ampoules (for liquid injections) or vials (for powder injections).  **Pack size:** this measures the size of the product, and it depends on the pack type, as follows:   * Loose tablets and sachets have pack size 1 * The pack size of blister strips and individual packets = the number of tablets/ suppositories/ sachets they contain. * For liquids in a bottle (syrups and drops) or ampoule (liquid injection) pack size is the number of ml per bottle/ampoule it says on the packaging * For powders in a bottle (suspensions) or powder injections, the pack size is the number of mg per bottle/vial it says on the packaging   **Stocked out in the last 3 months:** if the product has been out of stock at any time and for any amount of time (even if only briefly) in the 3 months before the day of the survey, this should be “yes”. If the product has been in stock continuously for the past 3 months, this should be “no”.  **Quantity sold in the last 7 days:** this is the number of whichever PACK TYPE has been selected that the outlet reports selling to retail customers (i.e. members of the public) in the previous week. The price should be given per 1 pack type.  **Quantity sold/ distributed at wholesale/ for resale:** this question is asking what the smallest order size for non-retail customers is (i.e. how many of the product do they sell as a minimum to other outlets).  **Wholesale price/price for resale customers:** this question is asking what the minimum order size for wholesale customers is for this product and how much it would cost per pack.  **Price purchased from supplier:** this is asking for the last time that the provider bought this product from their supplier – how many of the selected pack type did they buy, and how much did it cost? |

1. Note: supplier and outlet types may need to be updated based on the country. [↑](#footnote-ref-2)
2. Note research teams should collaborate with stakeholders to determine what resources are available for identifying the locations of various private sector outlet types e.g. registration lists for hospitals, labs, clinics, etc. This information should be obtained during the desk review to aid in the study design (e.g. sampling) and also shared with field teams here to aid in field work. [↑](#footnote-ref-3)
3. Data collectors should aim to interview the manager or head pharmacist, or whomever is best positioned to provide reliable information on stock and sales volumes. If there are several providers working in the outlet, the head provider will be asked to complete the interview. If he/she is unavailable, the most senior provider will be invited to complete the interview with the authorization of the head provider. In all cases, the participant will be interviewed in a discreet location away from colleagues and/or superiors. [↑](#footnote-ref-4)
4. Note mobile outlet’s location will be captured on and as the location on the day of interview. [↑](#footnote-ref-5)